Exchanges

The Interdisciplinary Research Journal

Volume 12, Issue 1 (Autumn 2024)

Issue Highlights:

- Early career engagement & publication imperatives
- Data-driven insights for research culture
- Labour, networks & professional identity
- Beyond-human responsible research & innovation
- Plus papers on the theme of Resistance!

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Exchanges: The Interdisciplinary Research Journal

Volume 12, Issue 1 (Autumn 2024)

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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' major 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.

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If You Could Just Go Ahead and Make Sure You Do That From Now On That Would Be Great: Editorial, Volume 12, Part 1

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> *Peter Gibbons: It's not just about me and my dream of doing nothing. It's about all of us. I don't know what happened to me at that hypnotherapist and, I don't know, maybe it was just shock and it's wearing off now, but when I saw that fat man keel over and die. Michael, we don't have a lot of time on this earth! We weren't meant to spend it this way. Human beings were not meant to sit in little cubicles staring at computer screens all day, filling out useless forms and listening to eight different bosses drone on about mission statements.* (**Office Space, 1999**)

Introduction

Welcome to the thirtieth edition of *Exchanges: The Interdisciplinary Research Journal*, and what is also our final issue for 2024. As always if you are a new reader, thanks for joining us and read on to learn a little more about the journal. Naturally, if you're a returning reader welcome back too. In this editorial you will find advice on how you can contribute to the journal in the future through our open calls for manuscripts, alongside an overview of the contents of this issue. There's also an update and overview on our various social media channels, for continuing conversations outside these pages.

Another Issue, Another Milestone

Wow. Thirty issues. Where does the time go? Not so long ago we were celebrating our twenty-fifth edition, and yet here we are again at a 'significant' number. Frankly, it hardly seems much longer since I was introducing my very first issue as Chief Editor, although that was way back in 2018 – a time when jumping onto a Teams call was a rare exception rather than an everyday occurrence. How times and practices change in such a relatively short period of time! That issue, Volume 5.2 (**Exchanges, 2018**) was actually only the tenth issue of *Exchanges* produced since the journal's inception. While moving into double figures was probably worthy of some note then, I believe at the time my head was still figuratively spinning, as the issue publicly arrived a mere six weeks after I had commenced my role as Chief Editor. I am, fair to say, somewhat more seasoned in the role today.

I'll leave you to do the maths yourselves for how many issues I've completed since then – suffice to say I believe my editorial status exceeded legal drinking maturity some time ago. If all goes to plan next year for *Exchanges* – and let's be fair in the world of small-scale scholarly publishing it often does not – we'll be potentially seeing six more issues of *Exchanges* appearing for your education, information and interest by the end of 2025. At that rate, using a back of the envelope calculation, issue 50 will be appearing sometime in Volume 15 in mid-2028.[i]

Naturally, such calculations – optimistic or otherwise – assumes that journals like *Exchanges* remain a going concern by that point in history. Given the ongoing disruption to academic publishing, which began with the rise of 'ejournals' in the 1990s and continues today with generative AI and machine learning's impact on the publishing domain, I am not certain I would like to place a bet either way. Incidentally, if readers are interested in an enlightening look at these continuing publication field changes, what they could mean for established esteem markers and career goals of early career researchers, I would strongly advocate listening to my recent conversation with Jonathan Vickery (**Vickery & Johnson, 2024**). It's a longer than normal episode, but I'm pretty sure you'll find it well worth your time.

Exchanges as a journal title is undoubtedly more than a little traditional rather than experimental in its approach to enabling scholarly publishing. I follow with some interest, and a certain marked trepidation, developments in this field, and even my eyebrows sometimes shoot up in considerable surprise. I recall, for example, attending a conference a year or so ago, when every speaker appeared to be working on some sort of experimental or *avant-garde* publishing experimentation. While it is heartening that there is space for such exploration in what externally often looks like a rather moribund environ, I often wonder myself how much appreciation and awareness there is for these 'divergent' publication paradigms across the academy at large. My own research and interactions with scholars around the world concerning their publishing over the years, has always underscored the strong degree of cultural conservatism they embrace as a community. Their *habitus*, if you will, is seemingly adamantine to change.

That is unsurprising, given many academics' personal drivers are typically linked to esteem markers like the REF (research excellence framework) and other research assessments. Given these have for many years been linked, for the most part, to traditional publishing routes, the impetus for dramatic change is muted. Yet the REF itself is certainly changing as we move towards its 2029 iteration (**REF, 2024**), so perhaps we will see a greater exploration of novel research dissemination routes than before in

its wake. Then again, I've been saying that for the past two or three REFs, so forgive me if I don't hold my breath on sudden change to emerge from that quarter. Certainly, in my experience, it is mostly where almighty capital leads, that academics and their mortgages and continued need to eat tend to follow.

So, change is perhaps always just around the corner, next bend, funding round or intake of new research fellows. Often from a direction or impetus we least suspect too. Certainly, this is just one reason for editors such as myself continue to keep a watchful eye on the scholarly publishing environment as a whole, lest we suddenly find ourselves overseeing an entirely depreciated or moribund modus of dissemination and ourselves surplus to requirements. Perhaps this is one of the reasons why I was pleased to note in recent weeks that long planned platform upgrades to *Exchanges'* software were being enacted. Maybe this will allow myself and the Board to begin developing some new journal attributes or initiatives. Only time will tell what these might be, and how successfully our contributors might embrace then, so no doubt I'll return to this topic in future editorials too.

So, on that, relatively, cheerful note, let's move on from my own ruminations and turn to the core of this issue, with the exciting articles provided for us by our contributing authors.

Papers

After the recent special issues, this time we're back to our regular collection of topics and papers from across the disciplines. However, astute readers may note some strong resonances with certain articles here with others in issues we've published over the past year.

Articles

Firstly, we begin with **Lúcia Collischonn**'s paper, entitled *Translanguaging, Literary Multilingualism and Exophony in Translation*. The paper looks at 'translanguaging', offering both an overview and an interrogation of the theory. **Collischonn** goes on to apply the theory in exploring the work of two Brazilian authors and their deployment of the various languages in their writings.

Readers should note this paper was submitted as part of our Pluralities of Translation special issue call, and is hence a companion piece to the others which appeared in our April issue (Vol 11.2) earlier this year (1).

Critical Reflections

We then move to **Giulia Lorenzi**'s practical take on setting up and enabling a public engagement event. In *'Musical Reflections': An experience with public engagement*, the author considers their motivations and observations in running such an event. In particular, Lorenzi details the positivity and inspiration which emerged from the public engagement which served to shape and even instigate future research work for the author (17).

Another form of engagement forms the heart of **Arthur William Fodouop Kouam**'s article *Navigating the Publication Imperative*. In this, Kouam considers some of the effective tactics which exist to achieve 'success' within the field of academic publishing, from an early career scholar perspective. Contextualised by the challenges such authors face, as well as routes to achieving publication success, the piece considers how emerging technologies can and will likely continue to play an increasing part in this sphere (27).

We harken back to Vol 11.3, as **Ann Campbell**, **Victoria Simms** and **Maria Prince** offer us *Data-Driven Insights for a Holistic Understanding of Research Culture*. In their paper the trio explore the data 'treasury' of metrics and information held by institutions which can be 'unlocked' to reveal much about their research culture. In this way, the authors argue institutions can potentially achieve a greater 'real-time' appreciation and transparency of their local research ecosystem (41).

From institutional insights we move to the more personal as in *Once a Nurse, Always a Nurse?*, **Kate Montague-Hellen** considers questions of professional self-identity in the medical field. Counterpointing the author's experiences and identity as a 'nurse academic', the paper problematises the issue when looking at the trainee-nurse experience more holistically. To this end, Montague-Hellen argues strongly for student nurses to be better supported within their workplaces to become productive academics as well as practicing medics. This, the author expounds, will help to diminish the cultural barriers which exist between practitioners and scholars (60).

There is some continuing resonance in the next paper, as **Mia-Marie Hammarlin** looks at concepts and emotional impacts arising from engaging in *Interdisciplinary Labor*. The author explores the 'anxieties' and challenges some scholars face in navigating interdisciplinary research. Drawing on personal experiences, Hammarlin highlights how lack of shared languages and knowledge can present particular barriers. The author calls for honest, productive dialogues which address issues of

emotion and affect, as well as practical obstacles, to help more scholars be able to work in a greater interdisciplinary mode (67).

We continue considering interdisciplinarity and new researcher training as **Sarah Elizabeth Golding** offers us *An Early Career Perspective on the Value of Interdisciplinary Training Networks*. Arguing that complex, global problems need interdisciplinary perspectives, the author explores personal interactions with training in this realm and its impact on their career. Golding underscores the importance of enabling neophyte researchers to cross disciplinary boundaries early in their professional lives, if they are to have effective and impactful interdisciplinary research careers (73)

Our next paper from **Catherine Price**, **Min Burdett** and **Tom Bott** looks towards *Opening up Responsible Research and Innovation* (RRI). With RRI strongly encouraged by UK research funders, this timely exploration asks questions concerning the anthropocentric nature of this policy. As such it reports on a workshop wherein various knowledge and stakeholders were challenged to contribute their perspectives to achieve a greater clarity on this topic. In particular, the authors are concerned with ideas of game theory and how it might be deployed within RRI to researchers' advantage (91).

Our penultimate paper contains a forceful note, as **Simon Gansinger** considers *Max Horkheimer on Law's Force of Resistance*. Looking at one of Horkeimer's lesser-known essays, the author considers how legal process can become 'disjointed' from the 'rationale of power'. In particular, Gansinger looks at ideas around the 'force of resistance' within the essay, drawing parallels to Adorno's thinking on the dialectic of enlightenment, and especially federal abortion rights in the United States (102).

Finally, **Gulia Lorenzi** offers us *A Reconsideration of Imaginative Points of Resistance*. The author considers how the limits of imagination can still play a role as 'points of resistance' and carriers of crucial information. Taking as their core a look at an analysis of 9/11 and the plausibility of statements by Donald Rumsfeld, Lorenzi asks what role a failure of imagination played in the attacks' success (113).

These last two papers were submitted as part of an internal call at Warwick for work on the theme of *Resistance!*, facilitated by a seminar hosted in May 2024 at the Institute of Advanced Study.

As always, we hope our readers find something of interest or stimulation in this varied and interesting collection of work. Our thanks as always to all authors for their contributions.

Calls for Papers

While this issue is now live, we would like to remind all readers and potential authors of our various other open calls for papers. Readers and potential authors alike might also wish to register for our email newsletter or engage with following our social media to keep up with our very latest announcements and opportunities. You will find the links for these towards the end of this editorial.

Call for Expressions of Interest: Research Culture '24

While this closes in a few days (**Thu 7th November 2024**), there is still a chance for delegates, speakers and presenters to the International Research Culture Conference 2024 (**IRCC, 2024**) to submit an expression of interest. Following this year's highly popular issue drawn from the 2023 conference (**Exchanges, 2024a**), this is a great opportunity to be part of the ongoing and active conversation around effective research culture. Delegates will have had some information about this via email, there is also some further details about this call on out webpages too.

exchanges.warwick.ac.uk/index.php/exchanges/announcement/view/65

Open Calls for Paper

Exchanges also continues to invite and welcome submissions throughout the year on any subject. There are **no manuscript submission deadlines** on our open call and submissions will be considered throughout the year. Manuscripts therefore may be submitted for consideration via our online submission portal at any point. While *Exchanges* is an interdisciplinary journal, we define this as presenting a cross-disciplinary range of published works. Hence, while articles which draw directly or indirectly on interdisciplinary methods, methodologies, praxis and thinking are warmly welcome, this is *not* a pre-requisite. Hence, any topic, written in a manner suitable for a broad, scholarly, academic audience is likely to be accepted for consideration in our pages. Likewise, articles from researchers, practitioners and independent scholars are all equally welcome.

Manuscripts can be submitted for consideration as traditional peer-reviewed research or review article formats, which will undergo a rigorous, double-anonymised external review process. Alternatively, manuscripts may be submitted as one of our editorially reviewed formats - briefer formats which often are able to transit to publication faster.[ii] The editorially reviewed formats can be especially suitable for first-time authors, or those looking to embrace reflexivity, posit an opinion or share professional insights. It is notable that all article formats receive extensive reader attention and downloads.[iii]

Word counts and requirements for all content formats vary slightly, and prospective authors are strongly encouraged to review our author guidance and advice ahead of submission.[iv] Where an exception to the norm is required, authors should discuss their anticipated manuscript with the Chief Editor *before* submission. Manuscripts passing our review processes and accepted for publication will subsequently appear in the next available regular issue, which are normally published in late April and October.

Notably, *Exchanges* has a core mission to support the development and dissemination of research by early career and post-graduate researchers (**IAS, 2024**), we are especially pleased to receive manuscripts from emerging scholars or first-time authors. However, contributions from established and senior scholars are also welcomed too. Further details of our open call requirements can be found online (**Exchanges, 2024b**).

Informal Approaches

As Editor-in-Chief, I welcome approaches from potential authors to discuss prospective article ideas or concepts for *Exchanges*. However, abstract submission or formal editorial discussions ahead of a submission are *not* normally a prerequisite, and authors may submit complete manuscripts for consideration without any prior communication.[v] Authors are always encouraged to include a *note to editor* outlining the article format[vi] or call under which their manuscript is to be considered along with any other considerations they wish to bring to my attention.

Exchanges is a diamond open-access, scholar-led journal, meaning there are no author fees or reader subscription charges, and all content is made freely available online (**Fuchs & Sandoval, 2013; Bosman et al, 2021**). Furthermore, authors retain copyright over their work but grant the journal first publication rights as a submission requirement. *Exchanges* is happy to support translations of our published articles subsequently appearing in other suitable journals, and requests only that a link back to the original piece is incorporated for completeness. Authors may wish to familiarise themselves with *Exchanges'* journal policies for further information on how we handle author contributions (**Exchanges, 2024c**).

All submitted manuscripts undergo initial scoping and originality checks before being accepted for editorial review consideration. Manuscripts seeking publication as research articles additionally will undergo one or more rounds formal peer-review by suitable external assessors. Editorial decisions on manuscript acceptance are final, although unsuccessful authors are normally encouraged to consider revising their work for later reconsideration by the journal.

Further advice for prospective authors can be found throughout the *Exchanges* and IAS websites (**Exchanges, 2024d, IAS, 2024**), as well as in our editorials, podcast episodes and blog entries.

Forthcoming Issues

This is our final issue of the year, and the third we've published in as many months – so I am pleased to report we're taking a break from the somewhat relentless publication activities since the earlier summer. Not that we will be resting on our laurels, by any means! Behind the scenes work is already advancing on three out of four of our special issues under development - *Gender & Intersectionality*, *Sustainability Culture*, and *Queerness as Strength*. These are all tentatively scheduled for appearance during 2025. On top of this as well we are developing a second volume of papers relating to research culture for summer 2025, drawing on and derived from this September's International Research Culture Conference (IRCC '24). The call for contributions went out as noted above, and we're in the process of both encouraging authors and recruiting associate editors to make that issue another successful one.

Naturally, 2025 should also see our regular issues, the next scheduled for April. There is certainly plenty of time for people to contribute to both this and the October issues through our open call, and naturally I'd strongly encourage authors to get those submissions to us as soon as possible!

There may yet too be other special issues, as I've had various outline discussions with people about them, although currently none of them have been confirmed. Certainly, we'll need to get some of the other issues out the door before I can turn my time and attention to these potentially exciting projects! Nevertheless, it's good to talk through the ideas all the same. As always, watch this editorial space or subscribe to our newsletter for more about that as we move into 2025.

Acknowledgements

As always, I would like to offer my thanks to all those people who helped make this issue a reality. A special tip of the editorial hat to former Board member Martín Solórzano who has moved on to new and exciting things, and we wish them every success in that.

My thanks too to all our authors for their vital intellectual contributions towards this particular edition as well. Likewise, my thanks to our Editorial Board for their continued support and efforts on behalf of *Exchanges*, and

Associate IAS Director **Fiona Fisher** and the Institute of Advanced Study for their continued support of *Exchanges*' diversifying mission.

Continuing the Conversation

Exchanges has a range of routes, groups and opportunities for keeping abreast of our latest news, developments and calls for papers. Some of these are interactive, and we welcome comments from our readership and contributors alike.

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Newsletter:	www.jiscmail.ac.uk/cgi-bin/wa-jisc.exe?A0=EXCHANGES-ANNOUNCE

The Exchanges Discourse Podcast

We have had a real glut of podcast episodes in recent weeks, many linked to issues of the journal published earlier this year. As always, the episodes contain a mix of conversation exploring the key themes of the authors' articles, a discussion of their life and work along with advice for new or relatively inexperienced academic authors.

New episodes have included:

- Outreach, Reaching Across the Divide & Engaging the Public (Phil Jemmett)
- Being an Effective Academic Citizen in the Republic of Knowledge (Jonathan Vickery)
- International Teacher Practitioners as Researchers (Elizabeth Hidson)

All episodes are free to listen on Spotify for Podcasting, and many other podcasting platforms. You can also find a full listing of past episodes from this year, and all previous ones, on the *Exchanges* website.

exchanges.warwick.ac.uk/index.php/exchanges/podcast

Contacting

As Editor-in-Chief I am always pleased to discuss any matters relating to *Exchanges*, our community, contributions or potential collaborations. My contact details appear at the start of this editorial.

Alongside a doctorate in cultural academic publishing practices, Gareth also possesses various degrees in biomedical technology, information management and research practice. His varied career includes running regional and national professional bodies, managing academic libraries alongside various applied research roles. Based at the University of Warwick's Institute of Advanced Study (IAS), he has been the interdisciplinary *Exchanges* journal's Editor-in-Chief since 2018. Today, he retains professional interests on power-relationships and evolution of scholarly academic publication practice, within social theory and political economic frameworks. He has aptitudes in areas including academic writing, partner relationship management and effective communication praxis, and remains a vocal proponent for academic agency through scholar-led publishing. A longtime fellow of the Higher Education Academy, he regularly contributes to a various podcasts and is also a director of a property management company.

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Editorial Board Members

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Endnotes

[i] Actually, I'm modestly sceptical that we'll be able to maintain our publication volume with our current staffing configuration – 2025 is probably going to be an aberrant high. I suspect a more realistic/conservative estimate will place volume 50 around the early 2030s. Although naturally, I'll be delighted when the Chief Editor at that point – whoever is serving in that post by then – gets to celebrate that particular milestone, even if I'm likely to be long gone from these pages.

[ii] **Editorially Reviewed Formats**: e.g., Critical Reflections, Conversations (interviews) or Book Reviews. As these do not undergo external peer review, they are also usually able to be more swiftly published in the journal – provided they pass our editorial scrutiny.

[iii] **Top Articles**: This diversity of format interest is frequently reflected in our annual Top Articles list, which appears in the IAS annual report, and on our blog pages early in the new year.

[iv] **Word counts**: For the purposes of considering a submissions' word count, we do not typically include abstracts, references, endnotes or appendences. While submissions just over or under their word count will still be initially considered for review, any significantly in excess will normally be declined and returned to their authors with advice for revision.

[v] **Expressions of Interest**: We do on occasion solicit expressions of interest ahead of submissions for special issues. For regular (open or themed) issue submissions though, authors may submit their manuscripts without any prior contact.

[vi] **Formats**: For more on the formats, word counts and other requirements for any prospective submissions, see: https://exchanges.warwick.ac.uk/index.php/exchanges/guidance#formats

[vii] Yes, we too would like to jump off Twitter/X given its current owner's recent political lurches, but for now we're still there given most academics seem to have retained their accounts. But we're increasingly favouring Bluesky.social as a strong alternative.

Translanguaging, Literary Multilingualism and Exophony in Translation

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Peer review: This article has been subject to an editorial review process.

Abstract

This article focuses on the new term of 'translanguaging', first developed in applied linguistics and then critically discussed in critical multilingualism studies. The term foregrounds language use as opposed to language competence. In this way, translanguaging is understood as shaking up the commonly received ideas about standardised language. With such a term, new avenues of thought and research open up to better understand multilingual practices. The new proposed way of regarding multilingual practices as more 'energeia', processual, and varied – instead of a fixed entity or tool – takes centre-stage in this article. I analyse the term 'translanguaging' by way of two practices, literary translation on the one hand and exophony on the other hand. In choosing these two practices, I ask how can translanguaging help bring down old-established epistemic walls such as clear-cut ideas about Jakobson's intra- and interlingual translation. These terminologies will thus be analysed by way of multi- and translingual texts to discuss the extent to which translanguaging practices can challenge current ideas about literary translation and multilingualism. In my discussion, I focus on two Brazilian authors; firstly, on Wilson Bueno's Mar Paraguayo alongside its translation Paraguayan Sea by Erín Moure, and secondly, on Geovani Martins's O Sol Na Cabeça alongside its translation The Sun on my Head by Julia Sanches. I show how a translanguaging approach does justice to the way in which these authors and narrators speak in their own languages as well as in and between other languages than their own (exophony). I draw on examples showing how the translators have gone about these particularities, at once reflecting on the process of creative writing and literary translation as an open-ended practice.

Keywords: multilingualism, translation; translingualism; exophony

Introduction: Multilingualism at a crossroads

Multilingualism can be scary. It makes monolinguals feel excluded, ostracised. It can be elusive, opaque, complicated, costly. Costly, in this case, refers to the existence of several languages for multinational corporations to communicate in or translate into carries an added cost to any transaction and business decision. At the same time, expanding to different languages increases profits and results in new business opportunities. Multilingualism is thus, even when seen as a positive, a complication. It is an added cost, as well as a complication, for publishing translations. Multilingualism creates demands which are expensive and time-consuming. As David Gramling proposes in his book *The Invention of Monolingualism*, we are currently living in the 'linguacene', that is,

> *an era in which large-scale discourse—translingually mediated—alters the planet in intensities and scalar trajectories unimaginable in the mid-twentieth century. (…) Twenty-first-century protocols for industrial distribution in the linguacene first project global saturation, and deal with the logistical and linguistic hurdles as a matter of course. Multilingualism is then the field of symbolic extraction upon which these protocols must necessarily succeed, by way of efficiently managed, increasingly auto-correcting translational monolingualism* (**Gramling, 2016: 215**).

To complicate matters further, multilingualism goes by several different names and can mean very different things. Glossodiversity, bilingualism, plurilingualism, polyglossia, and translingualism, among many others. How do we call these phenomena, these processes? To complicate matters even further, applied linguists, sociolinguists, translators, and literary scholars seldom agree on what precisely it means and on the way it is studied. In literary translation it can mean anything from a text in translation containing multiple languages at a surface level to a text that is multilingual even if written in mono/lingualist form. In this article, I intend to discuss the phenomena that can be deemed multilingual, as well as the terminological labyrinth any person dealing with the topic needs to go through to reach the end with perhaps a better understanding of what it is, and more importantly, what it can be. In the end, the aim is to understand multilingualism in literary translation within a spectrum, offering examples respecting the many different forms multilingualism can take in the creation and translation of literary texts.

Lingualism: Multi and Mono

The topics of multi- and monolingualism evoke a dyad, a binary, that is sometimes not effective in describing and doing justice to real-world diverse language phenomena. The concept of monolingualism is a recent one, and it is intensely tied to the many intellectual and societal movements which culminated in the creation of nation states in the 19th Century and beyond. For a while, the concept of Bilingualism was used for individuals who did not belong to one single nation and language. However, the term is binary and excludes the possibility of an individual *in transit* between more than two languages. It also has been used to describe a status of language acquisition rather than a process. Bilingualism in itself is a minefield, with some defending an open use of the term which refers to any person speaking two languages, at whatever level of fluency, and some with closed definitions of bilingual as a person who acquired both languages up to a certain age and are, in sum, two monolinguals in one person. This shows that even in discussions around language variety and multiple language skills in individuals, the standard against which a bilingual person is defined is, ultimately, the monolingual.

The prevalence of the monolingual ideal when thinking about multilingualism is also tied to the idea of 'Lingualism'. Lingualism is a term Gramling (**Gramling, 2021**) uses based on Jorgensen et al. (**Jorgensen et al., 2011**) as well as Dahlberg and Bagga-Gupta (**Dahlberg and Bagga-Gupta, 2019**), who all challenge the conservative conception of language as bounded entities. In this case, the term refers to those 'languages with a capital L', geopolitically imposed integrities and conceptions of language that largely ignore the many layers of linguistic experience and repertoire used among speakers. Lingualism, in simple terms, refers to languages with a capital L, dialects and varieties of a given language that were elevated into the position of national languages: British English, US English, European Portuguese, Brazilian Portuguese, Spanish, German, Swiss German, etc. There are, of course, several levels of Lingualism, and it can even be used as a tool against itself, when we capitalise varieties that have not been elevated to a national language (such as when defining different varieties within national languages: Hiberno-English, Rioplatense Spanish, African American English, etc.,). David Gramling defines Lingualism as:

> *a term invoked occasionally in Usage-Based Linguistics to critique the premise or belief, that languages are essentially coherent, stable, nameable entities that people can master and possess* (**Gramling 2021: 27***).*

The authors largely criticise a view of multilingualism that is still based on a multiplicity of these bounded entities, proposing for us to go 'beyond multilingualism' instead. As an alternative, some have proposed a 'languaging without languages' (**Sabino, 2018**) following Quijano (**Quijano, 2000**). In response to the limitations of thinking multilingualism based on a strict lingualist perspective, Applied Linguists such as Li Wei proposed the use of the term translanguaging, as a response to Claire Kramsch's call for an 'applied linguistic theory of language practice' (**Kramsch, 2015**). Being a 'practical theory', translanguaging is dialogic, experiential and its main objective 'is not to offer predictions or solutions but interpretations that can be used to observe, interpret, and understand other practices and phenomena' (**Li, 2018: 11**). In her definition of translanguaging, Wei explains that it comes from a translation of Williams's use of the Welsh term *trawsieithu* to describe language practices in the bilingual Welsh-English classroom (**Williams, 1994**), by Baker into English as translanguaging (**Baker, 2001**). Thus, the term is rooted in Applied Linguistics but especially in a language learning context. It is an empowering way of thinking about language pedagogy that breaks the divides between languages and identities, putting the meaning-making potential of multilingualism as an asset, an advantage, rather than something that must be erased or flattened out in the classroom. It follows the notion of *languaging*, which sees language not as an entity, but as a process, by using a verb rather than a noun to describe ever-changing languaging processes (for more on languaging, see **Maturana & Varela, 2012; Ortega & Gasset, 1957**; and for the concept of bilanguaging, see **Mignolo, 2012**).

Therefore, translingualism could be seen as the practical theory of multilingualism, one that goes against Lingualist and monolingual views of language practice. In literature, and more specifically, in literary translation, translingualism would see multilingual practices within a literary text, and its potential translation, moving beyond code-switching between national languages. This follows an idea of language as *energeia*, a process, rather than a fixed entity, and going further than only seeing language, and the knowledge of several languages, as only a desirable tool on the global stage, but rather as a continual meaning- and identity-making process.

Going further within a national language, one can see translingual practices more often than previously thought. For translation, this would also mean seeing potential subdirectionalities within a text. That means not only from French into English, but rather from Montreal Quebecois into Modern British English, and not only from these, but also from specific subdirectionalities such as class-based language registers or those tied to sexuality, for example. One translator can be a fluent user of Modern

British English but may not be a fluent user of South London English or of Queer Black British English. Similarly, as I aim to point out further in this article, a fluent user of Brazilian Portuguese might not be a fluent user or reader of Carioca Portuguese, Favela Portuguese, or Gaucho Portuguese. Thus, I believe using translingualism to see how multilingualism is realised in literary texts will also help us understand subdirectionalities in translation and see beyond Lingualism in literary translation.

Translanguaging and Exophony

Exophony, from the Greek ἔξω (éxō), 'out, external', and φωνή (fōnē), 'sound, voice', is a term that has been recently used to refer to authors who write in a language other than their mother tongue. Exophony, as a term, is at the same time broad and specific. As a wide-ranging term, it includes various contexts. Exophony is a phenomenon that is increasingly fashionable nowadays, due to the new migration waves of the twenty-first century and globalization, contributing to a context in which multilingualism and multiculturalism are more valued, at least on surface levels. This reality favours the so-called transnational literatures, a more general term that includes the study of exophony. Notions of exophony and extraterritoriality are important for the study of Comparative Literature in a twenty-first century context, where geographical and linguistic boundaries are more fluid, and the traditional notions of art and literature seem to be going through a process of deconstruction, in which different media, voices, languages and tongues are in a constant dialogue. A recent term, exophony is still not part of a strong terminological tradition in many countries.

The term exophony deserves a more profound analysis and a well-rounded defence of its use as a substitute for other terms and paradigms used to define cases such as Yoko Tawada's, for example. Chantal Wright offers a rich argumentation for the adoption of the term (**Wright, 2008**), contrasting it to other ways in which these authors and their works have been defined and studied, in this grey zone between different languages and cultures. In the article, Wright presents a few terms that could be used to describe exophonic writing but which fall short for not being inclusive enough, or not doing justice to formal features of exophonic writing. She concludes with a defence of the term exophony and the adjective exophone/exophonic as a novel approach which focuses on the text. According to Wright:

> *in focusing on style and how meaning is generated by it, the term 'exophonic' represents an important shift in how we approach writing by non-native speakers, and a return to the of late somewhat neglected relationship between form and meaning in literature* (**Wright, 2008: 39-40**).

The concept of exophony is especially important to authors who did not have their exophonic *oeuvre* studied as such and who do not fit in the traditional literary categories which are heavily dictated by the author's mother tongue or nationality. The term 'exophony', however, exists and has emerged in a world where strong national identities linked with a national language have been created and sedimented, a context in which we try to break free from these shackles. By considering exophony through a stylistics point of view which, therefore, does not limit the themes; it is a valid concept, even at times in which national identities like we know today, were not yet fully formed or in existence, and even more considering the fact that these national identities are also regularly contested.

Exophony, however, focuses more on the creative outputs of these nation-less authors, rather than in defining their level of fluency in the literary language used. Translingualism connects with exophony on several levels. In fact, some might even argue that they can be used to describe the same phenomenon. However, the movement that the prefix 'trans' implies is different than 'exo'. Both imply a literature that is in motion, either outside of a mother tongue expectation, or through different languages. Li Wei, in her defence of the term Translingualism, proposes that:

> *Translanguaging is using one's idiolect, that is one's linguistic repertoire, without regard for socially and politically defined language names and labels. From the translanguaging perspective then, we think beyond the boundaries of named languages and language varieties including the geography-, social class-, age-, or gender-based varieties* (**Wei, 2018: 19**).

Therefore, it appears that in those terms exophony is still within the boundaries of named languages. This does not mean that exophonic writing cannot be also translingual, but rather that these are diverse ways of looking at a text. Not only that, translingualism looks more into the power relations of the many languages and varieties within a multi- or translingual text, whereas exophony looks at more thematic issues of being outside, of adopting an unnatural stance, or something that goes against norms of what language to choose for literary endeavours, and with regard to how both thematic and stylistic aspects can be approached in exophonic texts. The two terms together would offer a more complete analysis and a more robust theory of translation.

Translating Multitudes

Before thinking and projecting as to what multilingualism in translation can mean, we need to take a closer look at examples of multilingualism in literature that might pose a challenge to translation in diverse ways. I have devised a spectrum of literary multilingualism ranging from strict Lingualist multilingualism in a literary text (that is, two or more languages with a capital L mixed in a text) from a morphological to a syntactical level, to examples of multi and glossodiversity within a text that seems to be monolingual but which presents multi and translingual challenges for its possible translations. These are examples I have taken from multiple languages and source cultures, in trying to present a broader spectrum. However, they are informed by the languages and contexts I have a more confident knowledge of, and the possibilities are truly endless if we include other minority languages and even 'peripheral' national languages.

From the strict surface-level end of the spectrum, we have texts that do code-switching on the word level, but not those that have some foreign words peppered here and there. In non-fictional contexts we have the famous example of Gloria Anzaldua's multilingual text that informs many code-switching Latinx writers in the US context and abroad. However, I will start this spectrum with more radical examples of this kind of switching, one that does not involve switching between two or more languages but rather blending them together and thus creating a different one. One understudied example of this is the work *La Divina Increnca* by Juó Bananaré (**Bananaré, 1924**). This is a collection of satirical poems written in the Ítalo-Paulistano patois of Italian immigrants in São Paulo, Brazil. In the cover, the author (pseudonym of Alexandre Ribeiro Marcondes Machado) claims 'this is not a bilingual edition'. By making sure this work was not seen as bilingual but rather as representing Italian-paulistano patois, Bananaré established a boundary to those trying to see is work as code-switching. And in fact, Bananaré himself was from the state of São Paulo but did not have any Italian ascendency. When moving to the capital of São Paulo he was inspired by the patois of the many working-class Italian immigrant communities in the city, thus writing *La Divina Increnca* (Divine is a parody of Dante's *Divine Comedy*, and Increnca is a variation of the word 'encrenca', which means 'trouble), presenting itself as a collection of satirical poems written in this patois. In it, Bananaré offers not only original work in the language but also parodies and translations of other famous works of Brazilian literature. A famous nationalist poem by Gonçalves Dias, *Canção do Exílio* ('Song of Exile'), praises Brazilian fauna and flora, spoken by a poetic persona who is exiled and misses their homeland. A famous verse goes:

Minha terra tem palmeiras

Onde canta o Sabiá;

As aves, que aqui gorjeiam,

Não gorjeiam como lá.[i]

('My land has palm trees

Where the Sabiá sings.

The birds that sing here

Do not sing as they do there.')

Bananaré, in *La Divina Increnca*, offers a parody of the famous poem, ending with,

Na migna terra tê parmeras

ove ganta a galigna dangola;

Na migna terra tê o Vap'relli,

Chi só anda di gartolla.[ii] (**Bananaré, 1924**)

Evidently, the poet adapts certain written forms into something reminiscent of Italian, with 'gn' for sounds which would be written as 'nh', but which would otherwise be pronounced the same (e.g., *migna/minha {mine}*, *galigna/galinha {chicken/hen}*). These are words that are entirely Italian and not an italianised version of Portuguese (such as *dove* or *chi*), some traces of orality, such as writing *tê* instead of *tem*, *di* instead of *de*, as well as traces of the specific Italian pronunciation of Portuguese words, like *gartola* for *cartola {top hat}*, *ganta* for *canta {sing}*. As we can see, there are several ways in which a work like this challenges the norms of literary language and brings multi and translingualism to the fore by mixing orality and orthographic deviations to destabilise normative forms of the language. These techniques of defamiliarization used in the writing of the multilingual text can also be used in its translation, as we will see below.

An illustrative example is given by Ellen Jones in *Literature in Motion: Translating Multilingualism across the Americas* (**Jones, 2022**), where she analyses the translation of Wilson Bueno's multilingual 'portunhol' work *O Mar Paraguayo* into Canadian Frenglish by Erin Moure (translated as *Paraguayan Sea*). In the case of this work, the translator chose a different language mix and shifted the axis of the text from a southern to a northern perspective, keeping multilingualism in translation but creating a new text that challenges assumptions and works differently in the context into which it was translated. As Jones puts it in her analysis of Moure's translation: 'Translation need not erase the difficulty or ingenuity of

multilingual writing; it, too, can be linguistically playful and challenging, a creative practice to be valued in the same way as any other writing' (**Ibid: 167**). Jones draws several conclusions from her analysis of Moure's translation, as I will try to summarise here. Firstly, there is a fundamental difference in the relationship between Spanish and Portuguese, and French and English. Moure's text aims to be somewhat readable in English, more than it is readable in French, whereas Bueno's source text is readable in both Spanish and Portuguese. That is, in part, because Spanish and Portuguese are much closer to each other linguistically than English and French. Moure makes use of several compensatory techniques in her translation, to either bridge the gap between languages, replicate Bueno's language plays or to create gaps of her own. Linguistic strategies used by Moure include taking advantage of French-English homographs and cross-lingual homonyms, writing words in the way they are pronounced, highlighting dialectal and accent varieties, defamiliarization techniques through rhyme and repetition and generally creating ambiguity and wordplay where these do not exist in the original, to compensate for certain instances of needing to flat out or monolingualise the text. According to Jones, Moure uses a feminist approach of 'womanhandling' which involves a type of highly interventionist translation approach, where paratexts and nonstandard writing are key (**Ibid: 179**). In Mar Paraguayo's impossibility of translation Moure finds a creative opportunity, by making the text even more multifaceted and multilingual, and this is key to the translation of multilingual texts: unfinished. In fact, Jones uses the example of Erín Moure's translation of a multilingual text as a type of translation that is 'productive and original, rather than derivative and secondary' (**Ibid: 167**). This is perhaps the 'solution' to the 'problem' that a multilingual text poses for its possible translations: that of making the translation an additional creative practice in conversation with the source text, but not as a derivative piece. For that purpose, I would argue that the translator needs to be a multilingual user themselves. In both the example of Moure and of Sanches, which I will analyse below, the translators have a strong authorial voice but, more importantly, are multi or translingual users of language, more than the Anglo-monolingual translator which is the idealised translator of the majority of anglophone Translation Studies.

Focusing on a both thematic as well as formal translanguaging in literature, we find the example of Xiaolu Guo's *A Concise English-Chinese Dictionary for Lovers* (**Guo, 2007**), in which the author-narrator performs a broken English that is slowly assimilated and domesticated through the main character's experience living in London and learning English. The book follows a Chinese woman who moves to London in order to learn English and gets in a relationship with an Englishman and thus learns the intricacies of English culture from the second language classroom to

experience them in romance, friendships, and sex. Guo's translingualism can be perceived both at surface-level as well as thematically, while the novel is centred around language learning and cultural differences. In a German-speaking context, Yoko Tawada does similar literary language plays. Guo's other works also thematise language and translation, showing that multi and translingualism seem to be a stylistic feature of the author's work. The alienation in Guo's broken English performance can be seen clearly in the beginning of the novel:

> *Is unbelievable. I arriving London, 'Heathlow Airport'. Every single name very difficult remembering, because just not 'London Airport' simple way like we simple way call 'Beijing Airport'. (...) Sign in front of queue say: ALIEN and NON ALIEN. I am alien, like Hollywood movie Alien, I live in another planet, with funny looking and strange language* (**Guo, 2007: 9**).

In poetry, it is possible to see many examples of translingualism at play. From simple code-switching to more complex multi-layered translingualist uses of poetic language. Poets such as Daljit Naghra, Juana Adcock, Mary Jean Chan, in the UK context, and the new poetry collection *Postcolonial Love Poem* by Natalie Diaz in the US, among many others, all use translingualism in different ways, with a mixture of code-switching and peppering of words in a foreign language that disrupt the English poetic form. As examples of the more radical, code-switching type, Karina Lickorish Quinn, with her poem *Spanglish*, mixes Spanish and English at a word level. The poem starts with:

> *Oye, you. Yes, tú.*
>
> *¿Have you ever alguna vez mordido your lengua?*
>
> *Duele like una mierda fucker.*
>
> *El impaling de tu tongue on your diente stings like una picadura de un maldito*
>
> *escorpión del infierno.* (**Lickorish Quinn, 2016)**.[iii]

For someone not fluent in Spanish, would this poem be understood? And how could it be translated, say, into Spanish? Viable solutions would imply a switch in that the words in Spanish would be in English and the words in English would be, in turn, translated into Spanish. Does such a translingual practice not defy our traditional idea of translation? Quinn applies here, consciously, or not, the notion of a metonymic gap. The poet does not work to make the reader understand. The gap is there and can be ignored, and glossed over, but cannot be easily surpassed. The metonymic gap, according to Ashcroft, Griffiths and Tiffin is:

> *The 'cultural space' is the direct consequence of the metonymic function of language variance. It is the 'absence' which occupies the gap between the contiguous inter/faces of the 'official' language of the text and the cultural difference brought to it. Thus the alterity in that metonymic juncture establishes a silence beyond which the cultural Otherness of the text cannot be traversed by the colonial language. By means of this gap of silence the text resists incorporation into 'English literature' or some universal literary mode, not because there is any inherent hindrance to someone from a different culture understanding what the text means, but because this constructed gap consolidates its difference* (**Ashcroft, Griffiths and Tiffin, 2004: 53**).

Therefore, by leaving this cultural space open, in the elements of another language or something not readily accessible or available to an anglo-monolingual texts that are translingual also resist incorporation by the global lingua franca, or rather by the colonial language. However, this is done in a unique way that the resistance a metonymic gap in a postcolonial text poses, precisely in the case of the poem *Spanglish*, the two languages at play are colonial languages: Spanish and English. In this case, the gap is being created against the monolingual reader, and thus the power play is slightly different. Some translingual or multilingual texts, as they are often referred to, erase, or translate such a gap, by facilitating the reading experience to an anglo-monolingual mind.

However, going beyond Lingualist assumptions, what could be said of works that are multilingual, or translingual, within a national language? These works are not, like the famous example of Tolstoi's *War and Peace*, which is written in Russian with a heavy presence of French throughout, but that is, without a doubt, written in one national language. Some examples from Brazilian literature include the leviathan *Grande Sertão Veredas* by Guimarães Rosa (**Rosa, 1956**). Translated into several languages, the only translation into English of this novel was a collaborative translation published in the 1970s, that has been heavily criticised and never been re-edited. As I write this, Australian translator Allison Entrekin is working on a retranslation of the work, this time trying to do justice to Rosa's masterpiece. The work is written in Brazilian Portuguese that mirrors the regional speech and vocabulary of the *Sertão* region, a Centre-Northeastern Brazilian geosocial ecosystem, the result of centuries of erosion of an earlier lush terrain. The *sertão* way of living and speech is an important tenet of Brazilian culture, albeit a disputed and difficult topic in the way it is represented and treated in the more culturally central areas of Brazil (namely the Southeast region of São Paulo and Rio de Janeiro). In Brazilian literature, works that are strongly regional in tone and form are usually also not encompassed by the Southeastern culture of São Paulo and Rio de Janeiro. This would be the case of *Grande Sertão* if

Guimarães Rosa himself was not from the state of Minas Gerais, one that has geopolitical and historical privilege in the Brazilian context and being himself a highly educated multilingual diplomat with access to many literary circles. This means that, even though *Grande Sertão* is highly multilingual in that it is written with the orality of the Sertão dialects in mind, the work is studied and regarded widely in Brazilian literary circles, at least more widely than other regional literary works.

Works from other Brazilian regions which do not fit this mould are often undervalued and under-researched. In the South of Brazil, the gaucho of Rio Grande do Sul is usually excluded from more traditional gaucho narratives. Often when talking about Gaucho culture and language/literature, Argentina, Uruguay, and Paraguay are mentioned, and the Brazilian Gaucho is largely forgotten. Similarly, works of literature written in the Brazilian Gaucho dialect, that is, Brazilian Portuguese with slang and slight grammatical variations, as well as some code-mixing with Spanish, is by and large ignored. One such work is Simões Lopes Neto's *Contos Gauchescos* (**Lopes Neto, 1912**). Attempts at translating it were limited to the academic community in Southern Brazil, and mostly focused on attempts at finding cultural and linguistic equivalents in the target languages. This seems to be the case in most examples of translingual texts that are still within one national language. Doctoral candidate Richard Huddleson is currently engaged in a project to translate queer plays from Catalan into Irish English, finding the otherness of Catalan queer an equivalent in a similarly contested territory of Irish in Northern Ireland and English. These are but a few examples of where a multilingual text can inform its translation and that such texts, in a way, both refuse to be translated and also are born translated (**Walkowitz, 2017**) while also being inherently an act of translanguaging. By keeping the otherness in one way or another, translations of these texts are possible and, in fact, creatively rich. In the section that follows, I will go into more detail on one specific example: that of Julia Sanches's translation of Geovani Martins's *The Sun on My Head* (**Martin, 2019**).

Translating Carioca/Favela Portuguese into English: the case of The Sun on My Head

The book *O Sol Na Cabeça* (*The Sun on My Head*), by Geovani Martins, has become a literary and commercial sensation in Brazil. Published in 2017, the book consists of 13 short stories with varying styles of narration and pace. The main marketing point of the book, however, is that it captures the lives of people living in Rio's favelas. The author, Martins, went on to participate in poetry slams and short story workshops and prizes. His debut, *O Sol Na Cabeça* is a welcome breath of fresh air into the

contemporary Brazilian literary scene, which has been, in recent years, slowly integrating other narratives into its canon.

The opening story in the collection is titled 'Rolezim', translated as 'Lil Spin', and one which we will focus on at this juncture. We are lucky to be able to tap into the process of translation that Sanches went through by looking at her essay *Sun and Slang: On Translating Geovani Martins' 'The Sun on My Head',* published in the online magazine *Words Without Borders*. In it, she talks about how:

> *I decide that I will pepper the text with Portuguese that can be easily understood contextually, or that does not get in the way of the sentences' meaning, grounding it ever more securely and sonorously in Rio de Janeiro. These words are not selected on the merit of sense or their importance to the text, but on how effectively they can be understood in x, y, or z situation. Some of them are: 'bolação', 'panguando', 'marola', 'mano', 'pô'. Unitalicized, they pussyfoot through the text. I will not gloss unless absolutely necessary, because it seems to me that Geovani has made a similar decision: to not explain; to let certain readers in and keep others out; there is something for everyone here, but more for some than for others. This is something I have identified as part of his intention, a thing that rests somewhere around the text's asthenosphere or hypodermis, invisible on the surface and yet elemental. Part of a translator's task is to identify this, I think* (**Sanches, 2019**).

Unlike the example of Erin Moure's translation of *Mar Paraguayo*, Martins's text is not multilingual by a 'Lingualist' definition; rather, it is intra-multilingual. It contains slang and a specific class and regional register of Brazilian Portuguese that keeps 'certain readers in and others out'. With this in mind, Sanches made a conscious choice to also keep her readers out, making it more acute that all texts have the potential for dual or multiple audiences, and more so if the text refuses to fill in the metonymic gaps. Sanches's decision to ground the text in its original context, refusing to find an equivalent in the Northern Hemisphere is a different solution to that of Moure's, who did find a Northern Hemisphere equivalent while also maintaining the instances of Guaraní from the original text. In the case of Sanches, finding an equivalent would completely remove Martins's prose from its context, which is extremely important. Not only that, Moure's career as an academic and writer foreshadows her translation approach and the specific publication context of *Paraguayan Sea*. Published by Faber & Faber, Sanches's translation was meant for a wider audience than Moure's, and the translator did not have the privilege of adding footnotes and glossaries to her translation. These often-overlooked factors are however incredibly impactful in how

rebellious a translation can be. Sanches did not have the same liberty to 'womanhandle' the text through a performative interventionist translation like Moure, but her choice of unitalicizing slang words and, in fact, not translating a substantial number of them, was in a way a compensatory strategy.

Conclusions

Multilingual writing has often been deemed untranslatable. Yet, as some scholars like Ellen Jones argue, an 'untranslatable' text and its multilingualism already 'invokes, demands, and invites translation' (**Jones, 2022: 183**). Through her analysis of Moure's translation, Jones proves that a translation of a multilingual text in its unfinished status, in fact, 'can open up a work to new readerships while allowing meaning to proliferate' (**Ibid: 184**). It is in thinking interstitially, on the margins, that we can approach a multilingual text in its translatorial potential to open up meaning and avenues of poetic potential. Using the example from Moure to think further about the translation of multilingual texts can also be employed in thinking about the translingual and the exophonic text. If creativity and form are the base of the theory of exophony, then exophonic writings invite and demand a creative translation that also plays with formal features of a text. In that way a multilingual, a translingual, and an exophonic text are not that different, and especially not when seen through the translation lens. There are several examples of multilingual texts and the attempts at translation than the scope of this paper allows me to show, however, with the examples presented here one can see that it is not necessary to erase or flatten out the preffix 'multi' and feature of a text in its translation. On the contrary, these 'impossible' texts can change our way of thinking of translation towards a more open-ended approach, of a text that is always changing and always open to change, instead of the idea of a text as finished product, immutable, closed in itself.

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Endnotes

[i] Published in 1857, and available at various online locations including, for example, https://www.todamateria.com.br/cancao-do-exilio-de-goncalves-dias/.

[ii] In contrast to Gonçalves Dias, there is no English translation of Bananaré's poem. A tentative translation could be the following: 'In mine land-uh there are-a parmtrees / Wher the chicken singz / In mine land-uh theres a Vap'relli / Dat-uh only walks with a top hat'.

[iii] A tentative translation in which English and Spanish are mixed the other way around could be: 'Hey, tu. Si, you / ¿Alguna vez ha bit your tongue? / Hurts como a shit cabrón / The impala of your lengua en tu tooth duele como the sting of a / motherfucking shitfucker scorpion.'

‘Musical Reflections’: An experience with public engagement

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Abstract

In this short piece, I reflect on my experience in organising and convening a public engagement event after submitting my PhD Thesis. I explain how my initial motivations to put together a seminar series on the philosophy of music were centred on the idea of distributing the finding of my doctoral work. Yet, I conclude showing how the two-way relationship with a small, motivated and enthusiastic audience ended up being the inspiration for further research.

Keywords: public engagement; philosophy of music; philosophy; collaborations

Introduction

After submitting my PhD Thesis in philosophy at the end of September 2023, in collaboration with Warwick Arts and Music Centre, I organised and convened 'Musical Reflections: A Seminar Series on the Philosophy of Music'. The series was grounded in my doctoral work, which analyses the perception of music from a philosophical perspective and was intended to simply disseminate my findings. Surprisingly, the event presented unexpected positive outcomes which I am going to reflect on in this piece. I hope this could contribute to enlarging the perspective on the reasons for which public engagement should be conducted.

Public engagement has recently gained increasing attention at both universities and governmental level (**UKRI, 2023**). Reasons that can motivate researchers to deliver public engagement activities and initiatives can vary. Scholars may aim at informing the public in order to spread awareness about a certain issue (**Redfern et all., 2020**), influence people's behaviours (**Kang, 2014, Stofer at al., 2019**), produce social changes (**Stewart et al., 2016**), solve global problems (**Kumpu, 2022**) or just inform the population. Yet, public engagement should also be a two-way relationship (**UKRI, 2021**) and benefit researchers and their research as well. In this piece, I explain how, my experience with public engagement, was initially guided by the intention of distributing the outcomes of my PhD thesis and ended up being a place of inspiration for further research, in line with UKRI document on the benefit for researchers of public engagement (**UKRI, 2020**).

Expectations and the Starting Point

The intention of creating a public engagement event emerged some months before the expected day of submission of my thesis. At that stage, over spring 2023, I had started applying for jobs. Reflecting on my PhD experience I came to two main realisations. The first considered the impact of the pandemic on my PhD research. Towards the end, when we were 'going back to normal', I realised how the circumstances in which my doctoral studies had taken place limited or prevented collaborations with theatres, musical venues, musicians, and other musical professionals. Yet, in hindsight, the interdisciplinary nature of my work would not just enable the possibility of collaboration with such external partners and individuals with different expertise but would benefit from the interaction with them. Furthermore, the opportunity to engage with an audience not trained specifically in musical studies and yet interested in music from a different perspective could also add depth and nuance to my research. The philosophical perspective from which my work is conducted, indeed, naturally embeds and requires the consideration of different viewpoints

and theories, to which I had more limited access than in other circumstances.

A second important realisation for me at that stage concerned the isolation in which research takes place and can, unfortunately, risk to stay. Writing a thesis is *per se* an isolating experience. It becomes even more so in the writing up stage when all of a sudden, a series of ideas finally link together in a (hopefully) organic unity and the author is under pressure in presenting them in their best version with limited time available. The result is that, not just the writing is done in isolation, but also that the findings remain isolated until further actions are taken to distribute them. I felt that I had spent a great deal of time researching people's experience of music that could potentially be of interest for different communities (e.g., musicians, musical industries, other philosophers, etc.,) for different reasons (e.g., understanding their audience, understanding music as form of art and auditory perception overall, etc.,) and that was just sitting on my laptop inaccessible, for different reasons, to most people around me.

I then included the idea of a public engagement event to be held in collaboration with the Warwick Arts Centre in my application to the IAS Early Career Fellowship scheme, which I later won. Motivated by the idea of building collaborations and distributing my research, I started planning a seminar series mostly aiming at giving a chance to the members of the public to engage with philosophical discussions on music. Thinking about the audience, on the one hand, I wanted to share and discuss some of the ideas I worked on during my PhD. On the other, I wanted to engage people showing up at the event giving them a chance to understand what it means to do philosophy and think about music at the same time. With clear aims about distributing my research and giving people a chance to try out philosophy in mind, I began to plan the series.

I initially considered which research questions and topics in the contemporary debate in philosophy of music could be both engaging and made accessible for the general public. A debate on the metaphysical nature of the occurrences of musical pieces, for example, which is intended to study the metaphysical nature of musical scores and performances, and their relationship, seemed very abstract and less connected to people's everyday life experiences of music. Thus, I decided to leave it to the side. Instead, I thought asking what music is, which sounded like a very broad and possibly intimidating question, may however be intriguing and easily relatable to people's personal experiences of music in their everyday experiences. With this type of reasoning in mind, I ended up selecting five topics and structuring the series as a fortnight event. It was at this point in my thinking and planning

stage that I was informed that my application for the IAS[i] Early Career Fellowship scheme was successful.

At this stage of preparation and aware of the support of IAS, I then reached out to Chris Mapp, Head of Music at Warwick Music Centre, to present him my ideas. In a conversation about how to make this event happen, we figured out practicalities such as finding a place to host the meetings and selecting a day and time in the week that could make the sessions accessible to as many people as possible. Once decisions on those aspects of the event were confirmed, I wrote a few lines of a quick, catchy presentation for the series which appeared in informative materials which I was helped in distributing by Warwick Arts Centre. A webpage was set up and an original picture was provided by Warwick Arts Centre which supported me in publicising the event both online, on their website, and in print, in their Winter flyer. With the intention of reaching more people and potentially some interested students based in departments other than mine, I also opened a Facebook page and an Instagram account where I posted a few days in advance of each meeting and added some more information regarding the research question which was going to be explored next.

At the end of the first phase of planning, I expected a series of five meetings exploring five, self-standing, main research questions on the philosophy of music. I imagined that the event could attract a small audience of generally interested participants with a variety of expertise and backgrounds. I booked the room where I held the event for a couple of hours every time thinking that that would be enough and that, more realistically, I was going to have sessions of a maximum length of about an hour/an hour and half at best. I thought, indeed, that I was going to leave some space in the sessions for interactions and discussions with participants. Yet, I also considered that participants could be intimidated in sharing their views and so unwilling to do so even if interested in the topics.

The Planning of Sessions

I have always considered philosophy more as a practice than a discipline. Therefore, in putting together a plan for each of the meetings of the series, I was set since the beginning to create a seminar-like space for discussions and exchange of ideas. I did not want to just get into the room and lecture someone on the literature that I have been reading over the past several years. I wanted to give my participants a space where they could have a taste of what it means to do philosophy and think philosophically about music. I wanted them to have a go at using their own experiences with music and reflecting on them under a different light.

However, I could not expect my participants to have any clue about philosophical methods and practices. Furthermore, I could not expect them to show up at each meeting and remember what was discussed the previous time. I hoped some of the participants would come back and attend multiple sessions over the term, but that, clearly, could not be the base on which I planned the content and format of the meetings.

The challenge I was facing then was twofold. I wanted my participants to be active parts of our meetings where they could share intuitions and views and build their philosophical take. Yet, I also needed to provide enough information and guidance for them to be able to engage with philosophical issues employing their philosophical skills.

I ended up organising the schedule of my sessions splitting them into two different moments: an initial seminar-like moment and a follow-up lecture-like moment. This format can sound counterintuitive since it asks participants to cover an active role in the meeting at the very start when they did not receive information about the philosophical literature yet. How could I expect them to try to reply to research questions and engage with philosophical issues when they had not yet had the chance to familiarise themselves with what has been already written?

What I really wanted to avoid with this move was to 'normalise' their thinking. Often when we discover a new idea, we are drawn to read our reality through the lens that those new concepts that we acquired gave us. However, in doing so, we lose part of our autonomy and freedom of thoughts in the process. So, I designed each session starting from a broad research question and asking participants to reply to it in written form on a handout. I generally gave them about ten minutes to write something and I hoped to spend about the same amount of time to discuss the replies. In this way, I could collect their initial intuitions and thoughts about the question/topic at hand without risking derailing their thinking or lead them to some standardised replies already produced by the philosophical community.

I also thought that this type of starting point could engage participants more than an opening of the sessions which immediately provided information about theories put forward in the specialist literature. I hoped that facing questions first could build a sense of expectation to discover what the philosophical answers provided by professionals were just at the end. The initial questions I picked for each session were, indeed, broad, and challenging. Presented with a complex initial philosophical puzzle, the participants could try out what philosophers do on a daily basis, namely coming up with possible solutions. Yet, they were left on their own reflecting on the issue at hand for at least some minutes embracing the struggle of facing a complex challenge which did not have an obvious and

broadly accepted reply. I hoped that this could prompt people to want to know more.

Going from a minimally structured initial moment of basically a brainstorm on a certain issue, I then planned to move on to a more structured moment where I would give some examples from the literature and asked participants organised in small groups to gather some ideas on them formulating either supporting thoughts or criticisms. I selected and put on a different handout a small series of short quotations from relevant papers and books. I split people into small groups and assigned each group one of the quotations. In selecting which quotations went to each group, I generally planned to assign the philosophical quotation closer to people's intuitions on the basis of the previous task. I thought that making people see that their very own ideas had some sort of 'official' philosophical version could encourage them to think that philosophy is not something destined to just some of us, but a human practice that is inherently interesting for everyone. In other words, I hoped that philosophy and philosophical practice and ideas could sound relatable.

After discussing what the groups thought about the short portion of text assigned to them, I planned to finally explain how the philosophical debate is structured around the question I picked for each session. I planned to link back to people initial thoughts what the main voices in the debates on philosophy of music wrote on the topic of the session making sure that the points made could sound accessible also for non-academics. I hoped that planning the session this way would make my participants think that philosophy is something for them and is something in which they could be engaged and interested in pursuing further. I also wanted to explain where in the debate the authors of the quotations distributed were located. I hoped to clarify how relevant and influential the voices of the philosophers that we were reading were in the context of the academic debates on music. This indeed would have avoided leaving uncertainty regarding the relevance and interests of some of the major works in the field. I hoped that this could provide the idea that the corpus of writing in philosophy of music is rich and varied, yet organic and structured, while still open to welcome further ideas.

Even with this plan in place, I thought that five meetings with the same structure could end up being perceived as boring by those participants who may have liked to attend the entire series. So, I planned to organise two invited talks for the third and fifth session. I thought that this could have allowed me to include in the series two sessions on topics I was not conducting research on giving my participants a broader perspective on philosophy of music. For this reason, I intended to invite a guest speaker who could talk about the relationship between music and emotions – a

topic of great interest in philosophy of music. I also thought about inviting a guest speaker whose research engages with a philosophical tradition different from the one I generally work on. This could give participants the chance of exploring the work of German thinkers rather than just Anglo-American philosophers on which I generally focus on.

The kind availability of Maria Zanela, PhD student in the Department of Philosophy at the University of Warwick, and of Professor Andrew Huddleston, Professor of Philosophy in the same department, made both these sessions happen. Alternance of different topics, and also philosophical traditions and presentations' styles, I think, was one of the strengths of the series which has been more successful than what I could initially predict.

The Outcomes

Even if the number of participants matched the expectations and did not pass the eleven people per session, other, not quantitative outcomes turned out to be much more positive than expected. The strategy of starting the session with a question which could prompt personal intuitions and reflections worked very well. So much so that rather than the ten minutes allocated for discussing the personal thoughts written on the handouts, participants often spent at least double the time to share their ideas, and question, ponder on and challenge other people's positions. The discussion was lively and enthusiastic. The small break that I imaged to take between the first two interactive seminar-like moments and the lecture-like part of the session was often spent in other informal chats about musical genres, musical pieces and songs of interest, further readings in musicology, psychology or other close fields of investigation on music.

For the entire length of the series, participants really took their opportunity to discuss their ideas, get involved in the philosophical challenge and try out their thoughts. Several returned after the first meeting they had participated in and a couple of people even showed up for each session. Many stopped me by at the end of our sessions to ask suggestions for further reading or to propose a case of a piece that they found puzzling or an idea that they had come across and wanted to know what I (and in some cases even other participants) thought about it. Booking the room for two hours proved to be the right move since we definitely used the space up to the last minute.

The participants' enthusiasm in the initial stage of our meetings was contagious and inspiring. Once I submitted my PhD thesis (**Lorenzi 2023**), the prolonged fatigue and stress associated to the completion of such a long piece of work made me largely forget the joy that I initially had when

I got into the programme, and I started my research. My small enthusiastic audience allowed me to see my research with the fresh eyes of someone deeply passionate about music and who did not have the chance for whatever reason to spend the same time researching on it. Even with all the difficulties that a PhD path implies and the sense of exhaustion that I experienced after submitting my thesis, my public engagement activity was a chance for me to feel grateful again for having had the opportunity to undertake this path and carry out my philosophical research on music.

The quality of the discussions in the sessions was also remarkable. Participants took the initial broad questions and the tasks of close reading of philosophical texts that I presented very seriously. They were actively trying to understand each other in the initial open discussion, asking genuine questions to other people with the intention of understanding others' positions more deeply. Some thoughts were already so spelled out that they matched some theories in the literature very closely, to the point that some participants felt seen when we looked at the philosophical texts. In the reading tasks, they truly tried to make sense of each term employed. They pondered and valued each word, as it should be done, to make sense of the author's message. I personally felt as if I was facilitating the work of one of the best seminar groups I have ever encountered in my teaching practice.

With such an active and involved audience, over the sessions, I was able to gather inspiration for further developing my research. I noticed, for example, that the exchange of ideas often circled back to a point that I had briefly considered in my own work. The recurrence these ideas and the interest demonstrated by the audience in them made me believe that they could be a fruitful place to start further research. Further investigation in the literature demonstrated that the experience that the audience was reporting is common and relatable among listeners of any musical tradition and genre. Yet, despite being popular among listeners, it has been generally overlooked by the philosophical literature which has never dedicated space and thoughts to it. These considerations led me to turn to the initially rough idea that came up during the discussion of the seminar-like moment of my event into one of the two main questions that I am now developing into postdoctoral projects.

It was in the occasion of noticing the recurrent ideas brought about by participants in the event that I realised that the interactions with my audience were providing me concrete, workable inputs that I could develop into future investigations in the field. I started putting together the series thinking that I was going to provide and offer something to the audience. Happily, I ended up realising that it was in the exchange that I got the most out from the event. The dissemination of my ideas became a

mere basis to receive feedback, inputs and inspiration. I was building something new and not just taking my research out of my laptop and my office.

Conclusion

In this piece, I explained how I organised and convened a public engagement activity based on my PhD thesis. I reflected on the intentions that initially motivated me to build collaborations with non-academic venues and professionals and disseminate my research. I showed that the most unexpected outcomes were actually the most valuable for me. I explained how the interactions with the audience in the seminar series made me feel motivated again towards my research in a phase in which I was experiencing a great sense of fatigue after my PhD submission. I also reported how, thanks to the exchange of ideas with the participants, I ended up receiving concrete inputs to develop my research at a postdoctoral level.

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Endnotes

[i] University of Warwick's Institute of Advanced Study, see https://warwick.ac.uk/fac/cross_fac/ias/ .

Navigating the Publication Imperative: A critical reflection on strategies for success as an academic scholar

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Abstract

This study provides a thoughtful analysis of effective tactics for achieving success in academic publishing. It explores the intricate and challenging obstacles that scholars encounter while trying to meet the requirements of publishing their work. This study examines the connections between academic productivity, multidisciplinary cooperation, and developing patterns in scholarly communication. Its goal is to offer practical advice and tactics for scholars to improve their publication efficiency while emphasizing their well-being. The study highlights the significance of balancing practicality in publishing output and self-care practices. It also underlines the value of embracing multidisciplinary audiences and research, investigating alternate pathways for publication, and utilizing digital and Artificial Intelligence (AI) tools for disseminating research. Based on academic publishing literature, personal observations, and guidance from experienced scholars, this paper provides significant insights and recommendations for early-career researchers who want to succeed in the competitive academic world and progress in their scholarly careers.

Keywords: academic publishing; alternative publication routes; digital technologies; interdisciplinary collaboration; research effect; self-care

Introduction

Disseminating scholarly work is fundamental to achieving academic success, as scholars from all fields aim to publish their discoveries, theories, and advancements to wider academic audiences. The imperative to publish is not only a professional requirement but has also become an inherent aspect of academic selfhood. Frequently publishing in high-impact journals is regarded as a gauge of scholarly production, recognition, and progression in academic careers. Nevertheless, the focus on publishing can provide academic difficulties and intricacies, especially when preserving a harmonious equilibrium between work and personal life and handling the pressures of academic responsibilities.

This study examines the complex world of academic publishing and investigates many aspects of becoming a professional publishing scholar while prioritizing well-being and self-care. I aim to explore the intricacies and conflicts that scholars encounter while dealing with the pressure to publish, analyzing the tactics and methods that can assist them in optimizing their productivity in publishing while maintaining their well-being.

The scholarly literature on academic publishing highlights the pressures and demands imposed on researchers to create and distribute their research findings. It emphasizes the highly competitive character of academic publishing and the necessity of publishing in prestigious journals with a broad reach and influence. As academics wrestle with these requirements, the careful equilibrium between practicality in research output and personal well-being becomes of the utmost importance. Managing the need for efficiency while prioritizing individual welfare is a dynamic obstacle that necessitates careful contemplation and intelligent methods.

Furthermore, the evolving nature of academic communication presents advantages and difficulties for researchers aiming to enhance the impact of their publications. Due to the emergence of digital technologies, open-access platforms, and alternative publication channels, scholars now have numerous choices to distribute their work, connect with new audiences, and amplify the influence of their research. By embracing interdisciplinary audiences, engaging in research collaborations, and keeping up with changing publication trends, scholars can enhance their publication experiences and increase the reach and impact of their scholarly contributions.

In this paper, I seek to provide thoughtful analysis and valuable advice on navigating the pressure to publish and establishing successful publishing strategies in today's academic landscape. By examining the intricacies and

potential advantages of scholarly publishing, I aim to offer scholars practical techniques and viewpoints to improve their productivity in publishing, all while placing a high value on their personal well-being and satisfaction in their academic endeavours.

An Examination of Existing Literature

The academic publishing literature emphasizes the intricate challenges and possibilities that scholars face when navigating their publication paths. Inexperienced academics, such as PhD candidates, encounter several difficulties in academic publishing. These challenges include the need for molecular tests and novelty in research (**Acharya, 2019**), limited English language skills, lack of research funding, and different research topics (**Lund, 2021**), and difficulties in collecting data, planning research writing, and receiving postgraduate training (**Ekoç-Özçelik, 2023**). To overcome these issues, they need to comprehend the nature of these obstacles and familiarize themselves with the policies and techniques that can assist them (**Habibie & Hyland, 2019**). Authors should consider several important factors, such as the continuous discourse surrounding authorship, selecting a suitable publication, and submitting a work for review (**Richards et al., 2022**).

Furthermore, the progress in an individual's academic trajectory is frequently interconnected with the achievement of their publications. Academics are now pressured to consistently publish their research in well-regarded journals to demonstrate their productivity and impact. The emphasis on publication output as a metric for academic success has led to a fiercely competitive and demanding publishing landscape, where researchers must consistently strive to meet publication criteria while also managing the complexities of academic life.

Studies have highlighted the importance of balancing practicality in publishing research and practising self-care methods to prevent burnout, maintain one's health, and sustain long-term academic output (**King-White & Rogers, 2018**). The imperative to disseminate research findings might result in heightened pressure and exhaustion, underscoring the importance of giving precedence to self-care (**Hotaling, 2018**). Nevertheless, consistent publication in influential journals is equally crucial for advancing one's career (**Wright & Sharma, 2013**). To attain this equilibrium, researchers should reevaluate their endeavours at various periods of their careers and contemplate techniques such as practical organizing abilities and mentorship (**Hotaling, 2018**). It is essential for maintaining sustained academic production throughout the long run.

Furthermore, the increase in interdisciplinary research and varied audiences in scholarly publishing has opened up possibilities for scholars

to expand the impact and range of their work. Library-based digital publishing enables the inclusion of many forms of digital research, facilitates new forms of authoring, and expands the potential audience reach (**Fenlon et al., 2019; Senseney et al., 2018**). Academics are encouraged to engage in collaborative efforts across different disciplines and contact with diverse populations to foster innovative research partnerships and provide multifaceted research results that resonate with broader audiences. Nevertheless, interdisciplinary publishing presents both benefits and challenges. Turner and Carpenter (**1999**) highlight the difficulties in peer review and acceptance criteria, which can vary significantly across disciplines. It is further exacerbated by journal rankings, which can disadvantage interdisciplinary research (**Ràfols et al., 2012**). Tanaka et al. (**2018**) propose a new category, 'multidisciplinary science', to accommodate interdisciplinary articles in journals traditionally organized by discipline. It is supported by Jacobs and Henderson (**2012**), who highlight the need for more attention to interdisciplinarity in academic journals. Zhang et al. (**2016**) further explore this by suggesting that the diversity of references in articles can indicate interdisciplinarity, which could be used to place interdisciplinary articles in the appropriate journals.

Moreover, the ever-changing nature of academic communication has led to the extensive adoption of digital technologies and alternative publishing methods. These avenues offer scholars new opportunities to disseminate their research findings (**Gotti et al., 2020; Scobba, 2010; Naval & Cobo, 2013; Wrzesinski et al., 2021**). Advancements in technology have resulted in the development of new types and platforms for sharing knowledge, such as multimodal and web-based channels (**Gotti et al., 2020**). Researchers can employ open-access platforms, digital repositories, and social media channels to increase the prominence and availability of their papers, thus expanding their reach to a global audience and amplifying the societal impact of their work. Nevertheless, the shift toward digital scholarship has encountered obstacles, including safeguarding publication profits and the conventional academic culture (**Scobba, 2010**). Although there are obstacles, digital scholarship can transform the process of creating and disseminating information, primarily through open-access initiatives and utilizing publication technologies (**Naval & Cobo, 2013; Wrzesinski et al., 2021**).

Balancing Pragmatism and Self-Care

Researchers must balance their publication output and self-care activities to ensure long-term academic productivity and well-being. The demand to publish frequently and in prestigious journals can result in exhaustion, anxiety, and a disregard for one's welfare. It is due to the **'**publish or perish**'**

culture, which has become a harsh reality in academia (**Rawat & Meena, 2014**). The emphasis on quantity over quality has resulted in an overwhelming amount of published work, making it difficult for scholars to keep up and leading to feelings of inadequacy and anxiety (**Pezzini, 2018**). This pressure is particularly evident in China, where young scholars face significant work time devoted to writing, resulting in fatigue and strained family relations (**Tian et al., 2016**). Furthermore, excessively long editorial decisions and journal publication times can exacerbate these issues, leading to stress and a lack of professionalism (**Teixeira da Silva & Dobránszki, 2017**). Academics should employ strategic methods to improve publication efficacy while prioritizing self-care to preserve a well-balanced work-life equilibrium.

A practical approach to balancing practicality and self-care involves establishing attainable objectives and timeframes for publishing. To mitigate the overwhelming demands of publication and keep control over their workflow, scholars might define explicit goals and divide publishing duties into manageable chunks. By prioritizing assignments according to their significance and time constraints, researchers can optimize their allocation of time and resources, resulting in reduced stress levels and increased output.

Furthermore, scholars should utilize their expertise and areas of interest to inform their approach to publishing. Concentrating on study areas corresponding to one's skill and interest can enhance motivation and contentment in publishing, resulting in superior outcomes and enhanced well-being. Collaborating with people with similar research interests can boost publishing productivity and provide a supportive network for academic pursuits.

Moreover, it is imperative to engage in self-care by taking regular breaks, engaging in physical activity, practising mindfulness, and fostering social relationships to uphold mental and physical well-being in the challenging academic setting. Scholars must prioritize self-care activities that encourage relaxation, creativity, and a balance between work and personal life. It will help them replenish their energy and maintain their academic productivity in the long run. CohenMiller and Demers (**2019**) and Schönbauer (**2020**) emphasize the role of arts-based activities and leisure groups in supporting academics, particularly mothers and life scientists, in managing their conflicting roles and coping with the demands of academia. Tan et al. (**2023**) further underscores the benefits of self-care for helping professionals, while Petty and Trussell (**2019**) introduce the concept of leisure self-care, particularly in the context of women's lives.

Strategic Approach to Publication Outputs

Scholars aiming to optimize their research impact and productivity in academia must adopt a well-thought-out strategy for their publication outputs. By employing organized procedures and establishing specific objectives, scholars can improve their publications' quality, visibility, and reach and successfully handle their publication workload.

An essential element of a strategic approach to publication outputs involves establishing attainable objectives and deadlines. Academics should define specific goals for their research outcomes, specifying the intended quantity of publications, preferred journals, and submission dates. By deconstructing the publication process into manageable stages and establishing a schedule for each activity, academics may monitor their advancement, maintain order, and guarantee punctual submission of their work.

Moreover, scholars should prioritize their publication tasks by considering variables such as the importance of their research, the relevance to their audience, and the chances for professional growth. Scholars can enhance the exposure and influence of their work by prioritizing high-impact research topics and strategic publication opportunities. This approach allows them to connect their publication output with their long-term academic objectives. Working with colleagues and mentors can also offer valuable perspectives and assistance in finding strategic publication possibilities and improving the quality of research outputs.

In addition, researchers can improve the effectiveness of their publications by utilizing their research skills, multidisciplinary expertise, and new approaches. Scholars can develop influential publications that resonate with a broad audience and promote knowledge in their subject by highlighting their distinctive research contributions and actively participating in various academic communities. By utilizing digital tools, open-access platforms, and alternative publication routes, researchers can enhance the distribution and availability of their research findings, thereby increasing their influence and expanding their audience within the academic community.

Embracing Interdisciplinary Audiences and Research

Researchers must embrace multidisciplinary audiences and research to expand their influence, encourage collaboration, and tackle intricate societal issues using creative cross-disciplinary methods. These issues include, among others, climate change, healthcare disparities, cybersecurity, urbanization, economic inequality, food systems, mental health, education and social justice, disaster response, and water

resources management. Embracing interdisciplinary audiences involves various academic communities, policymakers, industry stakeholders, and the general public to improve the significance, accessibility, and practicality of research outcomes across numerous domains and perspectives.

A practical approach to engaging interdisciplinary audiences and research involves developing a comprehensive and inclusive communication style in academic writing and presentation. Academics must embrace a lucid and comprehensible writing approach that effectively communicates intricate research concepts and discoveries to a wide range of readers. Scholars can effectively connect different academic fields, captivate audiences who are not experts in the subject and convey the importance of their study in a convincing and approachable way by employing a combination of interdisciplinary language, visual aids, and real-world illustrations.

In addition, it is imperative for academics to proactively pursue interdisciplinary collaboration opportunities and interact with researchers from various disciplines to utilize a wide range of viewpoints, knowledge, and approaches in their research endeavours. Cultivating a culture of collaboration and knowledge sharing among scholars from different fields, tackling intricate research inquiries, stimulating innovation, and producing influential answers to urgent societal problems beyond disciplinary limits is possible.

Furthermore, researchers must use interdisciplinary research procedures and approaches that utilize ideas and tools from several disciplines to enhance and intensify the examination of research problems. By incorporating a variety of theoretical frameworks, research methodologies, and viewpoints, academics can create original study designs, generate novel knowledge, and produce influential research outputs that contribute to the progress of knowledge in multidisciplinary domains.

Emerging Scholarly Communication and Alternative Publication Routes

The growing digital landscape provides scholars with emerging scholarly communication and alternative publication pathways, enabling them to enhance the visibility, accessibility, and impact of their research results. Adopting alternative publishing methods entails utilizing digital technologies, open-access platforms, and innovative methods of sharing information to connect with a wide range of readers, interact with new research communities, and increase the exposure of academic work beyond conventional academic channels.

A crucial approach for scholars is to adopt open-access publication models and repositories that offer complimentary and unimpeded access to research outputs, thus enhancing the accessibility of scholarly knowledge to researchers, policymakers, practitioners, and the general public. By disseminating their research via open-access journals or uploading preprints to open repositories, academics can enhance the discoverability and influence of their work, connect with scholars from different regions and fields, and foster the exchange of knowledge and collaboration among varied audiences.

In addition, researchers have the opportunity to investigate alternate publishing methods, such as data papers, visual abstracts, interactive multimedia content, and short-form publications. These formats allow for creative and captivating communication of research findings that cater to various learning styles and information preferences. By expanding the types of publications they produce and adopting new communication methods, scholars can enhance the reach and influence of their research outputs, connect with new audiences, and promote interdisciplinary dialogue and collaboration.

Furthermore, academics can utilize social media, academic networking platforms, and online communities to advance their research, disseminate knowledge, and engage with a worldwide audience of researchers, professionals, and politicians. By actively engaging in digital scholarly communication channels, scholars can enhance the visibility of their work, establish a robust online presence, and interact with many stakeholders to promote the significance and influence of their research in the digital era.

Utilising Digital and AI Tools to Enhance Publication Effectiveness

Utilizing digital and AI methods to improve publication efficacy can significantly enhance a scholar's research impact, visibility, and engagement in the digital era. As per William (**2024**), the advantages of using AI in academic writing encompass enhanced efficiency, time-saving, personalized feedback, improved writing accuracy, and accessibility. Furthermore, Souifi et al. (**2024**) and Trần (**2023**) discuss using AI tools in various stages of the research and publishing process, such as literature review, drafting, and plagiarism checking. These tools have been found to improve work efficiency and quality, particularly in terms of grammar, readability, and originality (**Magulod et al., 2020**). Upshall (**2019**) provides a specific example of AI application in scholarly publishing, using AI to identify suitable peer reviewers for manuscript submissions.

Academics can utilize digital tools such as reference management software, data visualization platforms, and social media analytics to make the publication process more efficient, improve the quality of their research results, and raise the visibility of their work. Scholars can enhance their efficiency in organizing references, citations, and bibliographies and ensure accuracy in their papers by utilizing reference management software such as Zotero or Mendeley. Data visualization systems like Tableau or Infogram enable scholars to produce visually captivating graphs, charts, and infographics, thus enhancing the presentation of research findings and facilitating the communication of intricate data in a lucid and captivating manner. In addition, scholars can utilize social media analytics tools such as Altmetric or PlumX to track and assess the online involvement, exposure, and influence of their articles on different social media platforms, academic networks, and online repositories. As Veletsianos (**2012**) suggests, scholars use Twitter to share professional information, resources, and media, as well as to network and manage their digital identities. Similarly, Li and Gillet (**2013**) identify influential scholars in academic social media platforms, highlighting the importance of considering academic and social impact.

Self-Reflection and Guidance

Insights and help from experienced scholars can be precious for early-career researchers navigating the intricacies of academic publishing and scholarly communication. Drawing upon their own experiences, researchers can impart vital insights, discuss obstacles encountered, and provide practical approaches for achieving success within the fiercely competitive academic environment. Louie et al. (**2019**) emphasize the importance of ongoing learning and a supportive community, while Donald (**2023**) underscores the role of mentorship in deciphering academic codes, achieving career goals, and promoting well-being. Moreover, Hurrell et al. (**2024**) suggest a blended and compassionate approach to teaching scholarly communication, focusing on meeting the needs and preferences of early-career researchers. Saiya (**2022**) provides practical advice for first-time authors navigating academic book publishing.

Scholars can offer personal insights into their experience with publishing, including advice on choosing the right places to publish, successfully navigating the peer review process, and establishing a solid publication track record. In addition, they can provide advice on efficient communication techniques, chances for building professional relationships, and joint efforts to improve the exposure and influence of research. In addition, scholars can guide how to balance research productivity with teaching, service, and personal obligations. They can also

help manage time efficiently to prioritize publishing objectives and develop a sustainable research plan. Experienced academics can inspire, mentor, and encourage emerging researchers in their publication efforts by offering personal reflections and advice. It helps to create a culture of knowledge sharing, collaboration, and ongoing learning within the academic community.

Conclusion

As an academic scholar, successfully managing the need to publish requires a comprehensive strategy that combines practicality in producing publications with self-care practices. This strategy should also involve engaging with diverse audiences and conducting interdisciplinary research, exploring new methods of scholarly communication and alternative publication routes, and utilizing digital and AI tools to enhance the effectiveness of publications. Academics should adopt a strategic approach to their publications by establishing specific objectives, prioritizing tasks, and utilizing their research strengths to achieve the most influence and dissemination. Through the use of multidisciplinary collaboration, scholars have the opportunity to improve the pertinence and practicality of their research to tackle intricate societal issues and promote innovation. Furthermore, scholars can enhance the prominence and availability of their work in the digital era by investigating alternate publishing methods and utilizing digital resources. Experienced scholars provide valuable insights and guidance to early-career researchers on academic publishing. They emphasize the significance of effective communication strategies, networking, and time management in achieving success in publishing. In essence, academics can create practical techniques and perspectives to effectively negotiate the demands of academic publishing while prioritizing their well-being and fulfilment in their academic endeavours by critically reflecting on the obstacles and opportunities of this process.

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Data-Driven Insights for a Holistic Understanding of Research Culture

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Abstract

Research environments (and their measurement and tracking) are becoming increasingly complex, with rapid Artificial Intelligence (AI) advancements, interdisciplinary collaboration, and global connectivity shaping the way research knowledge is created and disseminated. Within this dynamic landscape, universities hold an ever increasing collection of valuable data, which are stored within core operational systems including research information systems, research management systems or grants databases, human resource systems and course management systems. This treasure trove of information, often overlooked and underutilised, not only serves as a valuable tool in guiding strategic decisions, but also could be further used to provide a comprehensive approach to monitoring research integrity and culture.

This critical reflection follows extensive conversations and debates around defining and assessing 'research culture'. How can we possibly measure something that has, up until now, been viewed as merely a concept? How can we generate useful metrics that reflect the culture of a research institution? Our reflections will draw attention to the potential of leveraging readily accessible information to gauge and benchmark research integrity and culture practices. We discuss how regular habitual integration of these data sources enables continuous monitoring and measurement of research culture as well as the ability to assist in the assessment of interventions or initiatives designed to improve it. We reflect on how this approach ensures that University leaders have a consistent and up-to-date understanding of the research environment through which they can identify strengths, pinpoint areas for improvement, and cultivate a more robust, inclusive, and transparent research ecosystem.

The current paper, through illustrative examples from one UK-based institution, explores the potential in harnessing existing data, such as collaborative trends and prevailing research practices, to gain valuable insights into the dynamics of academic research. In addition, we explore the advantages and drawbacks of using this data to develop potential metrics that can be used to recognise and reward a healthy research culture.

Keywords: research culture; data analytics; collaboration metrics; research integrity; open research

Introduction

Research culture is a critical component of any university's academic environment, shaping the way research is conducted, shared, and valued. It is a term that can be interpreted in various ways, which has created difficulties in tangibly measuring or assessing research culture. The Royal Society states 'Research culture encompasses the behaviours, values, expectations, attitudes and norms of our research communities. It influences researchers' career paths and determines the way that research is conducted and communicated'. Additionally, the University of Glasgow extends this definition, suggesting 3 distinct themes:

> *One in which colleagues (i) are valued for their contributions to a research activity, (ii) support each other to succeed, and (iii) are supported to produce research that meets the highest standards of academic rigour* (**Casci & Adams, 2020: np**).

We can also apply a research impact lens when considering an institution's research culture journey. This should not just be approached through an academic lens, but also through broader societal and economic impact. Therefore, research culture through an impact lens may include the support and training offered to researchers embarking on their impact journey; the approach researchers adopt when engaging with external parties and beneficiaries; and, how societal impact is recognised and rewarded.[i] Research impact and research culture should not be understood as distinct entities, but instead as part of a symbiotic relationship, reliant on each other to achieve research excellence.

Even with the definitions outlined above, research culture heavily depends on one's own perspective and opinions. A study on research culture Initiatives in the UK, commissioned by the UKRI (**2024**), found that implemented initiatives covered a wide number of areas across the Research Culture framework reflecting a broad understanding of the term. This broad understanding makes effective evaluation of such initiatives

challenging. The report found the evaluation of submitted initiatives was often uncertain - emphasising the need for more robust evaluation approaches that demonstrate the effectiveness of research culture initiatives. It is important when attempting to measure and track improvements in research culture to recognise that research culture consists of two important elements:

1. Practical provisions, encompassing a nurturing environment where individual researchers are supported.
2. Wider research values, supporting a collaborative research environment that has a culture of integrity, good governance and best practice as defined in the Research Integrity Concordat.

In addition, we need to consider any bureaucratic or administrative burden when addressing either of these aspects. Nobody employed in this sector wants nor needs extra work. Research culture is something that should be embedded as a natural component of the institution's research lifecycle. Fortunately, the existing research environment is already rich with accessible data that can be instrumental in this endeavour. Leveraging such data enables universities to foster a more open and transparent research ecosystem whilst avoiding unnecessary data collection and administrative burdens.

We also need to be cognisant of the misuse of suggested research culture metrics . As Dr Lizzie Gadd rightfully points out in her *My research culture is better than yours* piece 'The risk of pitting us all against each other in some unholy research culture competition is that hyper-competition was always at the heart of so many of our unhelpful research cultures.' (**Gadd, 2023**).

By adopting an internally focused evaluation approach, universities mitigate the risk of inadvertently creating a competitive ranking system, especially if the success of any initiatives were to be used in a research assessment or evaluation exercise. Research culture and any associated metric should not be used as a 'comparative' benchmark, but as a beacon activity, where institutions can learn from each other. We can cautiously now begin to think about how some existing metrics may enable us to assess research cultures.

In the time BC (Before Culture)

When assessing or measuring research productivity, several traditional methods have been used in the past. These include:

- Publication Count: The number of academic papers published in high impact journals

- Citation Metrics: How often the researchers work is cited by others
- Research Funding/Grants: Amount and prestige of research funding or grants received
- Awards & Honors: Recognition from professional organisations or institutions

The methodologies for these metrics are sourced from research performance databases, traditionally Web of Science or Scopus. However, using these metrics alone has , over time, contributed to unintended negative consequences. Whilst they can provide some insight into the reach and impact of the research, these insights are not necessarily accurate or complete. Bibliometrics alone do not accurately reflect individual performances, they can be easily misinterpreted, plus there are many limitations when we compare diverse disciplines, demonstrated by Fire and Guestrin (**2019)** in their study on citation-based metrics. Traditional metrics are also considered a hindrance to research culture. The Wellcome Trust's survey of 2020[ii] found that only 14% of researchers felt that these 'traditional' metrics improved culture. 43% felt that their workplace valued these metrics more than the quality of the research itself. There are numerous reports that associate focus on publication count as driving poor research practices, such as the use of paper mills and citation cartels.[iii]

Over the past decade, there has been a growing voice throwing caution to the dependence on such metrics, beginning with the San Francisco Declaration on Research Assessment (DORA) in 2013, followed by the 2015 Leiden Manifesto. More recently, research integrity has been drawn into focus through the publication of the Hong Kong Principles for assessing research, and the Singapore Statement on Research Integrity.[iv] The importance of research integrity and its congenial counterpart, research culture, has finally been recognised. There have also been significant shifts in funder policy as noted by Curry, Gadd and Wilson's revisited report *Harne*ssing the Metric Tide (**2022**). The UKRI also recognise the importance of fostering a healthy system through their Responsible Research Assessment global values.[v]

In the face of a long history of research on research culture, why are we still having these conversations? Why aren't things progressing in the much needed direction faster? We find ourselves circling back at the original dilemma. How can we effectively quantify something so nuanced and complex as an institution's research culture? The slow progress can be attributed perhaps to the default reliance on traditional metrics. Not because they are deemed adequate, but because they provide a tangible, albeit limited measure of research excellence - whereas the unquantifiable

facets of a good research culture simply elude a nice tidy numerical representation.

What Other Data Can We Use?

One of the main concerns about moving away from traditional metrics is the unfathomable concept of reviewing narrative CVs, applications, submissions and complex text. This may be necessary to develop a qualitative appraisal of a research culture. However, we should not underestimate the power of openly accessible data to also increase our understanding- these data must be trusted sources, that can be easily accessed and verified.

Universities typically have several core systems that are crucial for day-to-day operation. Those relevant to tracking research activities may include but are not limited to:

- Human Resources: Legal Sex, Disability, Career Age, Ethnic Origin, Dependants, Faculty, School etc.,
- Research Information: REF Unit of Assessment, Research Outputs, Research Activities, Conference Presentations, Prizes
- Research Management: Grant applications, PI/CI detail, Award detail
- Research Performance (analytic tools): Citation counts, Altmetrics, Policy Citations, Patent Citations, Collaborations
- PhD Management System: Supervisory Detail
- Course Management Systems: Module Descriptions

These systems are multifaceted tools, handling day-to-day operational tasks such as recording award applications, depositing research outputs, storing course and module details. They play a crucial role in providing real-time reports on the current status of various data - offering a comprehensive view of institutional operations. Many of these systems are stand alone, siloed and often contain duplicated data. However, these data are frequently overlooked, full of unrealised potential in providing valuable insights. Through data analyses, and made even more powerful through data linkage, these data aid strategic decision making and can enhance the efficiency and effectiveness of implemented initiatives. Universities can not only track the progress and impact but also gain crucial insights into what strategies are yielding positive results and which require re-evaluation. This approach allows for a more targeted identification of groups or departments that excel as mentors, as well as those in need of additional support and encouragement. Ultimately, this

strategic use of data goes beyond mere operational efficiency; it becomes a pivotal tool in fostering an environment of research excellence, ensuring that initiatives are not just implemented, but are also effective and inclusive.

Using Existing Accessible Data: Ulster University as an example

Ulster University (UU), a multi-campus institution located in the north of Ireland, has equality legislation that differs to that of the United Kingdom. Section 75 of the Northern Ireland Act 1998 aims to transform the practices of government and public authorities so that equality of opportunity and good relations are central to policy making and implementation. There are nine protected categories within the legislation:

- Persons of different religious belief, political opinion, racial group, age, marital status or sexual orientation
- Men and women generally
- Persons with a disability and persons without
- Persons with dependents and persons without

As such, all support initiatives programmed by UU's Impact Team have Equality, Diversity and Inclusion (EDI) considerations embedded throughout. An example of this is demonstrated through the Impact Accelerator Account (IAA), awarded to UU by the Arts and Humanities Research Council in 2022. Led by the EDI strategy, developed as part of the grant application, a Steering Group was established with membership representing internal and external stakeholders including UU's Equality, Diversity and Inclusion Section Lead. Members within the steering group underwent EDI training with Advance HE. They meet bi-annually, with EDI a standing agenda item. The IAA underwent Equality Screening as per Section 75 requirements; this entailed analysing UU's EDI data to determine if any protected groups would be impacted by the IAA. This screening involves public consultation ensuring that any policy decisions made by the institution can be scrutinised by the public. The IAA is subject to annual EDI monitoring, carried out by the Principal Investigator (PI) and Co-Investigator (CI) who report to the Steering Group. UU's Equality, Diversity and Inclusion Unit provides anonymised EDI data on IAA award holders which is then benchmarked against staff population and faculty data. From this analysis the IAA Steering Group can design and develop data informed initiatives and programmes of support for underrepresented groups. Y1 analysis of IAA EDI data indicates that the historical underrepresentation of research impact led by female

researchers is improving because of IAA interventions. (Ulster University, 2024)

Ulster's Impact Team is also responsible for the delivery of the University's central Research Impact Fund, open to all researchers and disciplines. This is internally funded research impact seed funding that runs an annual call. Established in 2018 the Fund attracts applications from all career stages, and it was recognised early on that ECRs were underrepresented. In order to ensure equity for all potential applicants, ECR applications are now assessed separately with a ring-fenced budget. Plans are in place to collate and analyse data to determine if and how this support measure is in fact enhancing the research culture for ECRs, for example, existing research information systems coupled with HR data will allow us to track the career trajectory of the award holders, and assess the impact achieved via academic impact, altmetrics etc.

Evidencing a Nurturing Research Environment

Data can of course be useful as proxy measures for the impact of research culture strategy implementation and impact. There are many possible markers of supportive research environments. It is recognised that international collaborations are vital for addressing pressing and global challenges in research. These collaborations do not necessarily occur spontaneously, researchers will require a variety of support to ensure that concrete and productive relationships can develop. These supports may include financial support for travel, time allocation for conference or research study visits or broader technological support. Some of these aspects may seem trivial from a helicopter view of university management. However, these types of support can be transformative for researchers' programmes of work.

Figure 1: Overview of International Research Collaborations at Ulster University. Source: Dimensions on Google BigQuery – Digital Science 2024 and Ulster Organisational Data extract (accessed February 2024).

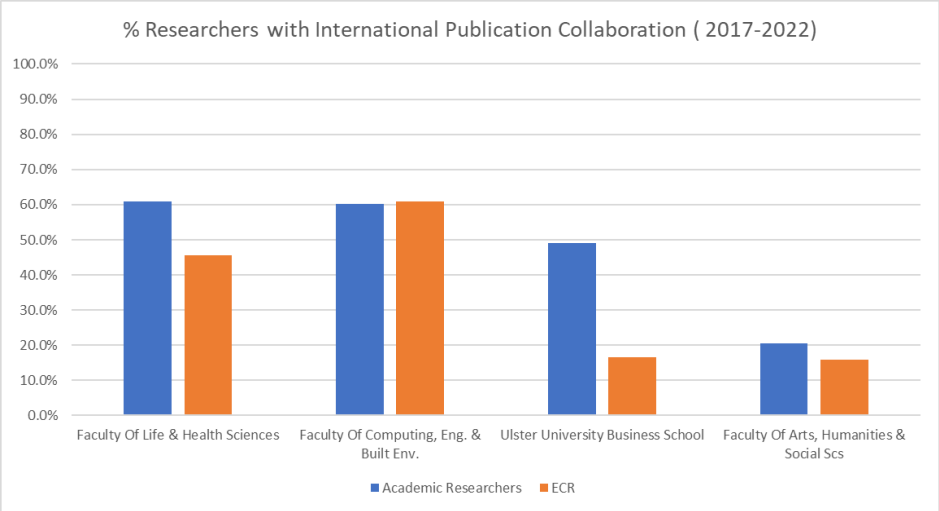


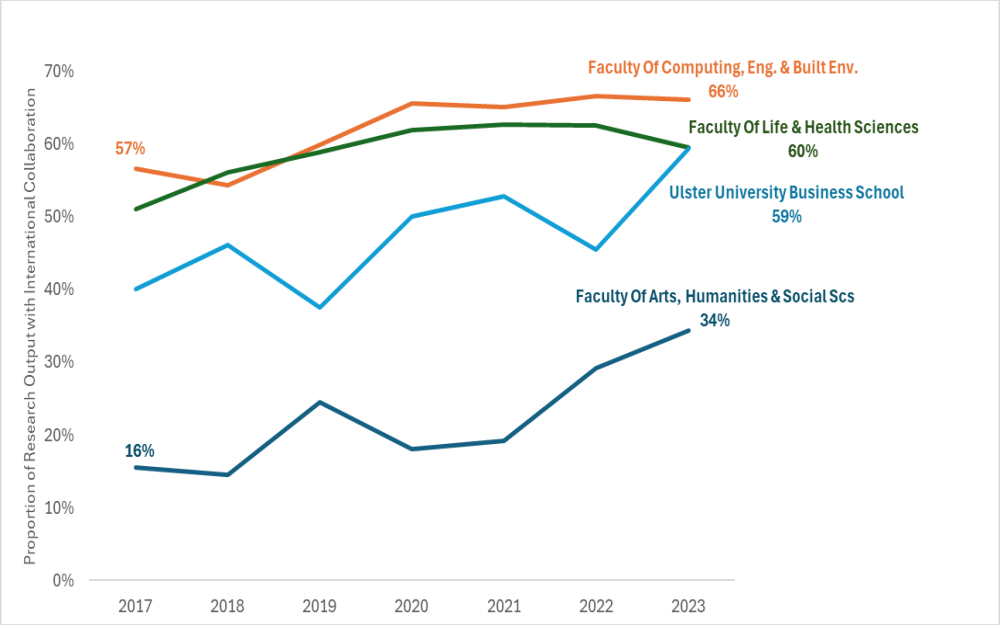
Figure 1 summarises a preliminary analysis of international collaborations of Early Career Researchers (ECR) at Ulster University. In this instance, an ECR is a researcher with an 'academic age' less than 4 years (i.e., less than 4 years since their first publication). Therefore, Figure 1 portrays the percentage of papers per cohort (Academic/ECR) that included co-authors from outside the UK from 2017 - 2022. It would be anticipated that researchers at an earlier point in their research career would have fewer international collaborations (as defined by co-authorship with international researchers) than more established academics. It should be noted that we are not comparing faculties or proportions of international collaborations, but we can use the data to pinpoint areas where ECRs might benefit from additional support e.g., in this case, we can further investigate the lower percentage of international collaborations for ECRs in the University Business school. It may be a case of a lower population of ECRs in this faculty, fewer publications in general, or it may be that collaborative research is happening, but not visible through the traditional co-authorship metrics. Either way, the data highlights an area for further exploration. In this instance, it was found that overall, the University Business School had the lowest proportion of ECRs within this timeframe.

Figure 2 may be interpreted as indicating that researchers within the Faculty of AHSS have consistently fewer international collaborations than those researchers in other faculties. However, we believe that these types of interpretations should be treated with caution, reflecting on the applicability of specific metrics to different disciplines, due to the diverse discipline-specific research practices. For example, a large proportion of outputs within the Faculty of AHSS are single authored (27% vs 2% in Faculty of Life and Health Sciences). This demonstrates that measuring

international collaboration through co-authorship may not be appropriate for all disciplines.

In addition, existing data may be used to track growth of international collaborations through co-authors on research papers. These data indicate year-on-year growth in international collaborations across Faculties, with Arts, Humanities and Social Sciences making considerable gains.

Figure 2: Research Output/Collaboration with Authors outside UK 2017 – 2022. Source: Dimensions on Google BigQuery – Digital Science 2024 and Ulster Organisational Data extract (accessed February 2024).



Interdisciplinary Research Within an Institution

Another interesting aspect is the internal collaborations between Faculties, Schools or Units of Assessment. When we use the existing data to compare interdisciplinary research and output by School between 2017 and 2022, we can note the significant increase of interdisciplinary research, which has doubled between 2017 and 2022 (**Figures 3 and 4**). This is a positive sign, suggesting a more integrated and collaborative academic environment. The Schools with the greatest increase include the School of Medicine, School of Psychology and School of Nursing and Paramedic Science. Whilst a proportion of this can be explained by the introduction of the new School of Medicine, these findings indicate that these Schools and others have become particularly active in interdisciplinary research, potentially reflecting strategic initiatives or emerging research areas that encourage cross-departmental collaboration.

These data and analyses provide a valuable overview of the evolving collaboration landscape within an institution. Further investigation could explore the specific nature of these collaborations, the impact on research quality and output, and how these interdisciplinary efforts align with the university's strategic goals.

Figure 3: Research Collaboration by School 2017. Source: Dimensions on Google BigQuery – Digital Science 2024 and Ulster Organisational Data extract (accessed February 2024).

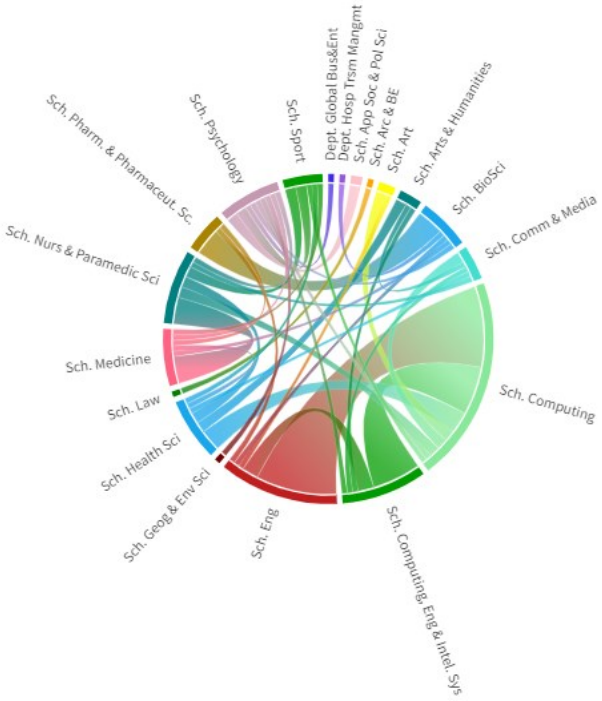
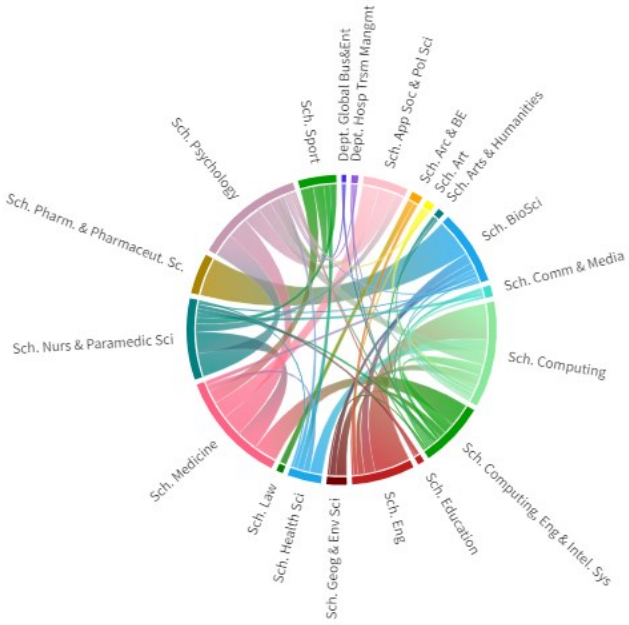


Figure 4: Research Collaboration by School 2022. Source: Dimensions on Google BigQuery – Digital Science 2024 and Ulster Organisational Data extract (accessed February 2024).



Research Integrity and Transparency

We have briefly discussed wider research values and the importance of promoting a culture of research integrity and best practice. If an institution is to foster and maintain a healthy research culture, integrity and transparency are paramount. A coordinated, collaborative approach across a diverse group of stakeholders is required, as emphasised by McIntosh and Hudson (**2023**). *Open Research* and *Research Integrity* are named as two of the six key themes covered by the UKRI in their approach to supporting a healthy research and innovation culture.[vi] Publishers are also increasingly developing open data policies for authors as part of their journal submission process.

Much of the responsibility does sit with the individual researcher and there has been much discussion on the promotion, recognition and reward of open research data management practices, for example NI4OS-Europe.[vii] There are also early indications that data around open research practices will be collected as part of the People Culture and Environment element of REF 2029.[viii] One of the indicators used in determining Research Environment scores for REF 2021 included whether an institution was a signatory of a particular concordat, for example the Concordat on Open Research Data and the Concordat to Support Research Integrity. But is this overarching commitment really enough to indicate a marker of research

integrity? Perhaps we can now use available data to take one step further in measuring an institution's commitment to a concordat - how it has implemented its policies and practice, and how it has ensured and measured success in these commitments.

Utilising research integrity indicators or 'Trust Markers' (**McIntosh et al., 2023**) such as data availability statements, author contributions, ethical statements, funder acknowledgments, and conflict of interest declarations can provide valuable insights. Universities can benchmark and assess initiatives to ensure that such statements are required for publications, reinforcing a culture of responsible research conduct.

The Concordat on Open Research Data could be used as an example- this Concordats' 8th principle is: 'Data supporting publications should be accessible by the publication date and should be in a citable form' (**UKRI, 2016: 16**). Both publishers and funders encourage and often require a brief statement to demonstrate whether the authors have made evidence supporting their findings available, and if so, some further indication as to where the data can be accessed. The statement also provides authors with the opportunity to explain why data might not be available. As Munafò et al. (**2022**) argue, while open practices like data availability statements are helpful, realigning incentives and cultural change across institutions and funders is key for meaningful improvement. Rather than simply encouraging data sharing, concrete incentives for researchers to make their data available can start to shift the academic culture in a more open and transparent direction. For example, institutions should be encouraged to use accessible systems, such as PURE or the Open Science Framework, to house datasets. This ensures that all researchers at an institution have the necessary tools to enable open data practices with no direct cost implications. The impact of such incentives can be measured using accessible data.

Figure 5 summarises the presence of data availability statements (DAS) in published papers at Ulster University from 2014-2023. The growth in the presence of these statements is striking and may be attributed to a number of external factors, such as publishing norms, encouragement from funders and increasing researcher knowledge of the requirements of openness for research integrity. **Figure 6** provides further analyses of the components of the DAS, namely where the data supporting the research can be accessed. This can include online repositories, supplementary files, within the paper or in the case of sensitive data, or data that is not publicly available, the author can provide access on request. The notable share of DAS advising that supporting data is available 'on request' may suggest that the increased use of statements is driven by publishing house criteria,

rather than changes in the opinions of researchers and proactive practices around data openness.

Figure 5: Growth of DAS included within Ulster University research outputs. (Source: Dimensions on Google BigQuery – Digital Science 2024).

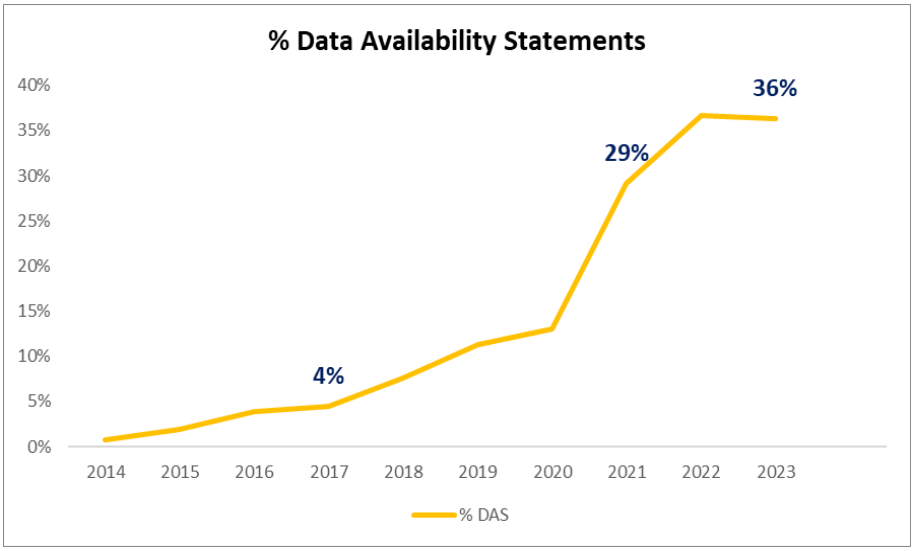
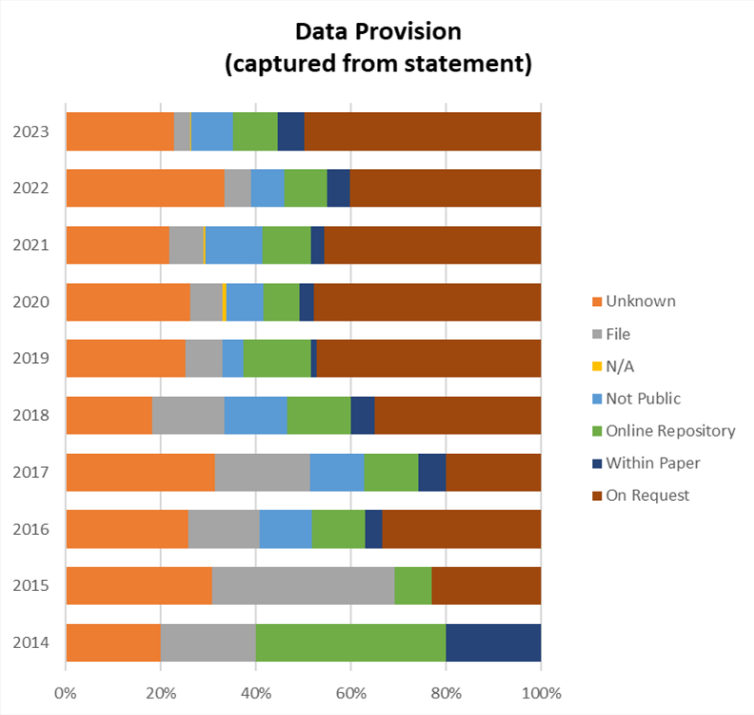


Figure 6: Overview of DAS content within Ulster University Research outputs. (Source: Dimensions on Google BigQuery – Digital Science 2024).



Monitoring improvements in DAS practices intrinsically over time and by discipline and sub-group can not only evidence a commitment to the Concordat on Open Research Data, but it can measure the success of targeted initiatives to promote the practice itself. An additional advantage of this metric is that it is diverse and inclusive. It is not a comparative measure, nor does it contain bias. A recent blog by Digital Science and

Hong Kong Baptist University demonstrated how emerging research countries excelled in good practices, more-so than those in the Global-North.[ix] Metrics such as data accessibility statements could be incorporated into academic promotion criteria.

Promoting Collaboration and Knowledge Sharing

Open access to research data also helps with collaboration across disciplines and the wider research community. Collaboration is a cornerstone of research culture. Metrics related to collaborations, including International, national, and inter-university partnerships, co-authored publications, and shared research knowledge, can help universities gauge their collaborative efforts. Encouraging cross-disciplinary research and knowledge sharing not only enriches research outcomes but also contributes to a more vibrant research culture. Importantly, these types of activities can be captured by proxy measures such as counts of co-authored publications, co-authored interdisciplinary publications, national and international co-authored publications, and academic-corporate collaboration. These can then be tracked over time to monitor the impact of research culture initiatives on the ability for researchers to form productive and responsible collaborations.

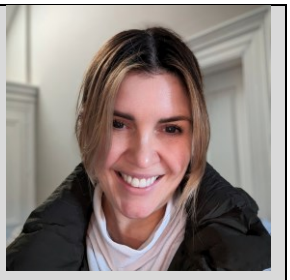
The Future Research Assessment programme (FRAP) has acknowledged that 'the ways in which HEIs support their staff, *enable collaboration beyond the institution*, support the broad development of disciplinary knowledge and ensure the integrity of their research are all crucial components of research excellence.' As with REF 2021, REF 2029 will assess an institution's support for interdisciplinary research and wider research collaborations. As Tigges et al (**2019**) have suggested, having quantifiable measures for various aspects of an institution's research collaborations will allow for benchmarking and demonstrating progress on collaborative excellence over time. Although there is not yet a robust methodology available for a standardised metric, data is readily available and accessible for intrinsic benchmarking and monitoring.

Conclusion

Measuring and enhancing research culture should be a priority for universities, and the rich data they possess can be a powerful tool in achieving this goal. By incorporating research impact metrics, research integrity data, collaboration indicators, and existing HR and EDI data, universities can create a more transparent, collaborative, and accountable research environment. To mitigate the concern of additional administrative burden, we can leverage and integrate existing data sources such as HR data and data on equality, diversity, and inclusion (EDI). Utilising readily available data ensures that the process is streamlined and

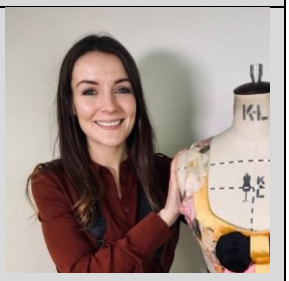
minimises additional workload on researchers and administrators. Moreover, by using existing data, we are demonstrating that a good research culture is not merely a manufactured statement that only highlights the positive outcomes. It is something that is interwoven into day-to-day life and that can be demonstrated at any time whether it be a successful initiative, or something that has been highlighted as an area for investigation. In an era marked by constrained financial resources and stringent accountability for every expenditure, it is essential to track and monitor initiatives. This oversight is key not only in ensuring the allocation of support towards successful ventures but discontinuing those that do not provide return on investment. Institutions can also use this data-informed approach to promote beacon activities, thus further contributing to the broader academic community.

Ann Campbell serves as a Technical Solutions Manager with Digital Science, where she specialises in scientometric analysis using Dimensions & Altmetric data. With a background spanning 16 years in the university sector, Ann has played a lead role in data preparation for several REF Assessments, Diversity and Inclusion charters and other mandatory submissions. In addition to data integration and analysis, Ann has expertly implemented several research information and management systems and has successfully created key data ecosystems and reports that have provided holistic and comprehensive views of an organisation's research landscape. Ann has extensive working knowledge in identifying data solutions to evidence and gather insights on research impact (for research assessment, funding and otherwise), diversity and inclusion, research integrity and contribution towards the UN SDGs.



Victoria Simms is a developmental psychologist with a specific interest in the development of mathematical thinking in children. Victoria's work also focuses on the long-term consequences of preterm birth, specifically cognitive and educational outcomes. Current projects include cross-cultural comparisons of mathematical cognition and the influence of the home environment on early learning. Victoria's research has been funded by Action Medical Research, Nuffield Foundation, British Academy

and the Global Challenges Research Fund. Victoria is a founding member of the ESRC funded Centre for Early Mathematical Learning- that aims to understand early mathematical development and impact on children's learning experiences. Victoria is a strong advocate of open research practices and public engagement in science. Victoria is Associate Editor for both the British Journal of Developmental Psychology and the British Journal of Educational Psychology. She is also Section Editor for Educational Psychology at Cogent Psychology. In addition, Victoria is the Chair of the Board of the Northern Ireland Science Festival.



Maria is currently Ulster University's Research Impact Manager overseeing strategic impact development and support provision at the University, and is Co-Investigator on Ulster's AHRC Impact Accelerator Account. Maria joined Ulster University in 2013 as lead support on the £3.5m EU-funded, creative industries sector enhancement project, Honeycomb –Creative Works. She has held various roles across the institution including Operations Manager at spin-out company Tactility Factory and Research Co-ordinator for the world-leading research centre, the Transitional Justice Institute. Maria holds a MSc Management in Creative Industries from Ulster University and is currently undertaking a PhD focused on the economic and social impact of transgenerational trauma following the Troubles in the North of Ireland.

List of Figures

All images included with permission or for the purposes of research/review.

Figure 1: Overview of International Research Collaborations at Ulster University. Source: Dimensions on Google BigQuery – Digital Science 2024 and Ulster Organisational Data extract (accessed February 2024).

Figure 2: Research Output/Collaboration with Authors outside UK 2017 – 2022. Source: Dimensions on Google BigQuery – Digital Science 2024 and Ulster Organisational Data extract (accessed February 2024).

Figure 3: Research Collaboration by School 2017. Source: Dimensions on Google BigQuery – Digital Science 2024 and Ulster Organisational Data extract (accessed February 2024).

Figure 4: Research Collaboration by School 2022. Source: Dimensions on Google BigQuery – Digital Science 2024 and Ulster Organisational Data extract (accessed February 2024).

Figure 5: Growth of DAS included within Ulster University research outputs. (Source: Dimensions on Google BigQuery – Digital Science 2024).

Figure 6: Overview of DAS content within Ulster University Research outputs. (Source: Dimensions on Google BigQuery – Digital Science 2024).

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Endnotes

[i] See: Research Impact Academy: How do you build research impact culture in research institutions? https://researchimpactacademy.com/blog/impact-culture/ [Accessed: 1 February 2024].

[ii] For details visit: https://wellcome.org/reports/what-researchers-think-about-research-culture [Accessed: 1 February 2024].

[iii] For examples see Nash, J. 2022. Paper Mills—The Dark Side of the Academic Publishing Industry. https://blog.mdpi.com/2022/05/09/paper-mills/ [Accessed: 1 February 2024].

[iv] See respectively: (DORA) https://sfdora.org/, (Leiden) http://www.leidenmanifesto.org/, (Hong Kong) https://www.wcrif.org/guidance/hong-kong-principles and (Singapore) https://www.wcrif.org/guidance/singapore-statement respectively [Accessed: 1 February 2024].

[v] See: UKRI publishes new report on responsible research assessment. https://www.ukri.org/news/ukri-publishes-new-report-on-responsible-research-assessment/ [Accessed: 1 February 2024].

[vi] See: Supporting a healthy research and innovation culture. https://www.ukri.org/what-we-do/supporting-healthy-research-and-innovation-culture/ [Accessed: 1 February 2024].

[vii] See: https://ni4os-europe.eu/wp-content/uploads/2021/06/NI4OS_RI_ORDM__web__EN_single_pages.pdf [Accessed: 1 February 2024].

[viii] See: https://repository.jisc.ac.uk/9148/1/research-excellence-framework-2028-initial-decisions-report.pdf [Accessed: 1 February 2024].

[ix] See: Navigating Trust in Academic Research: The Rise of Data Availability Statements – Part II, https://www.digital-science.com/tldr/article/navigating-trust-in-academic-research-the-rise-of-data-availability-statements-pt2/ [Accessed: 1 February 2024].

Once a Nurse, Always a Nurse? Changes of identity in the pursuit of nurse academia

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Abstract

Stereotypes of what defines a nurse act to limit nursing identity and provide a barrier to both career progression into academia and nurse retention in clinical practice. In this critical reflection, I explore how opportunities in clinical practice allowed me to develop my own identity as a nurse academic whilst acknowledging that these opportunities are not available to all potential nurse academics. I question whether 'a nurse will always be a nurse' if we do not provide the opportunities, and the time, for nurses to explore the vast range of roles within the profession. Research is being conducted on a daily basis in clinical practice, however nurses need to be supported by their workplaces to gain the skills and knowledge on how to become productive scholars. Supporting nurses to take this step will level the gradient between nursing and academia, and open the door for the future of successful nurse academia.

Keywords: nurse stereotypes; identity; career progression; return to education; clinical practice; opportunity

Traditional ideas of what a nurse is, and what they are not, act to limit nursing career potentials. The public view is of nurses as doers, but not thinkers; however, there is an increasing range of nursing roles which are vital for the provision of quality healthcare. Roles which include Research nurses who coordinate and manage data for clinical trials and Nurse researchers conducting their own rigorous studies. In this critical reflection, I will explore how stereotypes of nursing impact nursing identity and provide a barrier to career progression into academia. I will discuss how my identity as both a nurse and an academic has evolved over my journey to become a productive nurse scholar.

Nursing has traditionally been seen as an undesirable career with few options for progression (**Girvin et al., 2016; Glerean et al., 2017**). The lack of identifiable career pathways, along with the idealisation of the profession as passive carers, led to backlash when nursing degrees were initially introduced (**Glerean et al., 2017**). The idea of a caring and educated nurse conflicted with the traditional values assigned to nursing (**Gillett, 2014; Glerean et al., 2017**). Prior to the pandemic, the undesirability of nursing was reiterated in the repeated media focus on the negative aspects of the profession (**Girvin, Jackson & Hutchinson, 2016**). The COVID-19 pandemic, however, changed the public perception of nursing. Nurses went from traditional gender-related stereotypes of weak but caring women, to being portrayed as heroes (**Mohammed et al., 2021**). On the surface, this was a huge U-turn in public perception, but the key values of nursing had not changed. Nurses were seen as selfless hard workers, sacrificing their own safety for the community (Mohammed et al., 2021), but not as those responsible for devising new and novel ways to maintain safety with increasingly limited resources. The media portrayal had changed, but the identity of nurses within the profession remained conflicted.

Dissatisfaction within the profession has led to chronic understaffing (**van der Cingel & Brouwer, 2021**). The stereotype of nursing as a doing, and not thinking, profession results in nurses questioning their identity as a nurse and where they fit. I am one of those nurses. van der Cingel and Brouwer challenge the idea that 'a nurse will always be a nurse' (**Ibid**), however, I believe there is more to reflect on. Stereotypes of nurses do hold nurses back however the idea of a nurse academic does not conflict with nurse identity. Nurse satisfaction is strongly linked to security in their identity as a nurse, the setting they specialise in, and the role they play in that setting. When these three factors fit together, improvements are seen in staff satisfaction, retention, and patient safety outcomes (**Rasmussen et al., 2018**).

Nursing, at its core, is advocacy. It is advocacy for people, advocacy for safety, and advocacy for communication. Point 9 of the Nursing and Midwifery Council (NMC) Code is 'Share your skills, knowledge and experience for the benefit of people receiving care and your colleagues' (**NMC, 2023**). This could be no clearer. As nurses, we should be sharing and publishing our knowledge and promoting best practice. Research and service improvement measures conducted by nurses are happening daily however very little is being published in traditional peer-reviewed journals (**Hicks, 1995; Keen, 2007; Winslow et al.,**). In the community setting, a nurse led initiative was found to improve Pneumonia patient outcomes by treating the patients outside of the standard hospital-based pathway. The nursing service implementation was later acknowledged in medical journals (**Loeb et al., 2006; Sacks, 2006**). More recently, the COVID-19 pandemic led to nurses implementing a wide range of service improvement measures such as adjusting medication timings and the location of medical devices to minimise exposure to the virus and improve safety for themselves and their patients (**Faulds et al., 2021**).

Fitting with my previous, and concurrent, academic identity, I was craving an academic challenge within my first year of registration as a nurse. I was working within a spinal injuries rehabilitation centre and took on a role teaching sexuality rehabilitation sessions to the patients and their loved ones. In hindsight, this opportunity was only available to me because I was an academic. I knew to ask for this opportunity; it was not taught during my nurse education. The medical and sociological conversations I had with the consultant team opened my eyes to a new side of nursing. One that continues to learn and share this knowledge. This was my nursing identity.

Nurses are taught to be part of a hierarchical team, however this does not always run smoothly when the range of nursing roles are not fully understood by the rest of the nursing team. Patient education teaching sessions took me off of the ward, and therefore was perceived as an avoidance of clinical work (**Aguayo-González & Weise, 2022**). To avoid this conflict, I began to teach on my days off highlighting a key issue in my quest to become a productive nursing scholar: the work-life balance. Nurses enter the hierarchical nursing structure as Staff nurses providing routine healthcare in a usually clinical setting. Nursing Sisters are responsible for leading a team of staff nurses or a specific aspect of care, such as the coordination of a stem cell transplant. The gender-neutral term Charge nurse is used for male and gender non-binary nurses at a Sister level or higher. Increasingly this term is being used for all nurses above Staff nurse level. Moving into a Sister post as a Haematology Research Nurse allowed me to combine my academic and nursing identities. I was able to play a role in pushing forward life-saving treatments for blood cancer patients whilst having the time to advocate for all aspects of trial patients care.

Studies suggest that patients on clinical trials have better outcomes than those on standard pathways (**Braunholtz et al., 2001**). I believe this is due to the time and care that research nurses give to each patient. Time that ward nurses on understaffed wards just do not have (**McIlroy, 2019**). Yet the role of the research nurse itself is not always understood within the wider nursing profession (**Tinkler et al., 2022**). For nearly a decade as a research nurse, this lack of acceptance from the core-clinical nursing teams impacted my identity as a nurse.

My journey to becoming a successful published nurse academic started after articulating these frustrations to my clinical academic nurse colleagues. They were inundated with research ideas and part-finished projects. I had an opportunity to collaborate with them, learn from them, and importantly take the pressure off them. For nurses, a first step in publication is often a clinical audit. Oftentimes, nurses design and implement clinical changes without the understanding on how to measure the effectiveness of these changes. I collaborated with senior colleagues on an audit (**Montague-Hellen et al., 2024**). Through this opportunity, I was inspired to go back into formal education, whilst continuing to work as a nurse. This opportunity provided me with the skills to analyse and articulate my research in two further articles **(Montague-Hellen, 2023; Montague-Hellen & Montague-Hellen, 2023**). Accessing this formal education is not available to many nurses, particularly with the real time pay cuts and overworking that is catalysing the staff crisis in the profession (RCN, 2023). Therefore, it is within schemes such as the Writing for Publication workshop provided by Sheffield Teaching Hospitals, that nurses are given the time, workload buyout, and knowledge to publish the research they are already conducting and start their own journeys to becoming productive scholars.

Fourteen years into a nursing career and I have fully stepped out of the clinical arena. I am a full-time Sociology PhD student, but I have never felt more like a nurse. Several studies discuss the transition between clinical nurse and nurse academic (**Manning & Neville, 2009; Mcdermid et al., 2016; Barken & Robstad, 2024**). However, the focus is on nurses stepping into nurse education roles recycling the traditional nursing role assumptions. Whilst publishing within clinical practice, I was beginning to question my identity as a nurse, however identities are not binary. I spend a lot of my time advocating for LGBTQ+ rights and limiting the boxes we put people into. I now find myself in a world of academia where I have to periodically 'come out' as a nurse.

In this critical reflection I question whether 'a nurse will always be a nurse' if we do not provide the opportunities, and the time, for nurses to explore the vast range of roles within the profession. Research is being conducted

on a daily basis in clinical practice however, nurses need to be supported by their workplaces to gain the skills and knowledge on how to become productive scholars. It was by questioning my identity as a nurse that I took the step into academia and reclaimed my identity. Supporting nurses to take this step will level the gradient between nursing and academia, and open the door for the future of successful nurse academia.

Ms Kate Montague-Hellen is a registered nurse specialising in blood cancer research. She is currently completing an ESRC funded PhD in the patient experience of chronic blood cancer diagnosis at the University of Sheffield. Kate previously worked as a Research Sister in Sheffield recruiting to chronic and acute blood cancer clinical trials. Her research interests include patient experiences, haematology, and LGBTQ+ experiences of healthcare.

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Interdisciplinary Labour: Researchers' bodies at work

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Abstract

This reflection explores the anxiety and physical sensations felt by some scholars when navigating interdisciplinary research. The author describes personally experienced physical and emotional challenges faced during collaborative research, emphasizing the lack of common language and knowledge, and arguing for greater acknowledgment of these embodied experiences. The aim is to foster more honest and productive interdisciplinary dialogues, highlighting the importance of addressing emotional and physical responses to being able to succeed in collaborative research settings.

Keywords: interdisciplinary research; collaboration; emotions; feelings; anxiety; body

In an interview performed by N. Katherine Hayles, Jennifer Serventi, Senior Program Officer for the National Endowment for the Humanities (NEH) – one of the largest funders of humanities programs in the United States – says: 'It's OK if participants are uncomfortable' (**Hayles, 2012: 35**).

What Serventi is referring to in this introductory chapter to Digital Humanities, underneath the subheading 'Collaboration', is the discomfort experienced by some mixed methods researchers who participate in interdisciplinary projects. As scholars working on interdisciplinary projects, we are not only contributing to the 'intellectual synergies created when computer scientist [sic] and humanists work together', which can give rise to positive emotions, such as excitement (**Ibid**) – we might also struggle with feelings of discomfort and anxiety, according to Serventi (**Ibid**). In the interview, Serventi later adds the adjective 'momentary' to discomfort, signalling its temporality; with time the anxiety will eventually cease.

Arguably, this passage in Hayles' book also tells another story: performing interdisciplinary research can cause bodily experiences and sensations, probably to a higher degree than in non-interdisciplinary settings. Anxiety is felt in the body. It signals that something is amiss, and a strategy to avoid discomfort might take place. I will put this into perspective by sharing with the reader a scene stemming from my own experiences as PI for a mixed methods research project, which might stimulate conversations among other interdisciplinary researchers.

In January 2020, on our 4-year project's third meeting taking place in a seminar room at Lund University, Sweden, one of the Language Technologists in the group, coming from Computer Science, started to explain supervised machine learning and its advantages for the social scientists in the group; me, who is an Ethnologist, and my colleague who is a Sociologist (we are both also media scholars). For the very first time in our rather senior academic lives, we were enthusiastically invited into the domain of computing. Among other text mining methods, topic modelling was explained to us, as well as argument mining, aspect-based sentiment analysis, and Jaccard distance, with their adhesive concepts such as generative process, variational Bayes, and expectation maximation algorithm. Acronyms were also used, such as TM (Topic Modelling) and LDA (Latent Dirichlet allocation).

It is an understatement to say that this spontaneous lecture led to a brutal awakening regarding my scientific limitations. The insight hit me physically. After having listened to my project colleague for a good two hours and also having tried to engage myself in 'discussions' – I use quotation marks here as it was not a discussion in the real sense of the word, but more talking past each other – the air in the meeting room became steadily harder to breathe.

Step by step, facial expressions went through visible transformations, from enthusiasm and hope to dreary and weary, or at least this is what I thought I witnessed. I could even track down a glance of desperation in the eyes of the ever-so-patient computer scientist, but perhaps it was a reflection of my own gaze as it successively darkened. I remember myself repeating the same basic questions as if I suddenly had become indolent: 'But what does supervised machine learning really mean?', 'Jaccard distant reading, you said, could you explain that further?' I wouldn't call it 'conflicts over epistemic values' (**MacLeod, 2018**). This was something else.

My mouth went dry, and then yet another strange physical reaction occurred: My hearing started to shut down. At a deeper psychological level, it probably had something to do with my having convinced myself and everyone around me at the age of twelve that mathematics was not a school subject for me. It wasn't such a big thing back then, I had other skills, but now I was suddenly reminded of this massive knowledge gap – and it was not a pretty sight.

Then the sweating started. I could feel my palms become humid. Discretely, I tried to wipe them on my trousers. After having said goodbye to each other in a mood that only could be described as mutually disappointed, an alarmist 'what if question' successively took over my whole body, making my stomach twist: 'How could I have been so naïve to think that I understood any of these theories and concepts, and, in addition, how they would be successfully mixed with my own qualitative research? Would this even work, at all?!'

So, what do these physically experienced mixed feelings tell us? Well, every so often during project meetings I have experienced a lack of a common language, connected to the lack of common knowledge. Bluntly speaking, I have felt dumb many times around in the sense of feeling stupid, mainly due to the lack of words and concepts, which naturally affects both the hearing (metaphorically speaking) and the talking, sometimes hindering me from participating and engaging myself fully in conversations during meetings.

Since the 20th century, the Swedish word dum (dumb) has lost its etymological connection to döv (deaf) and stum (mute). In a reminiscent way, the English word dumb departed in the late 1800s from words connected to speaking and hearing, such as deaf and mute. Here, I aim to reconnect them – dumb, deaf, and mute –to shed light on the mixed methods dumbness that I have experienced, in my body, and thereby unpack the discomfort that participants might experience in interdisciplinary research: It is, again, caused by a reduced capability to 'hear' and speak. In comparison, established qualitative methods seem easier to understand. They do not require a mathematical language to be

described; mostly, they are called what they are: in-depth interviews, participant observations, close reading, etc. The metaphorical term 'fieldwork' gives anyone who hears it at least a vague picture of what it might mean to work there, out in the field.

I'd like to think that interdisciplinary research has something to learn from ethnographic disciplines and their scientific approach towards bodies and emotions. 'The idea that ethnographic experiences are "embodied" – in that the researcher learns and knows through her or his whole experiencing body' has been recognized in much existing methodological literature within the ethnographic disciplines, sums the multidisciplinary social anthropologist Sarah Pink (**2015: 27**), accurately pointing to their phenomenological origin. Whether they come from the social sciences, the humanities or the technological disciplines, mixed methods researchers also learn and know through their experiencing bodies. They just don't talk about it.

In fact, most researchers do not take into account their bodily experiences, as if researchers did not have bodies to begin with. This positivist ideal is easily traced, also in social science research, and has been challenged by experts in postmodern and feminist theory, such as Laura L. Ellingson from Communication and Gender Studies, who in her piece 'Embodied knowledge: Writing researchers' bodies into qualitative health research' writes that 'the erasure of researchers' bodies from conventional accounts of research obscures the complexities of knowledge production and yields deceptively tidy accounts of research' (**Ellingson, 2006: 299**). I agree with Ellingson, and I believe this applies to other fields as well.

In short: There is a palpable difference between successfully applying for funding for an interdisciplinary project, and performing the research, and I might not be the only one who has plunged enthusiastically into this kind of collaboration only to then – with damp palms and a beating heart – questioning the whole idea. I contend that putting words to bodily experiences and (negative) emotions will lead to a less tidy and more honest dialogue between interdisciplinary researchers, which, I believe, will also have a positive effect on the results that are being produced. Mansilla, Lamont & Sato's important question (**2012: 2-3**) 'How does the emotional experience of collaborators affect the development of their [interdisciplinary] project', could, suggestively, be expanded through another, more concrete question: Where in the body does the emotional experience of interdisciplinary research take place, and what sensations does it bring?

Finally, how did it go for our mixed methods project? In fact, Serventi was right; the discomfort was momentary, and we have, together, successfully performed and published our mixed methods research (**Hammarlin et al. 2024; Hammarlin et al., 2023**). The reasons behind our success are many and complex, and we attempt to explore them in other texts. Nevertheless, I still believe that interdisciplinary work is more demanding than other types of research, and was I to start the project all over again, I would have begun by addressing this head-on, maybe formulated like this:

> *Guys, doing interdisciplinary research will be laborious; we will feel it almost like a pain in our bodies. But as with all bodily exercise, the reward will come with some delay. So, let's be patient.*

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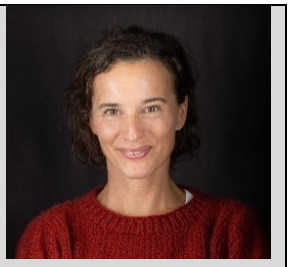

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An Early Career Perspective on the Value of Interdisciplinary Training Networks: Reflections on the Medical Research Foundation's National PhD Training Programme in Antimicrobial Resistance Research

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Abstract

As a global society, we face various challenges that threaten economic, social, and ecological stability and security. Tackling complex global challenges, such as antimicrobial resistance (AMR) and climate change, requires collaboration and the integration of diverse perspectives from across the full spectrum of disciplinary approaches. This requires an increasing number of effective interdisciplinary researchers. In this reflective article, I present a case study narrative based on my own experience to examine how my interactions with an interdisciplinary training scheme (the Medical Research Foundation's National PhD Training Programme in Antimicrobial Resistance Research (MRF-PhD-AMR Programme)) helped me develop as an interdisciplinary early career researcher. I describe three key interactions I had with the MRF-PhD-AMR Programme during and after my doctoral studies, and how these interactions offered me different opportunities to develop the capacity to effectively navigate interdisciplinary spaces. My reflections help highlight the importance of supporting doctoral and postdoctoral researchers in engaging in training opportunities that cross disciplinary boundaries, to enable them to become more effective interdisciplinary researchers.

Keywords: super-wicked problems; interdisciplinarity; transdisciplinarity; researcher development; antibiotic resistance; one health

Background

As a global society, we face complex, and increasingly urgent, challenges that threaten economic, social, and ecological stability and security. These include environmental challenges, such as climate change and biodiversity loss: public health challenges, such as novel infectious diseases and antimicrobial resistance (AMR), and geo-political challenges, such as poverty, inequality, armed conflict, and mass displacement of people. Furthermore, these challenges intersect with, and potentially exacerbate, each other (**IPCC, 2022; Mattar et al., 2021; POST, 2023**).

Tackling such complex interrelated challenges, through combined strategies of prevention, mitigation, and adaptation, requires collaboration and the integration of diverse perspectives from across the full spectrum of disciplinary approaches (**Beaumont, 2020; Elixhauser et al., 2024; Morris et al., 2022**). Technological and scientific solutions alone are insufficient to tackle these complex, human-driven challenges, especially 'super-wicked problems' such as climate change and AMR (**Levin et al., 2012; Littmann et al., 2020**). In recognition of this, there are increasing calls from researchers, funding bodies, and policymakers for interdisciplinary solutions that recognise and value diverse perspectives from across STEMM (science, technology, engineering, mathematics, and medicine) and SHAPE (social sciences, arts, and humanities) disciplines (**BEIS, 2022; Flanagan et al., 2023; Warren et al., 2024; Wilsdon et al., 2023**). This article defines interdisciplinary working as the integration and synthesis of knowledge and methods from different disciplines, leading to new discourses and knowledges (**Beaumont, 2020; Warren et al., 2024**).

However, there can be barriers to effective interdisciplinary working, which include narrow disciplinary training and silo-working, inadequate communication (e.g., use of jargon, differences in terminology meanings), misunderstandings between disciplines (e.g., (mis)valuing methodologies, lack of respect, hierarchies of knowledge), physical distance between people and institutions, and the additional time and resource required. (**Warren et al., 2024**). To help overcome these barriers, we need mechanisms that enable researchers to train in, and thrive in, interdisciplinary spaces. One such mechanism is the provision of interdisciplinary training opportunities for postgraduate researchers (PGRs) and early career researchers (ECRs) (**Hein et al., 2018**).[i]

In this article, I present a reflective case study based on my own experience, showcasing how interdisciplinary training opportunities can contribute to the development of ECRs who are better equipped to navigate and work in interdisciplinary spaces. I will share insights from my own ECR journey, with reference to my experiences of interacting with one such interdisciplinary training programme – the Medical Research

Foundation's National PhD Training Programme in Antimicrobial Resistance Research (MRF-PhD-AMR Programme). As this programme has now hosted its final conference and training events, it feels appropriate to take the opportunity to share some of my reflections on how this programme has contributed to my professional development. I will first provide an overview of why AMR is an interdisciplinary challenge. I will then outline the programme, how I have interacted with it at different time points, and the influence this has had on my development as an interdisciplinary ECR working on super-wicked problems.

Why AMR is an Interdisciplinary Challenge

Antimicrobials (e.g., antibiotics, antifungals) are widely used to treat and prevent infectious diseases, but the use of these drugs in humans, animals, and the environment, is driving increasing rates of AMR amongst microbes (**Laxminarayan et al., 2013**). This increasing prevalence of AMR represents an urgent public and animal health threat (**WHO, 2015**). Infections in humans, animals, and plants that are caused by AMR microbes are harder (and sometimes impossible) to treat with our existing drug therapies (**van Hecke et al., 2017; L. Xu et al., 2017**). If we do nothing to intervene, AMR-related infections are predicted to cause more deaths than cancer by 2050 (**Review on AMR, 2014**). Successfully tackling AMR and improving the use of, and access to, antimicrobials worldwide require effective interdisciplinary working. AMR is often cited as the quintessential One Health problem (**Robinson et al., 2016**) – we cannot 'solve' AMR by attempting to address it within only one domain (**Mitchell et al., 2023; Sealey et al., 2023**).

At first glance, the challenge of AMR can be seen in terms of the (micro)biological, medical, and veterinary sciences. For example, efforts can be focused on better understanding the genetic transmission of AMR between microbes, mapping patterns of AMR-related disease across the globe, developing new drugs and diagnostic tools, and improving human and animal nutrition to reduce disease burden (**FAO, 2016; Review on AMR, 2015b; WHO, 2015**). Perspectives from engineers and environmental scientists are also increasingly valued, as they work to reduce environmental pollution from AMR by creating better technological solutions for sewage and slurry management, or monitoring and limiting antimicrobial discharge from pharmaceutical manufacturing plants (**Berendonk et al., 2015; Bürgmann et al., 2018; Lübbert et al., 2017**). However, as with other global challenges such as climate change - where there has traditionally been an emphasis on technological solutions (**Devine-Wright et al., 2022**) - humans are at the heart of the AMR challenge (**Tonkin-Crine et al., 2015**). Although AMR is a process that can, and does, happen without human interference, it is human usage of

antimicrobials that is driving increasing rates of AMR (**Booton et al., 2021; Laxminarayan et al., 2013**). Furthermore, rates of AMR and patterns of infectious disease will change due to human-driven climate change, environmental degradation, and habitat and biodiversity loss (**POST, 2023**).

We therefore need to understand the psychological, sociological, economic, and political drivers of AMR (**Flowers, 2018**), just as much as the biological, ecological and technical. For example, doctors and veterinarians can feel pressure to prescribe antimicrobials in situations where clinical need is ambiguous, or even lacking (**Pinder et al., 2015; Servia-Dopazo et al., 2021**). Economic considerations can influence treatment choices, treatment adherence, infection control measures, and drug development (**Golding et al., 2019; Laxminarayan et al., 2013; Review on AMR, 2015b**). Members of the public might use antimicrobials in ways not intended, such as sharing prescribed courses with others or by self-medicating (**Erku et al., 2017; Lv et al., 2014**). Lack of financial means or resources, inadequate supply chains, or ineffective political and governance systems can also mean unequal access to antimicrobials (**Laxminarayan et al., 2016; Review on AMR, 2015a**). Input from the social sciences, arts, and humanities are therefore vital, as these disciplines can help us understand – amongst other things - what motivates people to use antimicrobials or engage in infection control measures, how to implement and evaluate governance mechanisms, how to take account of local contexts and cultural norms when developing interventions, and how to address the inequitable access to antimicrobials globally.

The MRF-PhD-AMR Programme

2024 marks the winding down of the MRF-PhD-AMR Programme, as wider cohort-building activities cease and most PGRs funded by the programme work towards completion of their studies. This ambitious interdisciplinary training programme - led by Professor Matthew Avison and colleagues from across the UK – was formally launched in 2018 with the purpose of enabling more effective interdisciplinary working in AMR research, by helping PGRs and ECRs to build interdisciplinary networks. Over 6 years, the programme has brought together a diverse cohort of PhD students from across the STEMM and SHAPE (social sciences, arts, and humanities) disciplines to learn from and work with each other.

A key goal of the MRF-PhD-AMR Programme was to expose PGRs to interdisciplinary ways of working, to encourage them to think and work outside their own disciplinary silos, and to gain confidence in navigating interdisciplinary spaces. The programme achieved this through two key areas of activity:

1. Funding a *core cohort* of approximately 30 interdisciplinary PGRs, across different UK-based institutions, who would complete their AMR-focused doctoral training embedded within interdisciplinary teams of supervisors, researchers, and practitioners.

2. Creating a *wider cohort* of over 200 interdisciplinary PGRs, by hosting funded annual conferences, residential and online training weeks, and other activities, to bring together a greater diversity of AMR researchers and strengthen interdisciplinary networks. Any PGR based in the UK working on AMR was eligible to apply to the wider cohort, regardless of discipline or research question.

As of March 2024, a review of the programme's website[ii] indicates a variety of outputs have resulted from this interdisciplinary training scheme, including more than 50 peer-reviewed papers co-authored by core cohort PGRs, a webinar series showcasing research and career journey stories from the wider cohort, and a blog featuring multiple contributors. Policy impacts include changes to death certificates in England, with AMR-related deaths now able to be recorded, and submission of evidence to the UK parliament for the Health and Social Care Committee's AMR Inquiry.

Why I Joined the MRF-PhD-AMR Programme

Interdisciplinary teams are crucial when researchers attempt to understand such complex and applied problems as AMR. My own interdisciplinary PhD research, funded by the Economic and Social Research Council, was supervised by a farm animal veterinarian, Dr Helen Higgins, and a health psychologist, Professor Jane Ogden. I used different social science methods (interviews, surveys, and experiments) to explore the psychological, social, and environmental factors that influence antimicrobial usage in UK veterinary medicine and livestock farming (**Golding et al., 2019, 2021 & 2022**). Although the PhD I was awarded was in health psychology, I could not have conducted the work without Helen's input. Her specialist knowledge and experience of farm animal medicine were invaluable in helping Jane and me better understand the context and challenges of antimicrobial prescribing in UK livestock farming. The studies we designed would have looked very different without input from multiple disciplines.

During my doctoral training, I applied to be a member of the wider cohort of trainees in the MRF-PhD-AMR Programme. Despite having very good supervision, I was not part of a wider AMR research team and did not have many peers who were working on this topic. Given the complexity of AMR (**Department of Health, 2014**), I felt it would be helpful to interact with PGRs from different disciplines, who were working on related but different

aspects of the challenge. I was also excited by the prospect of interacting with more established academics who were involved in the programme, and I was thrilled when my application was successful. I was invited to attend the first residential training week in August 2018. Then, in May 2021, I took part in the programme's webinar series, as an invited speaker to showcase my completed PhD work. Finally, I was honoured to be invited back by the programme team to contribute to their final annual conference in August 2023. Attending this final conference prompted me to reflect on the different ways in which these three interactions with the programme contributed to my professional development as an interdisciplinary researcher both during and beyond my doctoral training.

How the MRF-PhD-AMR Programme Supported My Development

My first interaction with the MRF-PhD-AMR Programme was as a PGR, during the third year of my doctoral training. I attended the first residential training week hosted for the wider cohort, which involved a variety of different learning and development activities. These included presentations from academics and practitioners, as well as site visits to a microbiological laboratory, dairy farm, or hospital. The speakers represented a range of disciplines and sectors, including experts on communicating research to non-academic audiences. The week also included a one-day inaugural conference, where PGRs presented lightning talks or posters, providing an opportunity for us to practice our academic presenting and questioning skills.

Built into the activities of the week were several sessions of group work (the Challenge Teams). Each Challenge Team consisted of around five PGRs from different disciplines, and each group was allocated to one of three grand challenges associated with AMR – improving diagnostic tools, improving drug discovery, and reducing the prevalence of AMR. The goal was to work together to understand the nature of the challenge and then co-produce an interdisciplinary policy brief on the issue, culminating in a press conference-style presentation to a panel on the final day. The panel included representatives from research funding organisations and a clerk from the UK's House of Commons Health and Social Care Committee, who were interested in AMR but were not topic experts. In our Challenge Teams, we had to work quickly and collaboratively to liaise with experts, identify and synthesise key insights from different literatures, identify potential solutions, make recommendations for potential policy options, and then effectively communicate our findings to a panel of non-experts.

Working on these policy briefs was a particular highlight – it felt high stakes, important, and stretching, but also safely bounded, as we were told that the development of the policy briefs was predominantly a training exercise. However, after the week had completed, we were advised that our presentations had been considered of such good quality that all the policy briefs would be collated and submitted as written evidence to the House of Commons Health and Social Care Committee's AMR Inquiry (Medical Research Foundation National PhD Training Programme in Antimicrobial Resistance, 2018). This felt like an incredible collective achievement, and I was immensely proud to have been a part of this wider team effort. It also meant that I could add something to the 'Impact' section of my academic CV!

Being part of the residential week was an extremely valuable experience for me and it helped me develop my skills and confidence as an interdisciplinary PGR. I had the pleasure of getting to know my fellow trainees, as well as interact with more established academics and practitioners. These positive interactions across the week helped give me the courage to volunteer to present our diagnostics policy brief on behalf of my Challenge Team. My site visits included a trip to a hospital diagnostics laboratory. As a social scientist who hadn't been in a lab since my biology A-Level, this visit was utterly fascinating. The programme of activities in the residential training week benefitted us PGRs by providing us with a safe and non-judgmental space in which to ask questions, time to engage in interdisciplinary conversations and debates, and the opportunity to reflect upon the assumptions and language conventions embedded within our own disciplinary approaches.

My second interaction with the MRF-PhD-AMR Programme was as an ECR in the spring 2021, just over a year after completing my PhD. A series of webinars was organised by the programme, and I was invited to present an overview of my PhD research, as well as share some of my experiences post-PhD (**Golding, 2021**). This was a hugely affirming experience for me – it felt good to be asked to share my work with the interdisciplinary audience of core and wider cohort PGRs and ECRs. I enjoyed revisiting my findings, and they also helped cement for me the idea that I really had made a novel and useful contribution to knowledge! I also discovered there is something heart warming about being able to share your own reflections of being on 'the other side of the viva' with PGRs who are still deep in the midst of their PhD work. I know how valuable it was for me as a PGR to have such interactions with ECRs who were not too far past the completion of their own doctoral work, and it felt good, if a little surreal, to realise I was now in a position where I could start to 'pay it backwards'.

As a result of this webinar, I was also invited to present my work to the Farm Animal Discussion Group at the Bristol Veterinary School. This group consisted of veterinary students, lecturers, and practitioners, and was linked to a group of veterinary-led researchers who were exploring the social dimensions of antimicrobial use in dairy farming. I had long admired the work of AMR Force,[iii] led by Professor Kristen Reyher, and was excited to be offered another opportunity for networking and knowledge exchange with veterinary academics and practitioners. I had met Kristen and some of her PGRs at the residential training week in 2018, as well as at other conferences in subsequent years. By this stage, I was beginning to realise that building academic and practitioner networks is a gradual process – and that this is perfectly normal! As PGRs we are encouraged to build our networks, to look for opportunities to share our findings, and generate impact – but what we aren't always explicitly told is that this takes time. Being part of the MRF-PhD-AMR Programme benefitted me by helping me to understand that collaborations and networks are sometimes developed slowly, perhaps as a result of multiple but occasional interactions.

My third interaction with the MRF-PhD-AMR Programme was in August 2023, when I was invited to contribute to the final annual conference as one of several ECR alums from the core and wider cohorts. By this point in my ECR career, I had worked as a researcher on several interdisciplinary health-related projects (**Dibb et al., 2021; Husted et al., 2022; Weber et al., 2023; S. Xu et al., 2021**). In early 2022, I started working in a knowledge exchange role, for an interdisciplinary network-building and knowledge exchange project called ACCESS (Advancing Capacity for Climate and Environment Social Science),[iv] which aims to champion the social science contribution to environmental challenges such as climate change and biodiversity loss. Being part of the programme's residential week had certainly contributed to my development as an interdisciplinary researcher – which had helped me in each of these different ECR roles – but as I had not worked directly on AMR projects for about three years, I was unsure whether I would have much to contribute to the conference. The organisers reassured me that my post-PhD experiences and my training as a social scientist would mean I could make a valuable contribution.

I took part in two-panel discussions during the conference. The variety of panellists, who were ECRs from the core and wider cohorts, plus experienced researchers from the core academic team, illustrate how the MRF-PhD-AMR Programme has built interdisciplinary networks and provided spaces for PGRs and ECRs to engage in interdisciplinary debate. The first panel, chaired by Becky McCall from the core cohort, explored how we might help raise AMR back up the policy agenda, following the

shift in focus away from AMR during the Covid-19 pandemic (**McCall et al., 2023**). Some of the discussions included the potential pros and cons of linking AMR to other super wicked problems such as climate change – could this help raise AMR up the agenda or risk diluting the focus? My fellow panellists included a parliamentary researcher with a background in pharmaceutical science, a pollution scientist who examines sewage for pathogens and AMR prevalence, an epidemiologist from the UK's Health Security Agency, and a geneticist working with CRISPR technology to remove AMR genes. The second panel, chaired by Matthew Avison, explored the role of interdisciplinary teams and networks in the context of AMR (Avison et al., 2023). Prompted by questions from the audience we discussed the challenges of doing interdisciplinary research and whether universities offer sufficient support to enable PGRs to become proficient interdisciplinary researchers. On this panel, I sat alongside a microbiologist and chemist, a hospital pharmacist, and a biomedical engineer.

It was a pleasure to take part in this PGR-focused conference and I enjoyed meeting other PGRs and ECRs working across such a variety of questions related to the overall challenge of AMR – their enthusiasm gives me hope! I particularly appreciated talking to other social science PGRs, hearing about their projects and sharing experiences of being one of a few SHAPE disciplinary representatives in rooms full of STEMM researchers. The organisers also asked me to be one of the poster judges for the 'AMR and Antimicrobial Use: Interventions and Behaviours' stream of posters. This was the first time I had been a poster judge, so it felt a little nerve-wracking, especially as all the posters were of a high standard – judging was hard, and I was pleased to not be doing it alone! It was also wonderful to re-connect with some of the other people who had been at that first residential week with me, who are now also forging their own interdisciplinary ECR careers.

Concluding Remarks

When I reflect on the variety of opportunities offered to me by the MRF-PhD-AMR Programme, I am hugely grateful to everyone involved, including the academic team, the project support team, my fellow PGRs and ECRs, and of course, the Medical Research Foundation for funding the programme. I realise now how being involved in these different activities, at different stages of my PGR and ECR career, has benefitted me by enabling me to develop my skills as an interdisciplinary researcher. The programme helped to overcome some of the traditional barriers to interdisciplinary working (**Warren et al., 2024**), by providing time, space, and resources to bring researchers from different disciplines together to learn from each other. I value the way the programme gently scaffolded me (and I am sure others), by providing a range of small but safe

development opportunities (e.g., presenting posters, communicating findings across different audiences, summarising key insights, evaluating other people's work). I also realised how the programme offered me several 'firsts'; my first residential training school, my first presentation prize, my first time as invited webinar speaker, my first time as a poster judge, my first time as an invited panellist.

I could have learnt some of these skills in discipline-specific settings, but I don't think that would have equipped me to become the interdisciplinary ECR I am today. I have always been motivated to work on applied research projects, exploring questions related to population-level health challenges, such as AMR (**Martínez et al., 2023**) and obesogenic food environments (**Golding et al., 2022**), as well as the intertwined environmental crises of climate change and biodiversity loss (**Marselle & Golding, 2023**). Solving such complex challenges can only be achieved with interdisciplinary cooperation, and providing ECRs with opportunities to engage in interdisciplinary training is vital in supporting them to develop appropriate skills and pursue interdisciplinary research careers (**Elixhauser et al., 2024; Hein et al., 2018**). Indeed, this is a core part of the work I now do as a Knowledge Exchange Fellow on the ACCESS project – convening and facilitating spaces for interdisciplinary working, by deliberately designing activities that encourage conversations, networking, and the integration of disciplinary approaches. Such spaces, and the interactions they enable, are valuable, even if it is hard to immediately assess their impact.

My experiences as part of the wider cohort of the MRF-PhD-AMR Programme have also benefitted me in my current role in other ways. For example, I was able to draw on my experiences at the AMR residential training week in 2018 when working with ACCESS colleagues to develop our own residential, interdisciplinary Winter and Summer Schools for PGRs and ECRs – I wanted to ensure we could inspire our own delegates by including a mix of presentation formats, interactive sessions and range of dynamic, interdisciplinary speakers (**Golding, 2023; Warren, 2023**). My interactions with others on the MRF-PhD-AMR programme helped me practice and develop some of the seven principles recommended for effective interdisciplinary working, such as respecting all disciplines equally, communicating openly and honestly, and sharing experiences of working in interdisciplinary teams and spaces (**Beaumont, 2020**). By valuing my disciplinary perspective, the programme also helped me develop my own confidence as a social scientist. I learned I did have something useful to contribute, both in terms of the specifics of my PhD studies and my broader understanding of human behaviour and society. Again, this is an experience I have been able to carry into my current role with ACCESS, where I help to champion the unique contribution, the social

sciences can offer in tackling super wicked problems such as climate change and biodiversity loss.

To conclude, reflecting upon my own experiences of interacting with the MRF-PhD-AMR Programme has highlighted for me the vital importance of all actors across the research ecosystem valuing the opportunities afforded by interdisciplinary training, and I would like to encourage different actors to consider how they can best support this. For example, funding bodies can creatively shape funding calls to enable the provision of interdisciplinary training, while research leaders and PGR supervisors can encourage PGRs and ECRs to be bold and engage in relevant opportunities. It is important to invest in activities that offer PGRs and ECRs chances to network and gain confidence in interacting across disciplines. Whether one-day events or longer-term initiatives, such opportunities offer researchers the space and time to learn to engage with other disciplines with respect and empathy, help build stronger communities and networks of researchers, and help us produce better responses to complex global challenges (**Beaumont, 2020; Elixhauser et al., 2024; Hein et al., 2018; Wilsdon et al., 2023**). Importantly, these spaces need to be safe and non-judgemental to enable people to learn, make mistakes, and share experiences with peers. I strongly believe that the provision of such interdisciplinary training spaces is invaluable for the ongoing development of cohorts of effective interdisciplinary researchers.

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Endnotes

[i] In this article, I use the term postgraduate researcher (PGR) to refer to people who are currently enrolled on a doctoral training programme, such as a PhD or practitioner doctorate programme, while I use the term early career researcher (ECR) to refer to people who have completed their doctoral studies within recent years. I acknowledge that there are different ways that these terms can and have been defined and used, but for readability in the article (and clarity of distinction between doctoral and postdoctoral researchers), these are the definitions I have adopted here.

[ii] See: https://amrtraining.ac.uk/

[iii] See: https://www.bristol.ac.uk/vet-school/research/amr/

[iv] See: https://accessnetwork.uk/

Opening up Responsible Research and Innovation: Learning from human and more-than-human knowledge-holders

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Abstract

Responsible research and innovation (RRI) is increasingly being implemented by researchers, and in the UK, its use is encouraged by funders such as UK Research and Innovation (UKRI). The aim of RRI is to ensure that research and its impacts are opened up to broader deliberation, engagement and debate in an inclusive manner, and to enable the complexities and uncertainties of research to be revealed through involvement with those impacted by the research. Taken at face value, RRI appears to challenge the status quo of decisions around scientific and technological developments being left to those with scientific expertise. However, existing RRI frameworks are anthropocentric, and exclude the more-than-human world (animals, plants, soil, water, land etc.,). To address these issues a project was undertaken which aimed to design, co-produce and provide a conceptual framework for including the more-than-human world within responsible research and innovation. Part of the project included a one-day in-person workshop with diverse knowledge-holders to ensure different knowledges and perspectives were feeding into the project. The focus of this article is not on the workshop itself, but what arose from it. Following the workshop, one of the knowledge-holders produced a written piece about game theory and its potential role in RRI. This written piece is presented here and its importance and relevance to RRI is reflected upon. We explain why this written piece about game theory matters to RRI. We conclude by offering recommendations to researchers.

Keywords: responsible research and innovation; RRI; more-than-human; game theory; politics; frameworks; knowledge-holders

Responsible research and innovation (RRI) and the more-than-human

Science and technology is being developed to address numerous environmental challenges including climate change and biodiversity loss. Responsible research and innovation (RRI) is increasingly being implemented by researchers to ensure that research and its impacts are opened up to broader deliberation, engagement and debate in an inclusive manner, and to enable the complexities and uncertainties of research to be revealed through involvement with those impacted by the research. RRI acknowledges that innovation can be unpredictable as well as beneficial and can raise questions or concerns. The definition of Responsible Research and Innovation offered by von Schomberg is:

> *Responsible Research and Innovation is a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society). von Schomberg* (**2011: 47**)

However, a broader definition of Responsible Research and Innovation is offered by Stilgoe et al. (**2013: 1570**): 'Responsible innovation means taking care of the future through collective stewardship of science and innovation in the present'. This definition underpins the RRI framework developed by Stilgoe et al. (**2013**), which has been adopted in the UK by UK Research and Innovation (UKRI), and in particular, the Engineering and Physical Sciences Research Council (EPSRC). The AREA framework that the EPSRC promotes consists of four dimensions and these are:

Anticipate – describing and analysing the impacts, intended or otherwise.

Reflect – reflecting on the purposes of, motivations for and potential implications of the research.

Engage – opening up such visions, impacts and questioning to broader deliberation, dialogue, engagement and debate in an inclusive way.

Act – using these processes to influence the direction and trajectory of the research and innovation process itself. (**adapted from EPSRC, 2024**)

Taken at face value, RRI appears to challenge the status quo of decisions around scientific and technological developments being left to those with scientific expertise. Alternative knowledges can act in partnership with scientific knowledge and expertise, breaking down social hierarchies.

However, existing RRI frameworks are anthropocentric, and exclude the more-than-human world (animals, plants, soil, water, land etc.,). Without including the more-than-human world in RRI frameworks, environmental crises such as climate change and biodiversity loss will never be able to be fully addressed as key knowledge-holders are omitted.

To address these issues, a project was undertaken which aimed to design, co-produce and provide a conceptual framework for including the more-than-human world within responsible research and innovation (RRI). To provide context, we are: Catherine Price, an environmental social scientist, and Tom Bott, a soil scientist and microbiologist. In this project, we started out defining the more-than-human as 'non-human agents, technologically mediated elements, Earth-others (land, waters, plants, animals) and non-human inorganic agents (plastic buckets, wires, software, algorithms, etc.,)' (**Braidotti, 2019: 164**). This transdisciplinary project attempted to show how environmental challenges could be addressed whilst also affecting positive change. This was achieved by engaging with the under-valued voices and agencies of alternative expertise (human and non-human) alongside scientific knowledge and understandings. To test the suitability and further its development, the conceptual framework was applied to the case study of biochar. Biochar is a carbon-rich material produced when biomass undergoes a thermochemical process called pyrolysis. Biochar is an ideal case study as it is a 'new technology' that is currently being investigated for its greenhouse gas removal potential at scale and which has a direct impact on the more-than-human world throughout its lifecycle.

Part of the project included a one-day in-person workshop with diverse knowledge-holders to ensure different knowledges and perspectives were feeding into the project. The focus of this article is not on the workshop itself, but what arose from it. However, some details of the workshop are provided for context: 15 knowledge-holders participated in the workshop (**Figure 1**), and a deliberative focus group approach was used. All knowledge-holders acted as co-producers of knowledge. Three activities were conducted during the workshop. We asked our knowledge-holders to consider:

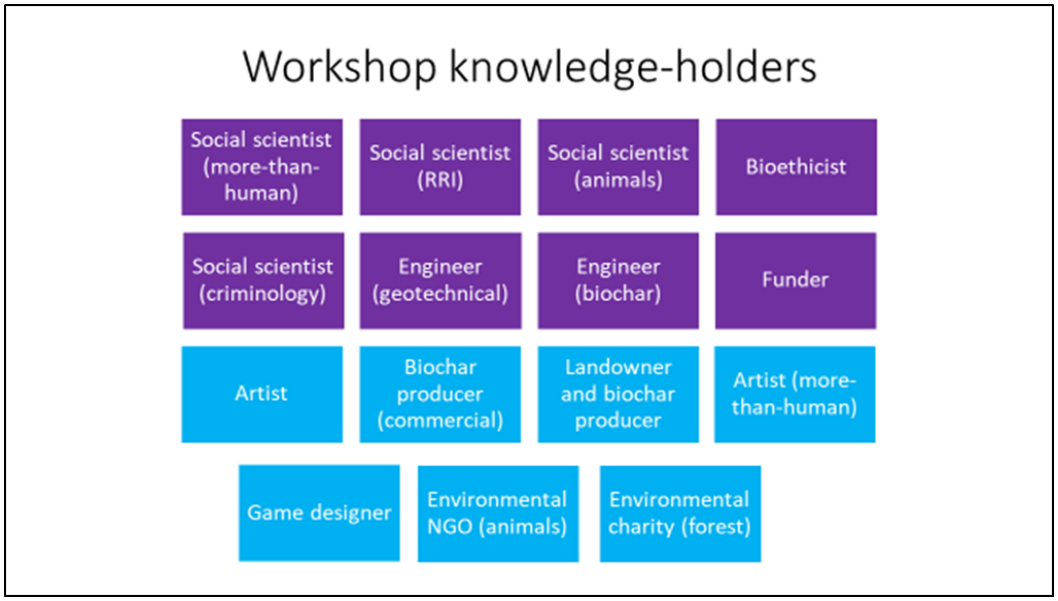
1) The more-than-human – is there a better term?

2) Does the existing AREA framework work for the more-than-human

3) What needs to be included in a revised RRI framework, and who are knowledge-holders?

It is the final activity that is most pertinent to this article.

Figure 1: Knowledge-holders who attended the workshop.
Knowledge-holders in purple are academics and knowledge-holders in blue are non-academics.



Once each activity was completed in small groups, our knowledge-holders reported back to the full group. During the discussion for Activity 3, one of our knowledge-holders discussed game theory and how this could help include the more-than-human world in RRI. Following the workshop, they went away and considered game theory further. The result was a written piece by Min Burdett, the landowner/biochar producer knowledge-holder, and this is presented in the next section.

Game Theory and More-Than-Human Considerations – by Min Burdett

Following a workshop at Nottingham University on 'Including the More-Than-Human World in Responsible Research and Innovation (RRI): Developing a Conceptual Framework', this note aims to expand on my suggestion that game theory is a useful consideration. It is written on the basis that More-than-Human should focus on our natural environment. It considers that human artefacts, such as pre-activated biochar, buckets and mobile phones, are tools which humans use, but are not capable of independent participation in the game.

The natural environment that we live in is a finite resource shared by the world population. As we may be headed towards the Sixth Extinction, we are realising that we have to manage our environment better. Aristotle observed that in our competition for natural resources, humans are not inclined to protect. He wrote 'That which is common to the greatest number gets the least amount of care. Man pays most attention to what is his own: he cares less for what is common.' I suggest game theory and

more recent related developments such as complexity theory, all referred to as 'GT' below, could usefully contribute to the project.

GT is an attempt to show the differing, possibly conflicting, needs of the parties and estimate how to reach the best outcome for some, possibly all, parties. Economic agents are typically human, and typically, GT is used to analyse competition versus cooperation where cooperation results in a better outcome for the individuals. This cooperation may be forced (e.g., by rules of the game) or, in the repeated games, derived from knowledge gained about the competitors' strategy.

GT forces us to analyse the parties involved, their interests and changes to those interests over time. Describing the strategies used by the players to interact with each other at an early stage of research would help researchers and their sponsors to understand the wider implications of the area of study. If required at a later stage, researchers may introduce a numerical foundation which reflects the strategies and helps model the areas of uncertainty. GT is now widely implemented in software, so comparing developing scenarios is less onerous than in the past.

GT has a pedigree going all the way back to the 1920s. It has evolved and been used successfully in many areas, including economics, military strategy (it was reputedly used in the Cuban missile crisis), the UK mobile network licence auction, cybersecurity, fishery policy and evolutionary theory, to name only a few. It continues to be developed. One related field, complexity theory (with its emphasis on adaptive behaviour, emergent properties and minor variations causing massive changes) has been used in ecology and immunology[1].

Can we use game theory to support the analysis of the interaction between humans and the natural environment? To do this, we would have to assume that the natural environment (or different elements of it) are players and have their own game strategies which help the environment react to what the human players do. The emphasis here is that the natural environment is a player of equal importance to the different human participants rather than an outcome of the game. In May 2022, the UK Greenhouse Gas Removal Event was held. This event was jointly organised by two major UKRI funded GGR research programmes, the Greenhouse Gas Removal Programme and the Greenhouse Gas Removal Demonstrators Programme. The event showcased the latest GGR research and innovation. One of the conclusions from this event was that the five Demonstrator studies (biochar, enhanced rock weathering, peatland restoration, perennial biomass crops, and woodland creation and management) given all their solutions were land-based, should put more

[1] See https://www.youtube.com/watch?v=iZKErrvVMaY for an explanatory example

consideration on the impact on the natural environment. The natural environment was an afterthought, not a player. For the future it must be a player.

Taking the Biochar Demonstrator as an example, how could game theory have been used? First of all we would need to define the game. It is complicated and needs some deconstruction. Looking at the biochar lifecycle, there are three elements to it: biomass sourcing (wood, agricultural residue etc.,); biochar production (technology, location, co-products such as biofuels, heat and pollutants); and product use (impact on soils; direct application vs pre-application activation; alternative non-agricultural uses) etc.

Each of these elements of the game has an environmental impact. For example, there will be competition for the finite resources of biomass sourcing. Focussing on trees without consideration of the natural environment, the game may quickly lead to fast growing, easily harvested, monoculture sources, leading to competition for biofuels and land usage. With the natural environment as a player (a proxy for this might be the UK Government's English Land Management Scheme (ELMs) objectives of improved air, water and soil quality, increased biodiversity, and climate change mitigation), the game may lead to sourcing from better managed existing woodlands and the new plantations already being implemented to meet the ELMs objectives.

For the natural environment to participate, the players or game's rule makers will have to make a judgement about its importance. In our biochar sourcing example, the landowners, once they understand the impact on the environment, may choose to follow an environmentally friendly path. If not, the rule makers may have to incentivise and/or regulate to steer the game to the desired outcome.

We saw at the workshop the power of an interdisciplinary group coming together to develop a research subject. Implementing a GT based approach including the natural environment as a player requires us to consider the environment at the earliest stages: who are the environmental players and how will they interact with the human ones. One participant at the workshop suggested that there should be an iterative approach to responsible research whereby the original research specification was revisited during the research programme and adjusted in light of what had been learnt. A GT approach supports this suggestion. Throughout the research process another round of the game can be played: have we identified all the participants; have we correctly assessed how they will react to the other players; have we considered changes to players' interests over time?

I also suggested that the approach should be fun! I meant this in the sense that the workshop was fun. The generation of ideas from a group emanating from disparate backgrounds and disciplines coming together to address an issue should be part of the conceptual framework. In a GT workshop, stakeholder representatives would need to develop their understanding of the subject area from other players' viewpoints and discover how to modify their behaviour to cooperate with them for a mutually beneficial outcome. The participants would not only be imparting their expertise but broadening their understanding and knowledge contacts.

Research Impact (for the Project)

This written piece was not an invited contribution, rather the result of deliberation and reflection of someone the project had engaged with. For us, as the researchers involved with the project, the piece opened a new point of deliberation and discussion which could be used in further work and research. Furthermore, the approach of game theory potentially opens new ways of interacting with knowledge-holders in future workshop sessions. Overall, this short piece has the opportunity to alter the direction of research within this project and for future research.

Why this Written Piece about Game Theory matters

More broadly, this written piece about game theory is hugely important because it is written by a non-academic knowledge-holder. It is significant to not only developing RRI to include the more-than-human world, but it also contributes to our understanding of how knowledge-holders could be included in RRI. Min Burdett chose to go away and write this piece. There was no requirement to do so. If, as researchers, we give knowledge-holders the opportunity to engage with our research, then there is the potential for new ideas and an open discussion about new scientific and technological developments. Whilst this is only one example, and we cannot generalise, this written piece shows a willingness by knowledge-holders to contribute to our projects as invested participants. It also highlights that RRI can work as envisaged.

What this means for the AREA framework

Within the AREA framework, the dimension the written piece fits within is *Engage*. As researchers, we have provided the opportunity for one of our knowledge-holders to have the confidence to write further on game theory and how this could contribute to bringing the more-than-human world into RRI. We have kept the dialogue open to provide the space for engagement to take place, and there has been an opportunity for a non-academic voice to be heard.

The written piece also means that as researchers, we have to *Act*. In this case, the best way for us to showcase this written piece, was for us to turn it into this article as an example to our academic colleagues as to what can be achieved when working with non-academic knowledge-holders. For the project, the direction and the trajectory of the research has been influenced by the written piece produced by Min. This article is an unintended output which was not envisaged when the project commenced. Importantly for the project, the written piece shows that our knowledge-holders saw value in what we were trying to achieve with bringing the more-than-human world into RRI. The very fact it has been embraced makes the project worthwhile.

Whilst we have outlined how this written piece has been beneficial, there are criticisms aimed at the whole process of RRI. One of the critiques is around the lack of politics in RRI, and it is worthwhile reflecting on what this written piece means in this context.

The politics of RRI

RRI was supposed to ensure deliberative discussions around scientific and technological developments were opened up to a greater range of actors. This was to enable a larger number of voices to be heard. One of the criticisms levelled at RRI is that these dialogues are not occurring (**van Oudheusden, 2014**). Shanley et al. (**2022**) identified that what seems to be occurring in a European setting is that RRI is discussed by researchers in universities and by policymakers, however, citizens are omitted from conversations and therefore, RRI is not entering wider society. Discussions are not taking place as they should do.

The role of RRI when it was first conceived was to protect society from scientific developments that may not generate the best outcomes for individuals or society as a whole. However, unless policymakers, researchers and research funders start to consider the science-society relationship, and the purpose of innovation, RRI may instead be used to legitimise the economics of research and innovation (**de Saille, 2015**). Some scientists may wish to use RRI as a means to keeping politics out of scientific research to ensure new innovations occur. This will be problematic because if citizens are not given an opportunity to voice their opinions about new scientific and technological innovations at the development stage, there could be public resistance to these innovations when they emerge into society (**Hartley et al., 2017**).

This written piece by Min Burdett shows that these criticisms can be addressed. It is possible for RRI to be accepted by non-academic knowledge-holders, and willingly so. What is telling, is that Min writes in this piece that an RRI framework should ensure that deliberation occurs

between people from different backgrounds and from different academic disciplines like that which occurred at the one-day workshop. In addition, bringing the more-than-human into RRI frameworks such as AREA potentially opens up discussion to a much broader knowledge base than might otherwise be achieved. What this deliberation and discussion shows is that politics can be useful in RRI.

In this section, we have explained why the written piece about game theory matters, the implications it has for the AREA framework, and what it means for the politics of RRI. There is much to learn from the non-academic knowledge-holders (human and more-than-human) that participate in research projects. Because of the learning that has taken place in this RRI and more-than-human project, in the next section, we make recommendations to fellow researchers.

Recommendations

Attempting to include the more-than-human world in responsible research and innovation has been a journey full of discovery. The unexpected outcomes including this article reveal what is possible when RRI is fully considered as integral to the research process. In concluding, we make the following recommendations to researchers.

- Ensure all knowledge-holders (including those representing the more-than-human) who are impacted by your research have the opportunity to voice their opinion.
- Ensure that engagement is authentic and is acted upon. Non-academic knowledge-holders are unlikely to engage with activities that are tokenistic and do not influence research.
- Be open to how knowledge-holders can help shape research and demonstrate the impacts they have on research.
- Be open to how the more-than-human world can potentially help shape research.
- Invite response and criticism from knowledge-holders and be open to how this can inform research and shape methods or tools used.
- Prepare a plan to incorporate knowledge-holder input and to disseminate the findings or impact of that input.
- Consider how we include the names of our non-academic knowledge-holders in academic writing. If we are speaking of an academic's prose we would always use the last name. Should this approach be the same for non-academics?

What we have shown with this article, is that RRI does not have to be just a tick-box exercise. Creating a space for interdisciplinary and transdisciplinary conversations can be immensely rewarding especially when non-academic knowledge-holders are empowered to contribute their own ideas to projects. Including the more-than-human world in RRI is going to be needed more than ever going forward as we face troubling times with climate change and biodiversity loss. RRI provides a tool for enabling the coming together of communities around research. The more RRI can consider the more-than-human world and be envisaged as integral to research projects, the greater the chance of providing solutions to some of the world's most wicked problems which are acceptable to all and are inclusive of all.

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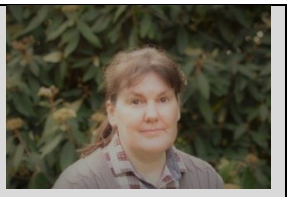

Min Burdett is a retired Management Consultant. Recruited by a consultancy firm's advert for a Decision Analyst, she used her Mathematics and Operational Research degrees to help clients better understand and implement their strategic decisions. In retirement she has returned to her rural upbringing, managing a woodland with her sister (including the small-scale production of biochar) and part-owning the family organic dairy farm with her brother.

Tom Bott is a soil scientist and molecular ecologist interested in soil nutrient cycling, specifically carbon, and the microbial communities that perform this service. Of interest to him are the changes microbial community structure and function in response to perturbation. His research focuses upon how the addition of biochar to soils might interact with soil ecosystem functions and therefore lead to changes to crop growth and soil biology.

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Max Horkheimer on Law's Force of Resistance

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Abstract

The law maintains, rather than challenges, the powers that be – or so it is commonly thought. In 'Rackets and Spirit,' a little known and untranslated essay, Max Horkheimer complicates this notion by attributing to law a 'force of resistance'. He contends that, under certain conditions, the legal process develops a logic of its own, one that can become disjointed from the rationale of power. In this Critical Reflection, I look closely at the paragraph in which Horkheimer introduces the notion of a 'force of resistance'. I argue that Horkheimer develops a theme that he and Theodor W. Adorno return to in the Dialectic of Enlightenment: the spiritual instruments of domination, among them law, have the potential to turn against domination. At the same time, Horkheimer is clear that law does not resist automatically: it takes human agents to put the legal sphere into opposition to the political sphere. I illustrate this thought with respect to the recent history of federal abortion rights in the United States.

Keywords: Max Horkheimer; Frankfurt School; Dialectic of Enlightenment; critical legal theory; resistance; abortion rights

Some months after his native Germany had plunged the world into another World War, the philosopher Max Horkheimer, then in the safety of Columbia University, finished a short essay with the strange title *Die Rackets und der Geist*, 'Rackets and Spirit'. The text paints human history bleakly as the mindless struggle between power-hungry collectives. Yet when Horkheimer turns to the concept of law roughly three pages in, his prose seems to brighten. A 'force of resistance', he writes, inheres within the form of law. In what follows, I will trace this thought and relate it to the recent history of abortion rights in the United States.

'Rackets and Spirit' was only published posthumously and remains untranslated to this day. It belongs to a body of preparatory work for the *Dialectic of Enlightenment*, the seminal critique of civilisation that Horkheimer co-authored with his life-long friend and colleague Theodor W. Adorno. Its central thesis is twofold: 'Myth is already enlightenment, and enlightenment reverts to mythology' (**Horkheimer & Adorno 2002: xviii**).

Myth: that is, the portrayal of the forces that move the universe in terms that stem from our own unreflected experience. Enlightenment: that is, universal disenchantment, animated by the translation of these forces into matter, numbers, and principles. For Horkheimer and Adorno, myth and enlightenment respond to the same need – to submit the world to human intervention – the one by pleading with spirits, the other by devising functional theories and machines. Secular rationality has proved more successful in this respect. By removing all agency from nature, it promised to create a space where humans could exercise their will without inhibition.

However, this promise has not been fulfilled, the book argues, and so mythology prevails. The ever-more-accomplished domination of nature begets the ever-more-intricate rule of people over people. Technology that supposedly liberated its beneficiaries from the hardships of life has been turned against them. The invention of staggeringly destructive weapons, the introduction of mass surveillance, or the regimentation of time at work and, increasingly, at home: these phenomena illustrate, today no less than in the 1940s, the 'destructive side of progress' that Horkheimer and Adorno put their finger on (Horkheimer and Adorno 2002, xvi). If we do not come to terms with the fact that the advancement of rationality systematically produces suffering – that reason itself has an irrational streak – then the world is re-enchanted with the spirits of wealth, security, and the preservation of the status quo, the talismanic values of the modern era that leave little space for individuals to prosper.

At first glance, 'Rackets and Spirit' provides another iteration of this story. Horkheimer uses the term *racket* as shorthand for hierarchically structured collectives that provide safety and a sense of belonging in exchange for uncompromising loyalty, while competing with other groups for money and influence. Horkheimer takes the concept from the domain of organised crime, where it refers to gangs that offer businesses services of protection, mainly against themselves, according to the motto: 'Share your profit with us, or else…' For Horkheimer, racketeering represents the 'elementary form of domination' that invariably underlies any kind of political and economic power (**Horkheimer 1985a: 287** [all translations mine]). In the underworld, it simply appears in its unembellished state. Until today, Horkheimer writes, human history has been the history of rackets. All protective institutions, from the family to the state, carry the mark of domination.

Modern law seems to fit handily into this account. Isn't legality another product of enlightenment that comes back to haunt the 'free and equal' citizens? Isn't it just another tool in the repertoire of rackets, only one that allows them to couch their self-serving schemes in unctuous phrases of rights and justice?

Yet Horkheimer begins to build a more complicated narrative. 'If an organisation is so powerful that it can maintain its will as the permanent rule of conduct for all inhabitants of a geographical area', he writes, 'the domination of people takes on the form of law' (**Ibid: 289**). Here, we still have the standard Marxist idea that the rule of law is an extension of prevailing class relations. But Horkheimer continues:

> *Law fixes the power relations. As a fixed medium, law, like other mediations, acquires a nature of its own and a force of resistance. By becoming a substantive element of Spirit, it absorbs the harmony of universality and particularity as a necessary idea* (**Horkheimer 1985a: 289–290**).

This is the paragraph where law's 'force of resistance' enters the scene. Horkheimer acknowledges that the agencies of legal justice perpetuate a world that is built on violence and oppression. ('Since there is legality', he pointedly notes later on, 'it bears the trait of the illegal' (**Horkheimer 1985a: 290**). At the same time, however, as he writes in another preparatory essay, 'law, as a means of domination, develops a logic of its own' (**Horkheimer 1985d: 266**). Law is not merely, as the eminent legal philosopher Hans Kelsen believed, 'that specific social technique of a coercive order […] which consists in bringing about the desired social conduct of men through threat of a measure of coercion' (**Kelsen, 1941: 79**). Instead of simply stabilising, facilitating, or concealing the exercise of

power, the instrument of law rests awkwardly in the hand of those who wield it. Law has weight, Horkheimer suggests. Law resists.

What does this mean? Let us stop for a moment to translate some of Horkheimer's Hegelian phrases into more familiar language. The term 'Spirit', *Geist*, invokes a domain of reason and intellect that goes beyond instrumental rationality (think of *Geisteswissenschaften*, which German-speakers call the humanities). Law is 'spiritual' in that legal norms exist in the sphere of language and thought.

'Universality and particularity' are relational terms: something is universal if it separates itself from particular entities that are subsumed within it. Concepts are universal in this sense, since they pick out individual things in the world without being identical to them, as are institutions that constitute more than just the sum of their parts. Think of a university: it is not exhausted by the buildings and people on campus, and the notion of a *university* again transcends any specific institution.

When Horkheimer writes of the 'harmony of universality and particularity', he arguably has society in mind, which is universal in relation to its particular members. The relevant notion of harmony, then, is that of a social arrangement in which the social whole reproduces itself without doing violence to its individual parts. The *Dialectic of Enlightenment* similarly links the 'concordance of general and particular' to the 'idea of a free coexistence, in which human beings organize themselves to form the universal subject' (**Horkheimer & Adorno 2002: 66, 65**). For Horkheimer, society and individual can only be in harmony *in the absence* of domination.

Conversely, in modern society, 'domination confronts the individual as the universal' (**Ibid: 16** [translation modified]). When Horkheimer writes that law 'absorbs' the idea of reconciliation, he implies that there is something about law that repels the 'impenetrable unity of society and domination' (**Ibid: 16** [translation modified]) and thus the disunity between society and the individuals living in it.

With these clarifications in mind, we can reformulate the thought that lies at the bottom of law's force of resistance. When rulers and ruled enter legal relations with one another, social hierarchies are translated into 'permanent rules of conduct'. As such, expressions of political will become manifest in relatively stable, intelligible norms. The intentions of the ruling classes become legal *things*, namely rules, and things endure in time, thus becoming a 'fixed medium'.

The paragraph I quoted above continues with an elaboration of law's force of resistance:

> *The purpose of law is to serve as a guiding standard in social life, and so it takes no account of the specific person and of the past, remaining valid for and against everyone from the day of enactment to its public repeal. The means of domination comes into opposition to domination as the reflection that unmasks it* (**Horkheimer 1985a: 290**).

Horkheimer observes that legal norms typically display a measure of disinterestedness: when the law grants rights or imposes duties, it shows no regard 'to the specific person' that bears these rights and duties. Law extends some of its protections even to the downtrodden and some of its burdens to the elites. Being a thing, law does not care about its effect on the world.

To acknowledge the disinterestedness of law is not to deny that, as a matter of fact, legal rules always take sides. After all, their fundamental purpose is to decide which of two interests shall prevail in cases of conflict. However, while any constitution, any statute, or any court decision benefits some more than others, there is no guarantee that, 'from the day of enactment to [their] public repeal', the norms of law favour those groups that happen to control state-agencies at any given historical moment. Laws often skew towards the dominant factions in society, but sometimes they clash with powerful interests. The letter of the law does not automatically shift its shape in accordance with the changing composition and needs of the ruling classes.

Under the description that Horkheimer offers in the quoted passages, the legal manifestation of political power exhibits an inherent tension: 'The means of domination comes into opposition to domination as the reflection that unmasks it.' On the one hand, the law is, fundamentally, the 'specific social technique of a coercive order', as Kelsen thinks. On the other hand, it potentially disrupts that very order. If law has a force of resistance, it resists from within.

Now, what is the nature of this subversive potential? In the *Dialectic of Enlightenment*, Horkheimer and Adorno offer a tentative answer:

> *Domination, in becoming reified as law and organization, has had to limit itself. […] The instruments of power – language, weapons, and finally machines – which are meant to hold everyone in their grasp, must in their turn be grasped by everyone. In this way, the moment of rationality asserts itself as something which is also different from domination. The thing-like quality of the means, which makes the means universally available, its 'objectivity' for everyone, implies the criticism of the domination from which thought has arisen as its means* (**Horkheimer & Adorno 2002: 29**).

Law 'implies the criticism of domination' because there is a 'moment of rationality' in legal norms that does not necessarily coincide with the logic of power. Juridical thinking always involves an act of rational reconstruction, of sense-making. For example, what does the constitution mean when it proclaims the equality of all citizens before the law? Does it mean that the laws 'forbid rich and poor alike to sleep under the bridges, to beg in the streets, and to steal bread' (**France 1910: 91**)? Or is there a richer notion of equality at play that courts are called upon to recognise? And if there is, how is it possible to reconcile the world of law, with its robust idea of equality, with an economic and political world that is rife with inequality?

Law strives to make sense: to be valid, justified, and reasonable. But what if the society maintained by law lacks validity, justification, and reason? For Horkheimer, legal relations provide a 'reflection', and not just a duplication, of power-relations because law does not simply reproduce and formalise social facts. In virtue of being legalised, social facts are transformed into a matter for debate, into *things* that can become the object of awareness, scrutiny, even rejection. By demanding that the interactions between people satisfy some publicly ascertainable normative standard, law has the potential to make visible what is otherwise hidden in plain sight: that society is built on suffering, exploitation, and oppressive hierarchies; maybe also that, in its current constitution, political power lacks an ethical ground altogether.

In short, law has a 'force of resistance' because the ruling groups lose some of their autonomy to the means through which they claim legal authority. Like Frankenstein's monster, law can detach itself from, even oppose its master's will. As a category of Spirit, as a specimen of thought, it 'is the servant which the master cannot control at will' (**Horkheimer & Adorno 2002: 29**). It can document relations of domination. And it can reach for the mask of its creator, as if to ask: Who are you? And who are you to hide behind the language of justice?

I have analysed these aspects of the normative potential of law in more detail elsewhere (**see Gansinger, 2023**). Here, I want to conclude by offering some thoughts on how Horkheimer's argument might guide our own attitude to law as a vehicle of social resistance. What is the practical relevance of law's force of resistance? How can we experience or even harness it in our own lives?

Let us explore these questions with the help of an example. In the 1973 landmark case *Roe v. Wade* (410 U.S. 113 (1973)), the US Supreme Court established that women enjoy the fundamental right to have an abortion prior to foetal viability.[i] Two years ago, the Court reversed itself in *Dobbs v. Jackson's Women's Health Organization* (142 S. Ct. 2228 (2022)), holding

that the decision in *Roe* was 'egregiously wrong from the start'. It is now up to individual states to determine the legal status of abortion, which, for millions of women, has made it significantly harder and, in some states, impossible to safely terminate a pregnancy.

At first glance, the journey from *Roe* to *Dobbs* sits uneasily with the idea that the law has any force of resistance. After all, the widespread rollback of abortion rights looks like a moral tale about the fragility of legal norms when they stand in the way of a well-oiled, uncompromising political machine. But if we look a little closer, a different narrative unfolds. Since the 1980s, anti-abortion activists had been trying hard to reverse the outcome of *Roe*, either by pushing likeminded judges onto federal courts or by amending the constitution altogether (**see Ziegler 2022a**). Their initial efforts collapsed spectacularly when a Supreme Court stacked with Republican nominees upheld the right to have an abortion in 1992. It would take another thirty years and the confluence of unfortunate circumstances – specifically, an unusually high turnover of Justices during the presidency of Donald Trump – for the 'pro-life' movement to finally find an amenable majority on the Court.

Thus told, the rise and demise of federal abortion rights in the United States is *also* a story about the strength of law in the face of adversity. For half a century, the legal system withstood the concerted effort to return the constitution to its pre-1973 interpretation. It would be possible to tell a richer story about how this force of resistance expresses itself, or at other times dissipates, in the practice of courts, legislatures, executive agencies, and advocacy groups (**see, e.g., Dutra 2010; Ziegler 2022b**). Here, it suffices to note that anti-abortion activists struggled to transform their preferences into policies as long as they were faced with the obstacle of constitutionally entrenched legal doctrine.

I should dispel two natural worries about the suitability of this example to illustrate Horkheimer's force of resistance. First, Horkheimer is not concerned with specific areas of the law (arguably except for labour law, see Horkheimer 1943), and he nowhere addresses abortion rights (though his views on reproductive health appear to be rather conservative, see Horkheimer 1985b). Instead, he is interested in law in general. Aren't I committing a category error, then, if I turn to individual court cases to illustrate law's force of resistance? After all, it is the *form* of law that Horkheimer contrasts with domination, not any particular content that this form may take.

However, note that I do not think that there is anything in the substance of abortion rights that puts them at odds with the exercise of political power. Moral questions are not at issue here. My claim is not that 'pro-choice' activists represent law's force of resistance because they are

fighting for a noble cause.[ii] My claim is, rather, that the simple fact of the lawfulness of abortion mattered – to the judiciary, which is trivial, but crucially also to legislators, the executive, and civil society at large. It mattered *politically*, not just legally, that the federal constitution was authoritatively declared to contain a right that was hitherto denied to many Americans. What mattered was the 'thing-like quality' of law, its 'objectivity for everyone', its demand to 'be grasped by everyone'. Before *Roe*, the right to have an abortion was a thought that some agreed with and others did not. After *Roe*, it was a fact that impressed itself on people's minds, lives, and relationships. Once in existence, a thing, more than a mere thought, takes energy to destroy: it resists. And this is a claim about the form of law, not about its content.

But now a second worry might rear its head. Isn't it domination, *tout court*, that Horkheimer opposes the form of law to? And whatever we think of anti-abortion activists, it is a bit rich to see in them the apogee of domination.

Yet, again, I do not intend to make a strong claim about the political campaign against abortion rights in the US. Recall that, for Horkheimer, the racket is the 'elementary form of domination'. All that is needed, then, to vindicate the connection between the fight over abortion rights and 'Rackets and Spirit' is that the conservative movement, like many others, consists of rackets, of power-hungry groups that take no prisoners in the pursuit of their agenda. Thus understood, the campaign against *Roe* is indicative of a society that disintegrates into self-interested factions: a society built on the elementary units of domination.

With this in mind, and with the two worries allayed, *Roe* also provides a good opportunity to reflect on the limits of law's force of resistance. The decisive reason that *Roe* eventually succumbed to conservative pressure is not, as Justice Samuel Alito put it in the *Dobbs* decision, that '*Roe*'s reasoning was exceedingly weak' (though it was, **see Ginsburg 1985**), nor that Republicans have been hellbent on destroying the legacy of the liberal jurisprudence of the 1970s and 1980s (though they have, see Kaufman 2023). The reason is more mundane. The law, to reiterate, is an 'instrument of domination', albeit one that can come 'into opposition to domination'. An instrument might multiply the strength of the agent who uses it. But it cannot generate power by itself.

From Reagan to Trump, anti-abortion activists were working to unite a diverse coalition of religious groups, non-profit interest groups, large donors, and, crucially, the Republican Party behind the cause of toppling *Roe v. Wade*. The intensity of the effort was not mirrored among liberals (**see Bentele et al., 2018; Greenhouse & Siegel 2010**). Arguably, the fact that legal doctrine reflected their beliefs gave them a treacherous sense

of security. After all, they had the US Constitution, ordained by 'We the People' (or rather, by the personnel of the US Supreme Court), on their side! Liberals were in a position to nonchalantly identify with, rely on, and celebrate the law whereas their opponents knew that they had to work proactively to make their interests count.

In an earlier text, Horkheimer gestured towards the danger of overestimating the emancipatory promise of the law. The 'force of resistance' of cultural spheres, such as law, is always 'mediated through the behaviour of the people who make it up, a behaviour that is characteristic for a certain society' (**Horkheimer 1972: 65** [translation modified]). The legal process requires constant social propulsion; otherwise, it comes to a halt. It takes human agency to turn the potential energy stored in law into kinetic energy that repels the incursions of rackets. If people are not habituated into defending the law against hostile challenges, the law itself has no alternative but to submit.

Horkheimer returns to this thought in a speech given some years after drafting 'Rackets and Spirit'. '[C]onstitutions […] don't have any meaning in themselves', he reminds an audience mainly of public officials, 'you have to breathe life into them' (**Horkheimer 1985c: 46**). The law is a *thing*: it is disinterested, not only in the mark it leaves on the world and its inhabitants, but also in its own fate. Above all, it does not exist separately from the people who administer it and from the political conflicts they participate in.

It matters, of course, what the law *says*. Yet what the law *is* – how it is enforced, what it does to our lives, whether it persists or perishes – depends, to a large degree, on what social groups make of it. If this is a truism, it is one that we forget at our own peril. Law's force of resistance is the force of people, mediated and amplified.

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[i] See: https://supreme.justia.com/cases/federal/us/410/113/.

[ii] See: https://casetext.com/case/dobbs-v-jackson-womens-health-organization

A Reconsideration of Imaginative Points of Resistance: 9/11 and surprise attacks

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Abstract

In this short piece, I want to explore the idea that limits of imagination, that I refer to here as to 'points of resistance', can play an essential role in certain imaginative tasks. To show how points of resistance can be carriers of crucial information, I focus here on the analysis of 9/11. Leaving aside personal and political implications, I investigate the possible plausibility of some statements of the US Secretary of the Defense at the time of the attacks, attributing the cause of 9/11 to imagination. I propose that, despite being dismissed as an outrageous analysis of responsibilities involved in the success of the terroristic attacks, there could be a role that a failure of imagination might have played.

Keywords: imagination; resistance; constrains; surprise attacks; security; epistemology

Introduction

We tend to think of something opposing resistance as something generating friction, an obstacle, or, even, a problem. The idea of resistance is associated with an opposition to a state of things, a situation or an (unwanted) scenario to which somebody or something draw a limit to. Resisting is to refrain from, to create borders around, to draw limits, to oppose. On one hand there are cases in which resisting is synonymous to a brave, independent choice aimed at defending values such as freedom and equality, as for example in historical cases of resistance to regimes, dictatorships, invasions, etc. The resistance to fascism implemented by partisans in Italy during Second World War, for example, represents one (of possibly many) cases where resistance is welcomed with a positive attitude and gratitude. Resisting here is synonymous of standing up, defending something perceived as precious and valuable, and being and behaving in a certain way against impositions. On the other hand, though, there are contexts in which resistance is perceived as a negative force. Let's consider for example a patient with an infection that is resisting antibiotic treatment. Discovering that that infection is resisting treatments is very bad news for the patient whose life is at stake. A criminal putting up resistance while being arrested is going to receive further punishment because of their resistance to comply with societal rules, standards of conduct, and penal procedures.

In the philosophical literature, a quite large debate has been generated around cases of the so-called phenomenon of 'imaginative resistance' or resistance to imagination. In philosophy, 'imaginative resistance' refers to problems that otherwise competent and able imaginers (people able to imagine and consider made-up scenarios) encounter in envisioning fictional or somehow hypothetical (counterfactual) scenarios (**Tuna, 2020**). It is an inability to imagine, to visualise, to envision, to transport themselves into a made-up scenario (**Weatherson, 2004**). Cases of imaginative resistance occur in narratives where the world appears very different from how we know it. These scenarios might present unusual life conditions or entities. Time travels, for example, challenge our standard understanding of the passage of time and of basic logical principles and are difficult to imagine. Biological entities different from animals and plants, as we know them, might resist our ability to envision them. Human characters who possess special abilities might also be impossible for some people to grasp. Other cases of this phenomenon might involve challenges to less material elements. For example, it might be difficult to imagine scenarios with implications that challenge moral values. It might be impossible, for example, to imagine committing ferocious crimes against harmless babies or imagine performing acts of brutal violence.

In this paper, I want to suggest a philosophical reconsideration of limits of imagination that I am going to refer to as *points of resistance*. I want to show how these limits to the exercise of imagination, rather than being merely negative, can be carriers of interesting information. The presence of points of resistance to imagination, I want to suggest, might be essential for specific contexts and tasks. Particularly, I am going to work on the context of security, intelligence and surprise attacks. I am going to look at analyses and post-hoc explanations of 9/11, in order to show the interesting role that salient, identified points of resistance to imagination can make In this critical reflection, I am not interested in taking a side with regard to the honesty of some statements that I am going to use about 9/11, nor do I aim here at providing a complete, rounded explanation about the use of imagination in preventing surprise attacks. Here, my aim is merely to provide a provocation, that I hope would feed further discussions on the role of limits, borders and points of resistance of imagination and imaginative capacities.

Rumsfeld and 9/11

In the aftermath of 9/11, Donald Rumsfeld, US Secretary of Defence at the time of the attack, attributed the inability of the Americans to foresee, predict and prevent the terroristic episode to a failure of imagination. He referred specifically to 'unknown unknowns', as to those risks that people cannot imagine existing. In the documentary *The Unknown Known*, filmed by Errol Morris in 2013, Rumsfeld states:

> *In my confirmation hearing, when I was nominated to be Secretary of Defence, the best question I was asked was: what do you worry about when you go to bed at night?*
>
> *And my answer was in effect: intelligence.* ***The danger that we can be surprised because of a failure of imagining what might happen in the world****.*
>
> *There are known-knowns: things that we know we know. There are known-unknowns: things we know we do not know.* ***There are also the third category of unknown-unknowns things that we do not know we do not know. You can only know more about those things by imagining what they might be***. [emboldened text by author] (**Rumsfeld, 2013: 00:00:02**)

In the same documentary, Rumsfeld proceeds in his reasoning, drawing a comparison between 9/11 and the Japanese attack at Pearl Harbor during Second World War. In both cases, he states, Americans did not know what they did not know. They could not imagine that those attacks were going to happen, and they did not know how those attacks were going to be carried out. In other words, they did not know what they did not know.

They did not just fail in imaging how something was going to happen; they did not even imagine that something like that could happen at all. In short, Americans were not vigilant enough because they did not expect, they did not imagine that something of that sort (type, scale, procedure, etc.,) of attack was going to occur.

Nonetheless, was it really a matter of poor imagination that led to 9/11 events and is it really the role of imagination to tackle 'unknown unknowns'?

Reactions to and Problems in Rumsfeld's take

Reactions to Rumsfeld's reading of the reasons behind the America's inability to prevent 9/11 and Pearl Harbor, have generally been quite sceptical. Scholars, journalists, writers and even the public opinion at times have been quite opposed to Rumsfeld's reconstruction of the motivations that made US intelligence unable to foresee something as big as 9/11 (**Romney 2014, Graham 2014**).

It seems legitimate to react to Rumsfeld's suggestion about what went wrong in 9/11 with doubts. His reading of the situation can be questioned in light of his personal and professional involvement, namely the position from which he is speaking, as a person covering a role in the first line of the US security system and as responsible for key decisions in that context. Blaming imagination could sound as an ad-hoc justification, which puts some distance between Rumsfeld himself, his work, and the work of intelligence.

In the documentary quoted above, the interviewer pushes back to Rumsfeld's point which could be interpreted as unsatisfactory, and they ask:

> …*as a failure of imagination or a failure to look at the intelligence that was available?* (**Rumsfeld, 2013: 00:00:57**)

On one side, it is easy to see where the interviewer scepticism against Rumsfeld's statements comes from. They consider it hard to believe that American intelligence was not able to collect appropriate information before the attack. After all, 9/11 was not the first case of hijacked planes used in terroristic attacks. So, the method used for it was not new. Furthermore, there are currently available details concerning the attacks and the hijackers, that make the question asked by the interviewer sound natural and on point. Could the failure be a failure in paying attention to some quite relevant information, rather than a failure in imagining a certain scenario? In the publicly available 9/11 commission report, it is possible to find, for example, the following information:

> *Other instructors who worked with Hazmi and Mihdhar [two of the 9/11 hijackers] remember them as poor students who focused on learning to control the aircraft in flight but took no interest in take-offs or landings* (**National Commission on Terrorist Attacks, 2011: 222**)

For someone who finds difficult to agree with Rumsfeld statements, this information would corroborate the idea that Intelligence failed to pay attention to relevant details. It is the fact that it was known and ignored that there were people suspiciously disinterested in landing safely while learning how to pilot a plane that made an impact. There was not a failure in imagining a possible scenario, rather a failure in taking into account details and connecting the dots.

On the other side, a sceptic can also think that it is hard to believe that imagination could play a role in this particular context, as from Rumsfeld's statements. If we think about places strictly related to the employment of imagination, what comes to mind are creative contexts. This could be related to the production of different types of artifacts, narrations, story-telling, etc., or to the creation of new technologies, devices, or remedies. Writing different types of stories, as well as producing artefacts such as paintings, sculptures movies and theatrical performances seem to be the type of actions which require the use of imagination. In a similar way, imagination might have a role to play in scientific research and endeavours when it comes to the creation of something that did not exist before such as new technologies or types of devices. Imagination is largely employed in creating new worlds, new possibilities, new scenarios. How could it be the linked to a national security context?

In one sense, imagination seems to possess a too broad, too large scope to be useful in scenarios of surprise attacks. Using imagination to create a possible world where aliens commit a terroristic attack could be a great idea for a movie or a science fiction best-seller. To someone in disagreement with Rumsfeld's statements though, imagination of this type does not seem appealing as a tool to be used in the context of intelligence and security. Imagination, in other words, gives us such a broad range of possibilities, or possible scenarios, that it might seem useless when we are trying to prepare ourselves for something to happen, or prevent something that could cause harm. The range of possibilities that imagination is able to produce is not going to be informative enough for security contexts. Taking into account endless options about a virtually infinite range of threats to security could just lead to a life of fears, rather than providing a helpful tool to tackle security risks.

A Conciliating Reading Between Overlooked Information and the Role of Imagination

At the time of Rumsfeld's statements, his appeal to the lack of imagination as a cause of the failure in preventing terroristic attacks was perceived, among other interpretations, as a way to avoid taking accountability for the happenings on 9/11. It is far from my intention to provide a defence of Rumsfeld's declaration or of his actions at the time and in the aftermath of the terroristic attack. I do not intend to discuss his statements here, or to try to understand whether he was merely trying to save himself, his work and the work of his institution. I want to leave the implication of responsibility aside from my discussion. Being his statements a way to justify his decisions and actions, and the ones of its team, does not take away from the soundness of their core idea. I want to take his suggestion about the causes of 9/11 and examine the role of imagination. I recognise in this case an interesting opportunity to reflect on how imagination might work in the specific contexts where selecting, valuing and considering the right points of resistance could be the decisive factor of using imagination in a helpful way. In other words, I want to propose that it might be right to think that in order to understand how 9/11 was possible, we need to consider both: the role of the overlooked information that several agencies possessed before the attack and the role of imagination.

As we said above, imagination on its own can create a nearly endless set of possible scenarios. Through imagination we could consider any kind of risk for security, any kind of method for carrying out an attack, any type of threats and any type of rivals and enemies. If taken in isolation, imagination seems just 'too productive'. It might present too many scenarios that are not realistic, or even possible in the actual world. It is imagination, indeed, that allows us to think and visualise things that do not exist. We can, for example, imagine unicorns without making unicorns more real or likely to exist in nature.

Yet, without imagination we would not be able to foresee anything, until the new scenario is actualised. Our ability to project into the future is the ability to be able to 'see', to visualise, to envision, ultimately, to imagine a situation that has not been actualised yet. On the basis of our imagined scenario, we can then prepare for what will come. When we commit to paying 30 years mortgages, when we decide to buy a house and live there for a number of years, when we commit to a certain career path, when we decide to accept a permanent job, and so on, we base our decisions on how we imagine these things to fell like, look like or continue to be over a certain period of time in the future. We subscribe insurances, and we are willing to pay money for something that might never happen, because we

fear situations that we can imagine, namely we are scared of the possibility of something negative (that we can imagine) to happen[i].

How can imagination be, simultaneously, the right and the wrong answer explaining the happenings of 9/11? The solution of the conundrum resides in the nuances of the situation. It is not just imagination taken in isolation that should be considered. The historical context, the information collected by the American intelligence on the hijackers, the signs and threats sent by Al Qaeda, are the missing bits of this puzzle. Imagination is the essential element here that allows the intelligence to create hypotheses. Hypotheses, nonetheless, can be varied and many. Thus, the issue that arises from the employment of imagination concerns the ability to select the right hypothesis among the ones generated.

Imagination in the context of security and prevention of surprise attacks covers an essential role, but needs to be used in accordance with the points of resistance. The limits that we impose on imagination are what makes the difference in this context. Considering scenarios such as ones implying aliens, for example, is not going to make us any more ready to deal with a terroristic attack perpetrated by organisations that we already know and who have already declared their hostile intentions. The point is not then that imagination is not relevant in this context or that imagination is not part of the arsenal of tools that the intelligence should use. The point is the ability to guide imagination selecting the relevant limits.

Overlooking salient information, not recognising certain knowledge as valuable, not connecting the dots between the threads and the details about the hijackers, and so on, are all elements that play a part in the story of how 9/11 could happen. Missing out and overlooking details lead to the inability to guide imagination effectively. In other words, imagination was left ranging on possibilities that were not anchored and informed by factual data. US intelligence was pondering scenarios that were unlikely to happen and irrelevant to their situation. The information that was available to US intelligence and the security agencies was not valued enough to be considered as a guidance in the creation of the possible scenarios. It was not used as a constraint to select in and out the possibilities to be rightly worried about. 9/11 can be read as failure of imagination, in the sense in which imagination was not used with the appropriate boundaries and appropriate points of resistance. It was a failure of using the information possessed and collected as milestones, as check points, in mapping out the range of possibilities that should have been considered and for which US intelligence should have prepared itself.

Factual information should have worked as anchors and limits to the range of possibilities to explore. The points of resistance, the information about reality collected by the intelligence and shared in the 9/11 report, would

have restricted the number of imaginative scenarios considered, grounding the speculation in the real world. Points of resistance to imagination in this type of cases are the points that produce what some authors call e*pistemic friction* (**see Sher 2013**). They allow, in grounding imagination in reality, to create limits to the infinite possibilities imaginable by human capacities. In creating frictions and obstacles, they make the content of their envisioned situations relevant to the here and now, to the challenges at hands and they avoid endless wonder and pointless debating. It is the role of constrains to imagination (**see also Kind & Kung 2016**), the points of resistance to it, that allow for the use of imagination in real world situations, such as the one of security, to provide useful, or even crucial information on what we should be vigilant about.

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Endnotes

[i] See Williamson (2016) for a more extensive analysis of how imagination helps alerting humans to both dangers and favourable opportunities.