Exchanges

The Interdisciplinary Research Journal

Volume 10, Issue 1 (Autumn 2022)

Issue Highlights:

- Anita Mason's Final, Unpublished Novels
- Arnstein's Ladder: A literature review
- The Five Forces Framework
- Publication Fakery & Animal 'Scholars'
- Realism, Reality & Research Practice

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Exchanges: The Interdisciplinary Research Journal

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

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

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

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

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A Time to Broaden the Family: Editorial, Volume 10, Part 1

Gareth J Johnson

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

> *That's what being a boss is. You steer the ship the best way you know. Sometimes it's smooth, sometimes you hit the rocks. In the meantime, you find your pleasures where you can.* (**'He is Risen', 2001**)

Introduction

Welcome to the twenty third edition of *Exchanges: The Interdisciplinary Research Journal*, and the first issue in our tenth volume. If you have never read *Exchanges* before, then you are obviously most welcome, as it is always a pleasure for us to have new readers. Naturally, you also as welcome if you are part of our ever-growing community of regular readers too. As has been traditional, this editorial article provides an overview of the work included in the main body of this issue, alongside a few reflections from myself. The editorial also contains an overview of the various ways readers can contribute to future *Exchanges* issues. I would like to especially draw your attention to the ways you can be part of our 10th birthday issue, scheduled for publication in October 2023. Naturally, there is also a guide on how and where to engage with the journal via our social media presences, which where you will frequently find myself holding forth news, updates and observations on a regular basis.

Ch-ch-changes

It has been an interesting few months here at *Exchanges*, not least of which being our host department seeing a transition from our longstanding Director to a new person in post: we hope they are both enjoying their respective new challenges. Here at *Exchanges* too, albeit behind the scenes, it has been a period of modest readjustment. Over the summer I have been enjoying some discussions with long-standing Board members about their terms of office and any plans they have beyond their membership. Before I came aboard the journal, 'terms of office' for the Board were not something to which anyone had given much thought. Board members had previously been recruited through an arcane process: it may have involved a charm offensive or random chance - I have never been exactly clear. Board members, typically, would subsequently depart from the journal when the time seemed right for them. Be it developments

in their personal or professional lives, there always came a time when there was no longer the time for *Exchanges* to spare.

Consequently, one of the earlier things I accomplished in my early years on the journal, after a few initial experiences with the Board as they were configured then, was spelling out how we expect members to commit to an eighteen month to two-year period 'in office'. This is now enshrined in our internal policy, and while we do, occasionally, have an editor who stands down a little early, the vast extant majority have far exceeded this commitment. This longevity is something for which, operationally and personally, I am deeply grateful - recruiting, onboarding, training and supporting new team members is certainly not a zero-sum requirement on my own time! Plus, after working with these people so long, they're more than mere colleagues, they are the heart of the *Exchanges* family.

Thankfully, the outcomes from my discussions with the longstanding Board members has been a positive one as the majority of them have chosen to stay on board: every pun intended. Certainly, this is great news in terms of retaining their insight, experience and wisdom as part of our team (not to mention the demands on my own time too!) Conversely though, *Exchanges* was conceived as and continues to be a journal where the developmental experience is an intrinsic part of our mission and operations. We often, colloquially at least, describe ourselves as a journal 'for and by early career researchers', although my policy is always to be broadly inclusive than exclusive in applying that mantra for our contributors. Hence, while it is fantastic to be keeping aboard my experienced team members, at the same time we have perhaps been missing out on both offering the editorial development experience to others alongside benefitting from fresh insights too.

So, to that end over the late summer *Exchanges* 'opened the books', to borrow a phraseology from mobster fiction, and invited expressions of interest for new Board members.[i] The idea being that these would be additional rather than replacement members of the team, although as you will read later, we have had a least one departure since our last regular issue. Previously when we have had open calls for Board members, or indeed even associate editors, these have been targeted at specific institutions across Warwick's global partnerships. This time though, we threw the net much wider, involving early career scholars and late-stage post-graduate researchers across the EUTOPIA alliance and affiliate institutions to consider expressing an interest in joining us.[ii]

Over the recent weeks, I have had the pleasure of meeting the various applicants and as a result am delighted to reveal we have been able to successfully recruit a number of new Board members. Each of them brings something exciting, intriguing or insightful to the team in terms of past

skills, disciplinary knowledge, enthusiasm or a combination of all three. Personally, I am very much looking forward to working with and getting to know them all better. You will have to keep an eye on the *Exchanges* Board page for more information about them, as this will be updated very soon. In the meantime, I will be conducting their initial training and onboarding over the later months of 2022 before letting them loose on their first manuscripts.

Of course, knowing *Exchanges*' author and contributor community, I expect each of them will find themselves engaged in supporting submitting authors and their manuscripts before too long too. I hope you will all make them feel welcome, and even get in touch directly to discuss any aspect of the journal. Afterall, each of our Board members are the front line of our promotional and outreach programme, able to discuss potential contributions to the journal with prospective authors or indeed reviewers too. That's not to say contributors cannot talk to myself, as I always enjoy these kinds of exchanges, but sometimes it is nice to talk to a member of the team whose research interests or domain might be closer to one's own.

Papers

After all that, I am sure you are ready to learn more about the contents of this volume, so let us explore each of them in turn.

Articles

We open the issue with a piece from **Jaime A. Teixeira da Silva** and **Aceil Al-Khatib** which is entitled *The Deontology of Using Pets in Academic Publishing-Related Sting Operations*. In this article the authors explore issues around fakery within the academic publishing sphere. In particular they zero in on the fascinating area of 'animals personified within publishing roles', within both hoxes and publishing 'stings'. The authors argue though how such operations may lack scholarly value and therefore have no place within academic publishing *per se*. Helpfully, the piece concludes by offering guidelines offering assistance to those working within publishing to counter such potential threats to their integrity and credibility (1).

Our next article from **Nick Redfern**, explores *Distributional Thinking about Film Style: Quantile comparisons of motion picture shot length data*. The author explores this approach in comparing movie shot-length distributions between different films, within a computational analysis framing. Offering a robust examination of the applied techniques, Redfern demonstrates various perspectives and approaches which can assist in the quantisation and analysis of shot-length duration. Intriguingly the paper ends by proposing quantitative analytical techniques alone do not offer a

sufficiently nuanced method to allow a truly comprehensive analysis of filmic style but, nevertheless, still retain much of value as a interrogative resource within the film-studies arena (21).

A change in gear next, as **Pavel Fedotov** concerns themselves with an examination of the *Critical Analysis of the Electric Vehicle Industry: Five forces and strategic action fields*. Within a strategic management lens, Fedotov outlines the five forces framework and what its application can reveal within the electric vehicle industry and their adoption within the public sphere. From this analysis, the paper then argues how significant obstacles to the adoption of, and profitability from, electric vehicles can be revealed. Additionally, while the author's discussion seeks to extend the discussion around the five forces framework, the paper does acknowledge some limitations exist within its application, despite its demonstratable value and applicability (43).

We move next to our most substantive article this issue which comes from **Huayi Huang**. In *Reflections from Research Practice: Realism and its reality, coming to know this, and working out its mechanisms of socio-material change*, the author explores 'depth ontology' – arguing how this new approach to understanding our social and material worlds can be comprehended and deployed. The central strand of this paper's thesis is how this approach can serve to illustrate, illuminate and invigorate comprehension of the quotidian experiences of early career researchers' praxis. Moreover, the author offers further historical context to the paper's discussions, especially evidenced within thinking around ideas of change from Aristotle and Plato (57).

Our next paper offers an intriguing insight into unpublished work by an acclaimed author. In *Genetic End of the Line: The unpublished novels of Anita Mason*, **Colin Hutchinson** therefore explores three unreleased works by the Booker Prize-nominated author Mason. Offering firstly a precis of their narrative, Hutchinson goes on to offer illuminating insight and contrasts between each texts' diversity while drawing attention to commonalities within their narratives. The paper highlights how unlike Mason's prior work, these books offer readers ambiguous ending. Moreover, attention is drawn to how each is framed within a more 'gloomy' picture of civilisation's collapse too. Finally, the paper concludes by suggesting how the 'process of fabulation' can aid readers in examination of their own fates (94).

Our final peer-reviewed article of the issue offers a comprehensive and highly pragmatic review of literature on and around *Arnstein's Ladder of Citizen Participation*. In their article, **Simon Varwell** explores how this framework has been deployed over the past half century in areas as diverse as planning, housing, health, schools and higher education. The

author suggests Arnstein's Ladder retains a value today in understanding and supporting effective conversations about partnerships, engagement and democracy alike. Nevertheless, it concludes that despite the extensive body of prior work and application, further research in this field could yield valuable refinements to the framework (**108**).

Critical Reflections

Finally, this issue, we have one of our always popular critical reflection pieces. In *The Use of Collage in Autoethnography*, Harriet Richmond offers a deeply personal insight into the impetus that drove them to explore this method. The paper subsequently explores the role collage can play in presenting an 'embodied and affective' approach to comprehending one's lifeworld. In particular, Richmond suggests how the 'messy' aspects of collage can serve to offer similar insights into the problematic of 'knowing' and 'researcher practice' alike (**145**).

Calls for Papers

Looking forward to future issues, here is some information about our two main current calls for contributions. Naturally, authors are advised to keep an eye out between issues on our social media feeds and announcement page for news of additional calls too.

Authentic Interdisciplinarity: Anniversary Issue Call for Papers

Tying into the 10th anniversary issue of *Exchanges: The Interdisciplinary Research Journal* (October 2023) we are seeking contributions which seek to celebrate, challenge or define ideas around authentic interdisciplinarity. Authors may wish to draw on their own research practices and activities or adopt a more holistic stance in engaging with the prior literature and activities within this broadly demarcated field. As is *Exchanges*' tradition, we will potentially consider any work which its authors choose to present which seeks to address the themes evident within this call.

Contributing authors may wish to draw upon methods or methodological practices within a variety of field. Alternatively, they may consider explore if there are discrete or disparate audiences for interdisciplinary rather than unitary disciplinary work in academia today. Additionally, pieces considering, rationalising or amplifying cross-disciplinary discourse concerning centring on the concepts of authentic interdisciplinarity would be warmly received. Potential authors looking for further inspiration to frame their articles are encouraged to download the full text of the call, which is available on the journal's site (**Exchanges, 2022a**).

Bear in mind if you want to contribute a peer-reviewed article, then time is fast approaching on the submission deadline. That said there is still plenty of time to get provide us with one of our shorter communications for the issue as well.

Deadlines:

- **Peer-Reviewed Papers or Review Articles: 30th November 2022**
- **Critical Reflections, Conversations (interviews) or Essays: 30th June 2023**

Open Calls for Paper

Thematic call aside, you will be pleased to know the journal welcomes submissions throughout the year on any subject, with no deadline. Articles which pass our review processes and are accepted for publication will subsequently appear in the next available issue. As *Exchanges* has a core mission to support the development and dissemination of research by early career and post-graduate researchers, we are especially pleased to receive manuscripts from emerging scholars or first-time authors. However, contributions from established and senior scholars are also welcomed too. Further details of our open call requirements can be found online (**Exchanges, 2022b**).

Submissions may be made under our peer-reviewed articles or review articles format, or alternatively our editorially reviewed shorter critical reflections and conversation formats.[iii] There latter formats are often able to transit to publication faster and make an ideal first article for authors who may not have published a scholarly article before or for those looking to embrace a vein of reflexivity into their professional output. You can find further guidance on these formats, on our website or via the EIC himself.

For this open call there are no submission deadlines as manuscripts are accepted for consideration throughout the year. Manuscripts which pass our review requirements will be published in the next available regular journal issue. Regular issues of *Exchange*s are typically published in late April and October.

Informal Approaches

The Editor-in-Chief welcomes approaches from authors via email, or video-call, to discuss prospective articles for themed and regular issues of the journal.[iv] However, abstract submission or editorial discussions ahead of a submission are not a requirement, and authors may submit complete manuscripts without any prior communication. Authors are encouraged to include a note to editor indicating the format of their work (e.g., article, critical reflection etc.).

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

Advice for prospective authors appears frequently in our podcasts, editorials and throughout the *Exchanges* author portal pages (**Exchanges, 2022c**). *Exchanges* is a diamond open access, scholar-led journal, meaning there are no author fees or reader subscription charges (**Fuchs & Sandoval, 2013; Bosman et al, 2021**). Authors retain copyright over their work but grant the journal first publication rights as a submission requirement.

Forthcoming Issues

This is our last anticipated issue for 2022, although should we find progress on either of our special issues currently under preparation - -relating to the Anthropocene and pluralities of translation – then we might have one more in us before Christmas. However, failing that, we anticipate both of these issues reaching publication in the new year. After that, our next regular issue will the be the Spring 2023 edition, scheduled for publication in late April. While work on peer reviewed pieces for that is well underway, we would love to have some more critical reflections or conversations submitted between now and the start of March ’23.

While I can’t as of yet announce any more special issues, I am very hopeful there will be news on this very soon. So, keep a watch on our announcements page, website and social media channels for more on this.[v]

Naturally, should any of our readers around the world be interested in exploring what goes into collaborating on a special issue for *Exchanges*, and how they might explore creating one, then please do get in touch. I am always happy to have exploratory conversations with scholars at any point.

Acknowledgements

My thanks as always firstly to all our authors and reviewers for their vital intellectual contributions towards this issue. Without you, producing a quality-assured, peer-reviewed, scholar-led publication would not be possible.

My continued thanks to the members of our Editorial Board for their suggestions for suitable reviewers during the production of this issue. I especially welcome onboard our new Board members, who you will be able to learn more about on our Editorial Team pages shortly.

A special thanks Giulia Champion who departed from the team at the end of the summer. Having been with us since 2019, and as the instigator of our first special issues and as an associate editor and later Board member, Giulia has played a vital and active role within the editorial life of the journal. Her insight, cheerfulness and insights will be much missed, but naturally wish her every future success with her career.

My gratitude too to Rob Talbot and Yvonne Budden at the University of Warwick for their ongoing technical support, as well as to the IAS' John Burden for his part in advocating and supporting *Exchanges*' mission.

Finally, my grateful thanks as always to our publisher, the Institute of Advanced Study at the University of Warwick for their unceasing financial and strategic backing for *Exchanges* and our related activities. Notably, I'd like to especially salute our outgoing Director, Peter Scott for his unfailing support and enthusiasm throughout my tenure on the journal. Not to mention his role in recruiting me to my post of EIC in the first place.

Continuing the Conversation

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

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

As Editor-in-Chief I am also always pleased to discuss potential publications, collaborative opportunities or invites to talk further about *Exchanges* and our activities. Contact me if you would like to arrange a consultation via Teams – or even on occasion campus and further afield.

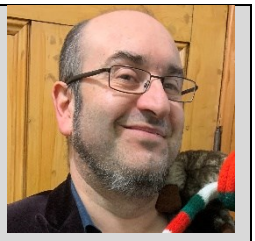
The Exchanges Discourse Podcast

Since our August 'lonely nerds' issue was published, I have been speaking with four of the issue's authors about their research, publication and publishing advice for early career researchers. You can find a list of these recent episodes, along with links to all the past podcast episodes of *The Exchanges Discourse* via the journal site.

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

I heartily encourage all readers of the journal, and especially first-time authors, to like, share and subscribe to our episodes: available on all major podcast platforms, and specifically hosted on the *Anchor.fm* site.[vi] All episodes are free to stream or download and listen to at your leisure. Naturally, we also welcome approaches suggestions for topics we could address as part of future episodes too.

Podcast: anchor.fm/exchangesias



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

References

'He is Risen', 2001. *The Sopranos*, Series 3, Episode 8 [TV] HBO, 15 April 2001.

Bosman, J., Frantsvåg, J.E., Kramer, B., Langlais, P.C., & Proudman, V., 2021. *The OA Diamond Journals Study: Exploring collaborative community-driven publishing models for Open Access, Part 1: Findings*. Science Europe/cOAlition S, March 2021. DOI: 10.5281/zenodo.4558704 [Accessed: 26 October 2022].

Exchanges, 2022a. *Authentic Interdisciplinarity: Anniversary Issue Call for Papers*. Exchanges: The Interdisciplinary Research Journal, 4th April 2022. Available at: https://exchanges.warwick.ac.uk/index.php/exchanges/announcement/view/36 [Accessed: 26 October 2022].

Exchanges, 2022b. *Open Call for Papers*. Exchanges: The Interdisciplinary Research Journal. Available at: https://exchanges.warwick.ac.uk/index.php/exchanges/announcement/view/35 [Accessed: 26 October 2022].

Exchanges, 2022c. *Article Submissions*. Exchanges: The Interdisciplinary Research Journal. Available at: https://exchanges.warwick.ac.uk/index.php/exchanges/about/submissions [Accessed: 26 October 2022].

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

Editorial Board Members

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Endnotes

[i] I should stress, that we do not follow any of the purported ceremonies of 'the mob' world for inducting new editors. Although, it is perhaps worth noting how many related films and series the EIC counts among their favourites. But probably best if you just *fuhgeddaboudit*.

[ii] For more about the EUTOPIA alliance, see here: https://warwick.ac.uk/global/partnerships/europe/eutopia/

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

[iv] **Contact Details**: The EIC's address is given at the head of this article, and on the Exchanges Contact pages. https://exchanges.warwick.ac.uk/index.php/exchanges/about/contact

[v] **Initiating Special Issues:** If you are seeking a suitable home for a dedicated volume of the journal we certainly welcome outline discussions for the ways in which *Exchanges* could become your publication partner. While our facilities are modest, we have been excited to work with various scholars on special issues past and future (**Exchanges, 2022b**). You are warmly invited to contact myself as Editor-in-Chief to discuss any prospective ideas, without commitment. You may also wish to listen to a past episode of *The Exchanges Discourse* (**Exchanges, 2020**) wherein I discuss the thinking and pragmatic concerns around initiating a special issue collaboration with our journal.

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

The Deontology of Using Pets in Academic Publishing-Related Sting Operations

Jaime A. Teixeira da Silva[1], Aceil Al-Khatib[2]

[1]Independent researcher, Ikenobe 3011-2, Kagawa-ken, 761-0799, Japan
[2]Faculty of Dentistry, Jordan University of Science and Technology. P. O. Box 3030 Irbid 22110, Jordan
Correspondence: [1]jaimetex@yahoo.com, [2]aceil@hotmail.com
Twitter: [2]@aceilalkhatib
ORCID: [2]0000-0001-8126-6852

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Abstract

Academic publishing has become considerably stringent in the past few years because of increased scrutiny focused on an overwhelming number of challenges. One of the greatest challenges that academia faces is the notion that certain elements within science publishing have entered an era of 'fake'. There are few moral arguments in favor of anything fake in academic publishing, including fake identities (authors, reviewers, or editors), fake peer reviews, or fake publications. We argue – humor aside – that a zero-tolerance approach is likely essential to prevent the proliferation of fake aspects in academic publishing, independent of the publishing venue, i.e., journal or publisher. Sting operations against 'predatory' publishing outlets, which involve the use of fake authors, papers, or editors, continue to be selectively praised, including by some media. In this opinion article, we focus on the personification of animals assuming roles within academic publishing, such as authors or editors, to emphasize that while perhaps there is an element of humor, such actions may further endanger scientific integrity, precisely at a time when academic publishing is in the phase of a crisis of trust. We believe that while the authors of such hoaxes and sting operations involving animals, as well as some readers, may find humor in these actions, academic publishing cannot and should not be equated with reality shows. We ultimately argue that such hoaxes and sting operations have no place in academic publishing, nor do they have any scholarly value. Finally, we put forward a set of guidelines that could assist academics, including early career researchers, editors, publishers and ethics-related organizations, in dealing with these threats.

Keywords: deontology; editorial screening & standards; ethics; fake; morals; transparency

Fake Elements in Academic Publishing

The term 'fake' has assumed a central position in both journalism and science. In science, the issue of fake (i.e., untrue or false, and thus fraudulent) (**Eriksson & Helgesson, 2017**) has already expressed itself as fake peer reviews, fake authors or fake editor identities complemented by corresponding fake institutions and email addresses, all of which amount to fake data that poses a threat to science's integrity (**Teixeira da Silva, 2017a; Clark & Buckmaster, 2021**). Academia has begun, in recent years, to recognize that such elements constitute a risk to integrity, and the retraction of such fake elements is on the rise (**Rivera & Teixeira da Silva, 2021**). In this paper, we focus our opinion on the issue of hoaxes and sting operations, strictly within the realm of academic publishing.

Although a number of cases in the past few years have captured the attention of the media, the most prominent most likely being John Bohannon's sting operation, which was published in *Science*, against open access (OA) journals and publishers that had been blacklisted by Jeffrey Beall as 'predatory' (**Bohannon, 2013**). Blacklists such as those by Beall, which are now defunct, carry risks because they lack specificity, are biased, and may be error-prone (**Teixeira da Silva & Tsigaris, 2018a**). While much fanfare was made about that sting operation, curiously, little attention was placed on the author of that sting operation, John Bohannon, an investigative journalist who created multiple fake authors, fake institutions and fake email addresses in 304 versions of the same paper, clearly in direct violation of the ethical submission requirements of targeted journals, with the ultimate targeted objective of duping the editors and publishers of those OA journals (**Al-Khatib & Teixeira da Silva, 2016; Teixeira da Silva & Al-Khatib, 2016**). Although that sting resulted in the 'clean-up' of whitelists such as that by the Directory of Open Access Journals (DOAJ) (**Frantsvåg, 2019**), it reached a conclusion that many had already known, i.e., that 'predatory' publishing is widespread among OA journals and is not geographically limited (**Teixeira da Silva et al., 2022**). Ironically, despite an astonishing amount of fake identities and information having been used as the basal support for that sting, as well as the hundreds of simultaneous submissions, made intentionally to cause reputational damage, the 2013 *Science* paper has never been corrected, retracted, or subjected to any editorial expression of concern. It is even more ironic that ethics-promoting organizations such as the Committee on Publication Ethics (COPE), the International Committee of Medical Journal Editors (ICMJE), and the Council of Science Editors (CSE), which are generally considered to be the global trend-setters in academic publishing-related ethics, have failed to explicitly consider hoaxes and sting operations, such as that by Bohannon, as unethical (**Teixeira da Silva, 2021a**).

The specific topic of this article is the alleged appointment of animals as editors, reviewers or authors, the ethics of such actions, and whether a consequentialist approach, wherein making sensationalist news headlines is the sought outcome, justifies the use of deception in the 'war' against 'predatory' journals and publishers by focusing on a sting that employed a dog as editor. The objective of this opinion paper is not to focus on the issue of poor editorial standards in journals, a theme that is widely explored elsewhere, but instead to focus on the ethical elements of sting operations and hoaxes within the context of academic publishing (**Teixeira da Silva, 2021a**). This paper also explores possible appropriate and ethical ways of addressing the issue of fake elements – specifically fake authors and editors – in academic publishing.

Editors' Curriculum Vitae, Qualifications, and Responsibilities in Academic Publishing

Editors that are appointed to an editorial board of an academic journal must be thoroughly vetted, their credentials must be verified and the academic qualities that have led them to be appointed to this traditionally privileged position need to be checked by the publishing society's board of directors, and/or the journal manager (**Teixeira da Silva & Al-Khatib, 2016; Dean & Forray, 2019**). Most importantly, the process should be transparent and open to the public, listing editors' conflicts of interest (COIs) as well as a link to their full, accurate and complete *curriculum vitae* (CV), without differentiating between 'predatory' and 'non-predatory' papers and conferences, so that editors are always held accountable to other academics and the public (**Teixeira da Silva & Tsigaris, 2018b**). Despite this, it is rare to see editorial boards where editors' COIs and complete CVs are listed (**Teixeira da Silva, 2021b**). In a predatory open access journal (POAJ), editors might be accepted to this position automatically, or may be listed without their permission, most likely without proper or even any vetting (**Sorokowski et al., 2017; Cohen et al., 2019**). In such cases, the honor and privilege of being an editor of an academic journal becomes diluted. Within the context of the trivialization of editorial positions, including among editors' own responsibilities (**Teixeira da Silva & Dobránszki, 2018**), the use of deception or fraud[i] needs to be constantly emphasized. Finally, the use of animals or other pseudonymous authors, 'complements the strategies to counteract, sabotage or disrupt credit distribution politics and, accordingly, evaluation metrics' (**Penders & Shaw, 2020: 14**). With this moralistic prelude in hand, we now explore the case study of a dog that was appointed as an editor after his owner responded to unsolicited journal invitations to join their editorial boards. The purpose of the sting was to trick journals into appointing his dog on their editorial boards in order to show the 'predatory' nature of unsolicited journal spam.

The Morality of the Dog-as-Editor Sting

In May of 2017, an Australian news site[ii] reported how a dog named Ollie was serving on the editor board of seven supposedly POAJs after the owner of that dog created a fake name ('Dr.' Olivia Doll), fake institute (Subiaco College of Veterinary Science), with fake credentials (*curriculum vitae*) and even a photo of a public figure, an Australian pop-star, Kylie Minogue, to falsely represent his canine editorial creation. In other words, the dog's owner purposefully created a fake identity, fake credentials, fake qualifications, fake institutional affiliations and most likely fake email addresses for the applications, in order to complete his sting operation to assess the editorial rigor of these potential POAJs. The 'success' of this sting operation was that Doll, according to several media organizations that covered this story in 2017 (Annex 1), was appointed as an editor of those journals. This clearly reflects that no screening or vetting of editorial candidates occurred at those journals, thereby undermining their academic legitimacy and possibly that of their publishers. However, although the dog's owner used deception with the intention of exposing 'predatory' practices, the question we raise is whether violating the principles of virtue and deontological ethics (**Athanassoulis, 2014**), in particular, truthfulness, is justified, and whether it was ethical for the author of the sting to create a fake identity to pose as an editor.

To answer this question, we consider the justification that excuses breaching the duty of truthfulness in order to deceive the editors of those journals that were the targets of the dog-as-editor sting. A closer look at the details of that sting reveals that such justifications are included in a statement by the dog's owner: 'While this started as something lighthearted, I think it is important to expose shams of this kind which prey on the gullible, especially young or naive academics and those from developing countries'[iii]. This statement gives the impression that the dog owner's primary objective was to expose the lack of good scholarly practices in selecting editorial boards by so-called POAJs. We believe that such an objective alone does not justify deceiving journal editors, simply because under virtue ethics and deontological justification (**McCarty, 2012; Bibus III, 2013**), or deontological ethics, academics are, simply speaking, required to follow the rules, uphold honesty and avoid deception, i.e., they should not tell lies. Lying is strongly condemned by moral theories and is rarely justified (**Alexander & Sherwin, 2003**), with some exceptions: for example, lying to prevent a murder, to detect a crime, or to protect innocent victims is morally justifiable (**Slobogin, 1997**). This was not the case for the dog's owner. From a deontological perspective, examining the actions employed in that sting led us to consider whether lying and deception, in order to dupe journals into accepting a fake editor without vetting, is morally right. On the other hand,

from a virtue ethics approach, one should consider what a virtuous person would do in a similar situation (**Kim et al., 2021**), raising many questions regarding honesty and integrity. Honesty is still an important aspect of integrity in academic life, so encouraging dishonesty is more likely to erode trust in academic institutions.

In appealing to the consequences that were directly or indirectly sought by the use of deception in the dog-as-editor sting, in particular exposing sham processes in selecting editors and protecting 'gullible, especially young or naive academics and those from developing countries', as justification for overriding the duty of truthfulness, we explored the amount of exposure that the case had received in the news (Annex 1). We also examined the reported POAJs that appointed the fake editor, i.e., 'Dr.' Olivia Doll the dog, to their editorial boards (Annex 2). Our examination shows that the dog-as-editor case received extensive coverage, even by some prominent media organizations. There were a few discrepancies, and possibly two additional journals were found that did not appear in the 'original' list of seven journals (Annex 3)[iv].

Consequently, the first outcome the author of the sting had sought was achieved. However, one should examine the other objective of the sting which can be inferred from the actor's statement: 'While this started as something lighthearted, I think it is important to expose shams of this kind which prey on the gullible, especially young or naive academics and those from developing countries'. In this regard, and by exploring the journals' websites, it can be easily noted that the majority of these journals are still operating, at the time of writing, some under their original names, with international editorial boards, i.e., just under five years after that sting. We thus conclude that one outcome of the dog-as-editor sting, i.e., to protect gullible authors, was not achieved, by virtue of the fact that those journals are still accepting submissions. Very importantly, even though the seven stung journals are not listed by the ICMJE, four out of the five publishers of these supposed POAJs, as classified by the dog's owner, are listed by the ICMJE[v], namely E-Cronicon Open Access[vi], Austin Publishing Group[vii], Peertechz Publications Pvt Ltd.[viii], and Juniper Publishers[ix], even though the ICMJE has a clear anti-POAJ stance (**Teixeira da Silva, 2020a**)[x].

In other words, the sting sought to alert and protect 'gullible, especially young or naive academics and those from developing countries' by widely disseminating the finding that the journals were negligent in recruiting and vetting prospective editors. In this regard, it is unreasonable to expect that the targeted 'gullible authors' would have received the dog owner's alert when one takes into account the findings of Gabielkov et al., (**2016**), who estimated that the majority of those who share online articles do not click the URLs, i.e., do not read the articles. In addition, to our knowledge, there

has not yet been any follow up, including by the dog's owner and mastermind of the sting, that would enable an unbiased assessment of the outcome of the sting. Thus, the argument that considers making headlines a positive outcome would not be acceptable unless there was a follow up and only if there were consequences for those journals. The dog's owner also failed to include a control group in his sting, which should have been a supposedly reputable set of scholarly OA journals.

Unfortunately, the lack of perceived consequences has encouraged predatory practices (**Al-Khatib, 2016**) and sting operations in the context of scholarly publishing (**Teixeira da Silva, 2021a**). Hence we disagree that the argument 'for the greater good' or for 'academic purposes' serves as a valid excuse to employ false or fake tactics, including the use of a dog as an editor, simply because fake is not an academic property. In other words, as we see it, the main outcome that this case achieved was to create increased non-productive sensationalist media attention, to the issue of POAJs. Furthermore, a closer look at these biomedical journals reveal that they employ – or claim to employ – peer review, which raises a very important question of what criteria can be considered to be reliable for classifying journals as 'predatory', parasitic or unscholarly (**Al-Khatib, 2016; Eriksson & Helgesson, 2017**), a debate that rages on (**Teixeira da Silva et al., 2022**). The retirement of the term 'predatory' has been suggested in the post-Beall era (**Eriksson & Helgesson, 2018**).

In the light of the aforementioned discussion, we reject the argument that violating the duty of truthfulness, by an academic (in this case the dog's owner) was necessary to expose 'predatory' publishing practices. To clarify our point, we urge the reader to consider the following analogies: 1) A stranger pretending to be a student in order to deceive and embarrass an unethical university professor; 2) a student creating a fake email account posing as a celebrity to request an interview with a professor; 3) an editor, using a fake name and email, posing as an authority to dupe an editor of a competing journal in order to expose misconduct and gain a competitive advantage; or 4) a famous expert creating an ORCID account for their cat, using the image of a foreign actress and submitting a plagiarized article in order to trick the journal into publishing the article and then revealing the hoax in a social media post asking their followers to retweet #CatAuthoredArticle in order to spark a debate on the status of peer review. Would academics consider such deceptive practices justifiable? We believe that the answer to some of these questions is not that simple, because one should consider the facts and the possible outcomes on a case-by-case basis.

However, more questions can be raised: What would the appropriate course of action be if lying and deception were not morally justifiable,

simply because there were other means to deal with a certain situation? In addition, assuming that stinging journals to expose predatory practices constitutes an academic investigation, what measures should be taken to safeguard the rights of the editors of these journals? Should they not be informed and asked if they would give consent? Should institutional ethics approval be obtained? Are these actions 'right' under deontological ethics or virtue ethics, or from a consequentialist approach? With possible consequences, good or bad, in mind, academics are encouraged to ponder these rhetorical questions and issues, and the potential harm of using similar stings in academia. Clearly, sting operations, at least in our view, are not ethically permissible in any academic context because they fail to morally justify, under major ethical theories (**Biagetti et al., 2020**), the use of lies and deception to curb predatory journals and publishers, as we have shown in our analysis. Even more, the use of deception to exploit the naiveté and inexperience of some stakeholders, or gaps in scholarly publishing, is morally impermissible because such deception betrays the trust inherent in academic publishing (**Al-Khatib & Teixeira da Silva, 2016**).

A Note on Ethical Exceptionalism

An argument can be made that the individuals who are behind such sting operations and hoaxes that employ fake or fraudulent elements are applying a dual set of ethical values, one for themselves – by considering that they are themselves higher than established ethical codes – and one for the subjects that they are trying to sting, for whatever purpose, with the purpose of exposing their targets' ethical stance. This would be a classic example of ethical exceptionalism where the values, preached or created by an individual or a group of perceived higher moral or ethical standing, apply to all others, except themselves (**Teixeira da Silva, 2017b**). There is a gap between what some individuals expect as ethical behavior from others, and what justification they apply for their unethical actions (**Gino, 2015**). The lack of consequences or deterrents for those that engage in publishing malpractice (**Cox et al., 2018**), including those that apply double-standards, such as the authors of unethical sting operations, may spur them to conduct additional sting operations, publish hoaxes or fake papers, all with the ultimate intent of humor, public attention and self-satisfaction. Such is the case of a fairly recent sting of an economics journal (**Teixeira da Silva, 2020b**), where the author of the sting continues to enjoy institutional support and protection, maintaining their employment without any repercussions for the employment of unethical methodologies to intentionally shame colleagues and inflict reputational damage on the targets of those 'attacks'. There should be legal – including criminal, if necessary – consequences for those who create such fake elements (**Teixeira da Silva, 2020c**).

The Role of Media and Lack of Critical Analysis

Despite extensive media coverage of the dog-as-editor sting (Annex 1), the focus of the news headlines was the appointment of a dog to the editorial boards of POAJs. Such coverage was frequently republished without any factual rebuttal or critical analysis. Coverage was thus partially objective, not neutral, and thus biased. According to Fox (**2013**), objectivity is 'to report only the facts of the matter'. We argue, in agreement with Fox, that media coverage of this sting lacked interpretation and critical analysis, and many media outlets simply cloned what was stated in earlier media outlets, without adding new perspectives, or even investigating moral or ethical issues behind this sting and without any fact checking. This demonstrates, as previously reported by Diekerhof (**2021**), that journalists do not pay much attention to verification and that the routine of churning and re-using stories without checking was a common strategy for gathering information about the sting. One media source even wrote: 'A dog with Kylie Minogue's face has worked her way onto the boards of 7 international medical journals'[xi].

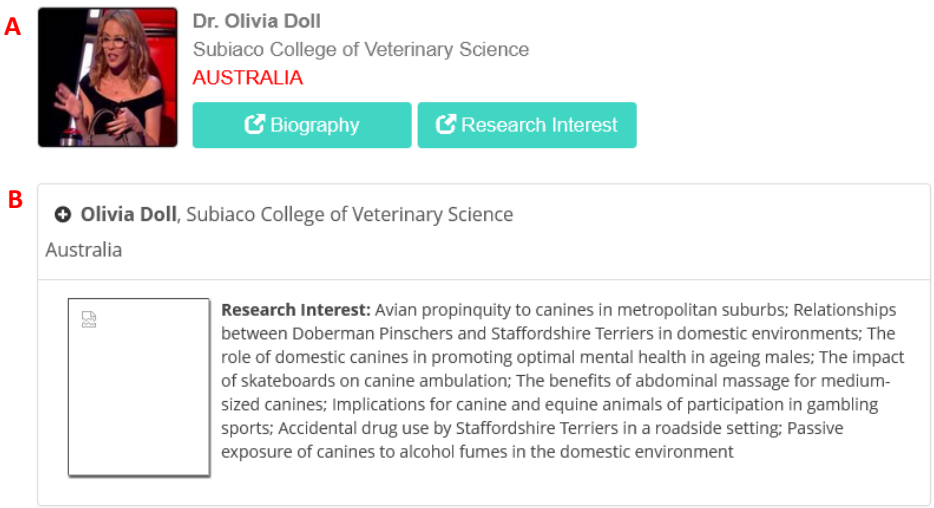
For example, the fact that a dog could not have sent the application to become an editor was neither mentioned nor questioned, perhaps for obvious reasons. Furthermore, no light was shed on the unintended consequences of using a celebrity's photo in operating this sting. Moreover, the fact that the sting was not exposed immediately to the extent that could have led to illegal actions by any of the targeted journals, even in situations where the use of a sting operation is permissible when it is the only means to detect or prevent a crime, effort should be made to prevent any unlawful conduct. The sting could have been revealed before the stung party committed an offense. For example, these journals, unknowingly, could have sent emails using the photo of Kylie Minogue and profited from infringing the copyright of her photo. Fortunately, as far as we can tell, they did not. In addition, a consequence of not contacting the journals immediately to expose the sting was that one journal contacted the fake editor with an invitation to peer review an article by an unwitting author, which could have led to a breach in confidentiality of that author's submission. Finally, another unintended consequence of the dog-as-editor sting was to expose academics to mockery and ridicule as exemplified in some comments on an article by Bernard Lagan[xii]. Comments such as, (referring to the dog's photo): 'Better looking than a lot of academics I know'… and '[s]he [the dog] actually looks quite intelligent, for an academic,' are derogatory to all academics. We can appreciate that some may find humor in these characterizations. However, there are serious repercussions of not controlling fake element–ridden hoaxes and stings in academic publishing, and of not holding their creators legally and ethically accountable. In general, there are remedies to redress the violations that

cause reputational harm and emotional distress, but this would depend on the facts, institutional policies and jurisdictions. Nevertheless, we believe that such forms of humor need to be clearly expunged from academic publishing for reasons we elaborate on in our conclusions.

Conclusions

So-called POAJs, as well as non-POAJs, spam academics, including senior scientists, with emails, which may include calls to join editor boards (**Cobey, 2017**). Despite several stings and exposés (**Bohannon, 2013; Sorokowski et al., 2017**), most of these journals do not appear to have been negatively affected. A closer look at the websites of the biomedical journals that appointed a 'dog'[xiii] to their editorial boards (Annex 2) reveals that they may have improved their practices, although it is impossible to compare – for these and almost any journal – editorial practices before and after the sting[xiv]. However, at least in one case, the dog, including the photo of Minogue, continues to exist on an editor board (**Figure. 1**), even though the journal ceased publication after a single volume. In this respect, we argue that stings have not yet achieved any success, at least in dealing with 'predatory' publishing practices, because other than the reformation by the DOAJ, which removed some journals from its whitelist after John Bohannon's sting (**Bohannon, 2013**), suspected editorial misconduct still continues.

Figure 1: A fake editor ('Dr.' Olivia Doll), in that it is a dog in reality, affiliated with a fake institute (Subiaco College of Veterinary Science), and using a photo of the Australian pop-star, Kylie Minogue. See Endnote[xv] for details.
(GSL Publishers, 2021; Web Archive, 2022)



For example, on June 1, 2018 the DOAJ removed four journals from its list on the grounds of 'suspected editorial misconduct by publishers'[xvi]. Peter Boghossian, the author of multiple fake 'hoax' papers, suffered multiple retractions following an ethical investigation by Portland State University[xvii]. This fact alone illustrates that there are other means to deal with the problem of 'predatory' journals and to assess editorial practices without using sting operations, although the DOAJ does not provide transparent details regarding the suspected editorial misconduct that led it to delist four OA journals on one day. Furthermore, it is enough to show that violating the duty of truthfulness, a duty that every academic should strictly adhere to, without deviation and despite the temptation of humor, cannot be justified. Therefore, we propose the following guidelines in order to deal with fake sting and hoax operations:

Young academics such as early career researchers need to reflect carefully on the consequences of their actions, on the reputational harm to their academic institutes, and on the damage to their careers if they engage in the creation of fake sting and hoax operations. It is here that their supervisors and research institutes play an important guiding educational role (**Teixeira da Silva, 2021c**).

We recommend that research institutions promote honesty and integrity (**Horbach & Halffman, 2017**), implement codes of ethics (**Marušić & Marušić, 2022**), and even add a module on publishing ethics and academic integrity to responsible conduct of research training. For example, The Center for the Study of Ethics in the Professions at Illinois Institute of Technology maintains the largest online repository of ethics codes and guidelines in the world[xviii].

Sting operations and hoax papers should be explicitly prohibited (banned). In rare situations, if a sting is the only available tool *and* is necessary to expose wrongdoing, academics should coordinate with the appropriate authorities, i.e., law enforcement authorities who have the power to investigate stings, expose misconduct and impose penalties. Ultimately, academics are not above the law. In addition, there needs to be explicit IRB approval.

Major publishers and their journals, both traditional, hybrid OA and OA, must include clauses in their instructions for authors which clearly indicate that sting operations, hoaxes or any fake elements, for whatever purpose, are unethical and that creators of such elements will be subjected to strict institutional ethical vetting.

Ethics and publishing organizations such as COPE, ICMJE, WAME, CSE and others should add clear and explicit statements to their organizations' ethical principles and codes of conduct, including their 16 'Principles of

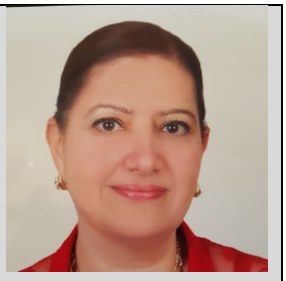
Transparency and Best Practice in Scholarly Publishing'[xix], to emphasize that sting operations, hoaxes or any fake elements are considered to be unethical, or to clearly state any limitations of their use. Their members should also carry the same clause.

In the spirit of a zero-tolerance approach, which is the only effective way to deal with a growing scourge of such fake operations, if the identity of the individual or group that orchestrated such an operation is known, then an ethical investigation should be initiated by research institutes in close coordination with editors (**Wager & Kleinert, 2021**), as a solution to b and c. In some cases, it is likely that the identity of the perpetrator is unknown, masqueraded by pseudonymous or anonymous identities, or whose communications may be masked by TOR-based communications or other means to avoid being traced, how then can moral 'justice' be served without involving the relevant authorities? Two tangible methods involve the retraction of fake papers, or of papers that have employed fake elements to base them on, and to mark fake editors with a prominent mark on the editor board. Retracted fake papers should be labeled as misconduct and, to be fair to all others who have retractions, should indicate the true identities of the author(s), if known, in the retraction notice. The risk of course, especially for POAJs or publishers, or other journals or publishers who in fact were guilty of poor or no vetting processes, is that such fake editors and papers may just suddenly disappear, i.e., silent retractions (**Teixeira da Silva, 2016**).

Wherever available, authors should use institutional emails for submission and publication, and editors should do their best to attempt to confirm the veracity of authors (curriculum vitae, institutional profile, etc.).

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

Aceil Al-Khatib is an oral medicine specialist at King Abdullah University Hospital, and an associate professor at Jordan University of Science and Technology (JUST). She received a fellowship in Responsible Conduct of Research (FRCR) from the University of California at San Diego and JUST, a Bachelor of Law (LLB) from Yarmouk University, Board certification by the American Board of Oral Medicine, Certificate in Oral Medicine and a Master of Stomatology from the University of Iowa, and Doctor of Dental Surgery (DDS) from Damascus University. Her research focuses on the integrity of the biomedical record, patient management, research and publishing ethics.



Annex 1

Media coverage (non-exhaustive list) in 2017 and 2018 of the sting operation that employed the Daube-owned dog as editor. The last Google search was conducted on July 6, 2018 using the terms 'Daube ollie dog editor'. All sites were verified once in May, 2020, and last verified on March 27, 2022, except where indicated otherwise. We note that five originally listed websites (not indicated in the list) have now disappeared.

https://www.cuteness.com/13707807/heres-how-this-dog-became-the-editor-of-several-medical-journals

https://thewest.com.au/news/health/is-this-the-worlds-smartest-canine-or-has-science-gone-to-the-dogs-ng-b88479075z

http://www.huffingtonpost.com.au/2017/05/21/dr-doll-is-on-the-board-for-7-medical-journals-shes-also-a-do_a_22102550/

https://www.thetimes.co.uk/article/ollie-the-dog-awarded-phd-in-medical-research-vetting-test-rtbqm6g6b

https://www.atlasobscura.com/articles/olivia-doll-predatory-journals

http://mashable.com/2017/05/26/dog-sits-on-editorial-board-for-medical-journals/#.yp7.EEBZOqq

http://www.businessinsider.com/meet-ollie-the-australian-dog-now-peer-reviewing-academic-papers-for-international-journals-2017-5

https://www.perthnow.com.au/news/wa/the-perth-dog-thats-probably-smarter-than-you-ng-a4de0d201ce420e0302c69532a399419

http://www.abc.net.au/radio/brisbane/programs/evenings/very-good-girl-on-the-board-of-seven-very-bad-medical-journals/8574036

https://www.theladders.com/career-advice/when-youre-in-academia-but-no-one-knows-youre-a-dog

https://www.timeslive.co.za/news/2017-06-18-a-staffordshire-terrier-has-worked-her-way-onto-the-boards-of-7-international-medical-journals/

https://www.campaignlive.co.uk/article/dogs-bollocks/1443087

http://bigthink.com/robby-berman/you-know-these-studies-are-good-since-theyve-been-reviewedby-a-dog

http://www.modernhealthcare.com/article/20171209/NEWS/171209892

https://insightplus.mja.com.au/2017/19/dog-of-a-dilemma-the-rise-of-the-predatory-journal/

https://www.livescience.com/59311-dog-serves-as-science-advisor.html

https://boingboing.net/2017/11/20/predatory-journals.html

https://www.science.org/content/article/australian-dog-serves-editorial-boards-seven-medical-journals

https://retractionwatch.com/2017/05/27/weekend-reads-editor-whos-dog-fake-author-monument-peer-review/

Annex 2

List of seven biomedical journals that appointed Daube's dog Ollie to their editorial boards[xx]. The presence of these journals on the ICMJE list of journals claiming to follow the ICMJE Recommendations (http://www.icmje.org/journals-following-the-icmje-recommendations/) was last verified on March 27, 2022. The veracity of editors on the editor boards of these journals has not been independently assessed, nor has any other scholarly aspect of their publishing process. Although the listed titles are identical to those that appeared in the media, it is impossible to confirm, with certainty, that they are the same journals that were stung, even when searching on the Internet Archive (Wayback Machine).

EC Pulmonary and Respiratory Medicine:

https://www.gavinpublishers.com/journals/journals_details/pulmonary-and-respiratory-medicine-open-access.html (present)

Journal of Community Medicine & Public Health Care:

https://www.heraldopenaccess.us/journals/journal-of-community-medicine-public-health-care (absent)

Journal of Tobacco Stimulated Diseases:

https://www.peertechzpublications.com/index.php/journals/journal-of-tobacco-stimulated-diseases (absent)

Journal of Psychiatry and Mental Disorders:

http://austinpublishinggroup.com/psychiatry-mental-disorders/ (present)

Austin Addiction Sciences:

http://austinpublishinggroup.com/addiction-sciences/ (present)

Global Journal of Addiction and Rehabilitation Medicine:

https://juniperpublishers.com/gjarm/index.php

Journal of Alcohol and Drug Abuse[xxi]:

http://smjournals.com/alcohol-drug/ (absent)

Alzheimer's and Parkinsonism: Research and Therapy[xxii]:

http://smjournals.com/alzheimers-parkinsonism/index.php (absent)

Annex 3

Another two journal titles that were identified in select media sources that did not appear in the original set of seven targeted journals that were widely publicized in most of the media sources in Annex 1. It is unclear if an application was submitted to more than seven journals.

Psychiatry and Mental Disorders[xxiii]:

https://gslpublishers.org/journals/editorial-board.php?title=psychiatry-and-mental-disorders#journals/editorial-board.php?title=

American Research Journal of Medicine and Surgery[xxiv]:

https://www.arjonline.org/american-research-journal-of-medicine-and-surgery

References

Alexander, L., & Sherwin, E. (2003). Deception in morality and law. *Law and Philosophy*, *22*(5), 393-450.

Athanassoulis, N. (2014). Virtue ethics. Internet Encyclopedia of philosophy. http://www.iep.utm.edu/virtue [Accessed: August 25, 2022].

Al-Khatib, A. (2016). Protecting authors from predatory journals and publishers. *Publishing Research Quarterly*, *32*(4), 281-285. DOI: 10.1007/s12109-016-9474-3 [Accessed: August 25, 2022].

Al-Khatib, A., & Teixeira da Silva, J. A. (2016). Stings, hoaxes and irony breach the trust inherent in scientific publishing. *Publishing Research Quarterly*, *32*(3), 208-219. DOI: 10.1007/s12109-016-9473-4 [Accessed: August 25, 2022].

Bibus III, A. A. (2013). Applying approaches from moral philosophy, especially virtue ethics, when facing ethical dilemmas in social work. *Czech & Slovak Social Work/Sociální Práce/Sociálna Práca*, *13*(5), 33-50.

Bohannon, J. (2013). Who's afraid of peer review? *Science*, *342*, 60-65. DOI: 10.1126/science.342.6154.60 [Accessed: August 25, 2022].

Cobey, K. (2017). Illegitimate journals scam even senior scientists. *Nature News*, *549*(7670), 7. DOI: 10.1038/549007a [Accessed: August 25, 2022].

Clark, A. J., & Buckmaster, S. (2021). Fake science for sale? How *Endocrine Connections* is tackling paper mills. *Endocrine Connections*, *10*(11), E3-E4. DOI: 10.1530/EC-21-0489 [Accessed: August 25, 2022].

Cohen, A. J., Patino, G., Kamal, P., Ndoye, M., Tresh, A., Mena, J., Christi Butler, C., Washington, S., & Breyer, B. N. (2019). Perspectives from authors and editors in the biomedical disciplines on predatory journals: survey study. *Journal of Medical Internet Research*, *21*(8), e13769. DOI: 10.2196/13769 [Accessed: August 25, 2022].

Cox, A., Craig, R., & Tourish, D. (2018). Retraction statements and research malpractice in economics. *Research Policy*, *47*(5), 924-935. DOI: 10.1016/j.respol.2018.02.016 [Accessed: August 25, 2022].

Dean, K. L., & Forray, J. M. (2019). Reopening the black box of editorship: Who reviews journal editors? *Journal of Management Education*, *43*(1), 3–9. DOI: 10.1177/1052562918815205 [Accessed: August 25, 2022].

Diekerhof, E. (2021). Changing journalistic information-gathering practices? Reliability in everyday information gathering in high-speed newsrooms. *Journalism Practice*, (in press). DOI: 10.1080/17512786.2021.1922300 [Accessed: August 25, 2022].

Eriksson, S., & Helgesson, G. (2017). The false academy: predatory publishing in science and bioethics. *Medicine, Health Care, and Philosophy*, *20*(2), 163-170. DOI: 10.1007/s11019-016-9740-3 [Accessed: August 25, 2022].

Eriksson, S., & Helgesson, G. (2018). Time to stop talking about 'predatory journals'. *Learned Publishing*, *31*(2), 181-183. DOI: 10.1002/leap.1135 [Accessed: August 25, 2022].

Fox, C. (2013). Public reason, objectivity, and journalism in liberal democratic societies. *Res Publica*, *19*(3), 257-273. DOI: 10.1007/s11158-013-9226-6 [Accessed: August 25, 2022].

Frantsvåg, J. E. (2019). The DOAJ spring cleaning 2016 and what was removed – tragic loss or good riddance? *Publications*, *7*, 45. DOI: 10.3390/publications7030045 [Accessed: August 25, 2022].

Gabielkov, M., Ramachandran, A., Chaintreau, A., & Legout, A. (2016). Social clicks: What and who gets read on Twitter? *ACM SIGMETRICS Performance Evaluation Review*, *44*(1), 179-192. hal-01281190. https://hal.inria.fr/hal-01281190/document [Accessed: August 25, 2022].

Gino, F. (2015). Understanding ordinary unethical behavior: why people who value morality act immorally. *Current Opinion in Behavioral Sciences*, *3*, 107-111. DOI: 10.1016/j.cobeha.2015.03.001 [Accessed: August 25, 2022].

GSL Publishers, 2021. *Editorial Board: Psychiatry and Mental Disorders*. Available at: https://gslpublishers.org/journals/editorial-board.php?title=psychiatry-and-mental-disorders#journals/editorial-board.php?title= [Accessed: 20 May 2021].

Horbach, S. P., & Halffman, W. (2017). Promoting virtue or punishing fraud: Mapping contrasts in the language of 'scientific integrity'. *Science and Engineering Ethics*, *23*(6), 1461-1485. DOI: 10.1007/s11948-016-9858-y [Accessed: August 25, 2022].

Kim, B., Wen, R., Zhu, Q., Williams, T., & Phillips, E. (2021). 'Robots as moral advisors: the effects of deontological, virtue, and Confucian role ethics on encouraging honest behavior'. In: *(HRI '21 Companion), Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction*, March, 2021, Association for Computing Machinery, New York, NY, USA, pp. 10-18. DOI: 10.1145/3434074.3446908 [Accessed: August 25, 2022].

Marušić, S. L., & Marušić, A. (2022). Codes of ethics and research integrity. In: Laas K., Davis M., & Hildt E. (eds) *Codes of Ethics and Ethical Guidelines* (Vol. 23), Springer, Cham, Switzerland, pp. 83-96. DOI: 10.1007/978-3-030-86201-5_5 [Accessed: August 25, 2022].

McCarty, R. (2012). The right to lie: Kantian ethics and the inquiring murderer. *American Philosophical Quarterly*, *49*(4), 331-343. Available at: http://www.jstor.org/stable/23460809 [Accessed: August 25, 2022].

Penders, B., & Shaw, D. M. (2020). Civil disobedience in scientific authorship: Resistance and insubordination in science. *Accountability in Research*, *27*(6), 347-371. DOI: 10.1080/08989621.2020.1756787 [Accessed: August 25, 2022].

Rivera, H., & Teixeira da Silva, J. A. (2021). Retractions, fake peer review, and paper mills. *Journal of Korean Medical Science*, *36*(24), e165. DOI: 10.3346/jkms.2021.36.e165 [Accessed: August 25, 2022].

Slobogin, C. (1997). Deceit, pretext, and trickery: Investigative lies by the police. *Oregon Law Review*, *76*, 775.

Sorokowski, P., Kulczycki, E., Sorokowska, A., & Pisanski, K. (2017). Predatory journals recruit fake editor. *Nature*, *543*(7646), 481-483. DOI: 10.1038/543481a [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2016). Silent or stealth retractions, the dangerous voices of the unknown, deleted literature. *Publishing Research Quarterly*, *32*(1), 44-53. DOI: 10.1007/s12109-015-9439-y [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2017a). Fake peer reviews, fake identities, fake accounts, fake data: beware! *AME Medical Journal*, *2*, 28. DOI: 10.21037/amj.2017.02.10 [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2017b). Ethical exceptionalism: can publishing rules be manipulated to give the impression of ethical publishing? *Bangladesh Journal of Medical Science*, *16*(4), 610-614. DOI: 10.3329/bjms.v16i4.33623 [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2020a). The ICMJE recommendations: challenges in fortifying publishing integrity. *Irish Journal of Medical Science*, *189*(4), 1179-1181. DOI: 10.1007/s11845-020-02227-1 [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2020b). Ethical considerations of the Andrra Qielli "sting" by Albana Berisha Qehaja. *International Journal of Research in Business and Social Science*, *9*(6), 289-290. DOI: 10.20525/ijrbs.v9i6.925 [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2020c). Is there a need for creators of imaginary authors to face legal consequences? *Croatian Medical Journal*, *61*(6), 561-563. DOI: 10.3325/cmj.2020.61.561 [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2021a). Assessing the ethics of stings, including from the prism of guidelines by ethics-promoting organizations (COPE, ICMJE, CSE). *Publishing Research Quarterly*, *37*(1), 90-98. DOI: 10.1007/s12109-021-09784-y [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2021b). Personal conflicts of interest in the publishing enterprise: focus on journal editors. *Central Asian Journal of Medical Hypotheses and Ethics*, *2*(4), 215-221. DOI: 10.47316/cajmhe.2021.2.4.05 [Accessed: August 25, 2022].

Teixeira da Silva, J. A. (2021c). Challenges that early career researchers face in academic research and publishing: pre- and post-COVID-19 perspectives. *Exchanges*, *9*(1), 77-106. DOI: 10.31273/eirj.v9i1.882 [Accessed: August 25, 2022].

Teixeira da Silva, J. A., & Al-Khatib, A. (2016). Questioning the ethics of John Bohannon's hoaxes and stings in the context of science publishing. *KOME*, *4*(1), 84-88. DOI: 10.17646/KOME.2016.16 [Accessed: August 25, 2022].

Teixeira da Silva, J. A., & Al-Khatib, A. (2017). How are editors selected, recruited and approved? *Science and Engineering Ethics*, *23*(6), 1801-1804. DOI: 10.1007/s11948-016-9821-y [Accessed: August 25, 2022].

Teixeira da Silva, J. A., & Dobránszki, J. (2018). Editors moving forward: stick to academic basics, maximize transparency and respect, and enforce the rules. *Recenti Progressi in Medicina*, *109*(5), 263-266. DOI: 10.1701/2902.29244 [Accessed: August 25, 2022].

Teixeira da Silva, J. A., Moradzadeh, M., Adjei, K. O. K., Owusu-Ansah, C. M., Balehegn, M., Faúndez, E. I., Janodia, M. D., & Al-Khatib, A. (2022). An integrated paradigm shift to deal with "predatory" publishing. *The Journal of Academic Librarianship*, *48*(1), 102481. DOI: 10.1016/j.acalib.2021.102481 [Accessed: August 25, 2022].

Teixeira da Silva, J. A., & Tsigaris, P. (2018a). What value do whitelists and blacklists have in academia? *The Journal of Academic Librarianship*, *44*(6), 781-792. DOI: 10.1016/j.acalib.2018.09.017 [Accessed: August 25, 2022].

Teixeira da Silva, J. A., & Tsigaris, P. (2018b). Academics must list all publications on their CV. *KOME*, *6*(1), 94-99. DOI: 10.17646/KOME.2018.16 [Accessed: August 25, 2022].

Wager, E., Kleinert, S. & on behalf of the CLUE Working Group. (2021). Cooperation & Liaison between Universities & Editors (CLUE): recommendations on best practice. *Research Integrity and Peer Review*, *6*, 6. DOI: 10.1186/s41073-021-00109-3 [Accessed: August 25, 2022].

Web Archive, 2022. *Global Journal of Addiction & Rehabilitation Medicine: Editorial Board*. Available at: https://web.archive.org/web/20170603024316/https://juniperpublishers.com/gjarm/editorialboard.php [Accessed: August 25, 2022].

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Endnotes

[i] https://en.wikipedia.org/wiki/Fraud (although we recognize that some scholars do not encourage the use of Wikipedia as a reliable source of information, for this purpose, i.e., to broadly introduce the concept of fraud, we feel that this collection of sources, including academic papers, offers ample coverage for highlighting this term within our paper). [Accessed: August 25, 2022].

[ii] http://www.perthnow.com.au/news/western-australia/the-perth-dog-thats-probably-smarter-than-you/news-story/a4de0d201ce420e0302c69532a399419 [Accessed: August 25, 2022].

[iii] https://www.perthnow.com.au/news/wa/the-perth-dog-thats-probably-smarter-than-you-ng-a4de0d201ce420e0302c69532a399419 [Accessed: August 25, 2022].

[iv] We do not exclude the possibility that Business Insider may have made an error with one journal title.

[v] http://www.icmje.org/journals-following-the-icmje-recommendations/ [Accessed: August 25, 2022].

[vi] https://www.ecronicon.com/journals.php [Accessed: August 25, 2022].

[vii] https://austinpublishinggroup.com/open-access-journals.html [Accessed: August 25, 2022].

[viii] https://www.peertechzpublications.com/journals [Accessed: August 25, 2022].

[ix] https://juniperpublishers.com/journals.php [Accessed: August 25, 2022].

[x] http://www.icmje.org/news-and-editorials/fake_predatory_pseudo_journals_dec17.html [Accessed: August 25, 2022].

[xi] https://www.timeslive.co.za/news/2017-06-18-a-staffordshire-terrier-has-worked-her-way-onto-the-boards-of-7-international-medical-journals/ [Accessed: August 25, 2022].

[xii] https://www.thetimes.co.uk/article/ollie-the-dog-awarded-phd-in-medical-research-vetting-test-rtbqm6g6b [Accessed: August 25, 2022].

[xiii] We remind readers that at the time of application, the 'individual' that was applying for the position of an editor was in fact a dog (or more precisely, the owner of the dog). It is thus likely that, in the application, there was no reference to a dog, i.e., a fake editor who used the dog's name was appointed.

[xiv] See for example the website of EC Pulmonary and Respiratory Medicine https://www.ecronicon.com/ECPRM.php [Accessed: August 25, 2022].

[xv] Figure 1: A fake editor ('Dr.' Olivia Doll), in that it is a dog in reality, affiliated with a fake institute (Subiaco College of Veterinary Science), and using a photo of the Australian pop-star, Kylie Minogue, continues to be listed on the editorial board of Psychiatry and Mental Disorders, published by Global Scientific Library, a journal that ceased publication after only a single volume/issue (A). In another case, 'Dr.' Doll was briefly listed as an Associate Editor of Global Journal of Addiction and Rehabilitation Medicine, published by Juniper Publishers (B). The veracity of other editors and of other aspects of these journals and publishers were not assessed. Screenshot date: March 27, 2022. Sources: (**GSL Publishers, 2022; Web Archive, 2022**).

[xvi] https://docs.google.com/spreadsheets/d/183mRBRqs2jOyP0qZWXN8dUd02D4vL0Mov_kgYF8HORM/edit#gid=1650882189 [Accessed: August 25, 2022].

[xvii] https://www.insidehighered.com/news/2019/01/08/author-recent-academic-hoax-faces-disciplinary-action-portland-state [Accessed: August 25, 2022].

[xviii] http://ethicscodescollection.org/ [Accessed: August 25, 2022].

[xix] For COPE: https://publicationethics.org/resources/guidelines-new/principles-transparency-and-best-practice-scholarly-publishing; for the DOAJ: https://blog.doaj.org/2018/01/15/principles-of-transparency-and-best-practice-in-scholarly-publishing-version-3/; for OASPA: https://wame.org/principles-of-transparency-and-best-practice-in-scholarly-publishing; for WAME: https://wame.org/principles-of-transparency-and-best-practice-in-scholarly-publishing [Accessed: August 25, 2022].

[xx] http://www.businessinsider.com/meet-ollie-the-australian-dog-now-peer-reviewing-academic-papers-for-international-journals-2017-5 [Accessed: March 25, 2022].

[xxi] Attempts to access the last two journals published by JSMCentral LLC (https://smjournals.com/) returned this warning (Chrome, Explorer and Firefox browsers): 'Attackers might be trying to steal your information from smjournals.com (for example, passwords, messages, or credit cards). Learn more…'

[xxii] The last two listed journals can no longer be found. They are indicated as one journal entitled *Journal of Alcohol and Drug Abuse/Alzheimer's* and *Parkinsonism: Research and Therapy* according to two sources: https://www.cuteness.com/13707807/heres-how-this-dog-became-the-editor-of-several-medical-journals and https://www.businessinsider.com/meet-ollie-the-australian-dog-now-peer-

reviewing-academic-papers-for-international-journals-2017-5. [Accessed: March 25, 2022]. Hence the discrepancy in numbers (seven versus eight). Thus, seven journals accepted the fake (dog) editor.

[xxiii] This journal is listed according to this source (see Fig. 1A; https://gslpublishers.org/journals/editorial-board.php?title=psychiatry-and-mental-disorders#journals/editorial-board.php?title=) but not according to Business Insider. [Accessed: March 25, 2022].

[xxiv] This journal is listed according to this source (https://www.modernhealthcare.com/article/20171209/NEWS/171209892/public-health-expert-submits-dog-for-spots-on-medical-journal-editorial-boards) but not according to Business Insider. [Accessed: March 25, 2022].

Distributional Thinking about Film Style: Quantile comparisons of motion picture shot length data

Nick Redfern

Independent scholar, United Kingdom
Correspondence: nickredfernres@outlook.com
ORCID: 0000-0002-7821-2404

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Abstract

This article illustrates the use of quantiles as a means of describing and comparing motion picture shot length distributions. This approach is conceptually and computationally simple and leads us to think distributionally about shot lengths rather than focusing on individual values. The result is a better understanding of how this element of film style of two (or more) films differs.

Keywords: Computational film analysis; statistical literacy; film editing; shot length distribution; quantiles

Introduction

In this article, I demonstrate the use of quantiles as a conceptually and computationally simple approach to describing and comparing shot lengths in motion pictures. This approach has been overlooked to date in the quantitative analysis of film style, but it is one that results in a better understanding of how the editing style of two (or more) films differs.

This article is aimed at researchers who wish to apply quantitative methods to shot length data derived from motion pictures and introduces the core concepts of distributional thinking about shot length data using quantiles. I include technical details so that readers can understand the derivation of the statistics presented, but a quantile-based approach is a simple and intuitive way of describing and comparing shot lengths. It is no more conceptually difficult than the average shot length (ASL) but avoids the methodological pitfalls of the latter. I present two case studies that illustrate using quantiles to compare shot lengths in two films and in two groups of films. An online tutorial is available for those who would like to apply the quantile-based methods demonstrated here (see Supplementary material).

Computational Analysis of Motion Picture Editing

Computational film analysis (CFA) is a field of inquiry within the digital humanities that aims to understand the formal properties of the cinema (**Burghardt, et al., 2020; Heftberger, 2018**), and exists as a network of interconnected systems weaving together a specialist domain knowledge of a phenomenon of interest in the humanities (the cinema), knowledge about the design, execution, and validation of research projects, competencies in the use of quantitative methods to collect and analyse data, and competencies in the application of computational tools to process that data (**Redfern, 2020a**). Computational film analysis is more than the statistical analysis of film style. Although CFA employs statistical methods, it inherits a broader outlook on what is possible with quantitative methods and computational tools from data science to embrace exploratory data analysis, statistical modelling, machine learning, data visualization, and computer programming to tell the story of the data. CFA falls within the scope of greater data science described by David Donoho (**2017**), which comprises the tasks of data gathering, preparation, and exploration; data representation and transformation; computing with data; data modelling; data visualization and presentation; and science about data science. Applications of CFA cover a wide range formal and stylistic elements of motion pictures, including scripts (**Del Vecchio, et al., 2021**), dialogue (**Hołobut & Rybicki, 2020**), social networks (**Weng et al. 2009**), colour (**Chen, et al., 2012**), shot scales (**Svanera, et al., 2019**), visual

content (**May & Shamir 2019**), documentary 'voice' (**Villanueva Baselga, et al., 2021**), and sound design (**Redfern, 2020b**).

A common application of quantitative methods to the analysis of film style is to determine if the duration of shots in two (or more) motion pictures or two (or more) groups of films differ, and, if so, by how much. This has been applied in a wide variety of cases. Cutting, et al **(2010)** analysed the shot lengths of 150 Hollywood films and showed an increasing tendency of shot lengths to cluster into sequences of shorter and longer takes over time from 1935 to 2005. Redfern (**2020c**) identified differences in the durations of shots in classical and post-classical Hollywood and showed that animation films are stylistically distinct from other genres irrespective of when they were produced. Schaefer and Martinez (**2015**) tracked changes in shot duration in US television news from 1969 to 2005; and Redfern (**2014a**) compared shot lengths in British television news in relation to broadcast time and content. Kim and Lee (**2020**) analysed shot lengths and their relationship to emotion in Korean television series; while Butler (**2014**) analysed shot duration in American television sitcoms, reporting a statistically significant difference between shot lengths in single-camera and multi-camera productions. Baxter, et al. (**2017**) compared shot lengths in the films of Mack Sennett, Charlie Chaplin, and D. W. Griffith, identifying differences in style between filmmakers whose use of editing evolved over time.

One approach to comparing shot durations in motion pictures is to ask:

> *Question 1: how does the typical shot length in film X compare to the typical shot length in film Y?*

Answers to this question are typically presented as a comparison of the films' respective cutting rates as measured by their average shot lengths (ASLs), which describes the mean waiting time between cuts (**Salt, 1974, 1992**). The size of the difference between average shot lengths of *X* and *Y* is conventionally interpreted as the difference in style between *X* and *Y*. This is the dominant approach used in statistical analyses of film style and film scholars such as Salt (**1992**), Bordwell (**2002**), Buckland (**2006**), O'Brien (**2009**), Roggen (**2019**), and Vyas and Shekhawat (**2021**), amongst many others. All rely on the ASL as a means of describing differences in editing style – and in many cases, exclusively so. The Cinemetrics database (http://www.cinemetrics.lv) led by Yuri Tsivian (**2009**) aims to reveal patterns in editing over time and between different groups of films by comparing the average shot durations in a database containing shot length data on over twenty thousand motion pictures (including films, television programmes, adverts, etc.). A key problem with this approach is that differences in ASLs do not necessarily reflect differences in style. For example, Barry Salt challenges Andrew Sarris's claim that Lewis

Milestone's *The Front Page* (1931) is edited more quickly than *His Girl Friday* (1940), arguing that this is not in fact the case because both films have the same ASL whilst also pointing out they are not stylistically similar: 'The average shot length of both movies is the same; however, the Milestone film achieves this by having a larger number of very short shots and a larger number of very long shots' (**Salt, 1974: 18**).

An alternative way to address this problem is to systematically compare all the shot lengths in two films and to ask:

> *Question 2: do the shots in film X tend to be longer than shots in film Y?*

Redfern (**2014b**) described a dominance statistics approach to answering this question, using Cliff's *d* to describe the extent to which shots in one film are likely to be of longer duration than shots in another films, and the Hodges-Lehmann Difference (HLD), which is the median of the pairwise differences between the shots in two films, to estimate the size of this difference in seconds. These statistics describe global differences between the duration of shot lengths in films and do not identify the nature of these differences, though this can be addressed by use of the empirical cumulative distribution function as a graphical method for comparing all the shot lengths in the two films to identify where differences lie.

In both of the above cases, it was necessary to refer to the distribution of shot lengths to contextualise the meaning of the summary measures used. It therefore makes sense to begin any comparison of motion picture shot length by thinking *distributionally* about differences in film style and focussing on shot length data as a collective entity rather than individual data values. We can therefore ask:

> *Question 3: how do shot lengths in specific parts of their respective distributions compare between films?*

The rest of this article demonstrates a quantile-based approach to answering this question.

Distributional Thinking

A *data set* comprises a collection of pieces of related information produced by measuring some properties of a group of objects. A data set is characterised by *variation*, which, in simple terms, is the quality of a measured property of an object to vary (**Makar & Confrey, 2005**). Chris Wild argues that the need for statistics flows from variation: 'the statistical response to variation is to investigate, disentangle, and model patterns of variation in order to learn from them. Virtually all of the ways statisticians do this involve looking at the data through a lens which is distribution' (**Wild, 2006: 21**). A *distribution* is a representation of the variation of a data set that allows us to organise and examine data efficiently to gain an

overall understanding of how the data varies. Aisling Leavy argues that an understanding of distribution requires 'an awareness of the propensity of a variable to vary and comprehension of how that variability contributes to the notion of the distribution as an aggregate rather than a collection of individual data points' (**Leavy, 2006: 90**). *Distributional thinking* is quantitative reasoning about variation, distribution, and the relationship between them (**Bakker & Gravemeijer, 2004; Prodromou, 2007**).

When we talk about the distribution of a data set, we need to describe a range of features, including the overall shape of the distribution and any deviations from the overall pattern. To describe a distribution, we need to ask the following questions about its various features:

- *centre*: where is the mass of the data located? Where is the centre of the data located? What is the typical value of a data set?
- *spread*: how much variability is there in the data set?
- *symmetry (skewness)*: is the distribution symmetrical? Is the bulk of the data to the left of the distribution with a long right tail (positively skewed)? Or is the bulk of the data to the right of the distribution with a long left tail (negatively skewed)?
- *modality*: how many peaks does the distribution have?
- *peakedness*: is the shape of the peak(s) flat and broad or tall and pointed?
- *tailedness (kurtosis)*: how much of the data is located in the tails of the distribution relative to the centre?
- *outliers*: are there any deviations from the overall pattern of the data? Are there observations that are noticeably distinct from the bulk of the data?

In attending to these features, we attempt to account for the variation in a data set that deals with its complexity that may arise in a range of different situations.

In talking about the editing of motion pictures, a data set comprises the duration of each shot in the film – the variable of interest – and a *shot length distribution* is the way in which we think and talk about that data and how we compare different data sets for different films. However, if we look at the common applications of statistics to questions of film editing, we see that concepts of 'variation' or 'distribution' are seldom present. Distributional thinking of the sort Wild and Leavy describe as fundamental to statistical reasoning about data is rarely a part of the statistical analysis of film style. At present, most descriptions in the

literature on film style do not address the features of shot length distributions, relying on comparisons of ASLs alone. Most researchers applying statistical methods to the analysis of style in the cinema in fact collect no data and never produce a shot length distribution, relying instead on dividing the running time of a film by the number of shots. Consequently, they are unable to provide any information about the shot length data for a film beyond the ASL. Even when researchers do collect the full data set on shot durations for a film, they only report the ASL and ignore other features of shot length distributions that are potentially interesting, such as the variability of the data or the shape of the shot length distribution. Only a small proportion of the literature addresses features of shot length distributions beyond the ASL (see, for example, **Baxter et al., 2017; Fujita, 1989; Kohara and Niimi, 2013**; and **Redfern, 2020c**). The result is that a lack of distributional thinking characterises the most applications of quantitative methods to the analysis of film style.

Quantiles

A conceptually simple method of describing and comparing shot length distributions is to use the quantiles of the distributions. A *quantile* (Q_p) is a cut point dividing a data set arranged in order from the smallest value to largest so that a specified proportion p of the data set lies below that point (see **Altman and Bland, 1994**). The p-th quantile of a data set is found using the quantile function

$$Q_p=\{x: Pr(X \leq x) = p\}$$

The quantile function is the inverse of the empirical cumulative distribution function, which is the probability that the duration of a shot is less than or equal to some specified value. These functions are different representations of the same information, but, for the purposes of analysing shot length distributions, the quantile function is preferable because its output is expressed in terms of the information that interests the researcher – the p-th quantile of a data set is x seconds – rather than as a probability. Commonly used quantiles are the median ($Q_{0.5}$) of a data set, dividing the range into two equal parts, or the lower ($Q_{0.25}$) and upper quartiles ($Q_{0.75}$) that cut off the lower and upper 25% of a data set, respectively, but quantiles for any value of p can be used. There is one less quantile than the numbers of groups created by dividing a data set into subsets of equal size: to divide a data set into 20 equal parts we need 19 quantiles. In calculating a set of quantiles for a data set a 'quantile profile' is produced that summarises that data set (**Johnson et al., 2015**), and which can then be used to compare two or more data sets. The use of quantiles to systematically compare two distributions can be implemented via a shift function that plots the difference between the differences

between the quantile profiles of the distributions (see **Doksum, 1974; and Rousselet, et al., 2017**).

Descriptive statistics are 'indices' of a distribution (Leavy 2006), summarizing data sets using a small number of features that make large data sets manageable. The features of a shot length distribution listed above can be described in terms of its quantiles. The median shot length is a measure of location, while the interquartile range (the difference between the upper and lower quartiles: $Q_{0.75} - Q_{0.25}$) describes the spread of a distribution. The symmetry of a distribution is described by the skewness coefficient,

$$S = \frac{Q_{0.25} + Q_{0.75} - 2Q_{0.5}}{Q_{0.75} - Q_{0.25}}$$

which takes on values between -1 and 1. Values of S greater than 0 indicate positive skewness, which is typical for motion picture shot length distributions. The kurtosis of a distribution can also be described in terms of quantiles:

$$T = \frac{(Q_{0.875} - Q_{0.625}) + (Q_{0.375} - Q_{0.125})}{Q_{0.75} - Q_{0.25}}$$

Kurtosis measures the combined weight of the mass of data in the tails of a distribution relative to its centre, with higher values of kurtosis indicating there are a lot of data points in the tails. For *T*, the two terms in the numerator measure the combined weight of the shoulders of a distribution while the denominator is the IQR, which describes the middle of the distribution. The terms in the numerator will be large if relatively more data is located in the shoulders than in the centre of a distribution resulting in higher values of *T* (**Moors, 1988**). Taken together, these four statistics – media, interquartile range, quantile skewness, and quantile kurtosis – provide an informative, intuitive, and robust numerical summary of the distribution of shot lengths in a motion picture. These numerical descriptions do not require any assumptions to be made about possible models for a shot length distribution.

There are multiple methods for calculating the quantiles of a data set. Here I use the Harrell-Davies estimators produced using the hdquantile function in the Hmisc package (**Harrell, 2021**) for the statistical programming language R (**R Core Team, 2021**).

Comparing shot lengths in two films using quantile differences

To illustrate the use of quantiles when comparing the shot length distributions of two films, I analyse two Laurel and Hardy films: *You're Darn*

Tootin' (1928) and *Hog Wild* (1930). **Table 1** summarises the distributions numerically and **Figure 1** presents the kernel density plots of the shot lengths distributions in these films. From **Figure 1** we see that the distribution for *Hog Wild* is more positively skewed, which is confirmed by its larger quantile skewness, and has a sharper, higher peak compared to the broader, flatter peak of than that of *You're Darn Tootin'*. It also has more mass concentrated in the tails of its distribution: this can be seen in **Figure 1** where the density of the tails is greater than in *You're Darn Tootin'* and is also indicated by its greater quantile kurtosis in **Table 1**. Although these films have similar interquartile ranges, *Hog Wild* has a greater range due to the presence of shorter shots in the lower tail and longer shots in the upper tail. A key difference between these distributions is therefore the difference between their respective tails. Overall, we see that shot lengths in *Hog Wild* are more varied than those in *You're Darn Tootin'*; and that *Hog Wild* tends to be edited more quickly, with more shots of shorter duration and a high density of shots at approximately 2 seconds duration compared to *You're Darn Tootin'*, whilst at the same having shots of greater duration. *You're Darn* Tootin' is less diverse stylistically, with shots concentrated more evenly within a narrower range of lengths. Interestingly, **Figure 1** shows both films have a bump in the upper tail at around 24 seconds that is not captured by any of the numerical summaries, and which may be of interest. This illustrates the importance of using graphical displays when talking about shot length distributions.

If we ask question 1 – how does the typical shot length in *You're Darn Tootin'* compare to the typical shot length in *Hog Wild*? – we find that these two films both have an ASL of 6.6 seconds, which is interpreted as there being no difference in cutting rate according to the conventional use of ASLs. However, **Figure 1** shows that while these films may have the same ASL, they have different shot length distributions indicating there are differences in the style of these films that are not captured by any of the statistics commonly used to compare shot lengths.

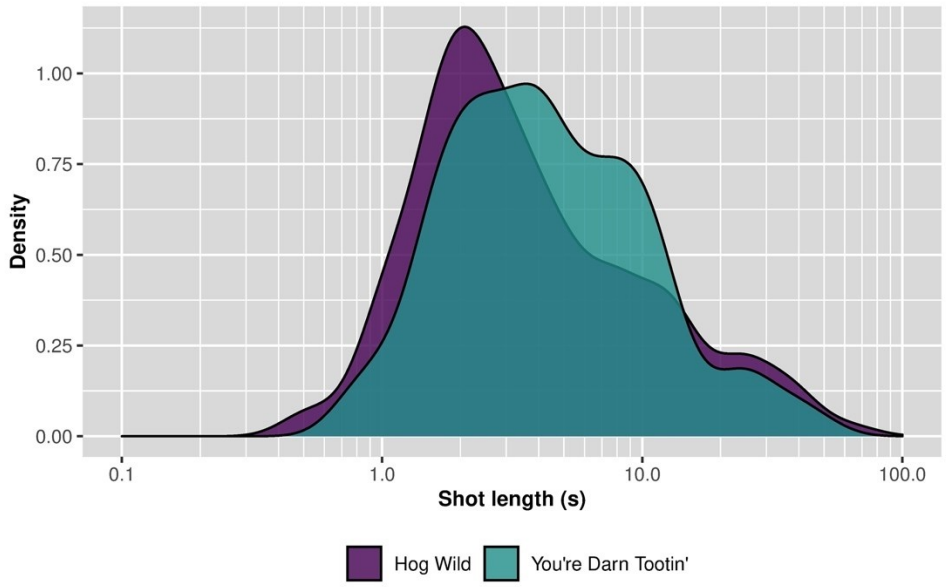
Turning to question 2 – do the shots in *You're Darn Tootin'* tend to be longer than shots in *Hog Wild*? – we find that by calculating the pairwise differences between every shot in these films by subtracting the length of each shot in *You're Darn Tootin'* from the length of each of shot in *Hog Wild*, the Hodges Lehman difference between the distributions is HLD = -0.6s and Cliff's d = -0.13, indicating the duration of shots in *Hog Wild* tends to be slightly shorter overall than those in *You're Darn Tootin'*. These statistics have captured an aspect the difference between these shot length distributions at a global level; however, they provide no information about other differences in which we might be interested. Like the ASL, they tell us nothing about the shape of the distributions and do not tell us how specific parts of the distributions of these two films differ.

To answer question 3 – how do shot lengths in specific parts of their respective distributions compare between *You're Darn Tootin'* and *Hog Wild*? – I plot the quantile profiles for each film (**Figure 2.A**) and the difference between the quantiles of each film (**Figure 2.B**), subtracting the quantiles of *You're Darn* Tootin' from those of *Hog Wild* so that negative differences indicate quantiles for which *You're Darn Tootin'* are greater and positive differences identify quantiles of *Hog Wild* are greater. To simplify this example, I have limited the number of quantiles to 19, ranging from $Q_{0.05}$ to $Q_{0.95}$ and increasing by increments of 0.05, but we could choose any number of quantiles. When we look at the differences of the quantiles of the shot length distributions of these two films, the nature of the differences between the two distributions is immediately apparent. For most quantiles, shot duration in *You're Darn Tootin'* is greater than in *Hog Wild*: this is clear in **Figure 2.A** where the quantile profile of *You're Darn Tootin'* is higher than that of *Hog Wild*. Above quantile $Q_{0.8}$ shots in *Hog Wild* tend to be longer than those in *You're Darn Tootin'*, and in Figure 2.A we see that the quantile profiles have crossed over so that the profile for *Hog Wild* is now above that of the other film.

Table 1: Statistical summary of two Laurel and Hardy films

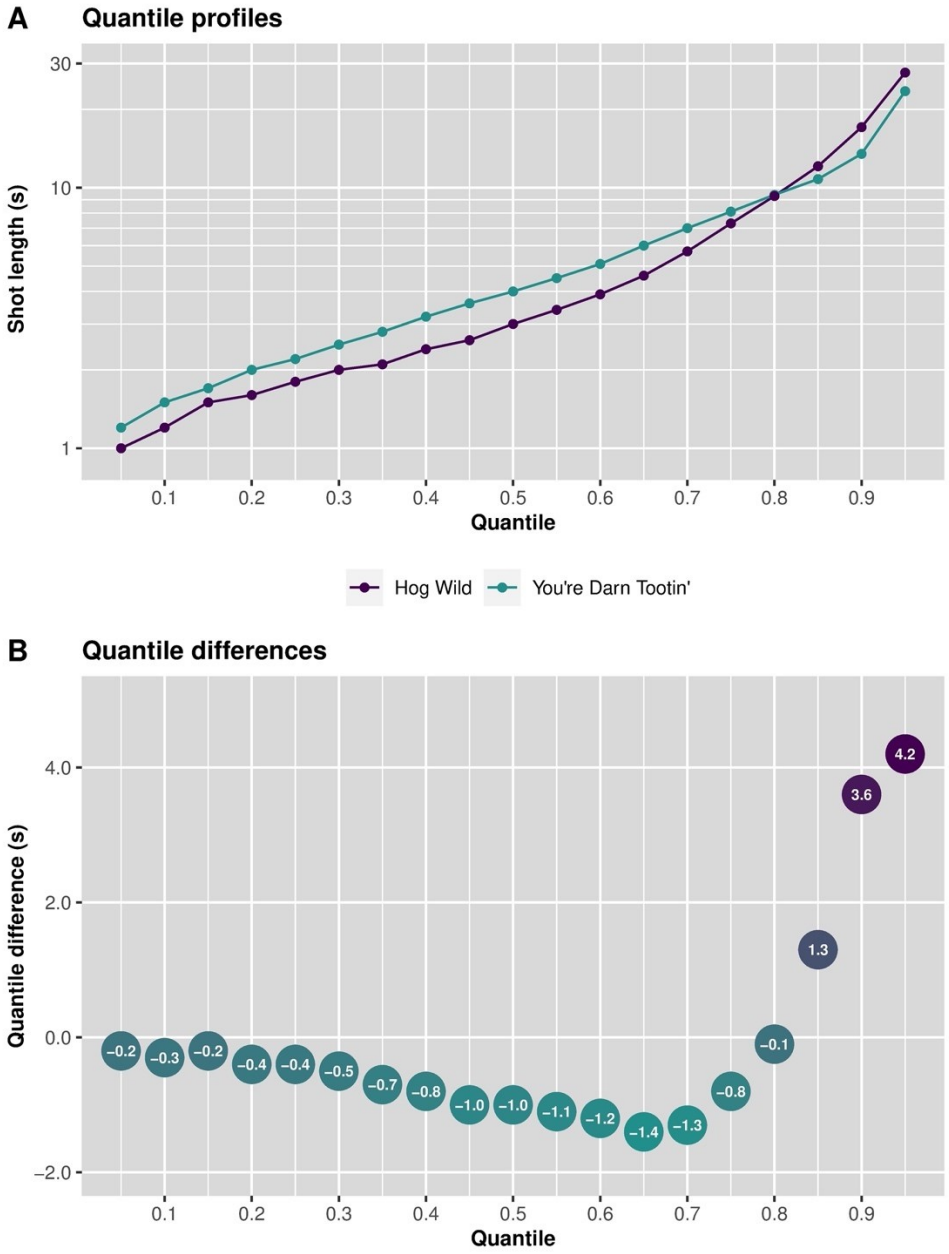
	You're Darn Tootin'	*Hog Wild*
Shots (N)	189	169
Mean (s)	6.6	6.6
Minimum (s)	0.7	0.5
Lower quartiles (s)	2.2	1.8
Median (s)	4.0	3.0
Upper quartile (s)	8.0	7.2
Maximum (s)	49.1	65.1
IQR (s)	5.8	5.4
Quantile skewness	0.39	0.57
Quantile kurtosis	1.28	1.93

Figure 1: Kernel density estimates of shot length distributions of two Laurel and Hardy films: You're Darn Tootin' (1928) and Hog Wild (1930).



If we want to ask the question, 'How do shot lengths in *You're Darn Tootin* compare to those of *Hog Wild*?', then comparing the quantiles of the shot length distributions of these films shows that the difference in editing in these films is more complicated than can be conveyed by comparing their average shot lengths. In this example, it is not clear what the fact these two films have the same ASL means given the differences in their style indicated by their shot length distributions. The dominance statistics approach provides a more accurate global description of the differences in shot lengths of these films but does not automatically lead us to consider the nature of those differences. A key advantage of the quantile approach is that by using this simple method we can identify and talk about the complicated nature of these differences by thinking about shot lengths *distributionally*.

Figure 2: Quantile comparison of shot length distributions in two Laurel and Hardy films: You're Darn Tootin' (1928) and Hog Wild (1930). (A). The quantile profiles for each film. (B).



Note: Quantile differences - negative differences in the above image indicate quantiles for which shots in *You're Darn Tootin'* tend to be of greater duration and positive differences identify quantiles when shots in *Hog Wild* tend to be longer.

Comparing Shot Length Distributions in Two Groups of Films

The quantile method described above can be easily extended to comparing groups of films. To illustrate the comparison of shot lengths distributions of two groups of films based on quantiles I analyse the shot length data for four silent (*The Ring* (1927), *The Farmer's Wife* (1928), *Champagne* (1928), and *The Manxman* (1929)) and five sound films

(*Blackmail* (1929), *Murder!* (1930), *The Skin Game* (1931)*, Rich and Strange* (1931), *Number Seventeen* (1932)) directed by Alfred Hitchcock between 1927 and 1932. I collected shot length data from the *Early Hitchcock* PAL DVD release of these films and corrected the duration of each shot to 24 frames per second by multiplying by a factor of 1.041667. I removed the opening and closing credits from each film, but all other titles are included.

From the quantile-based descriptive statistics in **Table 2**, we see that the four silent films (*The Ring*, *The Farmer's Wife*, *Champagne*, and *The Manxman*) have shot length distributions that are relatively consistent, with similar median shot lengths and spread. With the shift to sound filmmaking in 1929, Hitchcock's early sound films (*Blackmail*, *Murder!*, *The Skin Game*) show an obvious change in editing style with increases in the median as shots tended to become longer in duration and more varied as seen in the change in the interquartile range. There is also a change in the shape of shot length distribution as indicated by the increase in quantile skewness and quantile kurtosis. The greater part of the difference between these early sound films and the silent movies that preceded them is an increase in the spread of shot lengths above the median as dialogue shots required longer takes, while the spread of shots below the median shot length remains largely unchanged. For the later sound films we see a shift to an editing style characterised by shorter takes similar to his silent films but with shot length distributions that are more skewed and kurtose like his first sound films. *Rich and Strange* has a number of rapidly edited montage sequences, such as the Paris sequence or the leisure activities aboard the cruise ship, and a series of drawn-out conversational sequences that are cut more slowly, while *Number Seventeen* is largely comprised of a rapidly cut extended chase sequence in between two slower cut sequences at the house and the harbour, and which again maintains a similar distinction between dialogue-heavy scenes and action.

The summary statistics give us an overall impression of the difference in shot length distributions between Hitchcock's late silent and early sound films, but we do not yet know anything about the nature of that difference. Visualising the distributions by plotting their kernel densities in **Figure 3** gives concrete meaning to the median shot length and interquartile range, as indicated by the quantile lines of each plot, making it clear how the descriptive statistics relate to data and illustrating how shot lengths in *Blackmail*, *Murder!*, and *The Skin Game* are more widely dispersed than those of the other films and how shot lengths initially increase before shortening in duration. The shape of the distribution of shot lengths for *Blackmail* in **Figures 3** and **4.A** resembles the distributions of the silent film in the quartiles of the lower tail and the quartiles of the upper tail of the sound films that followed it. This pattern emerges due to the unique production circumstances of *Blackmail*, which was released in both silent

and sound versions described by Charles Barr as 'works of continuously inventive *bricolage*. Juxtaposing them scene by scene, one registers a set of permutations: points at which variously, (a) both versions use 'silent' visuals; (b) both versions use 'sound' visuals; (c) silent and sound visuals are mixed within a scene; (d) the two films use entirely different visuals' (**Barr, 1983: 123**). The change in distributional shape indicated by the quantile skewness and kurtosis values is evident, with the similarity of shape of the silent films clear to see and the shift in the mass of the data for the sound films in the upper tail of the distribution relative to the centre of the distribution.

While the kernel densities in **Figure 3** make it clear how the shape of the distributions in these films have changed, the quantile profiles in **Figure 4.A** make it easier to see where the distributions differ and the size of those differences. The quantile profiles clearly show that the silent films are much more consistent in the distribution of their shot lengths than the sound films, which exhibit much greater variation in shot length at different quantiles. We can also see evidence of a hybrid editing style: with the exception of one of the sound films (*Blackmail*), Hitchcock's editing style after the introduction of sound meant that takes of shorter duration were slightly shorter than those of his silent films and, at the same time, longer takes in Hitchcock films increased in duration. To compare the quantiles across two groups of films, I subtract the value of the *p*-th quantile of each silent film from the *p*-th quantile of each sound film. With a sample containing four silent films and five sound films we have a total of twenty differences for each quantile, and **Figure 4.B** plots the resulting difference distributions in which a negative difference indicates that the *p*-th quantile for a silent film is greater than the *p*-th quantile for a sound film and a positive difference indicates a greater shot length at the *p*-th quantile in a sound film. From **Figure 4.B** we see that differences at the lower quantiles ($Q_{0.05}$ to $Q_{0.35}$) are centred around negative values, reinforcing the fact that the shorter takes in Hitchcock's sound films tend to be shorter than those in his silent films. At the same time, we see that the distributions of the differences between the upper quartiles lie to the right of zero seconds again showing that the longer takes in the sound films tend be of greater duration than the silent films. As the distribution of differences shows two peaks for quantiles in the range $Q_{0.55}$ to $Q_{0.85}$ we can also identify the presence of sub-groups within the sample, which is accounted for by the second change in Hitchcock's editing style with *Rich and Strange* and *Number Seventeen* and the shift of mass in the distributions to the lower tail that occurs with the use of rapidly edited montage and chase sequences.

Overall, we can see from the changes in the shape of the shot length distributions of his late silent and early sound films that Hitchcock's editing

style changed in two ways with the introduction of synchronised sound. The distribution of shot lengths became much more polarised in Hitchcock's first sound films as shorter shots became shorter and longer takes became longer. However, in the later sound films *Rich and Strange* and *Number Seventeen*, we see a shift to a more rapid editing style with the use of shorter takes in non-dialogue sequences that were not only shorter than those of the early sound films but also shorter than those we see in Hitchcock's late silent films.

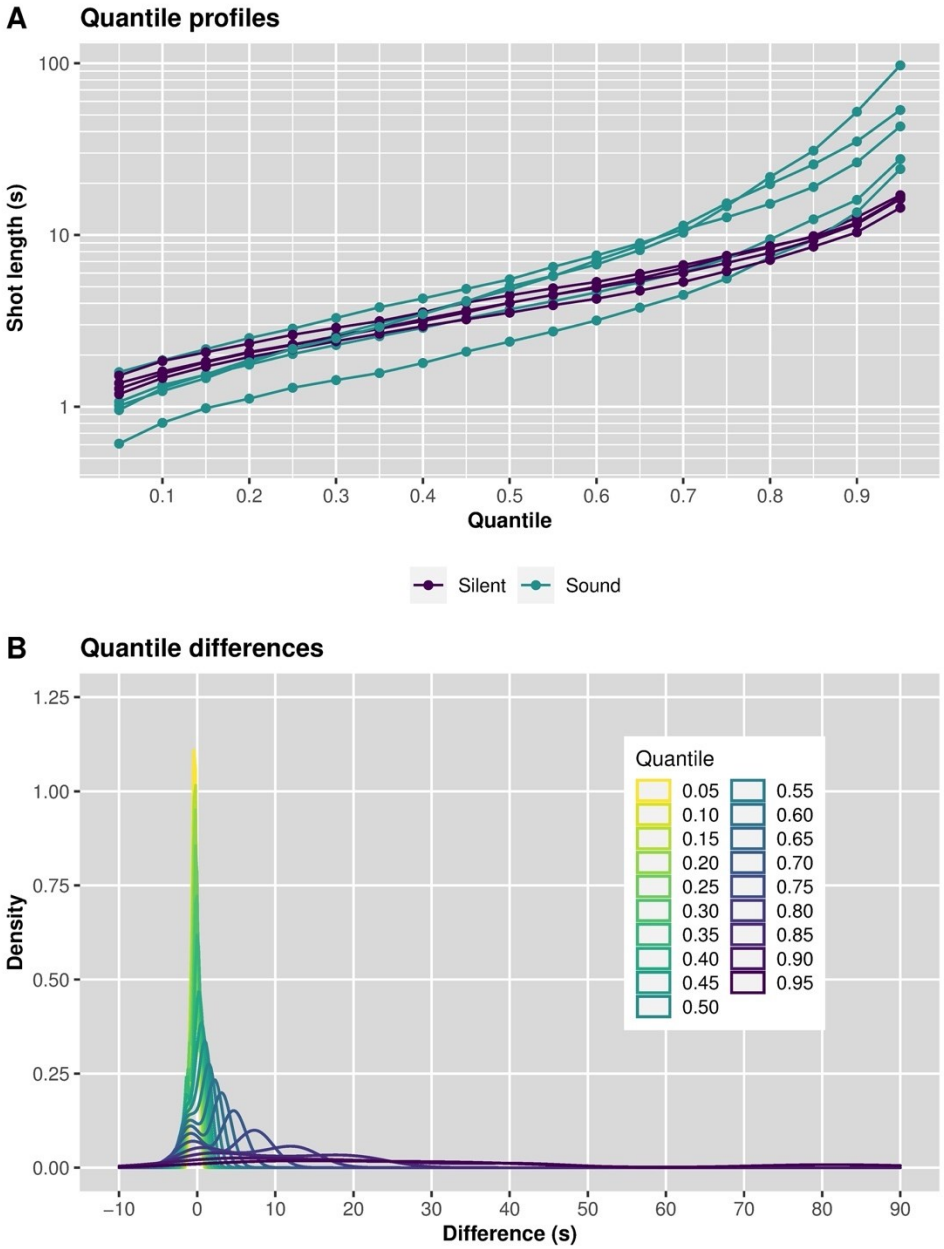
Table 2: Quantile statistics of shot length distributions of films directed by Alfred Hitchcock, 1927-1932

	The Ring (1927)	The Farmers Wife (1928)	Champagne (1928)	The Manxman (1929)	Blackmail (1929)	Murder (1930)	The Skin Game (1931)	Rich and Strange (1931)	Number Seventeen (1932)
Shots (N)	1056	1007	893	808	438	438	269	687	655
Length (s)	5286.62	5786.39	5253.81	4908.10	5025.42	6013.50	4856.66	4885.40	3706.00
Mean (s)	5.01	5.75	5.88	6.07	11.47	13.73	18.05	7.11	5.66
Minimum (s)	0.04	0.25	0.04	0.60	0.92	0.50	0.80	0.20	0.10
Lower quartile (s)	2.16	2.30	2.28	2.62	2.85	2.17	2.17	2.03	1.29
Median (s)	3.53	4.02	4.02	4.45	5.51	4.79	5.01	3.68	2.39
Upper quartile (s)	6.15	6.87	7.38	7.56	12.67	15.28	14.69	7.26	5.57
Maximum (s)	57.63	78.83	63.71	52.50	148.17	223.90	281.00	79.10	77.70
IQR (s)	3.99	4.57	5.10	4.94	9.82	13.11	12.52	5.24	4.28
Quantile skewness	0.32	0.25	0.32	0.26	0.46	0.60	0.55	0.37	0.49

Quantile kurtosis	1.48	1.39	1.40	1.30	1.63	1.86	2.60	1.93	1.94

Figure 3: Shot length distributions of films directed by Alfred Hitchcock, 1927-1932. The quantile lines in each density plot show the lower quartile (Q0.25), median (Q0.5), and upper quartile (Q0.75) of each distribution.

Figure 4: A) Quantile profiles of shot length distributions of films directed by Alfred Hitchcock, 1927-1932. (B) Difference distributions for pairwise differences between quantiles of shot length distributions of films directed by Alfred Hitchcock, 1927-1932.



Note: Positive differences in the images above indicate that quartiles the sound films in the sample are higher than those of the silent films.

Conclusion

In this article I demonstrated that the problem of comparing the duration of shots in two or more motion pictures can be approached from a range of different perspectives, but that whichever approach is adopted, distributional thinking is essential. However, at present distributional thinking about motion picture shot lengths remains uncommon due to overreliance on the ASL. Inferences about ASLs tell us nothing the

distribution of shot lengths in motion pictures or about what differences in style may exist between films; while the common practice of counting the number of shots in a film and dividing by the running time of a film to calculate the ASL is, in effect, to put one's faith in statistics in the absence of data. Even those resources that do make shot length data available to researchers, such as the Cinemetrics database, report only a handful of summary statistics and rely heavily on the ASL.

A strictly quantitative approach will never be enough to analyse the style of a motion picture – not every question we wish to ask about style in the cinema requires the application of quantitative methods and not every element of film style is quantifiable. Statistical analyses of shot length distributions will only answer questions about shot length distributions and so the methods demonstrated here will typically be employed in a context that employs both qualitative and quantitative methods. But if film scholars are to apply statistical methods to questions of film style, those methods should illuminate our understanding and be methodologically sound. If our goal is to understand differences in shot lengths as differences in style between films, the quantile approach described in this article is simple and intuitive to understand and accurately describes the nature of the differences between these shot length distributions and the size of those differences. Most importantly, it is founded in distributional thinking.

Supplementary Material

A tutorial demonstrating how the summaries and plots presented in this paper were produced using the R statistical programming language is available for those who would like to use these methods in their own research. Access the tutorial here: https://rpubs.com/nr62_rp33/SL-quantiles.

Nick Redfern has been teaching and researching about film since 2001. He has taught film, media, and television studies at Manchester Metropolitan University, the University of Central Lancashire, and Leeds Trinity University. His work on computational film analysis has been published in the *Journal of Japanese and Korean Cinema*, *Statistica*, *Journal of Data Science*, *Post Script*, *Digital Scholarship in the Humanities*, *Umanistica Digitale*, *Acta Universitatis Sapientiae: Film and Media Studies*, *Research Data Journal for the Humanities and the Social Sciences*, and *Music, Sound, and the Moving Image*. You can read more about computational film analysis at https://computationalfilmanalysis.wordpress.com.

Tables

Images

References

Altman D. G., and Bland, J. M., 1994. Statistics notes: quartiles, quintiles, centiles, and other quantiles. *BMJ*, 309, p. 996. DOI: 10.1136/bmj.309.6960.996. [Accessed: 1 May 2021].

Bakker, A., and Gravemeijer, K. P., 2004. Learning to reason about distribution. *In* Ben-Zvi, D. and Garfield, J., eds., *The Challenge of Developing Statistical Literacy, Reasoning and Thinking*. Springer: Dordrecht, pp. 147-168.

Barr, C., 1983. *Blackmail*: silent and sound. *Sight and Sound*, 52 (2), pp. 123-126.

Baxter, M., Khitrova, D., and Tsivian, Y., 2017. Exploring cutting structure in film, with applications to the films of DW Griffith, Mack Sennett, and Charlie Chaplin. *Digital Scholarship in the Humanities*, 32 (1), pp. 1-16. DOI: 10.1093/llc/fqv035. [Accessed: 1 May 2021].

Bordwell, D., 2002. Intensified continuity visual style in contemporary American film. *Film Quarterly*, 55 (3), pp. 16-28. DOI: 10.1525/fq.2002.55.3.16. [Accessed: 25 February 2022].

Buckland, W., 2006. *Directed by Steven Spielberg: Poetics of the Contemporary Hollywood Blockbuster*. London: Continuum.

Burghardt, M., Heftberger, A., Pause, J., Walkowski, N.-O., and Zeppelzauer, M., 2020. Film and video analysis in the digital humanities – an interdisciplinary dialog. *Digital Humanities Quarterly*, 14 (4). Available at: http://www.digitalhumanities.org/dhq/vol/14/4/000532/000532.html. [Accessed: 25 February 2022].

Butler, J., 2014. Statistical analysis of television style: what can numbers tell us about TV editing? *Cinema Journal*, 54 (1), pp. 25–44. DOI: 10.1353/cj.2014.0066. [Accessed: 25 February 2022].

Chen, I.-P., Wu, F.-Y., and Lin, C.-H., 2012. Characteristic color use in different film genres. *Empirical Studies of the Arts*, 30 (1), pp. 39–57. DOI: 10.2190/EM.30.1.e. [Accessed: 25 February 2022].

Cutting, J. E., DeLong, J. E., and Nothelfer, C. E., 2010. Attention and the evolution of Hollywood film. *Psychological Science*, 21 (3), pp. 432–439. DOI: 10.1177/0956797610361679. [Accessed: 25 February 2022].

Del Vecchio, M., Kharlamov, A., Parry, G., and Pogrebna, G., 2021. Improving productivity in Hollywood with data science: Using emotional arcs of movies to drive product and service innovation in entertainment industries. *Journal of the Operational Research Society* 72 (5), pp. 1110-1137. DOI: 10.1080/01605682.2019.1705194. [Accessed: 25 February 2022].

Doksum, K., 1974. Empirical probability plots and statistical inference for nonlinear models in the two-sample case. *Annals of Statistics*, 2 (2), pp. 267-277. DOI: 10.1214/aos/1176342662. [Accessed: 1 May 2021].

Donoho, D., 2017. 50 years of data science, *Journal of Computational and Graphical Statistics*, 26 (4), pp. 745-766. DOI: 10.1080/10618600.2017.1384734. [Accessed: 25 February 2022].

Fujita, K., 1989. Shot length distributions in educational TV programs. *Bulletin of the National Institute of Multimedia Education*, 2, pp. 102-116.

Harrell Jr, F. E., with contributions from C. Dupont and many others., 2021, Hmisc: Harrell Miscellaneous. R package version: 4.5-0. https://CRAN.R-project.org/package=Hmisc. [Accessed 1 May 2021].

Heftberger, A., 2018. *Digital Humanities and Film Studies: Visualising Dziga Vertov's Work*. Cham: Springer.

Hołobut, A. and Rybicki, J., 2020. The stylometry of film dialogue: pros and pitfalls. *DHQ: Digital Humanities Quarterly*, 14 (4). Available at: http://www.digitalhumanities.org/dhq/vol/14/4/000498/000498.html. [Accessed: 25 February 2022].

Johnson, W. D., Beyl, R. A., Burton, J. H., Johnson, C. M., Romer, J. E., and Zhang, L., 2015. Use of Pearson's Chi-Square for testing equality of percentile profiles across multiple populations. *Open Journal of Statistics*, 5 (5), pp. 412–420. DOI: 10.4236/ojs.2015.55043. [Accessed: 1 May 2021].

Kim, Y., and Lee, S., 2020. Exploration of the characteristics of emotion distribution in Korean tv series: common pattern and statistical complexity. *IEEE Access* 8, pp. 69438–69447. DOI: 10.1109/ACCESS.2020.2985673. [Accessed: 25 February 2022].

Kohara, I., and Niimi, R., 2013. The shot length styles of Miyazaki, Oshii, and Hosoda: a quantitative analysis. *Animation*, 8 (2), pp. 163-184. DOI: 10.1177/1746847713487472. [Accessed: 1 May 2021].

Leavy, A. M., 2006. Using data comparison to support a focus on distribution: Examining preservice teacher's understandings of distribution when engaged in statistical inquiry. *Statistics Education Research Journal*, 5 (2), pp. 89-114.

Makar, K., and Confrey, J., 2005. Variation talk: articulating meaning in statistics. *Statistics Education Research Journal*, 4 (1), pp. 27-54.

May, C., and Shamir, L., 2019. A data science approach to movies and film director analysis, *First Monday*, 25 (6). DOI: 10.5210/fm.v24i6.9629. [Accessed: 25 February 2022].

Moors, J. J. A., 1988. A quantile alternative for kurtosis. *Journal of the Royal Statistical Society: Series D (The Statistician)*, 37 (1), pp. 25-32. DOI: 10.2307/2348376. [Accessed: 1 May 2021].

O'Brien, C. 2009. Sous les toits de Paris and transnational film style: an analysis of film editing statistics. *Studies in French Cinema*, 9 (2), pp. 111-125.

Prodromou, T., 2007. The coordination of distributional thinking. Paper presented at the 56th session of the International Statistical Institute. Lisbon, Portugal. Available at: https://iase-

web.org/documents/papers/isi56/CPM80_Prodromou.pdf [Accessed 1 May 2021].

R Core Team, 2021. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. https://www.R-project.org/. [Accessed 1 May 2021].

Redfern, N. 2014a. The structure of ITV news bulletins. *International Journal of Communication* 8, pp. 1557–1578. Available at: https://ijoc.org/index.php/ijoc/article/viewFile/1646/1151. [Accessed 1 May 2021].

Redfern, N., 2014b. Comparing the shot length distributions of motion pictures using dominance statistics. *Empirical Studies of the Arts*, 32 (2), pp. 257-273. DOI: 10.2190/EM.32.2.g. [Accessed 1 May 2021].

Redfern, N. 2020a. What is computational film analysis? Available at: https://computationalfilmanalysis.wordpress.com. [Accessed 25 February 2022].

Redfern, N., 2020b. Sound in horror film trailers. *Music, Sound, and the Moving Image*, 14 (1), pp. 48-71. DOI: 10.3828/msmi.2020.4. [Accessed 25 February 2022].

Redfern, N., 2020c. Modelling shot lengths of Hollywood cinema with the Dagum distribution. *Statistica*, 80 (1), pp. 81-99. DOI: 10.6092/ISSN.1973-2201/9910. [Accessed 25 February 2022].

Roggen, S., 2019. Cutting rates and shot scales in 1950s CinemaScope: a systematic style analysis, *Screening the Past*, 44. Available at: http://www.screeningthepast.com/2019/03/cutting-rates-and-shot-scales-in-1950s-cinemascope-a-systematic-style-analysis/. [Accessed 25 February 2022].

Rousselet, G. A., Pernet, C. R., and Wilcox, R. R., 2017. Beyond differences in means: robust graphical methods to compare two groups in neuroscience. *European Journal of Neuroscience*, 46 (2), pp. 1738-1748. DOI: 10.1111/ejn.13610. [Accessed: 1 May 2021].

Salt, B., 1974. Statistical style analysis of motion pictures. *Film Quarterly*, 28 (1), pp. 13-22. DOI: 10.2307/1211438. [Accessed: 1 May 2021].

Salt, B., 1992. *Film Style and Technology: History and Analysis*, 2nd edition. London: Starword.

Schaefer, R., and Martinez, T., 2009. Trends in network news editing strategies from 1969 through 2005. *Journal of Broadcasting & Electronic Media*, 53 (3), pp. 347–364. DOI: 10.1080/08838150903102600. [Accessed 25 February 2022].

Svanera, M., Savardi, M., Signoroni, A., Kovacs, A. B., and Benini, S., 2019. Who is the film's director? Authorship recognition based on shot features. *IEEE MultiMedia* 26 (4), pp. 43-54. DOI: 10.1109/MMUL.2019.2940004. [Accessed 25 February 2022].

Tsivian, Y., 2009. Cinemetrics, part of the humanities' cyberinfrastructure. *In*: Ross, M., Manfred Grauer, M., Freisleben, B., eds., Digital *Tools in Media Studies: Analysis and Research – An Overview*. Bielefeld: Transcript, pp. 93-100. DOI: 10.25969/mediarep/2558. [Accessed 25 February 2022].

Villanueva Baselga, S., Perez-Montoro, M., and Sánchez, L., 2021. The use of statistics to define taxonomies of film voices: A practical approach to documentary classification. *Visual Communi*cation, 20 (2), pp. 248–270. DOI: 10.1177/1470357219850591. [Accessed 25 February 2022].

Vyas, N., and Shekhawat, S., 2021. Statistical style analysis of Hindi biopics: exploring the genre conventions in recent years. *Quarterly Review of Film and Video*, pp. 1-20. DOI: 10.1080/10509208.2021.1980364. [Accessed 25 February 2022].

Weng, C.-Y., Chu, W.-T., and Wu, J.-L., 2009. RoleNet: movie analysis from the perspective of social networks. *IEEE Transactions on Multimedia*, 11 (2), pp. 256-271. DOI: 10.1109/TMM.2008.2009684. [Accessed 25 February 2022].

Wild, C., 2006. The concept of distribution. *Statistics Education Research Journal* 5 (2): 10-26.

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Critical Analysis of the Electric Vehicle Industry: Five forces and strategic action fields

Pavel Fedotov

Alliance Manchester Business School, University of Manchester, UK
Correspondence: fedorovn19@gmail.com
Twitter: @pfedprog

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Abstract

Global warming and urban pollution have directed public policy towards sustainability and development of cleaner sources of energy. Electric vehicle industry provides a viable trajectory towards energy efficient transportation. From the standpoint of strategic management, we apply the five forces framework that outlines the dynamics in the electric vehicle industry and highlights the relative attractiveness of substitute products in terms of price and available infrastructure. In addition, the paper advances discussion of Porter's widely used Five forces model in strategic management by appropriating the concept of strategic action field that allows for the inclusion of human element. Finally, the paper bridges the gap for refinement and involvement of human element through the application of strategic action fields.

Keywords: strategic management; five forces; electric vehicles; strategic action fields; climate change

Introduction

The exponential development of technology and increasing consumer demand for cleaner energy sources have sparked the green energy revolution as a response to the concerns about global warming and urban pollution. The research of National Research Council (**2006**) indicates that the current climate change acceleration is ten times faster than an average ice-age-recovery warming. Government agencies and major corporations pursue efforts to significantly decrease carbon footprint, for instance, in 2019 UK parliament has passed the net zero greenhouse emissions 2050 target into law.

The transportation is one of the largest contributors of the rising greenhouse emissions accounting for 14% of the total greenhouse gas emissions in 2010 (**United States Environmental Protection Agency, n.d.**). Meanwhile the road transport that includes light and heavy-duty vehicles captures roughly 70% of the total transport emissions (**Statista, 2017**).

The primary energy source of the combustion engine vehicles consists of burning fossil fuels such as coal and petroleum that emit heat-trapping carbon dioxide (CO2). Whereas, electric vehicles, according to the USA's Department of Energy (**n.d.**), all directly produce zero emissions. Union of Concerned Scientists (**2015**) has found out that over the full life-cycle from manufacturing to disposal and accounting for power plant emissions the electric vehicles produce half the emissions when compared to gasoline powered vehicles.

Nevertheless, the adoption of the innovative technology to combat the climate change appears to be relatively slow. In fact, the proportion of electric vehicle sales to the total vehicle sales in 2019 was roughly 3% while the share of the electric vehicles of the global vehicle fleet was estimated at less than 1% in 2020 (**Irle, 2020; Statista, 2020**).

In this paper, an introduction to the strategic management field is provided and the rationale behind Porter's Five Forces framework is discussed. To grasp the core components of the electric vehicle industry and the distribution of the economic value the largest electric vehicle producer in terms of market capital, Tesla, is analysed. Finally, we utilise the strategic action field to expand on the strategic management framework.

The Field of the Strategic Management

An analysis of the rapidly expanding industry that transforms transportation requires an interdisciplinary lens. The field of strategic management is relatively young and elusive, drawing its identity and concepts from finance, psychology and social sciences including

economics, marketing and sociology, provides critical standpoint to assess the electric vehicle industry.

The field contains three main perspectives: resource-based, institutional and industry-based. Resource-based approach inspects how resources of a company at question influence its performance in a competitive market (**Collis & Montgomery, 1995**). The institutional approach primarily takes into account the execution of strategy and how an organization converts its goals into performance (**Mankins & Steele, 2005**). The industry-based perspective fits the task of finding the obstacles for mass adoption of zero emission vehicles as it observes the effectiveness of a company in a competitive environment that can be measured in terms of profits and value created for customers.

The Porter's five forces framework assists in analysing an industry and its performance in terms of profitability. Financial gains provide insights on the health and potential of the industry. For instance, low profitability might indicate underlying structural issues that hinder long-term development. In turn, low profitability may result not only into lower quality, less reliability and higher prices for customers, but also burden the society through expensive subsidies and potential bailouts. In fact, IATA (**2011**) report has shed light on more than a decade wide underperformance of the airline industry with the help of Porter's five forces model.

Five Forces Framework

Michael Porter, a professor at Harvard University, a business strategist and industrial economist, has developed a strategic tool called Five Forces to scan and ultimately assess the long-term profitability of an industry in the competitive environment. The academic has derived ideas for the framework, which was first published in 1979 as How competitive forces shape strategy, from the theory of a firm and industrial organizations to address concerns of managers, stakeholders and governments on characteristics and structure of an industry that sets limits on the capabilities of firms (**Linstead et al., 2009**). The widely practiced model evaluates weaknesses and opportunities of a company's profit potential in term of five dimensions or categories in the external to the firm environment. The Porter's framework brings socio-political context into perspective unlike previous efficiency-based approaches advocated by planning school of thought (**Spender, 2014**). Five forces framework communicates and stimulates fruitful insights into the competitive nature of an enterprise and industry as a whole. By contrasting outputs of the framework, managers can look for the sweet spot in the web of opportunities and threats posed by outside of the firm actors such as suppliers, buyers, direct rivalry firms, substitute products and new

entrants to achieve above-average economic rents. Meanwhile the regulators interested in the development of the industry can identify the weaknesses and sufficient improvements.

Linstead (**2009**) considers Porter's framework as an industry analysis derived from neoclassical economics built on two implicit dimensions. First dimension connects suppliers, that transform raw materials into finished products, to buyers that are willing to exchange money for these items. In the case of electric car industry, the dimension entails such activities as acquisition of raw materials (nickel, cobalt, lithium) and technology (manufacturing robots, patents), manufacturing of intermediate components (lithium-ion batteries, engines) and finished goods (electric vehicles) as well as their ultimate distribution to end customers. The second dimension shows that the production chain can be comprised of different, separate companies that individually constitute only a proportion of the production process. In other words, a single vertically integrated firm can manage the entire production process.

Application of Five Forces Framework

In the original paper Porter (**1979**) suggests analysing competitive environment in terms of five categories and determining their individual and collective influence on the profitability of the industry. The academic in 2008 article titled 'The five competitive forces that shape strategy' has stuck to the five categories briefly expanding on what they entail.

Dobbs (**2014**) acknowledged the inadequate use of the model due to the lack of procedural steps in the original model and further shallow reprints in the popular textbooks. As a best practice he recommended first discussing rivalry within the industry followed by buyers' and suppliers' bargaining power, then analysing threat coming from potential entrants and concluding with the most difficult concept to comprehend, substitutes.

Tesla is the focal company in the application of the framework since it has produced the lion's share of electric vehicles and has the highest market capitalisation among automotive companies of $183 billion as of June 16 2020. The company has been producing fully electric vehicles and electric vehicle powertrain components since it was established in 2003.

The Degree of Rivalry Among Electric Vehicle Producers: Medium

The level of competition among electric vehicle manufacturers is medium as the industry has received dramatic support from government agencies across the world. Meanwhile the rampant development in technology and subsequent cost reduction has attracted companies from the traditional auto industry facing intensive rivalry in the mature industry. However, high

barriers to exit in the traditional sector imply significant capacity that never leaves the auto market. In fact, the auto industry is a vital sector in the United States contributing 3-3.5% to the overall US GDP and employing roughly 5% of the population (**Uzwyshyn, 2012**).

China, the largest electric vehicle market, and developed economies demand stricter regulation on the vehicles with internal combustion engine that improves the relative profitability of the electric vehicle industry. The incentives for electric vehicle industry differ across countries and regions, but the three main types are notable: direct, fiscal and fuel cost savings (**Mock & Yang, 2014**). In the US, the third largest electric vehicle market, the tax credit per vehicle ranges from $2500 to $7500 depending on the vehicle's weight and battery capacity. In China the policies are more aggressive and unorthodox both from the central and local government incentivising efficient transportation. China has restricted investments into manufacturing plants for vehicles with internal combustion engine, in addition to building fast charging infrastructure (**International Environmental Agency, 2019**). In 2017 UBS estimated that the cost of ownership of an electric vehicle could equal the cost of ownership of the traditional vehicle not accounting for any subsidies in 2018 for Europe, in 2023 for China and in 2025 for the US, if all the benefits pass to consumers.

Auto makers compete by making a number of sequential choices about quantity and price. First, a company chooses its capacity by building sizable manufacturing plants. This choice is often set for longer time periods, given time lags in a vehicle delivery and a construction of the necessary infrastructure. For instance, Tesla has built a factory for the production of electric batteries at an approximate cost of $5 billion raising additional funds from investors. Meanwhile, Volkswagen in 2019 has announced €1.2 billion facility redevelopment to support an electric production of 300,000 vehicles per year since 2021 (**Frangoul, 2019**). Second, a business allocates capacity among the range of models. Changes in assortment on existing factories can be made with higher frequency. Third, the companies set prices for each model taking into account the willingness of consumers to purchase the product, supply chain and market dynamics.

When setting capacity, electric vehicle manufacturers are faced with individual incentives to make aggressive choices. Some are related to costs: acquiring more infrastructure potentially leads to higher savings such that operating larger manufacturing plant reduces marginal costs per vehicle, in particular, reducing the cost of a battery pack and powertrain. Others are related to traditional risks in a cyclical auto industry: positive returns of spare capacity in periods of high demand are substantial and fully accrue to managers, while the potential losses in periods of low

demand are constrained by an equity stake. As the industry matures the electric vehicle producing companies could end up acquiring too much capacity and operating too many production facilities that cover only their marginal costs of operation without significant benefits to the stakeholders limiting innovation, quality and efficiency potential.

The Bargaining Power of Buyers: High

The bargaining power of buyers is a moderately limiting force on the industry profitability. The consumers have shifted their preferences and many consider purchasing an electric vehicle: in the US the share of respondents is 10-30%, in Europe 40-60% and in China over 70% (**Baik et al., 2019**). However, Caruana et al. (**2016**) cited consumer attitude and habits studies, which indicated that while around 30 per cent of consumers had concern for the environment, barely 5 per cent translated the intention into an action. Overall, a high purchase price, the lack of range of an electric vehicle and time-consuming re-charging make the electric vehicle ownership relatively less attractive to internal combustion engine vehicles.

The Bargaining Power of Suppliers: Medium

Scale and in-house production of batteries are highly important to reduce the total production cost and to make an attractive offering. Outsourcing constrains the acquisition of expertise and increases pressure on an electric vehicle manufacturer. In case of Tesla, the corporation produces lithium batteries in-house that comprise a third of the vehicle production cost. Munro & Associates have rated efficiency of Tesla battery much higher than of Samsung SDI (BMW i3 electric car supplier) and LG Chem (Chevrolet Bolt supplier).

In 2014 van der Steen et al. conducted a research of E-mobility strategy in eight European countries outlining shallow longer-term government strategic approach, in particular, insufficient charging infrastructure. Nevertheless, Tesla has found a solution by building its own web of charging stations that has further differentiated it from competitors. In addition, a group of traditional auto makers among which is Ford and Daimler have agreed to partner and build a set of stations to cover Europe in accordance with their long-term production plans. Furthermore, McKinsey and Company (**2017**) optimistically projected global charging station deployments to grow from around 2 million in 2016 to over 12 million in 2020.

The key raw materials that enable electric vehicle production and rapid growth of the industry are cobalt and lithium. Companies have signed long-term lithium supply agreements as the extraction process struggles keeping up with an increasing demand. Tesla has four known suppliers of

the mineral. Ganfeng, one of the largest producers of lithium hydroxide in the world, announced in 2018 September that it had an agreement with Tesla to supply the EV maker with 20% of its annual production until 2021, that could also be extended by three years. The second supplier Kidman Resources is a developmental stage company from Australia that is not yet profitable but has a fixed price three-year agreement with two three-year extension options. Two other companies are Pure Energy minerals located roughly 200 miles away from Tesla's Giga Nevada factory, and Sonora Lithium Project in Mexico.

Azevedo et al. (**2018**) estimated that more than 65 percent of global production of cobalt concentrated in the Democratic Republic of the Congo (DRC). In 2020 Tesla has secured 6000 tonnes of cobalt annually from Glencore that produces approximately 4% of cobalt mining globally. The cobalt mining might constrain further expansion of electric vehicle industry as China controls around 70% of the refined cobalt and the poor governance structure in DRC threatens the viability of stable supply of the mineral.

The Threat of New Entrants: Medium

In case of the electric vehicle industry, large capital investments, large spending on research and development, experience in the industry, economies of scale are required to enable the efficient manufacturing. In addition, the industry is not likely to become profitable in a short period of time that makes it difficult to raise funds as initial sunk costs are quite significant. The cheapest vehicle of Tesla, Model 3, costs 35000$ but it is unlikely to bring profits for the company. UBS (**2017**) has estimated that in addition to Model 3 being profitable only if consumers would spend more than $41,000. Besides, Chevrolet Bolt was also destroying value for investors, losing $7000 EBIT per car in 2017.

The threat from new manufacturers entering the market is low. An electric vehicle manufacturer founded in 2009, Rivian, has yet to deliver an electric vehicle despite raising around $4 bn in investments. In addition, Lucid Motors, Byton and Faraday Futures have received substantial funding but are also struggling to deliver an electric vehicle for the end consumers.

Nevertheless, the established automakers have resources and expertise to develop infrastructure for producing electric vehicles. In a time period from April 2019 to April 2020 BMW has achieved 7% market share selling models 530e/Le, i3 and 330e. Meanwhile, Volkswagen has delivered only around 3500 less cars than Tesla in April 2020 and has started production of its ID.3 series in 2019 with expected volume of 300000 cars per year since 2021 (**Pontes, 2020**).

Power of Substitutes: High

A substitute product is the one that consumers see as essentially the same to another product. An availability of cheaper and more efficient substitute products for the electric vehicles erodes profit potential for the industry. Cost conscious consumers could reduce their carbon footprint rather than purchasing Tesla's vehicles, by switching to substantially cheaper substitutes such as public transport, bicycles or not traveling at all. For consumers willing to purchase a vehicle, in general, close substitutes in terms of in the traditional automotive market are plentiful.

Application of Five Forces: Summary

The power of substitute products and bargaining power of buyers are the most significant obstacles to the profitability of the electric vehicle industry. In particular, the relatively small range of electric vehicles, insufficient number of charging stations, relatively long time of charging and high price are likely to shift a consumer to a public transport or a car with internal combustion engine.

The traditional auto makers have a competitive advantage over start-up companies entering the industry as it requires intensive capital and learning curve to produce in the rapidly growing industry of electric vehicles. In fact, Volkswagen and BMW are traditional auto companies that have much better time allocating capacity than companies such as Faraday Futures and Byton. In the long-term the existing capacity in the traditional vehicle industry will likely translate into higher competition leading to constrained profits and opportunity for innovation.

Regulatory effort in Europe, the US and China promotes the adoption of electric vehicles. The latter country has implemented unorthodox policies shifting the power away from internal combustion engine vehicles, but its influence extends to the supply of necessary for production raw minerals such as cobalt. International co-operation and long-term infrastructure projects could further improve the production effectiveness and cost of an electric vehicle.

Limitations of the Five Forces Framework

The industry, the unit of analysis of the Porter's framework, provides a foundation to assess drivers and processes of the firm in the competitive environment, in particular, the pressure coming from suppliers and customers. Porter (**1980**) defines an industry as "the group of firms producing products that are close substitutes for each other". However, in case of Tesla and electric car industry, the conflict lies much deeper as reshaping the traditional car industry would require massive investments,

re-education of workers and phasing out or retooling of the existing infrastructure.

The underlying microeconomic industry structure and concepts such as barriers to entry and exit, substitutes and profit margins provide are unlikely to be disputed by academics and provide a basis for an overview of the firm's environment. However, Coyne and Subramaniam (**1996**) state that underlying assumptions of Five Forces are unrealistic: five categories are unrelated, participants have nearly perfect information on the industry, interactions are fast, while the competitive advantage can be exercised by erecting barriers and building structural advantage. In the current era of rapid technological advances and transformation of boundaries, Porter's all implicit assumptions are unlikely to hold. In addition, the framework does not analyse specific characteristics, past encounters, future projection and power dynamics that are significant influences on an enterprise, strategy creation and its adoption.

Strategic Action Fields

Fligstein and McAdam (**2011**) have developed a general theory of fields to consider collective social life in a context of change and stability, generally practiced within the field of sociology. Strategic action field takes into account individuals, organisations and institutions that together constitute the meso-level social order. These actors maintain a common set of knowledge, positions and hierarchies, in addition to defining legitimate and acceptable behaviour. The competition for obtaining the best position drives the actors while social skill is the method of achieving it. Overall, the theory primarily considers the web of interrelations between actors and how they fit in relation to one another in terms of social, political and economic life.

The electric vehicle industry and its development since its inception can be characterized as a strategic action field constituted by a diverse range of actors: manufacturers of various sizes, sectors and interests, who are involved in the delivery of zero emission vehicles. These companies compete with one another for position, power and resources in the field that is subsidised to a large degree in the leading economies and additionally benefits from support of socially conscious consumers. This field is located alongside traditional car industry and a range of public infrastructure fields that are producing significant positive externalities such as renewable energy plants.

Public goods are primarily dependent on relationship with the state field and state actors that may in different ways influence the inner workings of a field, mediating and disrupting relationships by altering policies and shifting the balance of power by reallocating resources, sometimes establishing and managing markets.

In the electric vehicle industry inside the US Tesla enjoys substantial benefits as an incumbent, in particular, due to being able to dictate the common understanding to the collective. The advantageous position can be attributed to the radical shift in the domain of transport, from internal combustion engine to the one powered by rechargeable batteries. Tesla was the first large company to focus on the electric vehicle industry, hence allowing it to frame the public collective perception of what is a zero emission vehicle.

Governance units have a substantial economic influence in reducing the cost of Tesla's products. Loans and subsidy programs from the American government have largely influenced the evolution of the defined field and the development of Tesla as one of the leaders. Department of energy of the USA and California Alternative energy and advanced transportation financing authority has supported Tesla and conserved the development of the field maintaining the prevailing order. For instance, Department of Energy has granted $465 million in 2009 as Tesla satisfies the goals outlined by the department in reducing greenhouse effect and petroleum reduction.

The business structure of the successful start-up has allowed Tesla to negate significant costs related to inflexible wages that occur in the traditional car industry limiting the restructuring potential of companies. The first-mover advantage has brought the tremendous amount of power to the corporation by cutting the middlemen in form of dealerships and service centres. Tesla was able to control the secondary market of electric vehicles by having the access to the software of the vehicle and controlling the charging infrastructure. Effectively, the company constrains the repair shops from transforming broken vehicles by having the power to label the car as broken and deter from using an official supercharging network.

The development of the social sustainability concept and popularity of environmental, social and governance investments among investors have largely aided electric vehicle industry and Tesla, in particular. For instance, Tesla has experienced difficulties with following the production plan, but nonetheless getting support from businesses community. High-grade corporations such as Walmart and Pepsi have made reservations that cost US$5,000 per vehicle despite the high cost ($150,000-$180,000) of the semi-truck and Tesla's inconsistent production plan.

Conclusion

Porter's Five Forces framework provides structure to evaluate the primary drivers of the electric vehicle industry.

The industry-based perspective brings forth the profitability obstacles within the industry as well as provides a general overview of the socio-political trends in the competitive environment. In particular, the largest profitability threat comes from the substitute products: public transport. Meanwhile, raw material (cobalt and lithium) miners and refiners involved in the production of electric vehicle have potential to gain higher share in the power battle as growing demand might outstrip the available supply due to the bottlenecks in the supply chain and bad governance practices.

Furthermore, the government support which takes the form of direct subsidies and regulation of carbon emissions is the most significant driver of the development of the industry.

The general theory of strategic action fields proposed by Fligstein and McAdam (**2011**) enhances the understanding of the social context and provides an analysis of the area between micro and macro levels that lacks in the Porter's model. The example of Tesla shows that large part of the firm's profit potential depends on the ability to understand cultural context and maintain social connection with public, businesses and government. In particular, communication with public and alignment with the governmental goals of sustainability has a large impact on Tesla's performance and role in the field associated with sustainable vehicles. Finally, the first mover advantage lets the company to benefit from the rapidly developing competitive environment.

Pavel graduated from the University of Manchester and currently works as a data scientist at Nielsen IQ. Currently, they contributing to various open-source and code/projects which are available at https://github.com/Pfed-prog and https://github.com/dspytdao.

References

Azevedo, M., Campagnol, N., Hagenbruch, T. and Hoffman, K. (2018), *Lithium And Cobalt: A Tale Of Two Commodities*. [online] Available at: https://www.mckinsey.com/industries/metals-and-mining/our-insights/lithium-and-cobalt-a-tale-of-two-commodities [Accessed: 14 June 2020].

Baik, Y., Hensley, R., Hertzke, P. and Knupfer, S. (2019), *Making Electric Vehicles Profitable*. [online] Available at: https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/making-electric-vehicles-profitable [Accessed: 14 June 2020].

Caruana, R., Carrington, J. and Chatzidakis, A. (2016), 'Beyond the attitude-behaviour gap: novel perspectives in consumer ethics: introduction to the thematic symposium', *Journal of Business Ethics*, 136(2), pp. 215-218.

Collis, D. and Montgomery, C. (1995), Competing On Resources: Strategy In The 1990S. [online] *Harvard Business Review*. Available at: https://hbr.org/1995/07/competing-on-resources-strategy-in-the-1990s [Accessed: 14 June 2020].

Coyne, K. and Subramaniam, S. (1996), 'Bringing Discipline to Strategy', *The McKinsey Quarterly*, 33(4).

Department of Energy (n.d.), *Reducing Pollution with Electric Vehicles*, [online] Available at: https://www.energy.gov/eere/electricvehicles/reducing-pollution-electric-vehicles [Accessed: 19 Aug. 2018].

Dobbs, M. (2014), 'Guidelines for applying Porter's five forces framework: a set of industry analysis templates'. *Competitiveness Review*, 24(1), pp.32-45.

Fligstein, N. and McAdam, D. (2011), 'Toward a General Theory of Strategic Action Fields'. *Sociological Theory*, 29(1), pp.1-26.

Frangoul, A. (2019), '*Volkswagen Starts Factory Production Of Electric Car It Says Is 'Accessible To Millions'*. [online] CNBC. Available at: https://www.cnbc.com/2019/11/04/volkswagen-starts-factory production-of-electric-car.html [Accessed: 16 June 2020].

IATA (2011), *Vision 2050.* [online] pp.1-57. Available at: https://www.hbs.edu/faculty/Publication%20Files/IATA_Vision_2050_d4f5285f-63ed-4793-86e3-a3f6b0fd62cc.pdf [Accessed: 14 June 2020].

International Energy Agency (2019*), Global EV Outlook 2020.* [online] Available at: https://www.iea.org/reports/global-ev-outlook-2020 [Accessed: 19 June 2020].

Irle, R. (2020), *EV-Volumes - The Electric Vehicle World Sales Database*. [online] Ev-volumes.com. Available at: http://www.ev-volumes.com/country/total-world-plug-in-vehicle-volumes/ [Accessed: 15 June 2020].

Linstead, S., Fulop, L. and Lilley, S. (2009), *Management and organization*, 2nd ed., Basingstoke: Palgrave Macmillan.

Mankins, M. and Steele, R. (2005), 'Turning Great Strategy into Great Performance*',* [online] *Harvard Business Review*, Available at: https://hbr.org/2005/07/turning-great-strategy-into-great-performance [Accessed: 19 Aug. 2018].

McKinsey & Company (2017), '*Electrifying Insights: How Automakers Can Drive Electrified Vehicle Sales And Profitability*'. [online] Available at: https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/electrifying-insights-how-automakers-can-drive-electrified-vehicle-sales-and-profitability [Accessed: 14 June 2020].

Mock, P. and Yang, Z. (2014), *Driving Electrification*. [online] Available at: https://theicct.org/sites/default/files/publications/ICCT_EV-fiscal-incentives_20140506.pdf [Accessed: 19 June 2020].

Nag, R., Hambrick, D. C. and Chen, M.-J (2007), 'What is strategic management, really? Inductive derivation of a consensus definition of the field', *Strategic Management Journal*, 28 (9), 935–955.

National Research Council (2006), '*Surface Temperature Reconstructions For the Last 2,000 Year*', Washington, D.C.: National Academy Press.

Pontes, J. (2020), *EV Sales*. [online] Ev-sales.blogspot.com. Available at: http://ev-sales.blogspot.com/search/label/World [Accessed: 14 June 2020].

Porter, M. (1979), 'How Competitive Forces Shape Strategy', *Harvard Business Review*, 57 (2), 137-145

Porter, M. (1980), *Competitive Strategy*. New York: Free Press.

Porter, M. (2008), 'The five competitive forces that shape strategy', *Harvard Business Review*, 86 (1), pp. 78-93.

Statista (2020), *Share Of Global CO2 Emissions From The Transportation Sector By Subsector 2050*. [online] Available at: https://www.statista.com/statistics/748621/distribution-of-worldwide-co2-emissions-from-transportation-sector-by-sub-sector/ [Accessed: 15 June 2020].

Statista (2020a), *Global Car Sales 1990-2020*. [online] Available at: https://www.statista.com/statistics/200002/international-car-sales-since-1990/ [Accessed: 15 June 2020].

Spender, J. (2014), *Business strategy*, New York: Oxford University Press.

UBS (2017), *UBS Evidence Lab Electric Car Teardown – Disruption Ahead?*. Q-Series.

Union of Concerned Scientists (2015), *Cleaner Cars from Cradle to Grave*, [online] Available at: https://www.ucsusa.org/clean-vehicles/electric-vehicles/life-cycle-ev-emissions#.W3npus5KiwU [Accessed: 19 Aug. 2018].

United States Environmental Protection Agency. n.d. *Global Greenhouse Gas Emissions Data*. [online] Available at: https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data [Accessed: 15 June 2020].

Uzwyshyn, R. (2012), *The US Auto Industry In 2013: Five Forces To Consider*. [online] Available at: https://www.ai-online.com/2012/11/the-us-auto-industry-in-2013-five-forces-to-consider/ [Accessed: 16 June 2020].

Van der Steen, M., Van Schelven, R., Kotter, R., Van Twist, M. and Van Deventer P. (2014), *EV Policy Compared: An International Comparison Of Governments' Policy Strategy Towards E-Mobility*.

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Reflections from Research Practice: Realism and its reality, coming to know this, and working out its mechanisms of socio-material change

Huayi Huang

Usher Institute of Health and Wellbeing, The University of Edinburgh, Scotland
Correspondence: huayi.huang@ed.ac.uk
ORCID: 0000-0003-1166-485X

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Abstract

Scientific and Critical Realism attracts increasing attention as a new paradigm of explanation, for many empirical knowledge disciplines. This new approach to explaining our social and material worlds is underpinned by its 'depth ontology', encompassing the reality of our senses to the more meta-physical.

In this article we introduce and explore this 'depth ontology', through rich illustration of these alternative ideas about reality in context of our everyday and early career research experiences. We explain and clarify the realist compromise - between its positivist and constructivist ancestry. We then trace the flow of these philosophical premises into conceptual variation evident around the realist sense of 'mechanism', in current evaluation research literature.

To further clarify its possible meanings, this synthesis contextualises past and current realist thinking in light of historical ideas of change from Aristotle and Plato, as improvement and degeneration. This article offers a new view on realism and its foundations then, to aid readers' own understandings and explorations of the natural and social reasons for existence and its changes, sitting in the depths of the universe of the realist.

Keywords: realism; ontology; explanation; change

Introduction

> *Why do our attempts to change often 'work out' differently, in different circumstances, and for different people?*

I became interested this question when I encountered critical realism ideas, in reading a colleague's 'neighbouring PhD thesis' being developed alongside my own work on understanding intersubjective communication failures (**Huang, 2015**). As we continue seeking meaningful changes within ourselves and others, this question reoccurs.

In becoming better practitioners at our craft for example, our attempts to improve might fall short or sometimes succeed. As role models for junior colleagues and the next generation, perhaps demonstration once more of a skill we know all too well, provokes distinctly different ideas of progress in those we mentor. As inventors, our technology and prototypes perhaps succeed, or fails beyond our wildest expectations when they finally see the light of the marketplace. Such experiences often suggest to us that efforts to change the minds of fellow human beings or their actions often do not result in *universal* consequences and outcomes, in seeking to implement such changes.

The question of why attempts to change often works out differently, also concerns the making of large-scale policy to instigate change (an area I'm currently active in as a research fellow) (**Stewart et al., 2022; Huang et al., 2021; Mercer et al., 2021**). A most recent example of this, in the ongoing responses to COVID national policies from citizens across the globe. Clearly, we have not all responded in the same way to policies addressing the pandemic, in the differing circumstances of our lives and positions in society.

Research Aims and General Background

In this article, I'd like to introduce and contextualise some ideas from 'realist' perspectives and categories for making sense of such realities – intended to help us understand and more able to exchange and productively debate around why attempts to change often work out differently (in particular of the social-material kind). To support our projects of explanation, an interpretation is developed in this article: of the realist idea of a 'stratified reality'. We also discuss how we might come to know such a reality, and the mechanisms or efforts of change or change implementation which might exist in this sort of reality. This interpretation of key constructs and ontological premises from a realist theory of reality is developed along *interdisciplinary* rather than *disciplinary* lines here, as a contribution towards a depth ontology *neutral* to received disciplinary-specific wisdom/premises on what knowledge related 'things' exist; Repko and Szostak (**Repko and Szostak, 2017:90-96**) refers to these as

'phenomena': in the sense of those enduring named aspects/things of human existence of core interest to a knowledge discipline). The interrogation of realist perspectives and categories as offered in this article importantly attempts to build a foundation for further reasoning – in integration/validation of some of our everyday and early career research experiences across emerging and established knowledge disciplines; through reconciling key elements from the existing body of sometimes contradictory interpretations of realist evidence and ideas active in the current literature. In presenting this new interpretation of realist perspectives from the past, the ideas offered here do not focus only on those *social* aspects of change (e.g., as in the *social structures* and *interpersonal human agency* central to the framework presented by a *Transformational Model of Social Activity* (**Faulkner & Runde, 2013**)), but seek to encompass *both the social and material realms of empirical observations* within a fresh framework and foundation for conceptualising change.

In doing this, we also engage in the exercise of 'Lockean philosophical ground clearing' for current purposes, in a general spirit similar to that presented in Faulkner and Runde (**Ibid**); a novelty of this article however lies in the synthesis of a new coherent conceptual frame for thinking anew about social-material change as presented below, in integration with reflections from those experiences of the everyday and early career researchers. Instead of trying to extend an existing model of change originally developed for just the social realm… to the world of material and non-material technological objects (as undertaken by (**Ibid**)), established Realist literature, categories, and published perspectives are re-interpreted anew here: in the working definitions offered for interdisciplinary reasoning *integrative* rather than polarising of colleagues' prior answers to questions around ideas and ideals of 'good research'… and the kind of reality(s) and Mechanisms of change 'researchable' and thus accessible to disciplines of science and scholarship. In aspiring to aid development of colleagues' own theories of knowledge (and their accompanying ontologies), I hope that the realist ideas and ideals shared below might stimulate and generate useful thinking in colleagues' own propositions, around ideas of Knowledge and Reality, and those organised, coherent, and systematised explicit-knowledge exchanged around these topics of modern epistemology.

To differentiate what follows from Naïve Realism ideas in existing literature, we adopt the common practice of understanding the ideas reviewed below as related to 'critical realism' or 'scientific realism'. As colleagues tending towards applied forms of shared learning, *scientific* realists have focussed so far on developing methodological ideas directly supportive of actual processes/procedures/methods of science and

scholarship (**Kaidesoja 2013: Chapter 3**), e.g., in search of answers to the '*What works, under what circumstances, and for whom'* question opening this introduction (framing answers for example in terms of syntheses of the context-mechanism-outcome patterns discerned through the method of realist review (**Gielen, 2019**)). The work of *critical* realist colleagues on the other hand, have tended to focus on developing the underlying theory of knowledge and reality (**Bhaskar, 2008**) that might cohere with the realist ideas for applied research methodologies being debated in the literature, that may aid us in making holistic sense of the accomplishments from the empiricism of our *scientific* realism studies. In doing so, critical realist undertake the work of trying to explicitly articulate the *consensual* components of epistemology and ontology shared – across the apparently diverse realities from the heterogeneity of natural and social sciences studies, applications, and applied products and processes (as evident e.g. in the development and tailoring of realist ideas in context of the diverse empirical realities of public health (**Jagosh, 2019**)).

Broadly speaking, both scientific and critical realist colleagues share a concern in the thesis that:

> *Efforts to change the thinking and actions of other human beings often do not have universal consequences and outcomes, across all contexts of such efforts.*

We go into further details regarding the progress of realist colleagues in developing this thesis later on. To add to the *contextualisation* of the interpretation of realist themes offered within this article (within its current literature), let us first revisit Aristotle, to better understand some of the lineage of realist ideas presented later on within his ancient (recorded) Western philosophy: on how and why things are the way they are…

The arguments given in support of the main ideas of this article then proceeds through an explanation of basic premises around the realist idea of a 'stratified reality' (in integration with a knowledge context from ancient Aristotelian philosophy); before diving deeper into 3 key and current realist ideas – in seeking key distinctions between those Contexts, Outcomes and Mechanisms of change.

In the final 2 sections of this article, an interim working answer is developed based on the realist ideas and related evidence reviewed earlier, in response to its opening question around why attempts of change appears to be 'systematically circumstantial' rather than universal, in their empirical effects.

Aristotle's 4 Causes

As an early Greek thinker, Aristotle is famous for his contributions to recorded Western knowledge. One day he sat down to think really hard about *how and why anything is the way it is* (**Carr, 2021**; **Popper, 1963**; **Van de Ven, 2007**) – including consideration of its 'movement' or in the changes we see in the course of its existence, coming up with the four types of reasoning below:

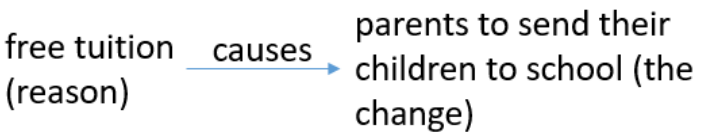
His 1st type of reasoning starts by trying to consider the whys relating to *changes in the 'basic essence', substances, or materials making up entities.* In light of what we believe today about the more or less stable material and physical essence of the universe (for example as made up from a universal set of elements as identified in the periodic table), changes in its fundamental substances/material features are infrequently expected (at least as part of reductionist explanatory strategies grounded ultimately in knowledge from the material/physical sciences (**Andersen, 2001**)). But if we broaden the idea of 'entity' here, to encompass also to all of the social scientific and humanities research objects we know, then the basic substances from which particular 'entities' are made *can* more readily change (e.g., in expanding a company 'entity' from 4 people/roles, to 20). This first style of explanation from Aristotle is that things like known chemicals and companies are the way they are because *it is 'in their nature/essence/basic makeup'* – offered as a sort of heuristic here for understanding and explaining the entity or research objects of interest. In trying to explain what is observed in terms of its general tendency towards change or stasis for example, is it in the *basic essence* of a company:

> a) to adapt (and compromise?) its basic social mission always to the demands of its competitive environments?
>
> b) or instead to sometimes also maintain and advocate for some anachronistic *things* (e.g., 'listed buildings' in a UK context), or *human attributes* or *values* seen by their curators as of long-term strategic value for what it means, or should mean to be a human being? (as seen in moral or ethics education programmes.)

Aristotle's 2nd type of reasoning for the how and why of things, draw attention to the *particular patterning or (re)configurations* of the basic substances or 'essence' making up entities. Continuing with our example of a company for example, and its assumed basic essence/tendency towards change, perhaps a re-configuration of its existing personnel, departments, procedures, etc. (without adding or taking away altogether any of these basic substance making up a business entity) leads to a more *efficient* company as a result, in other words resulting in a new patterning or form. The company is *now efficient*, because its basic nature has been

reconfigured as part of its inclinations in changing and adapting to its environment; Some chemical compounds are the way they are for example, because of those chemical reactions leading to this current configuration of chemical elements as observed.

Figure 1: An illustrative example of 'causal force'



The 3rd type focuses our attention then, on the idea of some *'causal force' or causal relationship* ('causes' in Figure 1), between:

- entities different from the one being affected (e.g., 'free tuition' in Figure 1), and
- the entity changed (e.g., 'parental motivation to send their children to school' in Figure 1); as a result of its interaction, with the supposed 'cause' of its 'movements' or changes (free tuition causing variations in motivation here).

Good experimental research design can be seen as a modern incarnation of this Aristotelian interest in figuring out the 'causal forces between entities', helping us to rule out as many alternative 'counterfactual causes' or confounders we might think of to contradict the causal relationship proposed, through implementing its well-known features (e.g., through the mathematisation of phenomena typically copresent in this type of research study). Notably, ideas of movement or change can in general refer to both documentable *variations in quantity*; or in the narrative description of *key events, activities, or choices* affecting the developmental processes and biography of an entity ((**Van de Ven, 2007**), e.g., as illustrated by some of the formative psychosocial or physical events for a child as they mature and develop into an adult – arguably then leading to change in their form/basic patterning, and perhaps also in their 'basic essence'). It is only with this 3rd type of reasoning, that Aristotle becomes concerned with those *interactions* between 2 or more entities in the world. For example, a merger between two departments (the 2 entities) leading to changes in both departments' 'basic essence' (Aristotle's 1st type around 'essences') and forms of human resources organisation (Aristotle's 2nd type around 'forms').

The 4th and final type of reasoning for the how and why of things, relates to Aristotle's belief *in the existence of an 'ultimate purpose' (in the universe, in life, etc.) for every entity in life.* This relates to his general ideas about the 'Telos' of a person or thing – in contemporary language referring

to the full potential or inherent purpose or objective of a person or thing (**Wikipedia contributors, 2021**). In context of human development we might for example share the belief of thinkers like Maslow, Montessori and Burchard – in arguing that our daily purposes ultimately orient us in seeking the power to manifest and live out our grand freedoms - in those aspired to in relation to our choices in social participation, emotions, creativity, finances, time, and spirit (**Burchard, 2014**) – to achieve a sense of actualisation of our full material, social, and spiritual potential (**Montessori, 1989; Maslow, 1943**). In living and working practically with the Key Performance Indicators defining our working lives sometimes then, to try to avoid the 'pulling force' exerted sometimes by such measures – in causing our behaviours and interpersonal interactions to drift away from the original goals we set out to achieve in service of others before the KPI came along (**Vanlommel**; **Grøn et al., 2020**)). More prosaically, a teleological cause or ultimate existential purpose might be designed into the design specification for a technological entity we engineer, or seen in the somewhat explicit (self)justifications expected for an academic paper's existence for example.

In summary then, Aristotle starts us off on the search for the how and why of things, by offering the following premises for explanatory elaboration, where a thing is the way it is:

1. because what we see is part of the basic essence or nature of the thing we see (often known as his 'material cause' in the literature – in a Platonic context of knowledge such 'basic essence' referring e.g., to the basic tendency of things to change in the physical realm, or remain in a state of 'beyond physical' perfection… beyond our senses as developed through the empiricism of day-to-day existence),

2. because of the form or changes in the form of the thing (often referred to as the 'formal cause')

3. because the thing has interacted causally with other things resulting in what we see (often known as 'efficient cause')

4. because what we see is an expression or manifestation of the thing's ultimate destiny, purpose, etc. in its existence (often known as 'final cause', e.g., in 'finding your true purpose').

In this context then, our opening question of why attempts to change often works out differently presupposes *interactions* between the outcomes, context, and the people or things involved in change; therefore taking us down the path of considering Aristotle's 'efficient causes' in context of the Outcome-Context-Mechanism triad basic to many realist ways of thinking. This triad is typically abbreviated as 'CMOs' in the realist literature.

To aid more satisfactory understanding of the sort of reality in which such CMO things could exist, let us first sketch out some of the connections between Aristotelian and Critical Realist view on causation, and then introduce the reality which can be known particularly in the world of critical realism.

These historical connections between (critical) realism and the ideas of Aristotle is important to make, as Aristotle (unlike his teacher Plato) was very keen to build bridges and establish links between the (empiricist) world of the 5 senses, and the higher-order forms of intellectual organisation and reasoning grounded in these 'sense data' (**Rudolph, 2017**) (with these diverse organisations and forms of reasoning regularly observed, e.g., in the concrete sharing of academic reference works, of knowledge made manifest). The 4 types of reasons we just reviewed for how and why anything is the way it is, was one of the key vehicles through which Aristotle's pursued this passion for integration in the empirical and more philosophical… in his time, for understanding the connections between the sensorial and the meta-physical. In our present moment, Aristotle's proposal to understand the how and whys of life through articulating the patterns of *interactions* between entities (the 'efficient cause' approach), is taken forward in Critical Realists' view for the idea of causality not as a matter of 'the feeling of expectation that we have upon encountering the first item of a regularly ordered sequence' (a Humean theory of reality), but as a matter of 'the exercise or display of things' powers' (**Groff, 2009**). Aristotle's 4 causes as presented here then, helps us in tracing back along past connections and lineage in the history of ideas around *causality*, at the same time serving also as wider context for our own works on ideas of causality, causal interactions, and causal intervention (e.g., aided by explicitly articulated conceptual frameworks to support 'complex intervention' projects in context of recent developments in medical knowledge (**Skivington et al., 2021**)). Specifically, contemporary viewpoints allied to realist perspectives provide significant justification, for the idea that *causality itself is an idea belonging at least in part with the sensorial rather than meta-physical realm, as a 'basic organising feature' of our sensorial realities in fact* (**Lakoff, 2008**; **Pearl, 2018**) when the links between human thought and language are carefully studied and reflected upon.

Further in depth exploration of Aristotelian and Critical Realist theories of causation are not taken up here; as an extended discussion on this related complex topic, would take us far afield from the present focus on developing a new interdisciplinary foundation for interpreting the realist idea of 'stratified reality', and those mechanisms of socio-material change within this sort of reality. The brief explanation above hopefully serves to whet the appetite of readers to explore further themselves however, as a

point of departure for making their own independent connections between Realist and Aristotelian thought, in researching further the matter of causation in realist theories of reality.

The 'Stratified Reality' of a Critical/Scientific Realist Approach

In learning about our reality then, a trade-off is often made between the internal and external validity of the main conclusions we draw. In thinking about research and learning in its experimental, quasi-experimental, and naturalistic branches, another trade-off is between the more predefined (quantitative) or evolutionary (qualitative) ideas we share. For critical or scientific realism, its ideas have been mostly developed with an emphasis on accounting for 'in vivo' studies with research subjects living more or less in their usual contexts of existence (e.g., **Westhorp, 2014**; **Spacey et al., 2020**) – in this way improving the external validity/applicability of the main things we learn, in context of empirical settings for the most part under the direction of study participants' own biographical flow of key *events, activities, or choices* (**Patton, 2004**).

Based on a large body of philosophy, theory, and empirical work, critical and scientific realist approaches usually share the assumption of the 'given reality' below, in which a knower compromise between:

1. the idea that we constrain our collective knowledge to only directly observable matters of significance in the real world, and derive unequivocal 'facts' about the world, and

2. the idea that since all our observations of the 'real world' are shaped and filtered through human senses and human brains (as acting and reasoning subjects in our life-worlds, accessed e.g., through sociolinguistics studies), it is impossible to be individually or collectively certain about the basic nature of our reality(s).

The first idea often assumed in positivist philosophies of science, and related applied studies. The second stands in significant dissonance to the first – and is often assumed in constructivist philosophies regarding the idea of knowledge. In framing these ongoing, active, and sometimes implicit arguments around proper definitions of 'Knowledge', and what counts or matters for its ideals, the idea of 'compromise' is used here to refer to the *informed concessions* made by sides engaged in scholarly argument over 'Knowledge', and not intended to imply 'academic weakness' of any of the sides taken in developing reasonable alternatives to foundational ideas around Knowledge(s), Reality(s), etc. In other words, to *accommodate for* here, rather than further polarize colleagues' existing views, arguments, and premises (e.g., in context of ongoing competition between positivist and interpretivist ideals-of-Knowledge in qualitative research (**Wiltshire & Ronkainen 2021**)), when trying to think more

thoroughly around the researchers' dilemma we've all sometimes faced: over whether to conceive of our objects of learning and practice:

1. as part of *objective Nature* (in their 'basic essence' - reminiscent of the Platonic ideal of 'standing apart' from those objects and ideas under study), or
2. instead as entities residing in domains of change more susceptible to *natural* human influences/practices/biases both in and outside of research communities.

Critical or scientific realism theories of knowledge try to incorporate the best of both of these competing concerns, from its positivist and constructivist cousins. From positivist philosophies, realists take forward the idea that 'reality' *is capturable* through our everyday or enhanced sensory experiences, but rejects the idea that these 'directly-observed sense data' are the only things or matters of significance in reasoning about the world. Additionally, being much more open to the (constructivist) idea that *facts are rarely unequivocal in fact*, in the life-worlds of working academics and scientists for example (**Leng & Leng, 2020**).

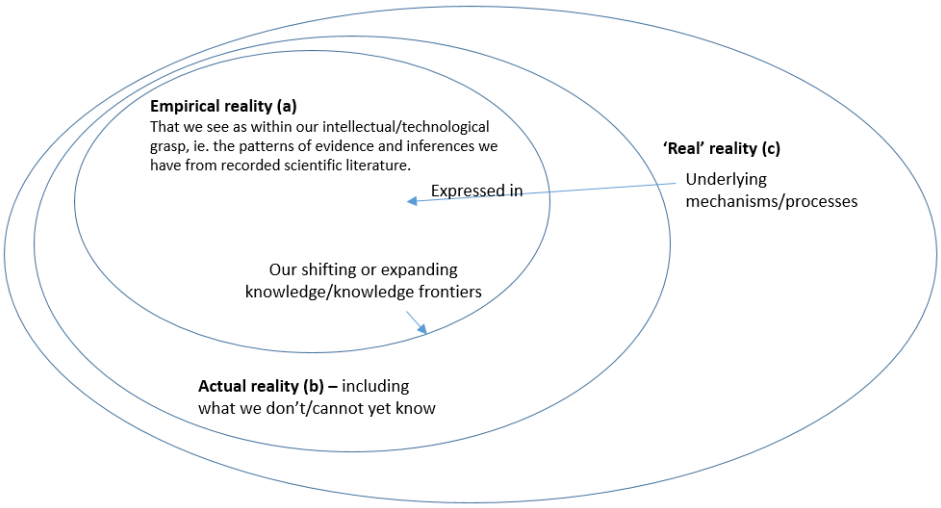
From its constructivist cousins, realists accept the fact of scientific knowledge in reality, being produced through the work of quite real, and quite fallible, human senses and brains (including in this fact both the work of expertise, as well as the material or technologically enhanced sensory apparatus involved in knowing). Resulting, e.g., in the critical realist recognition of the approximate and perhaps downright wrong or unreasonably dismissive nature sometime, of our data, analyses, syntheses, etc. and ultimately of our collective knowledge – in relation to an *underlying* realm of existence beyond what we can current sense and know. But in rejection of a nihilist vision in our shared understanding, realists take forward the idea that 'reality' itself constrains the range of reasonable and 'thought through' interpretations we may make (despite the more or less equivocal nature of 'facts' by which we live and understand our experiences).

The idea of a 'stratified reality' in critical or scientific realism work then, tries to schematically capture these compromises, by arguing for us to think about our realities in terms of 3 distinct domains or realms – of the *Empirical*, *Actual*, and *Real*. To avoid confusion, I will capitalise these 3 terms when used in their realist senses from here onwards, in the rest of this article. The interpretation offered below, of realist ontological premises around a stratified rather than 'flat' reality, aims to support a relatively discipline-agnostic foundation for interdisciplinary reasoning. The idea of *stratification* here emphasises a relationship of *underlying*

layers between each of the 3 planes of realist reality as presented below (coherent with Jagosh 2019's (**Jagosh, 2019**) iceberg metaphor of these planes and the idea that the '*natural sciences progress epistemically by digging deeper into the stratified structure of the world*' (**Kaidesoja, 2013: Chapter 3**). This can be contrasted with the thought of seeing the relationships between these planes of reality in terms of *superset*/*subset relationships* instead (in the mathematical sense, e.g., in the Empirical being a subset of the Actual as part of an ontology that is 'flat' in essence); as offered sometimes in natural scientific readings of realist premises about the nature of reality (**Mingers & Standing, 2017**) – tending towards avoiding contradiction with the thesis of reality as consisting just of 1 plane of existence).

Empirical, Actual and Real Planes of Reality: And related ontological and wider issues

Figure 2: Realist 'depth ontology/stratified reality' assumptions



In the empirical domain of existence, we have the familiar world of sensory experience. In terms of scientific research, these experiences result in the qualitatively or quantitatively recorded reductions and 'data' of our lived experiences (**Bernard et al., 2017**); which then are for example displayed, condensed, and evolve e.g., into the main conclusions drawn and verified from a study (**Miles et al., 2013**). This way of defining the *Empirical (a)* covers the 'direct reality' which Naïve Realists try to accurately observe, but leaves out the realist belief in the *eminently fallible* nature of what we think we know – in another words, leaving out the existence of the 'unknown unknowns' accompanying our intuitions in our accounts of the nature of shared knowledge about reality. Our imperfect knowledge of this direct reality will of course shift, contract, or expand over time, and therefore have a changing relationship to the boundaries of the *Actual*.

Some of these 'unknown unknowns' of existence then, were thought originally to exist in the so called *Actual (b)* Realm (**Pawson &Tilley 1997**). Reflecting the idea that even though we already know much about our natural, social, and human worlds as educated lay citizens, *actually* – there is probably lots more to be known! (e.g., through additional training and enculturation in the more abstract 'actual reality' of specific knowledge disciplines). Linking to modest rather than boastful narratives of science, knowledge, etc. from empiricist sources, some realists see their *Empirical* realm as a part of, or as only being the site for surface manifestations of entities in the *Actual* realm – here in part as a sort of placeholder for those 'unknown unknowns' arguably not yet within our intellectual or technological grasp. These could be because we are simply not aware of these (e.g., what we don't happen to know during one lifetime), or due to more fundamental limitations in our collective knowledge (what we cannot yet know given the current progression of civilization).

Finally, we come to the deepest layer of reality, in this 'depth ontology' of Realism. Underlying mechanisms or processes are the entities believed by some to reside in this *Real (c)* domain (**Jagosh, 2019**; **Jagosh, 2020**). As originally conceived (**Pawson & Tilley, 1997**; **Bhaskar, 2008**), the partial *expression* of these forms or ideas (rather than their existence, in a broadly Platonic sense) is that which is captured through our existing data, understandings, explanations, predictions, etc. in or of the *Empirical* domain. With the individual or collective future possibilities in enriching our current intellectual and technological capabilities represented by the domain of the *Actual*. These underlying mechanisms and processes then, give rise to our current patterns and bodies of empirical evidence, and the deductive, inductive, abductive, and retroductive scientific inferences we inherit or work with anew, in context of the new research and knowledge projects we take on. For some, applied realist projects should really engage in retroductive styles of reasoning, in seeking to *go back from, below, or behind observed 'surface' patterns or regularities to explain what produces them* (**Blaikie, 2004**); as supported by methods of Latent Thematic Analyses (**Braun et al., 2018**) or Latent Variable modelling (**Bratianu et al., 2020**) for example.

This depth ontology is acknowledged to have originated in Bhaskar's contributions to first the philosophy of natural sciences (**Bhaskar, 2008**) as part of a wider movement critiquing the analytic philosophies which were mainstream in the latter half of the 20th century (**Kaidesoja, 2013**); since then extended to the philosophies and research practices of the social sciences (**Brönnimann, 2022**).

For those from empirical knowledge disciplines that maintain the distinction between the idea of *understanding* and the idea of *explanation*,

one might choose to see realist approaches as offering an 'ontology-led *grand* theory': pre-defining an overarching suite of key abstract ideas through which 'reality' and its key entities might be *described and thus made understandable in a collective sense* (i.e., the Contexts, Outcomes, and Mechanisms of change which we go on to review later on). In our individual and collective search for understanding of the world we can see and document, such 'grand' ideas for description are usually without 'specific rules that can be applied to particular situations' (**Davidoff et al., 2015**; **Schon, 2017**) (e.g., think of the status of the idea of a mathematical variable as it first exists in the mind, before a 'rule' given for its operationalisation within some process of measurement); such key abstract ideas for describing the world of the realist functions here more like 'sensitising' rather than 'definitive' concepts in the sense of Blumer (**Blumer, 1954**; **Bowen, 2006**), which *sensitise* those users/learners looking to 'apply' these ideas with only a general and loose sense of reference, guidance, and suggestive directions along which to look for empirical instances (of ideas of *similarity* and *difference* for example in qualitative research data coding contexts); notably without *prescribing* very stringently/a priori those constructs, categories, and relationships between these… which may be observed (e.g., as *is done* in the range of categorical through to ratio scale based data and data structures typically utilised in learning aided by quantification processes (**Stevens, 1946**)). In discussing the sort of 'grand' theory of reality (**Davidoff et al., 2015**) supplied by a realist *'language from which to construct particular descriptions and themes'*, as well as ideas for defining variables perhaps, such discussions around clarifying or negotiating the theory of knowledge present in a collaborative project can of course reveal assumptions and world-views that would otherwise remain under-articulated or internally contradictory (**Davidoff et al., 2015**) – and thus sometimes impede the true interdisciplinary collaboration relating to acts and experiences of truly 'thinking together academically'.

A key ontological point from both the earlier and more recent works of Bhaskar (**Bhaskar, 2008**; **Bhaskar et al., 2017**), is that *structured entities* (e.g., chemical substances, scientific theories, people, etc) *possess causal powers by which they can (sometimes) generate those effects observable in the Empirical (and sometimes don't too!)*. This is a key premise agreeable to many realists, regardless of their differences regarding the plane of reality (Empirical, Actual, or Real) in or across which these 'causally efficacious' interactions between entities occurs. When viewed as a structured thing with such causal power, *theories* for example have the power to generate change in the Empirical plane of existence, as we perhaps change our minds in interaction with their main ideas; e.g. in the power of existing scientific or scholarly theory to shape the study and life-

course of 'open systems' as they (co)evolve alongside the conduct of naturalistic research studies, or in implementing main ideas from some theory in context of 'testing' in context of the 'closed systems' defined by laboratory protocols as below:

> 'At the stage of *identification*, it may (or may not) be possible to refine one's perceptual instruments to observe the structure or mechanism and to carry out experiments and test hypotheses in closed-system laboratory-style contexts. However, sometimes the structure or mechanism can only be detected through its effects (i.e., it cannot be directly measured). We can nevertheless "test" our theory by checking that it explains even small characteristics of the issue at hand, by evaluating interventions suggested by the knowledge (do they result in expected outcomes, and if not, is this explainable due to open-system mediations or is there a problem with our theory?), and by looking for other instances where our theory might apply, to ascertain whether it can explain these instances too. At this (usually) inter-subjective fourth level [of *identifying* structures or mechanisms], a new level of reality has been described. It is now possible to begin a new round of the scientific dialectic. Therefore, at this new second level of reality, one can *retroduct* the generative mechanism responsible for it [the pattern of events in or outside of the laboratory], leading to a plurality of possible explanations, the best of which is chosen through *elimination*, followed by *identification*, and so on. Nevertheless, during the process of *identification*, it may become necessary to refine the concepts of the previous levels.'
>
> (a quote from Bhaskar's *Description*, *Retroduction*, *Elimination*, *Identification*, and *Correction* model of the development of scientific explanations in and outside of the laboratory (**Bhaskar et al., 2017: 30**); italics in quotes mine to show these key terms of Bhaskar's model in the quote)

A notable premise from another one of Bhaskar's earlier work in the latter half of the 20th century is in arguing that both the natural and social sciences study *intransitive* objects (**Bhaskar, 2014**) (along the lines of Platonic 'eternal forms' compared to which all tangible forms in the Empirical are but degenerate/imperfect children); but the specific *methods* and *objects of study* of the natural and social realms (in the Empirical or Actual) may differ. Highlighting the fact that human beings:

- are and do form conceptions of their own doings,
- as well as conceptions of the environments and circumstances in which they find themselves (unlike those inorganic objects of

natural scientific study insensitive to whether they are in laboratory or naturalistic settings).

Since social scientific objects of study (e.g., ourselves and the social institutions we build) are often beings and entities possessed of *reflexivity*, their reflexive conceptions (of what they've done and think about their existence) often in practice play a significant part in *constituting* the key phenomena of interest in the social realm. Social scientists (and learners of social phenomena) are therefore in the notable position of being *'a part of their field of inquiry'* (**Kaidesoja, 2013**), rather than *a-part* from their objects of investigation and the empirical content of the explanatory theories developed (rhetoric for or against these ideas aside!).

In context of human-in-the-loop systems, mechanisms, changes, etc. (as opposed to those entities we observe with less meaningful human involvement in the course of their existence), realists generally answer a modest *yes* to the perennial philosophical question around *whether human beings have freewill* – but only to the extent that the 'resources and reasoning' brought to bear in social contexts of our existence (**Westhorp, 2014**) enables or circumscribe those actions we consider or enact (**Mukumbang et al., 2020**). In another words, many identifiable/discernible mental and physical phenomena are *born only through human agency in thought and action* (e.g., taking a measurement of something, organising a conference, or collaborating on a new research project), and may not otherwise exist at all without our wilful action or 'intervention' on the reality which currently exists in the present moment or era. These 'open systems' governing much of everyday life then, are regarded by many critical realists as a context of manifestation in which the effects of specific mechanisms or efforts of change/change implementation are usually 'buried under numerous other mechanisms that jointly produce the actual events…' (**Kaidesoja, 2013**), as the 'actual events' documentable in the form of the events of the Empirical plane. In these contexts (e.g., in studying ongoing transformations in primary care (**Stewart et al., 2022**; **Huang et al., 2021**)), convergence on identifying the effects of change/change implementation may still be obtained through *investigator triangulation* or *data triangulation* for example.

Back to Aristotle then…

In context of Aristotle's 'material causes' for how and why things are the way they are then, the world of the Realist can also be seen to be made up from a more or less universal set of 'basic essences'. In the interpretation of realist premises offered so far, these 'basic essences' subject to Realist forms of explanation, would be the *mechanisms*/*processes* whose full essence lies outside of our current collective knowledge (**Jagosh, 2019**; **Pawson and Tilley, 1997**).

The structures we see the universe to be made of currently then, are for some Realists referring to how its particular underlying mechanisms or processes are (re)configured and expressed in Empirical and Actual reality - at any point in time. In this way also bringing into the discussion the Aristotelian sense of 'formal cause'. As with Aristotle, the basic essences of 'reality' (of the 'mechanisms/processes') are assumed to change perhaps infrequently for some, with their observable forms changing more frequently in their manifestations in the Empirical and Actual domains. The 'causal forces' and relationships we might document then (along the lines of Aristotle's 'efficient cause'), are no longer seen as located and existing solely in Empirical reality! This fits well with our intuition that 'causes' as relationships to be evidenced (rather than referring to things doing the causing), are rarely able to be tied directly and unambiguously to a specific 'event based' empirical data point or observation in practice. These 'efficient' causal relationships we document then (Aristotle's 3rd type), are in realist terms but one of many possible tangible expressions through which underlying mechanisms or processes may make their presence known and manifest in the Empirical or Actual.

In essence, this aspect of Realism challenges even the results from gold standard clinical trials - in making the point that their results (about causal effectiveness, causal efficacy, etc) reflect only a *part of*, all the possible expressions of underlying mechanisms or processes residing in the Real domain.

In terms of Aristotle's ideas about the existence of an 'ultimate cause' (Aristotle's 4th type), to explain the 'life purposes' of each of the animate and inanimate things in a world - Realists might argue that perhaps these sit in the depths of the Real, as ultimate mechanisms and processes driving our everyday (inter)personal and (inter)professional existence (Pawson and Tilley, 1997). The more or less visible changes we actually encounter in each of our Empirical realities then, are but the visible tracks which Aristotle's 'ultimate purposes' leave in our individual and collective biographies.

Contexts, Outcomes and Mechanisms of Change in Realism

Back in the world of the Realist then, one reads regularly about configurations of *Contexts*, *Mechanisms*, and *Outcomes* in its literature. These basic realist ideas can be seen as 3 alternative starting points in realist ways of knowing, as an alternative or complement to the key idea of *case* in considering units of analysis in qualitative research for example, or the idea of *variable* based units of observation in working with quantified research objects or subjects. We will start by introducing realist ideas of Context and Outcome, and then return to its far more complicated and equivocal idea of a Mechanism.

Contexts of Change, and Arguments Over the Place of 'Activation of Causal Powers of Entities' in Sciences of Causal Inference

When underlying social and material Mechanisms (culture, policies, programmes, etc) are brought into some kind of relationship with other entities in our Empirical world, it is always under particular circumstances, contexts, and historical or current conditions. These particularities are for realists a sort of social-material substrate which has shape the existence and lives of the Empirical entities studied. In conducting realist research, ongoing changes in these surrounding circumstances and conditions sometimes enable the activation of previously dormant 'causal powers', of a Mechanism. As google scholar recently reminded me for example, changes in the surrounding circumstances is the only constant, in our lives as 'researcher entities'. 'Entities' in general may have their dormant causal powers *activated* (and observed as e.g., human tendencies), due to changes expected or unexpected in their current conditions of existence (**Mingers & Standing, 2017**).

This idea that causal powers as possessed by entities, are circumstantially rather than universally active/activated, can also be discerned in discussions of the 'exercise' (**Kaidesoja, 2007**), 'triggering' (**Taylor, 2021**), or 'manifestation' (**Lassiter & Vukov, 2021**) of the potential for, and potential to change represented by these supposed 'powers'. In another words foregrounding the *emergent*, *local* nature of achievements of human will as generated *in context* of its social-material circumstances of existence (as Situated Action theorists also do for example, according to Feldman et al. (**Feldman et al., 2021**); as opposed to e.g. theories of rational choice tending towards context-insensitive abstract representations of human actions (e.g., in context of marketization of sites and circumstances of human learning (**Livock, 2018**)):

> *It [rational choice theories] also neglects the fact that the various causal capacities that human agents have become activated by depend on the social and historical context and on the principles and norms that human agents internalize because of the context they are situated in.* (**Herfeld, 2022: 14**)

Whether these causal powers are to be thought of as meta-physical entities located in the realm of the Real, or exist instead as part of documentable *features* of Empirical entities susceptible to being explicitly shown to exist in the Empirical or Actual (e.g., through quantification and its associated technological means) – remains as yet ambiguous and an active area of divergence, difference, and realist debate (**Kaidesoja, 2013**: **60**). In contradiction to Hume's regularity theory of causation (which grants the privilege of 'existence' (in scientific or scholarly communication contexts at least) only to those notable events of change or difference

graspable within the Empirical (**Maxwell, 2012**) and perhaps also those within the Actual), critical realism's revival of the idea of *unobservable*/*unobserved* entities (e.g., Mechanisms existing in Actual or Real reality) giving rise to an *observed* action, phenomenon, or condition – can be a problematic premise to accept for some colleagues and knowledge disciplines. In another words, for some realists (**Ibid**) the *ideas*, *meanings*, and *beliefs* which sit beyond the physical realm (about 'free tuition' as anticipated with school A rather than B say) is generally believed to really have 'causal force' (in the Aristotelian sense, e.g. parental motivation), in shaping or changing the biographies or existence of other entities (such motivation then causing children to be sent to particular schools based on anticipation rather than actual parental experience or direct observations). In this line of thinking, these 'feeling[s] of expectation' (**Groff, 2009**), in response to the already ordered structures of sequences of quantified observations presented on schooling for example, are regarded by some realists as *perfectly valid (abstract) objects of study for current scholarship, or in the current sciences*.

Outcomes of Change

To realists, outcomes document change (e.g., from doing an evaluation of what impact a programme or policy had). But these changes in outcomes are only the start, rather than end in our understanding of *why* they occurred as documented. Realists argue that we need to understand how Mechanisms and Empirical Contexts interacted too, to produce the documented change in outcomes (as best as we can in light of our imperfect Empirical knowledge of the Mechanism in question). A common realist premise is also in the point that the causal impact of a Mechanism (in context) may or may not be not readily observable in changes in key Empirical outcomes, depending on the state of influence(s) from other Mechanisms also active and/or countervailing at the same time or place as these 'activated causal powers' (**Mingers & Standing, 2017**).

Mechanisms

Developing Aristotle's idea of a 'causal force' (his 'efficient cause'), into the more elaborate realist idea of 'causal powers' of a Mechanism (**Pawson & Tilley, 1997**) (e.g., what is the 'causal power' of a policy), the general idea is that every Mechanism has *causal powers* – referring to those powers to, and powers of change lying dormant/'latent' sometimes, but potentially becoming 'activated' at other times as those *tendencies* of entities observable in the Empirical for example. Here being 'active' and 'inactive' are two mutually exclusive states each causal power can be in under a particular circumstance and point in time, often in interaction with other entities (and their powers) co-present.

To the realist evaluator of impact, Mechanisms are sometimes thought of as processes (**Westhorp, 2014**), in the sense of relating to entities undergoing ongoing *processes of change* leading to the outcomes observed. In the technologies of our *material* world for example, we see few exemplars of evidence for Mechanisms, with processes of change quite as able to adapt to the full diversity of the circumstances we live in and adapt to as members of the human species (current Artificial Intelligence rhetoric notwithstanding).

When we turn to think about our *social* and *human* worlds, Realists draw attention to their key decision making and choice aspects, proposing that all Mechanisms relating to these areas of our existence have significant *reasoning* aspects. Taking our ourselves as social actors, realists argue that we each 'see' in the potential or actual changes introduced to us (by a policy, programme, etc.) a sort of 'resource' – which affords particular *opportunities* or *constraints* for actors' choices and ensuing actions (**Jagosh, 2020**). In everyday terms, when pressed for particular kinds, or amounts of change in ourselves or in our positions/roles of responsibility – we usually think about it a bit… and may respond differently depending on the social roles and 'hats' we have on in choosing our way forward. In terms of Weberian definitions of 'social action', realist premises are coherent with the idea of the particular change making or seeking human beings undertake as being *quite intentional*, as 'social accountants' of the range of possible actions and reactions provoked in those around us by this interpersonal effort. Albeit with variable powers in influencing the changes ongoing in other entities in our plane of existence, for example in the choice of representations of reality given priority within inter-disciplinary research environments (**Bhaskar et al., 2017**).

In trying to then explain the reasoning, preferences, norms, values, collective beliefs, etc. that we bring to bear (see the Values Inventory from Clark and Sousa for a useful long! list (**Clark & Sousa, 2018**)) – on interventions into how we live in relation to others and things, some Realists try to explain these individual or collective patterns of reasoning, preferences, etc. in terms of the social and cultural conditioning known from our Empirical domain (**Kaidesoja, 2013**). Thus, encouraging us to engage in explanatory illumination of aspects of our data using social or cultural theory we know for example, from a literature or knowledge base we trust.

We take for granted that Mechanisms referring to objects in the material realms (like Gravity) for the most part remain 'active' (at least in the domain of the Actual or Real, but Realists challenge us to re-examine this assumption a little, in the belief that *social* and *human* Mechanisms are far more intentional and intermittent – in keeping their 'causal powers' latent

and inoperative in some particular social contexts, and choosing to activate them in others. The general idea is that Context (as perceived through our individual or collective grasp of the Empirical) may enable or disable the activation of any one of these 'latent causal powers' of social Mechanisms (like us). For example, teachers *teach* (the 'activated' causal power) when they are in *school* (Context), and may or may not find it appropriate to 'teach' when they then go back to their other roles outside of formal schooling, as carer, parent, partner, husband, wife, etc. (choosing to activate or keep dormant/latent the power to teach in these contexts). In current life under COVID, where social roles previously quite separate are perhaps merged more closely (being a mum one moment, and a homeworking employee the next) – there will sometimes be tension and competition in which Mechanism (e.g. me as mum, or me as employee or chief exec) then 'wins', and the associated complex of causal powers then brought into activation in everyday or more extra-ordinary activities (eg mum: cooking some food for kids, employee: typing some work up for a report at home).

Unlike us, few inorganic Mechanisms have the capability for *wilful* change. It is in this distinction between the wilfully animate and inanimate Mechanisms of the universe, that we can then choose to assume or deny the existence of 'Resources and Reasoning' (**Dalkin et al., 2015**) in the realist Mechanism studied.

Mechanisms in the Past and Present

Whilst changes in particular circumstances, contexts, and conditions of life can be documented within the Empirical domain, the realist vision originally saw 'Mechanisms' as existing in a plane beyond, and at a level of generality beyond the concrete entities we see through our current knowledge, technologies, and studies (**Astbury & Leeuw, 2010**; **Pawson & Tilley, 1997**). Other realist research since then seem to have interpreted and defined Mechanisms in evaluation contexts as (**Lemire et al., 2020: 77-80**):

1. entities that *can* be observed in our Empirical reality,
2. entities that *cannot* be observed, and therefore cannot be documented in our Empirical world,
3. 'programme components',
4. participant reactions to these programmes or their components, or as
5. the descriptive or explanatory ideas around the possible make-up, behaviour, and interrelationships of those processes responsible for an observable change.

In light of realism's compromise we introduced at the outset – between its positivist and constructivist principles and visions for science and knowledge – these 5 types of interpretations of the realist 'Mechanism' seems to speak to different facets of realist philosophy, as outlined below:

Table 1: Realist realities and knowledge of these

What is reality, to the critical or scientific realist?	**What can or might be known, to the realist?**
Reality IS capturable through our everyday or enhanced sensory experiences. So Mechanisms *can* be observed as things existing in our Empirical reality (interpretations 1, 3, 4)	*But these 'directly observed sense data' from our attempts to capture reality are NOT the only things which matter in reasoning about the world (because of important things existing in the domain of the Actual and the Real).* So Mechanisms *cannot* be observed 'directly' in full, and therefore exist as things beyond our possible knowledge of the Empirical world (2, 3)
Reality in its Empirical, Actual and Real domains, constrains the reasonable interpretations we might make of it. So the Mechanism in or beyond (1,2,3) our Empirical knowledge then constrains what we make of the world (4).	*But in our working lives as knowers, the 'facts', evidence, and shared reasoning, that we exchange are often equivocal – since they are 'in reality' being produced through the work of quite real, fallible human senses, brains, specialised apparatus and expertise.* *Our data, analyses, syntheses, etc. and ultimately our collective knowledge about some domain of reality then, may often be inaccurate or downright wrong.* So Mechanisms then are those *fallible* descriptions and explanations we have, around the possible make-up, behaviour, and interrelationships of those underlying processes responsible for the Empirical changes we observe (5, with these processes existing in the Empirical or Real domain, corresponding to definitions 1 or 2 respectively)

Realist-constructivist assumptions then – of the equivocal and interpretative nature of the exchange of evidence and ideas – is arguably borne out by the differing interpretations of Mechanism from the current evaluation community (**Lemire et al., 2020**). Where the idea of a realist Mechanism is seen as a construct relating to both the things very much in Empirical reality, as well as in relation to the meta or 'beyond' physical,

and meta or 'beyond' sensorial aspects of understanding and knowledge exchanged.

Mechanisms of Change and Their Evolving Actions in Systems

So changes that we see as realists then, in the *Context*/*Mechanism*/*Outcome* configurations (CMOc) we might document, may really not give us unequivocal knowledge into the operation of underlying Mechanisms and processes in the Real. A general realist argument is that those knowledge artifacts we *can* document and share with each other (through e.g., reference works like papers, journals, books, etc.) may only give us imperfect, somewhat explicit forms of knowledge on these underlying Mechanisms and processes (**Bhaskar, 2008**; **Pawson & Tilley, 1997**). Because realists are concerned with the study of both *social* and *material* entities in the world (including their changes), the existence of 'socially negotiated' Mechanisms or aspects, like culture, class, religion, policies, and programmes, are all Real - and all have 'causal powers' lying dormant, or sometimes activated in the domain of the Empirical (**Pawson & Tilley, 1997**). In particular, realists draw our attention back to the fact that both the *form* (roughly Aristotle's 'formal cause') and *function* (roughly Aristotle's 'efficient' and 'final cause') for social entities like culture, policies, etc. do not appear to maintain invariant relationships to others in the Empirical world, especially as they interact with worldly entities to exert 'causal force' in the world. If we interpret Realism in terms of some kind of *correspondence theory* then (**Schwandt, 2007**), as applied to theorising 'change' rather than 'truth' here, then we might explain those *changes we see* in the Empirical domain as reflective and *corresponding to - changes in the underlying Mechanisms* (or their powers) in the Real.

From what we Empirically know of Mechanisms of socio-material changes in our world then (like schools, political systems, etc), Realists argues that all such Mechanisms are 'open systems' – in the sense of their boundaries being often porous and flexible in definition – as defined in the ongoing flows of people, ideas, information and resources into and out of these systems as they are studied. If we choose to interpret realist mechanisms *as members of the same plane as their effects* (e.g., in extending Aristotle's idea of 'material cause' to the present), the social-material changes in the 'essence' of something being studied (e.g. empirically documentable changes in those people, ideas, information and resources constituting systems) can then be regarded both as a Mechanism in its own right (**Lemire et al., 2020**), and as one of the outcomes of the 'causal powers' exercised by some other Mechanism (in the same plane or beyond?).

In contrast to the above, an exemplar 'closed system' is in those conditions prized by the ideals of high-quality lab research, in which changes in that

which is studied (e.g., samples and materials, or psychological responses of individuals) are typically highly controlled, regulated, and limited ideally only to the potential differences (pre)defined in measurements of the main independent and dependent variables. Some realists see such 'closed system' conditions of the lab, or intellectual tendencies relating to the de-valuation of learning from contexts and circumstances of life outside of the laboratory/quasi-experiments, very much as an implementation of Hume's constant conjunction theory of causation (**Bhaskar, 2008; Mingers & Standing, 2017; Kaidesoja, 2013; Sutton et al., 2022**). Of course our knowledge of changes in the underlying 'essence' of Mechanisms as manifested in laboratory or everyday life (as above) could be quite imperfect, in light of the realist-constructivist idea of the *eminently fallible* nature of what we think we know from the Empirical domain (because of, e.g., the Platonic inclination taken forward particularly in *critical* realist literature – in the existence of entities of significance to the empirical in some meta-physical/'transcendental' reality). More practically, it might help to clarify at least a little in advance the *boundaries* of the specific Mechanisms and systems we are thinking collectively about (**Mingers & Standing, 2017; Westhorp, 2014**) – in analysing the changes documented as part of a Realist project.

Change is arguably the main constant for us – especially when one thinks about historical evolution of the social and human aspects of our research worlds, in additional to its material constituents. Realists recognise this, in arguing that Mechanisms will for the most part be in a state of ongoing change, development, and evolution in their own right. In another words, research projects are justifiably considered as Mechanisms also, since they involve significant intervention upon other Mechanisms (e.g. an experimental research project 'intervening' on the biological Mechanisms of its human subjects). Even in evaluation research projects where the researchers have no intent to be part of the reason for major changes to current circumstances of, or in the entities being studied, one might argue each project participants' knowledge and experience of 'research' at the very least, will change at least a little in light of their interactions in and around the work of a project of shared learning.

So Why do Entities Change? Are they truly improving or degenerating?

In contextualising realism in light of the diversity of other views shared so far, Aristotle's 4 causes of how and why entities are the way they are (including his theory of change) is in essence an optimistic theory of *improvement* – in explaining the change we see in entities due to their **progression towards some 'ultimate positive cosmic purpose'** in the universe (e.g., in an entity's existence in the Empirical, Actual, or Real). Depending on the position taken on whether Mechanisms are concrete entities potentially accessible through our current knowledge and technologies (see Table 1), you could justifiably argue both *for* and *against* the idea of a Mechanism's 'ultimate cosmic purpose' as existing in the Empirical domain. According to Mingers and Standing 2017 (**Mingers & Standing, 2017**), the central idea of causation within critical realism is that *change* (in the sense of events of note to our mind or in the external environment) are believed to occur *'as a result of the interaction of relatively enduring mechanisms that have particular properties or causal powers'*. These 'mechanism entities' of realist philosophy may or may not be observable via the senses (**Mingers & Standing, 2017**; **Lemire et al., 2020**; **Rudolph, 2017**) (depending on disciplinary preferences and meta-physical tendencies in context of the interpretation in this article). Realist ideas of a Mechanism can include both quite *abstract* things (like the social institution of *state education systems* and their formation as analysed by Archer and Skinningsrud (**Archer & Skinningsrud, 2022**)), as well as being a useful idea for revisiting the more *concrete* mechanisms as independently discovered or established within specific empirical literature and disciplines (e.g., in studying *dynamic trade-offs* in generating resilient health care everyday (**Sujan et al., 2019**), and in the study of *performance variability* in studying the adaptations of complex systems towards safe and successful daily functioning (**Sujan et al., 2020**)).

In terms of the 'causal powers' analyses and syntheses encouraged by critical and scientific realism, changes relating to the entities we observe can be explained as due to the causal powers available from the current properties or features of other 'relatively enduring generative mechanisms/systems' (**Mingers & Standing, 2017**) – to *circumstantially* generate the observed changes in quantity or quality documentable in the Empirical strata in naturalist or laboratory settings. An example of such a property is a 'researcher Mechanism's qualification in some academic field, leading to their improved powers to learn more academically and generate higher quality quantitative or qualitative ways of seeing and knowing – for example in coming into possession of the 'personal feature' of being newly qualified in an emerging academic knowledge discipline

such as Routine Dynamics (**Huang, 2021**); in terms of the Aristotelian theory of change/causation reviewed earlier, the idea of 'causal powers' can be regarded as a contemporary case of his reasoning around 'efficient causes' for how and why things are the way they are. In this case the learner becomes 'disciplined' into those intellectual, technological, and normative practices of the underpinning profession or knowledge discipline due to their interaction with other key entities in academic training and postgraduate academic learning – e.g. research degree supervisors, disciplinary colleagues, degree policies and procedures, study data, etc. – in the '*ensembles of [circumstantial] beliefs, behaviours, artefacts, and practices that create change in the everyday practices of others'* (**May et al., 2022**). As reviewed earlier, the Aristotelian 'efficient cause' is the only form of reasoning directed *away* from an explanatory strategy centred only on the entity being explained (i.e., away from explanation only in terms of an entity's basic essence, form, and ultimate purposes for existence).

Aristotle's mentor Plato on the other hand, was more concerned with a theory of change as a theory of *degeneration* rather than improvement (**Popper, 1963**), resulting in a pessimistic view of worldly entities as changing because of an *ongoing process of degeneration from their unchanging and indestructible primogenitors or 'ideal models'* (historically originating from some ancient point in space and time). Unlike the worldly entities we might see in the Empirical or Actual today, Plato saw these primogenitors as sitting forever *apart* (as entities distinguishable rather than indistinguishable) from that which might be observed through our worldly senses/sensory instruments. In other words, as a sort of underlying 'original essence' perhaps in the realists' Real domain, whose degenerative and imperfect descendants are the 'sensible things' accessed through our intellectual or technological grasp.

Both Aristotle and Plato's theories are of course *meta-physical* theses (i.e., relating at least in part to things beyond the purely physical and material), in the sense experienced by learners when working with any ideas in research beyond the level of data recorded about the strictly material and physical human experiences of the universe. Their theories of change as improvement or degeneration respectively, can also be seen as *deductive*, in the sense of being a set of existing ideas about the world (from Aristotelian or Platonic thought) which later thinkers may choose as a point of departure to then elaborate on, test and evaluate in light of the other things known from their own investigations, and perhaps challenge as, e.g., insufficiently deterministically or stochastically 'true' in our own Empirical worlds. In terms of some kind of *coherence theory of the truth* (**Schwandt, 2007**) about *change*, Aristotle's theorising of change as a sort of improvement towards our ultimate cosmic purpose, coheres well with

others' ideas about our ongoing quest for self-perfection (**Montessori, 1989**), expression of our grand freedoms in our everyday lives (**Burchard, 2014**), and activation of the full potential of our human spirits (**Maslow, 1943**).

But none of these theories of changes as a kind of improvement, quite offer the answers we sought at the outset, as they pay little direct attention to the finding and question we started out with, around why our attempts to change (as a process of improvement or degeneration) often works out differently, in different circumstances, and in light of our different social roles and 'hats'.

In the final section then, we draw these previous thoughts together to pause in our explorations, to reflect on what realism provides to meet this need for circumstantially-inclined, abstract explanations, in light of all that we've discussed so far.

So Why do Our Attempts to Change work out Differently, under Different Circumstances, for Different People?

So why do attempts to enable meaningful change involving human entities work out differently, in different circumstances, and in context of our different social roles and 'hats'?

In answer to this original question, realist approaches suggest the following common features to consider in our explanations of this phenomenon:

1. As relating to beings with agency, the social and material/physical aspects are both important to consider in knowledge of *human* existence and its changes. As organic beings, our capacity to wilfully change and be changed by our circumstances and conditions of existence, is important to pay attention to in claims to know – e.g., in seeking knowledge of that which is important in considering changes within social-material realms of our existence. As suggested in the title of this article, the realist perspective and review offered in this article, justifies the idea that mechanisms of social and material/physical change sometimes co-occur alongside each other (e.g., in learning to adjust to new social settings, alongside changes e.g., relating to the phenomenon of greater or lesser neuroplasticity of our brains).
2. In realist terms, we might justifiably see human beings as 'Mechanisms', where the different social roles we learn to play in the wider world often bring different sets of 'resources and reasoning' to the fore; in this way often changing the *social* and *material* circumstances of current existence for ourselves or others

in minor or major ways, depending on our 'in role' behaviours and actions on the grand stage of life. In trying to understand how social Mechanisms (like us) interact with other entities of the universe then, understanding of the situated 'resources and reasoning' in action really matters! (**Hinds and Dickson, 2021**, **Albers et al., 2020**). For colleagues active in naturalistic forms of research (particularly within uncontrolled study settings and circumstances), this principle is unlikely to cause significant doubt. If one chooses to, this situated 'resources and reasoning' can be thought of as integral parts of the Mechanism studied (**Dalkin et al., 2015**).

In engaging with other entities as *wilful* social Mechanisms and actors then (along the lines of Aristotle's 3rd type of reasoning for the how and why of things, about 'efficient causes' in causal interaction with other entities), attempts to change sometimes *work out differently for different people* because of variations in the type and amount of 'resources' actors see others as bringing to the table (an insight coherent particularly with the 'Contextual Integration' Mechanism offered by a realist reading of Normalisation Process theory for example (**May et al., 2022**)) – in the sense of the other wilfully animate or inanimate Mechanisms around us affording particular opportunities or constraints for *our own* choices and actions. The reasoning Mechanisms (like us) then engage in then, on the basis of the abstract or concrete resources perceived, is seen by some realists as socially and culturally conditioned from our previous experiences/biographies in the Empirical domain – leading to the actual patterns of reasoning, preferences, norms, values, collective beliefs, etc. documentable in empirical study of similar or differing human experience and tendencies. (Think about studying the possible differences in relating to 'the same' employment law in the role of an employer, or as an employee for example.)

3. Under a realist lens, an important part of the learning we do and share is then in trying to distinguish between *Mechanisms*, their *Context of manifestation* or *Context of existence* (both interpretations are supported by existing realist literature), and the *Outcomes* resulting from co-occurrences in the changes relating to these Context-Mechanism dyads (e.g., in identifying CMO configurations from evidence). Depending on your own position on the need for *less* or *more* universal definitions of key ideas in various parts of our learning processes, one could see the existing heterogeneity of CMOc definitions in an evaluation research context (**Lemire et al., 2020**) as either *flexible* and thus highly adaptable to local knowledge needs and circumstances (e.g., of

academic disciplines), or downright confused! For example, quantitative colleagues might choose to combine realist CMO ideas with the basic idea of a *variable*, resulting in realism influenced ideas of '*context variables'*, '*mechanism variables'*, and '*outcome variables'* in studying change or as associated with the same units of observation; for qualitative colleagues, the interest might be more in the *contextual aspects* of the milieu in which the (often human) *case* exists, its *causal powers* which were or were not triggered by these contextual aspects of the case's current status and situated existence (in seeing the case as a realist Mechanism made manifest in or outside of lab conditions), and in the changes in outcomes brought about from the described and defined *'case context'*, '*case mechanism(s)'*, and the interaction between context and mechanisms defined on this qualitative research basis.

4. The realist approach to explanation philosophically foregrounds 21st century human beings' extensive capacities to adapt to, as well as reshape their current circumstances of existence, in interaction with the other entities of earth. Our capacities of adapting to and reshaping the conditions of existence here is a fact particularly coherent with the realist premise:

    - that the observed changes in quality or quantity in the Empirical are not only in service of seeking the mathematised *relationships* between *Variable* entities (e.g., as seen in experimental studies aiming to demonstrate 'causal force' via, e.g., correlations between *Variables* under experimental conditions),

    - but more about seeing these observed qualitative or quantified changes as *traces* left by *entities with the power to actively change, and also be changed considerably by their contexts and conditions of existence* (those traces including correlations… then being the main objects of realist documentation, data, and evidence).

5. If you are interested in maintaining the popular ideal of 'standing apart' from those subjects, objects, ideas, etc. prominent in our experiences (especially in scholarly communications about them)... realist approaches do not particularly disagree with this ideal. But where *scientific* realist colleagues tend to associate at present with the Aristotelian ideal - of those impressions from our senses and sensory experiences being 'contiguous' with those subjects and things of abstract thought (with their own independent existence and life), *critical* realist colleagues are more open to the Platonic possibility that the entities of human thought ultimately exist in a

> (pristine) realm *beyond and forever 'discontinuous' from…* and therefore never truly a part of the ongoing progression of events in our spaces and times. For those interested in pursuing the Aristotelian thesis, the careful reasoning and 'demarcation criteria' you go on to develop (e.g. about the basic essence/Nature of things, their changing forms, causal interactions, or their final purposes of existence) arguably has limited need of the '**Real**' planes of reality proposed to be existent underneath or beyond the planes of the **Empirical** and **Actual**; but for those more philosophical inclined and investing in the possibility of things of influence… from an *intransitive* realm of existence discontinuous from our empirical experiences as Plato proposed, the 3rd **Real** plane of reality seems to be a perfect candidate for these things and influences to exist in, whilst still accommodating for the empirical progress much lauded in contemporary times within the other 2 planes of realist reality.

Despite current divergences in scientific interpretations of key realist premises and constructs in the literature, realists do also broadly agree on the idea that different Contexts in the Empirical domain can activate different sets of dormant 'causal powers' – constituting features of Mechanism entities (perhaps residing in one or more of the 3 planes of reality as proposed by Critical Realism). Think back to the teaching example mentioned earlier for example, where a person's power to teach (a Mechanism's 'causal power') in social interaction with their student is perhaps activated only in school life rather than in the home?

Returning back to the thoughts in Table 1, it would appear that one can choose to see both Mechanisms and their causal powers, as existing in the domain of the Empirical, Actual, or Real – depending on the received realist wisdom chosen, in further developing the realist idea of Mechanism.

Attempts to change sometimes *work out differently in different circumstances* then, in part because of the differing 'activation potentials' for actors and their particular causal powers, held (in some way) in the circumstances studied. To extend the thought, perhaps something like a particular Empirical Context being *encouraging*, *suppressive*, or *neutral* with respect to a particular type of actor, social-material actions or changes, or causal powers developed in the human project of bettering and improving one's self and lot in life?

I'm reminded here of a discussion I had with a medical colleague, who commented on their training as doctors to observe things in such a way as to fit *biomedical explanatory models* (of disease and illness phenomena); this stuck with me because it resonated with what I was also learning

elsewhere about the medical knower's dilemma in general: over whether to conceive of their objects of learning and practice as part of *objective*, *biological* Nature, or as entities residing in *socio-cultural* domains of change (**Good, 1994**). At present, realist ideas seems to have received significant development in the literature along both these lines of reasoning (i.e., along more material and social lines respectively).

In seeking to change *your* mind about the topics covered, I hope to have interested you in exploring a realist sense of the Empirical, Actual, and Real in context of your own research community or readership's basic explanatory ideas, theorising, and assumptions, in particular about how we as social actors fit into our natural and artificial worlds.

These contributions are of course limited in their origin from the perspective of an 'early career' qualitative researcher: whose work regularly involves ongoing negotiation of the signifiers or indicators of phenomena, their signified or constructed/experienced meanings, and a general analytical search for ways of *uniting these into meaningful signs* which make sense in relation to existing ecologies of ideas and meanings I visit in various projects (see 'Meaning' in Given (**2011**)). As would be realists then, this article perhaps offers you food for thought in your own attempts in joining others to make inroads, into understanding the naturalistic and manufactured 'causes' of the universe at a deeper level than as they appear in their surface forms (**Leenaars et al., 2020**; **Bratianu et al., 2020**).

Irrespective of whether you try to explain those changes you see in your Empirical world as a degeneration from, or progress into more ideal forms of life then, I hope the thinking above serves as one resource encouraging of your own reasoning around these ideas.

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References

ALBERS, B., METZ, A. & BURKE, K. 2020. Implementation support practitioners – a proposal for consolidating a diverse evidence base. B*MC Health Services Research*, 20, 368. DOI: 10.1186/s12913-020-05145-1 [Accessed: 23 March 2021].

ANDERSEN, H. 2001. The history of reductionism versus holistic approaches to scientific research. *Endeavour*, 25, 153-156. DOI: 10.1016/S0160-9327(00)01387-9 [Accessed: 23 March 2021].

ARCHER, M. S. & SKINNINGSRUD, T. 2022. Chapter 2: The structures of state educational systems and why they matter - Norway and Denmark compared. *The Morphogenesis of the Norwegian Educational System: Emergence and Development from a Critical Realist Perspective*. DOI: 10.4324/9781003163527 [Accessed: 23 March 2021].

ASTBURY, B. & LEEUW, F. L. 2010. Unpacking Black Boxes: Mechanisms and Theory Building in Evaluation. *American Journal of Evaluation*, 31, 363-381. DOI: 10.1177/1098214010371972 [Accessed: 23 March 2021].

BERNARD, H. R., WUTICH, A. & RYAN, G. W. 2017. *Analyzing qualitative data: systematic approaches*, Thousand Oaks, Calif., Sage. ISBN: 9781506347172.

BHASKAR, R. 2008. *A realist theory of science*, London, Routledge. DOI: 10.4324/9780203090732 [Accessed: 23 March 2021].

BHASKAR, R. 2014. *The Possibility of Naturalism. A philosophical critique of the contemporary human sciences*. 4 ed.: Taylor and Francis. DOI: 10.4324/9781315756332 [Accessed: 23 March 2021].

BHASKAR, R., DANERMARK, B. & PRICE, L. 2017. *Interdisciplinarity and wellbeing: a critical realist general theory of interdisciplinarity London*, Routledge. DOI: 10.4324/9781315177298 [Accessed: 23 March 2021].

BLAIKIE, N. 2004. Retroduction. In Lewis-Beck, M. S., Bryman, A., & Liao t. F. (Eds.), *The SAGE encyclopedia of social science research methods* (Vol. 1, pp. 972-972). SAGE Publications, Inc., DOI: 10.4135/9781412950589.n865 [Accessed: 23 March 2021].

BLUMER, H. 1954. What is Wrong with Social Theory? *American Sociological Review*, 19, 3-10. DOI: 10.2307/2088165 [Accessed: 23 March 2021].

BOWEN, G. A. 2006. Grounded Theory and Sensitizing Concepts. International Journal of Qualitative Methods, 5, 12-23. DOI: 10.1177/160940690600500304

BRATIANU, C., PRELIPCEAN, G., & BEJINARU, R. 2020. "Exploring the latent variables which support SMEs to become learning organizations", *Management & Marketing. Challenges for the Knowledge Society*, Vol. 15, No. 2, pp. 154-171. DOI: 10.2478/mmcks-2020-0010 [Accessed: 23 March 2021].

BRAUN, V., CLARKE, V., HAYFIELD, N., & TERRY, G. 2018. Thematic Analysis. In: Liamputtong, P. (eds) *Handbook of Research Methods in Health Social Sciences*. Springer, Singapore. DOI: 10.1007/978-981-10-2779-6_103-1 [Accessed: 23 March 2021].

BRÖNNIMANN, A. 2022. How to phrase critical realist interview questions in applied social science research. *Journal of Critical Realism*, 21, 1-24. DOI: 10.1080/14767430.2021.1966719 [Accessed: 23 March 2021].

BURCHARD, B. 2014. *The Motivation Manifesto: 9 Declarations to Claim your Personal Power*, Hay House Inc. ISBN: 9781401948078.

CARR, S. M. 2021. *Commentary on Aristotle's "Four Causes"*. (https://www.mun.ca/biology/scarr/4270_Aristotelian_Causes.html. [Accessed: 12 March 2021].

CLARK, A. & SOUSA, B. 2018. *How to be a happy academic: A guide to being effective in research, writing and teaching*. Sage. ISBN: 9781526449054.

DALKIN, S. M., GREENHALGH, J., JONES, D., CUNNINGHAM, B. & LHUSSIER, M. 2015. What's in a mechanism? Development of a key concept in realist evaluation. *Implementation Science*, 10, 49. DOI: /10.1186/s13012-015-0237-x [Accessed: 23 March 2021].

DAVIDOFF, F., DIXON-WOODS, M., LEVITON, L. & MICHIE, S. 2015. Demystifying theory and its use in improvement. *BMJ Quality & Safety*, 24, 228-238. DOI: 10.1136/bmjqs-2014-003627 [Accessed: 23 March 2021].

FAULKNER, P. & RUNDE, J. 2013. Technological Objects, Social Positions, and the Transformational Model of Social Activity. *MIS Quarterly*, 37, 803-818. DOI: 10.25300/MISQ/2013/37.3.06 [Accessed: 23 March 2021].

FELDMAN, M. S., PENTLAND, B. T., D'ADDERIO, L., DITTRICH, K., RERUP, C. & SEIDL, D. 2021. What Is Routine Dynamics? In: PENTLAND, B. T., RERUP, C., SEIDL, D., DITTRICH, K., D'ADDERIO, L. & FELDMAN, M. S. (eds.) *Cambridge Handbook of Routine Dynamics*. Cambridge: Cambridge University Press. DOI: 10.1017/9781108993340.002 [Accessed: 23 March 2021].

GIELEN, A.-J. 2019. Countering Violent Extremism: A Realist Review for Assessing What Works, for Whom, in What Circumstances, and How? *Terrorism and Political Violence*, 31, 1149-1167. DOI: 10.1080/09546553.2017.1313736 [Accessed: 23 March 2021].

GIVEN, L. M. 2011. *The Sage encyclopedia of qualitative research methods*. DOI: 10.4135/9781412963909 [Accessed: 23 March 2021].

GOOD, B. J. 1994. *Chapter 1. Medical anthropology and the problem of belief. Medicine, rationality, and experience: an anthropological perspective*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511811029 [Accessed: 12 March 2022].

GROFF, R. 2009. Introduction to the Special Issue. *Journal of Critical Realism*, 8, 267-276. DOI: 10.1558/jocr.v8i3.267 [Accessed: 12 March 2022]

GRØN, S., LOBLAY, V., CONTE, K. P., GREEN, A., INNES-HUGHES, C., MILAT, A., MITCHELL, J., PERSSON, L., THACKWAY, S., WILLIAMS, M. & HAWE, P. 2020. Key Performance Indicators for program scale-up and divergent practice styles: a study from NSW, Australia. *Health Promotion International*, 35, 1415-1426. DOI: 10.1093/heapro/daaa001 [Accessed: 12 March 2022].

HERFELD, C. 2022. Revisiting the criticisms of rational choice theories. Philosophy Compass, 17, e12774. DOI: 10.1111/phc3.12774 [Accessed: 12 March 2022].

HINDS, K. & DICKSON, K. 2021. Realist synthesis: a critique and an alternative. *Journal of Critical Realism*, 20, 1-17. DOI: 10.1080/14767430.2020.1860425 [Accessed: 12 March 2022].

HUANG, H., 2015. *Development of New Methods to Support Systemic Incident Analysis* (Doctoral dissertation, Queen Mary University of London).

HUANG, H., 2021. A Tasty Encounter with Routine Dynamics Ideas: Some 'after action' reflections. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 145-158. DOI: 10.31273/eirj.v9i1.825 [Accessed: 12 March 2022].

HUANG, H., JEFFERSON, E., GOTINK, M., SINCLAIR, C., MERCER, S. & GUTHRIE, B. 2021. Collaborative improvement in Scottish GP clusters after the Quality and Outcomes Framework: a qualitative study. British Journal of General Practice, 71(710), e719-e727. DOI: 10.3399/BJGP.2020.1101 [Accessed: 12 March 2022].

JAGOSH, J. 2019. Realist Synthesis for Public Health: Building an Ontologically Deep Understanding of How Programs Work, For Whom, and In Which Contexts. *Annual Review of Public Health*. 40, 361-372. DOI: 10.1146/annurev-publhealth-031816-044451 [Accessed: 12 March 2022].

JAGOSH, J. 2020. Retroductive theorizing in Pawson and Tilley's applied scientific realism. *Journal of Critical Realism*, 19, 121-130. DOI: 10.1080/14767430.2020.1723301 [Accessed: 12 March 2022].

KAIDESOJA, T. 2007. Exploring the Concept of Causal Power in a Critical Realist Tradition. *Journal for the Theory of Social Behaviour*, 37, 63-87. DOI: 10.1111/j.1468-5914.2007.00324.x [Accessed: 12 March 2022].

KAIDESOJA, T. 2013. *Naturalizing Critical Realist Social Ontology*. 1 ed.: Taylor and Francis. DOI: 10.4324/9780203753484 [Accessed: 12 March 2022].

LAKOFF, G. J. M. 2008. *Metaphors we live by: [with a new afterword]*, Chicago, Illinois, University of Chicago Press. DOI: 10.7208/chicago/9780226470993.001.0001 [Accessed: 12 March 2022].

LASSITER, C. & VUKOV, J. 2021. In search of an ontology for 4E theories: from new mechanism to causal powers realism. *Synthese*, 199, 9785-9808. DOI: 10.1007/s11229-021-03225-1 [Accessed: 12 March 2022].

LEENAARS, A. A., DIESERUD, G. & WENCKSTERN, S. 2020. The Mask of Suicide, *Archives of Suicide Research*, DOI: 10.1080/13811118.2020.1851832 [Accessed: 12 March 2022].

LEMIRE, S., KWAKO, A., NIELSEN, S. B., CHRISTIE, C. A., DONALDSON, S. I. & LEEUW, F. L. 2020. *What Is This Thing Called a Mechanism?* Findings From a Review of Realist Evaluations in New Directions for Evaluation, 2020, 73-86. DOI: 10.1002/ev.20428 [Accessed: 12 March 2022].

LENG, G. & LENG, R. I. 2020. *The matter of facts: scepticism, persuasion, and evidence in science*. MIT Press. DOI: 10.7551/mitpress/12228.001.0001 [Accessed: 12 March 2022].

LIVOCK, C. 2018. Re-humanization of vocational education and training in Australia. *Journal of Critical Realism*, 17, 63-77. DOI: 10.1080/14767430.2017.1372655 [Accessed: 12 March 2022].

MASLOW, A. H. 1943. A Theory of Human Motivation. *Psychological Review*, 50, 370-96. DOI: 10.1037/h0054346 [Accessed: 12 March 2022].

MAXWELL, J. A. 2012. The Importance of Qualitative Research for Causal Explanation in Education. *Qualitative Inquiry*, 18, 655-661. DOI: 10.1177/1077800412452856 [Accessed: 12 March 2022].

MAY, C. R., ALBERS, B., BRACHER, M., FINCH, T. L., GILBERT, A., GIRLING, M., GREENWOOD, K., MACFARLANE, A., MAIR, F. S., MAY, C. M., MURRAY, E., POTTHOFF, S. & RAPLEY, T. 2022. Translational framework for implementation evaluation and research: a normalisation process theory coding manual for qualitative research and instrument development. *Implementation Science*, 17, 19. DOI: 10.1186/s13012-022-01191-x [Accessed: 12 March 2022].

MERCER, S. W., HENDERSON, D., HUANG, H., DONAGHY, E., STEWART, E., GUTHRIE, B. & WANG, H. H. 2021. Integration of health and social care – necessary but challenging for all. *BJGP*, 71(711), 442-443. DOI: 10.3399/bjgp21X717101 [Accessed: 12 March 2022].

MILES, M. B., HUBERMAN, A. M. & SALDANA, J. 2013. *Qualitative Data Analysis : a Methods Sourcebook*. SAGE Publishing. ISBN: 9781506353081 .

MINGERS, J. & STANDING, C. 2017. Why things happen – Developing the critical realist view of causal mechanisms. *Information and Organization*, 27, 171-189. DOI: 10.1016/j.infoandorg.2017.07.001 [Accessed: 12 March 2022].

MONTESSORI, M. 1989. *To educate the human potential*. The Clio Montessori Series. ISBN: 9781851090945.

MUKUMBANG, F. C., MARCHAL, B., VAN BELLE, S. & VAN WYK, B. 2020. Using the realist interview approach to maintain theoretical awareness in realist studies. *Qualitative Research* (SAGE), 20, 485-515. DOI: 10.1177/1468794119881985 [Accessed: 12 March 2022].

PATTON, M. Q. 2004. Naturalistic Inquiry. In: MICHAEL S. LEWIS-BECK, ALAN BRYMAN & LIAO, T. F. (eds.) *The SAGE Encyclopedia of Social Science Research Methods*. Thousand Oaks, California. DOI: 10.4135/9781412950589.n616 [Accessed: 12 March 2022].

PAWSON, R. & TILLEY, N. 1997. Realistic evaluation. SAGE Publications Ltd. ISBN: 9781446233887.

PEARL, J., & MACKENZIE, D. 2018. *The book of why: the new science of cause and effect*. Basic Books, Inc. ISBN: 9780465097609.

POPPER, K. R. 1963. *The open society and its enemies*, Princeton, N.J., Princeton University Press. ISBN: 9780691210841.

REPKO, A. F. & SZOSTAK, R. 2017. *Interdisciplinary research: Process and theory, Sage Publications*. ISBN: 9781544398587.

RUDOLPH, K. C. 2017. Tastes of reality: Epistemology and the senses in ancient philosophy. *Taste and the Ancient Senses*. Routledge. DOI: 10.4324/9781315719245 [Accessed: 12 March 2022].

SCHON, D. A. 2017. *The reflective practitioner: how professionals think in action*. DOI: 10.4324/9781315237473 [Accessed: 12 March 2022].

SCHWANDT, T. A. 2007. Truth. *The SAGE Dictionary of Qualitative Inquiry*. 3 ed. Thousand Oaks, California: SAGE Publications. DOI: 10.4135/97814129862681.n7 [Accessed: 12 March 2022].

SKIVINGTON, K., MATTHEWS, L., SIMPSON, S. A., CRAIG, P., BAIRD, J., BLAZEBY, J. M., BOYD, K. A., CRAIG, N., FRENCH, D. P., MCINTOSH, E., PETTICREW, M., RYCROFT-MALONE, J., WHITE, M. & MOORE, L. 2021. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *BMJ*, 374, n2061. DOI: 10.1136/bmj.n2061 [Accessed: 12 March 2022].

SPACEY, A., SCAMMELL, J., BOARD, M. & PORTER, S. 2020. *Systematic critical realist review of interventions designed to improve end-of-life care in care homes*. 22, 343-354. DOI: 10.1111/nhs.12665 [Accessed: 12 March 2022].

STEVENS, S. S. 1946. On the Theory of Scales of Measurement. *Science*, vol. 103, no. 2684, 1946, pp. 677–80. JSTOR DOI: 10.1126/science.103.2684.677 [Accessed: 12 March 2022].

STEWART, E., DONAGHY, E., GUTHRIE, B., HENDERSON, D., HUANG, H., PICKERSGILL, M., WANG, H. & MERCER, S. 2022. Transforming primary care in Scotland: a critical policy analysis. *British Journal of General Practice*. DOI: 10.3399/bjgp22X719765 [Accessed: 12 March 2022].

SUJAN, M. A., EMBREY, D. & HUANG, H. 2020. On the application of human reliability analysis in healthcare: opportunities and challenges. *Reliability Engineering & System Safety*, 194. DOI: 10.1016/j.ress.2018.06.017 [Accessed: 12 March 2022].

SUJAN, M. A., HUANG, H., & BIGGERSTAFF, D. 2019. *Trust and psychological safety as facilitators of resilient health care*. Working Across Boundaries: Resilient Health Care book series (Volume 5). DOI: 10.1201/9780429274978-12 [Accessed: 12 March 2022].

SUTTON, C. E., MONAGHAN, M., CASE, S., GREENHALGH, J. & WRIGHT, J. 2022. Contextualising Youth Justice Interventions: Making the Case for Realist Synthesis. *Sustainability*, 14, 854. DOI: 10.3390/su14020854 [Accessed: 23 March 2021].

TAYLOR, A. 2021. How Contexts and Mechanisms Influence Telehealth Services. In: TAYLOR, A. (ed.) *Healthcare Technology in Context: Lessons for Telehealth in the Age of COVID-19*. Singapore: Springer Singapore. DOI: 10.1007/978-981-16-4075-9_12 [Accessed: 23 March 2021].

VAN DE VEN, A. H. 2007. *Engaged scholarship a guide for organizational and social research*. ISBN: 9780199226306.

VANLOMMEL, A. (N.D.). *The perverse effects of KPIs*. Available at: https://www.onestone.be/en/how-to-determine-good-kpis/ [Accessed: 13 March 2022].

WESTHORP, G. 2014. *Realist Impact Evaluation: An Introduction*. A Methods Lab Publication, ODI. Available at: https://odi.org/en/ publications/realist-impact-evaluation-an-introduction/ [Accessed: 13 March 2022].

WIKIPEDIA CONTRIBUTORS. (2021, MARCH 8). *Telos*. In Wikipedia, The Free Encyclopedia. Available at: https://en.wikipedia.org/w/index.php?title=Telos&oldid=1010972566 [Accessed: 12 March 2022].

WILTSHIRE, G. & RONKAINEN, N. 2021. A realist approach to thematic analysis: making sense of qualitative data through experiential, inferential and dispositional themes, *Journal of Critical Realism*, 20(2), pp159-180, DOI: 10.1080/14767430.2021.1894909 [Accessed: 23 March 2021].

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Endnotes

[i] https://www.kent.ac.uk/classics-archaeology/people/1741/rudolph-kelli

End of the Line: The unpublished novels of Anita Mason

Colin Hutchinson

Independent Scholar
Correspondence: hutchinsoncolin22@gmail.com

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Abstract

Anita Mason was a Booker Prize-nominated novelist who taught Creative Writing at the University of Warwick from 2007 until 2009. At the time of her death in September 2020, she left behind three unpublished short novels that provide a powerful, if disturbing, coda to the main body of her work. The novels are typical of Mason in that their settings are diverse: Chuichui is set in Haiti; Suppose in contemporary Israel; and Andromeda in a dystopian south-west England. Thematically, their concerns are contemporary and seem equally varied: political violence and corruption in Chuichui; the falsifying of history and culture in Suppose; and the consequences of the abuse of the natural world in Andromeda. This article contends, however, that beyond this diversity these works share deeper concerns that indicate a darker authorial outlook than that suggested by Mason's published work, and that amount to a crisis of faith in artistic representation and even in human civilisation itself.

Keywords: Anita Mason; contemporary fiction; British fiction; dystopian novel; ecological fiction; political novel

Introduction

At the time of her death in September 2020, the British novelist Anita Mason left behind three unpublished works that function as a fascinating coda to her underrated but substantial body of work. Mason, a Booker Prize nominee for her 1983 novel *The Illusionist*, published eight novels with a wide variety of settings, from first-century Judea through Nazi Germany to 1970s Cornwall. Her final published novel, *The Right Hand of the Sun*, a retelling of the conquest of Mexico by Hernan Cortés, was published in 2008 and represents her longest and most technically ambitious work. Then in her early sixties, Mason seemed set fair for a sustained period of mature, fully realised creativity. Sadly, following a visit to Haiti, she contracted polymyositis; the disease that eventually took her life. Her friend, the writer Christine Cohen Park, attests that, although Mason's ambitions remained undimmed, the condition robbed the author of the emotional energy required to realise full-length novels in a similar register to her earlier work. What followed were three novellas – the longest stretching to no more than 47,000 words. This enforced brevity did not restrain Mason from continuing to provide wildly different settings for these final pieces: *Chuichui* (2009), set in Haiti, is ostensibly an homage to Graham Greene's 1966 novel *The Comedians*; *Suppose* (2015) is a haunting parable set in contemporary Israel; and *Andromeda* (2017), set in the south-west of England, is a dystopian eco-fantasy about the mass suicide of animals.

This article will give a brief outline of these unpublished works and will demonstrate that, as with all of Mason's novels, similar themes and motifs recur beneath the diverse settings. After an analysis of the three texts in relation to Mason's full-length works, the article will contend that the overall mood and convictions presented by the former signify a profound break with the latter. The energetic authorial voice and the belief in the value of intellectual aspiration, aesthetic shaping, and human agency that is evident in Mason's published novels is superseded by a pessimistic tone that goes beyond what might be attributed to autobiographical factors to present the reader with a sense of ineluctable enervation and collapse that affects all of human culture. When coupled with the themes of ecological crisis and human abuse of the natural world, it is *Andromeda* that among these works has the most contemporary resonance, and that deserves a wider audience – possibly through cinematic adaptation.

Despite their diverse settings, most of Anita Mason's published novels begin with one or more principal characters becoming marginalised from mainstream society, either through accident or design. What follows is that these protagonists gravitate toward some form of alternative community that, initially at least, promises greater fulfilment. Yet the need

for individual self-determination shared by these characters is frequently shown to be at odds with the impulse for a more satisfying collective life; and collective spaces, both mainstream and dissenting, are shown to be vulnerable to manipulation by tyrannical individuals. In *Angel* (1994), for instance, the only means by which Frederika Kurtz can escape her domineering, traditionalist father in order to fulfil her ambition of becoming a pilot is to join the Luftwaffe, but she eventually realises that the means by which she achieves her own liberation contributes to the oppressive order of Nazism. A similar dynamic occurs among the leaders of the sixteenth-century Anabaptist movement in *Perfection* (2003) and, albeit on a much smaller scale, among the members of a rural commune in Mason's first novel, *Bethany* (1981).

In these novels, a tentative sense of resolution arrives in the form of a persistently dynamic negotiation with failure and futility. Characters in Mason's most openly philosophical works, such as *The Illusionist* and *The Right Hand of the Sun*, emphasise the essential 'doubleness' of the nature of this negotiation. In *The Illusionist*, the title character Simon Magus, having led a life of opportunistic self-gratification, eventually rails against singular assertion and belief in favour of perpetual activity:

> *The true abyss … is that there is no point in trying to do anything and yet we have to try. Our effort is required, although it means nothing and will come to nothing. It will be negated, but also it will negate. It will hold the world in balance, and ensure that, for a little while, nothing happens. For if we stopped acting, the world would end.* (**Mason, 1994: 277**)

This emphasis on a constant struggle with a protean reality is revisited in *The Right Hand of the Sun* when the principal narrator Geronimo converses with the indigenous ruler Moctezuma about the twin gods of the Meshica people who are said to represent 'all that can be thought' (**Mason, 2009: 497**). It is significant that Geronimo himself has a twin identity, being Spanish but also having spent years living with an indigenous tribe when he was known as Muluc. The notion of reality as something divided yet fluid haunts Geronimo who, at the end of the novel, sees the land on which he lives as 'a double thing that presents itself to me with first one face and then the other, like a sword hung twisting from a branch whose two surfaces in turn reflect the sunlight' (**Ibid: 500**). He contemplates the idea of land as both 'a dead thing parcelled up, a net of ownership' and as 'the true and everlasting earth out of which the maize springs and into which … we descend and are reborn … forever' (**Ibid**), while experiencing both agitation and peace as he moves constantly between the two states. Similarly, he becomes acutely aware of the contrast between the European and indigenous models of time in the

same way that, at the climax of *The Yellow Cathedral* (2002), the character of Benito is seduced by the circular nature of time expressed in the traditional songs he hears.

Within these novels, Mason's evident attraction towards the atavistic is recruited into a project of energetic engagement with a bewildering reality in a way that is intended as a challenge to power and oppression.[i] While the 'posthumous' works do not venture far from these themes and plot trajectories, they share a much bleaker and pessimistic outlook in which characters fail to adopt the confidence in human intellectual agency that permeates Mason's earlier novels. Moreover, the emphasis on the importance of creative representation – through language and art – that is so crucial a part of Mason's project also enters a sense of crisis, as if representation itself were part of that crisis, propelling a sense of collapse and failure that finds ultimate representation in the events that conclude her final work, *Andromeda*.

Three Tales

Pessimism and atavism are rarely far from European commentaries on Haiti, and Mason's *Chuichui* (the Haitian Creole for the word 'whisper') is no exception to this. The connection with Greene's *The Comedians* is made explicit during a passage in which the narrator, a British author named Claude, says of another character, 'He had read his Graham Greene. Haiti for him … had been the nightmare republic' (**Mason, 2009: 95**). Yet Mason does not demur from this notion of Haiti. In fact, Greene's work is employed by Mason as something of a template: in both novels, the country is ruled by a corrupt and ruthless dictator (in Mason's case, the fictional Jean-Luc Théophile, known colloquially as 'Timoun'); both are set in a near-empty, foreign-owned hotel; and both feature a dissolute narrator who, while initially scornful of well-intentioned newcomers, is eventually impressed by the integrity and resourcefulness of those who pursue a purpose beyond their own appetites. In *The Comedians*, the hotelier Brown comes to admire an American philanthropist couple (the Smiths) as well as the con-man Jones, who dies after deciding to help the rebel forces fighting 'Papa Doc' Duvalier. In *Chuichui*, Claude is initially sceptical of the attempts of the Englishman Michael Syme to find his niece Jo, an adopted Haitian orphan who has disappeared while working for a Non-Governmental Organisation (NGO) in Haiti. In time, Claude assists Syme and involves him in two aspects of Haitian life that also feature in Greene's novel: Haitian art and voodoo (referred to as 'vodou' by Mason).

The presence of art – and art forgery – in *Chuichui* is unsurprising given Mason's interest in the problematic nature of representation that is especially evident in her short story 'Irma' (1990), and in her novel *The Racket* (1990). Like *Chuichui*, both tales are set in Latin America and both

feature references to religious and indigenous art. Moreover, all three works warn that the relationship between art and the world it attempts to represent is perilous: in *Chuichui*, Claude introduces Syme to the thriving Haitian art world, but he is aware that forgeries are rife, and is assaulted by a hustler working for a transsexual forger named Maxine. Furthermore, Jo is alleged to have a boyfriend named Hector, but an artist named Hector claims not to know Jo, while another Hector is no more than a child and a former neighbour of Jo's.

Significantly, it is the world of voodoo that is the more fruitful than art, both in terms of Syme's search, and with regard to Mason's wider thematic interests. Although a voodoo ceremony takes place in *The Comedians*, Mason provides a narrator who is clearly more engaged and sympathetic with the religion and its practices than Greene's protagonist, who expresses only disgust. Claude makes approving references to the works of the occultist William Seabrook and the anthropologist Alfred Métraux and, after seeing a photograph of Jo, recalls seeing her at a ceremony. He then persuades Syme that a consultation with a *houngan*, or voodoo priest, will help to find Jo. Syme obtains the information he needs but is profoundly disturbed and bewildered by the experience. Claude attempts to explain the means by which the *houngan* divines information from celebrants and spirits: 'a space opens up. The space is inside everyone…The God enters' (**Ibid: 58**). Like Haitian art, voodoo is depicted by Mason as a means by which Haitians, besieged by foreign intervention and by their own corrupt ruling class, can communicate within an alternative collective space that represents a challenge to traditional Eurocentric notions of logic, perception, and personal identity. Towards the end of the novel, Syme has to accept that his confidence in the stable world he knows – that of self-knowledge and of the authority of white men like himself - has been eroded not only by his experience of voodoo, but also by Jo's refusal to return to Britain and her unswerving faith in Théophile and the people of Haiti. In fact, the Théophile regime is doomed, and the novel ends in a babble of fragmented telephone conversations that prefigure the sense of social and linguistic collapse that haunts Mason's two final works.

In terms of atmosphere and thematic concerns, *Suppose* is reminiscent of Michael Haneke's 2005 film *Hidden* (*Caché* in the original French). Haneke's film uses the long aftermath of the post-war Franco-Algerian conflict as the basis of an investigation of post-colonial guilt and selective memory. Its claustrophobic feel – which begins with a bourgeois French couple being sent surveillance films of their own home – is intended to foreshadow eventual breakdown and crisis. In the same way that *Chuichui* employs *The Comedians* as a source text, *Suppose* appears to draw upon the influence of *Hidden* in order to address the Israel-Palestine conflict. It

is the story of Max Guzman, the director of a 'Museum of Reconciliation' in (an unnamed) Israel, who finds that the carapace of well-ordered material and aesthetic satisfaction that he has constructed around his life is being continually ruptured by disturbing elements from the past and present.

The novel begins with a much-anticipated trip by Max and his companion Leyla to an ancient archaeological site and a tea-room run by an elderly woman that Max admires for having 'overcome' (**Mason, 2015: 4**) unspecified adversity. The site is a disappointment, however, and Max sees, in Leyla's presence, that the refreshments at the tea-room are inferior and that the elderly woman is a bitter matriarch. Matters deteriorate further when the pair argue, and Max assaults Leyla. Max makes the acquaintance of a (nameless) shopkeeper who is a member of a persecuted minority, the Hariph, and who is upset by a photograph on the wall of Max's apartment that depicts the homeland from which he alleges that his family was forcibly removed – an accusation that Max patronisingly denies. The narrative then transforms the shopkeeper into the ghost of Max's deceased father, who recalls his experiences of atrocities committed against Jews by the Nazis. Towards the end of the novel, Max discovers that a valuable painting in the museum has been damaged after being dropped and finds that his position at the museum is untenable. The tale ends with the suicide at the museum of the shopkeeper, who has seemingly been following Max.

Mason's narrative constantly undercuts Max's assumptions and assertions, not only about his role in the national project of reconciliation – represented by the museum he directs – but about his own character: against Leyla's accusation that he is a bully, he protests that he is 'the mildest of men' (**Ibid: 8**). During the visit to the tea-room, Max adopts a proprietorial view of 'a delightful spot I …had come to think of as in some way "mine"', extending this view across the landscape and contrasting its 'careful and assiduous irrigation' with earlier times when 'as everyone knows, the land had been allowed to fall into ruin' (**Ibid: 2**). His attitude becomes more explicit in a subsequent passage:

> *A country can't exist without borders. If nothing else, it can't exist without that which it excludes…The founding principle of our state concerns what it is and what it is not, which translates naturally into whom it is for and whom it is not for. Various things follow from this: citizens' rights, military service, educational opportunities, housing. The allocation of land. The allocation of water. But all these things, these facts, are secondary. They result from the initial conception. The initial conception concerns purity. Most states arise on the same basis.* (**Mason, 2015: 12**)

'Purity' is always a dangerous concept in Mason's work: from the fanaticism of the Anabaptist zealots in *Perfection* to the Nazis in *Angel*, the imposition of abstract ideological constructs upon a world that resists those constructs inevitably leads to atrocity. This is made explicit during a later passage in *Suppose* when Max's father claims that a Jew shot by the Nazis had offended the latter's ideas of 'purity' (**Mason, 2015: 51**). The spectral father represents the return of the repressed, and frequently acts as a rebuke to Max's suppressed conscience. Indeed, it is through the voice of his father that Max is forced to confront the notion that what Max's nation has done to the Hariph is equivalent to what the Nazis did to his father's generation. Under such pressure, Max eventually suffers a breakdown that represents a crisis related not only to the principle of reconciliation that has provided a foundation for Max and his nation, but also to Max's confidence in accepted notions of time.

The notion that the conventional model of linear time is problematic appears in much contemporary fiction (**Dillon & Marques, 2021**, and the chapter 'Time and narrative' in **Morrison, 2013**) and is apparent from the beginning of *Suppose*. At the archaeological site, Max expresses frustration that he can only look at the past through a disappointing pile of stones: 'Time is a perception, I thought. What is it really? Perhaps there is no "really". But what does that mean?' (**Ibid: 6**). Later, when discussing Nazi atrocities with his father's ghost, Max notices that the ghost switches from the past to the present tense. Max invokes T S Eliot's *Four Quartets*, concluding that 'time is an illusion … all time is present … all time is unredeemable' (**Ibid: 24**) and begins to fear that the idea of the museum, along with the national project of reconciliation, is doomed and futile. The eighth chapter of the novel is actually entitled 'time' and concerns Max's advocacy of a controversial art installation that features an elderly watchmaker take apart a watch and then reassemble it – except that the reassembly stage involves no more than the film being run backwards. Max believes that the film is intended to subvert conventional notions about time but acknowledges, upon viewing the piece once more, that there 'was no reconciliation in that piece, either, and certainly there was no hope' (**Ibid: 36**). It occurs to Max that his father has been reincarnated as the Hariph shopkeeper and that irredeemable atrocity has damned the nation to a form of eternal recurrence – a similar anxiety about time and history having been expressed in relation to Haiti in *Chuichui*.

Events come to a head at the meeting of the museum board during which Max expounds his new ideas about time by referring to the practices of the Mayan civilisation and invoking the idea of 'anti-time' (**Ibid: 85**) as a correlative to the concept of anti-matter. He argues to the bewildered board members that the present is used to manipulate the past and the future, and that this manipulation creates a damnable circularity in which

redemption becomes impossible. Max appears to have surrendered to a mood of passive nihilism that assures his dismissal from his post. In the final chapter, Max is called to the museum to witness the aftermath of the suicide of the Hariph man, who had hanged himself from a steel bar that, earlier in the tale, Max had indicated was a symbolic feature of the museum (it is worth noting that *Hidden* also ends with the suicide of the colonised subject). Faced with the collapse of all his certainties and haunted by the notion of damnation through eternal recurrence, the only feasible resolution for Max appears to be the obliteration of self. Believing himself twinned to the Hariph man who is also his revenant father, the novel ends with Max contemplating the loaded pistol in his office desk.

The themes invoked by *Suppose* - the obliteration of identity, the questioning of time and representation, and the suggestion that humankind will inevitably return to a primitive state - reach their ultimate expression in Mason's final novel, *Andromeda*. For the first time in Mason's work, the principal character is not a conflicted adult thinker but a child: a ten-year-old boy, Davey Hickling, who lives in a Devon village with his parents and his beloved pet dog, Jack. Davey sees a herd of cattle break out of their field and drown themselves in the sea, only to discover later that this behaviour has been repeated across the world: animals that are held captive or otherwise exploited by human beings for food, work or entertainment, commit suicide or allow themselves to die. Food shortages are followed by economic collapse, and Davey's parents are killed by a marauding gang. Dogs have remained loyal to humans and so Davey and Jack start to wander the countryside, foraging for food and sleeping rough. The novel tilts into the picaresque as Davey comes into contact with a series of alternative communities that have always been a feature of Mason's fiction: a party of 'hippies' trying to buy food; a group of 'lunatics' who flog themselves as they wander the roads; and a Christian farming community known as Mallow that offers shelter to Davey in return for work. Davey's insistence on sharing food and a sleeping space with Jack angers the leaders of Mallow who explain their conviction that humans are meant to have dominion over animals. Davey leaves Mallow and meets Smithy, an animal rights activist who lives a nomadic lifestyle from an old van. Along with other 'vanners', Smithy has dedicated her life to rescuing wild animals from being used as a food source by humans. The vanners are similar to the alternative communities in *The War Against Chaos* in that they lead unstructured lives unencumbered by hierarchies and are led by a combination of principle and pragmatism rather than hard ideology. Nevertheless, like those groups from the earlier novel, they run into problematic territory. Smithy is uneasy at the decision of the group to rebuild an abandoned house and settle there while locking a rescued deer and fawn inside a stockade to prevent them being killed and eaten by local

villagers. She believes that, however well-meant, enclosing animals in the interest of their welfare and preservation is at odds with the group's beliefs and will lead inevitably – as a character in *The War Against Chaos* puts it – 'to the place where all the old mistakes would again be made' (**Mason, 1989: 177**).

After an episode in which Jack kills the fawn, Davey and Smithy leave the group and resume their nomadic lifestyle. Smithy finds occasional work at a community that consists of a patch of land next to a functioning set of wind turbines. Like Mallow – and possibly the vanners - this community appears to be reconstructing the ills of civilisation in that the power it generates through technology obliges it to seek more and more labourers in order to carry on growing. Smithy is offered the chance to live and work at the settlement on a permanent basis but refuses to do so. The trio then encounter yet another community, led by a man named Marcel, that is devoted to the idea that the extra-terrestrials that Marcel believes to have encouraged humans to adopt farming and build cities thousands of years ago are due to return soon in order to restore civilisation. When the aliens fail to arrive, the group fragments, and Jack joins the pack of dogs that had accompanied the group. There follows the mysterious ending of the novel, during which Davey and Smithy appear to be struck dumb while the dogs begin to communicate with one another in a strange new language.

The problematic – if not outright dangerous - nature of language reaches a bleak conclusion in *Andromeda* that is prefaced in *The Right Hand of the Sun.* In the earlier novel, the threat posed to the indigenous population of central America by the Spanish is perceived by the Meshica people in terms of a fear of writing instruments and the appearance of Cortés's notary, as if the Meshica sensed that writing signified the deadening commodification of land and people. In *Andromeda*, there are few instances of written language, as if it had already become a thing of the past, its commodifying energies having been spent as social coherence dissolves. At the end of the novel, spoken language follows the same fate as the fragmented communities that are all that remain of human civilisation collapse in on themselves. While Marcel's group await the return of the extra-terrestrials:

> *Nobody talks much. People communicate as much by gesture as speech. Words take energy out of you. They also, Marcel says at one the rare evenings when he comes to the campfire, lead people astray.*
>
> *'Think of all the things that were made with words. Empires, wars, histories. Just trouble, all of it. Leading nowhere.'* (**Mason, 2017: 123**)

The group then abandon conventional language as they begin speaking in tongues, after which they abandon themselves to a 'state of emptiness' (**Mason, 2017: 124**), following the example of the captive animals at the beginning of the novel.

Another notion voiced in *The Right Hand of the Sun* is that the abandonment of the hunter-gatherer state in favour of settled development was a mistake on the part of humanity. Moctezuma confesses to Geronimo his regret that the Meshica ever left their nomadic existence in order to establish farms and cities, and to pursue the very wealth and power to which the rapacious *conquistadores* are attracted. In *Andromeda,* as the vanners debate the imprisonment of the deer, Smithy argues that, 'if you put a living creature in a cage … you are putting yourself in a cage at the same time' (**Ibid: 76**) before later making explicit the connection between the farming of animals and inevitable destruction:

> *'Farming,' retorts Smithy, 'is the problem. It's got us here. When people settle down and start to farm, that's all they think about.'*
>
> *'If we went back to being hunter-gatherers, half the world's population would die of hunger.'*
>
> *'From the planet's point of view, that is exactly what needs to happen,' Smithy says.* (**Mason, 2017: 84**)

Conclusion

The ambiguous endings of Mason's published novels, with their emphasis on uncertainty and 'doubleness' are reliant on the author's insistence on the importance of constant intellectual rigour and energy. By contrast, the three unpublished novels present a much gloomier and resigned picture of a collapsing civilised order, and of a loss of faith in the human intellect and its creations. One such creation is that of regular, linear time and its importance in the processes of measurement and regulation, or 'parcelling out', as it is referred to in *The Right Hand of the Sun*. For Mason, the meliorist conception of constant progress through linear time, so central to the Enlightenment and modern liberalism, is favoured less than atavistic notions of circular time and eternal recurrence that are accepted by the marginalised indigenous peoples of Latin America. This trope is not uncommon in other contemporary novels: in Jonathan Franzen's *Crossroads*, a Lutheran preacher who spends time on a Navajo reservation speculates that 'while man experienced time as a progression…to God the entire course of history was eternally present…Being in the desert made a mystery like this accessible' (**Franzen, 2021: 507**), while in Alexis Wright's *Carpentaria*, the indigenous Australian characters accept the existence of spirits from beyond conventional time 'rattling off the local history of centuries in minutes' (**Wright, 2008**:**270**). In Mason's published novels, this

beatific portrayal of alternative models of time is applied to the representation of the Chiapas Amerindians in *The Yellow Cathedral*, and to the winic people in *The Right Hand of the Sun*, yet a less positive of circular time emerges in the three unpublished works. In *Chuichui,* Haiti is depicted as a land of recurring damnation in which Western intervention has brought about not progress but entrenched degradation and misery. *Suppose* is another text in which the artefacts of Western civilisation are shown to fall away as the narrator experiences a crisis that affects everything from his love of tea and preserves to his belief in his nation's management of its past and even his confidence in the beneficial powers of artistic representation. Art literally collapses around him as he fails to articulate a redemptive narrative built around Mayan conceptions of time and can only act as a faithless witness to his own dissolution and that of the persecuted minorities who, like the indigenous peoples elsewhere in Mason's works, have been separated from their lands by modern Western notions of settlement, possession and development.

The modern Western insistence on control over the natural world and the living beings within it is another aspect of human agency in which Mason has evidently lost faith. In this regard *Andromeda* is an explicit condemnation of humanity's irresponsible dominion over the natural world. The Mallow community believes that it is a benevolent force in its insistence on the importance of returning to a highly regulated agricultural order and on the privileged status human beings enjoy in relation to animals, but the implication is that they are merely reproducing the unbalanced system that has just collapsed. As Smithy tells Davey, 'There can't be a balance because we've destroyed it. *We* are the predator and for the past God knows how many thousand years the idea of balance hasn't entered our tiny minds' (**Ibid: 75**, emphasis in original).

Perhaps most significantly for a writer who has in her published work placed such an emphasis on the crucial importance of intellectual activity and agency, *Andromeda* shows humanity being divested of the tools of representation that distinguished it from other animals and with which it constructed civilisation. The implication is that humanity has brought about this fate upon itself; that it has deserved its own downfall. Mason does not make clear the mechanics of the transfer of the gift of language – and perhaps intellect - from humans to dogs: the possibility of God being the agent of the transfer is unlikely in an author whose concerns have always been secular. Mason may be proposing a fantastical version of James Lovelock's Gaia hypothesis whereby Earth, effectively functioning as a 'self-regulating entity' (**Lovelock, 2000: ix**), rids itself of the highly developed communicative ability of a species that threatens to bring ruin.

A more likely alternative is that *Andromeda* is a fable – not least because of the favoured position accorded to animals in the novel. Its tone is elegiac on a grand scale, leading to the conclusion that it is an ecological warning about the exploitative abuse of the flora and fauna of the Earth by humanity. Alternatively, it may be an essay on fatalism and resignation for a writer who sees in contemporary concerns about climate and the environment a form of reverse metaphor for her own physical decline. It may also reflect a general anxiety about the role of the contemporary writer in which '[t]he novelist's sense of impending obsolescence is bound up with a perceived loss of cultural authority' (**Green, 2005: 7**). Such a sense stems from marginalisation: a recurrent theme in Mason's work that is represented not only by the isolation that her protagonists experience from mainstream society but also by the conflicted feelings that these characters share towards the alternative communities to which they are attracted. Full redemption rarely occurs in these novels, and it is left for the reader to infer that it is the role of the writer 'to clothe what is essentially inhuman in the trappings of the human, keep the world convinced that it runs on a human principle, without which deluded conviction all culture would fall into utter ruin' (**Fitzpatrick, 2006: 51**). In these final pieces, Mason's confidence in this dynamic principle breaks down, leading the fable to point at the catastrophe that is widely believed to loom large in our not-too-distant future while at the same time reminding us that it is only through the process of fabulation that we can examine our own fate.

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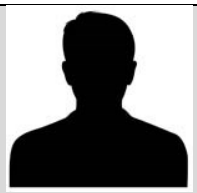

Colin Hutchinson is an independent scholar who has taught at Newcastle University and the University of Cumbria. He studied Comparative Literature at the University of East Anglia and subsequently received an MA and a PhD in English Literature from Newcastle University. He is the author of *Reaganism, Thatcherism and the Social Novel* (Palgrave Macmillan, 2008) and several articles on contemporary fiction.

References

Caché, 2005. Directed by Michael Haneke. France: Mars Distribution.

Dillon, G. and Neves Marques P., 2021. Taking the Fiction out of Science-Fiction: A Conversation About Indigenous Futures. *e-Flux Journal*, 120. Available at: https://www.e-flux.com/journal/120/417043/taling-the-fiction-out-of-science-fiction-a-conversation-about-indigenous-futures [Accessed: 13 December 2021].

Fitzpatrick, K., 2006. *The Anxiety of Obsolescence: The American Novel in the Age of Television*. Nashville: Vanderbilt University Press.

Franzen, J., 2021. *Crossroads.* London: 4th Estate.

Green, J., 2005. *Late Postmodernism: American Fiction at the Millennium.* Basingstoke: Palgrave Macmillan.

Greene, G., 1984. *The Comedians*, Harmondsworth: Penguin (originally published by The Bodley Head in 1966).

Hutchinson, C., 2010 Revolt and Engage: The Novels of Anita Mason. *English: The Journal of the English Association*, 59 (226), pp. 281-300. DOI: 10.1093/english/efq007 [Accessed: 26 May 2021].

Lovelock, J. *Gaia: A New Look at Life on Earth*. Oxford: Oxford University Press, 2000 (originally published by OUP in 1979).

Mason, A., 1994. *Bethany.* London: Penguin (originally published by Hamish Hamilton in 1981).

Mason, A., 1989. *The War Against Chaos.* London: Abacus (originally published by Hamish Hamilton in 1988).

Mason, A., 'Irma' in Baird-Smith, R. ed., 1990. *Winter's Tales* New Series:6, 205-219. London: Constable.

Mason, A., 1991. *The Racket.* London: Sceptre (originally published by Constable in 1990).

Mason, A., 1994. *The Illusionist.* London: Penguin (originally published by Hamish Hamilton in 1993).

Mason, A., 1995. *Angel.* London: Penguin (originally published by Hamish Hamilton in 1994).

Mason, A., 2002. *The Yellow Cathedral.* Denver CO: Spinsters Ink.

Mason, A., 2003. *Perfection.* Denver CO: Spinsters Ink.

Mason, A., 2008. *The Right Hand of the Sun.* London: John Murray.

Mason, A., circa 2009. *Chuichui.* Unpublished MS.

Mason, A., circa 2015. *Suppose.* Unpublished MS.

Mason, A., circa 2017. *Andromeda.* Unpublished MS.

Morrison, J., 2003. *Contemporary Fiction*, London: Routledge.

Wright, A., 2008. *Carpentaria*. London: Constable (originally published by Giramondo, Australia in 2006).

Hutchinson, C., 2022. Genetic End of the Line: The unpublished novels of Anita Mason. *Exchanges: The Interdisciplinary Research Journal*, 10(1), 94-107. Available at: https://doi.org/10.31273/eirj.v10i1.846.

Endnotes

[i] For a more detailed assessment of Anita Mason's published work, see (**Hutchinson, 2010**).

A Literature Review of Arnstein's Ladder of Citizen Participation: Lessons for contemporary student engagement

Simon Varwell

Student Partnerships in Quality Scotland, Edinburgh, UK
Correspondence: simon.varwell@sparqs.ac.uk

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Abstract

The COVID-19 pandemic continues to deeply impact education and wider society, with consistent disruption to relationships between authorities and citizens. As higher education sees continuing turbulence overlap with a strengthening of student engagement, this systematic literature review reappraises how students as 'citizens' are enabled to shape their learning. It does so in a Scottish tertiary context and through the prism of Arnstein's Ladder of Citizen Participation, a classic framework whose eight rungs present a spectrum of ways that stakeholders can be engaged in decisions. The article explores the use of the ladder over half a century in planning, housing, health, schools and, finally, higher education, analysing critiques and adaptations of the ladder, conducting meta-synthesis across the literature to extract conclusions for student engagement. It concludes that Arnstein's ladder has continuing value to conversations about partnership in tertiary education, and that the centrality of power to both the ladder and student engagement in a sector and wider world of increasing democratic citizenship presents a challenge to decision-makers. These conclusions, and the study's limitations, point to further research opportunities that could enhance the understanding of engagement and partnership at a time of change and uncertainty.

Keywords: student engagement; Arnstein's ladder; higher education

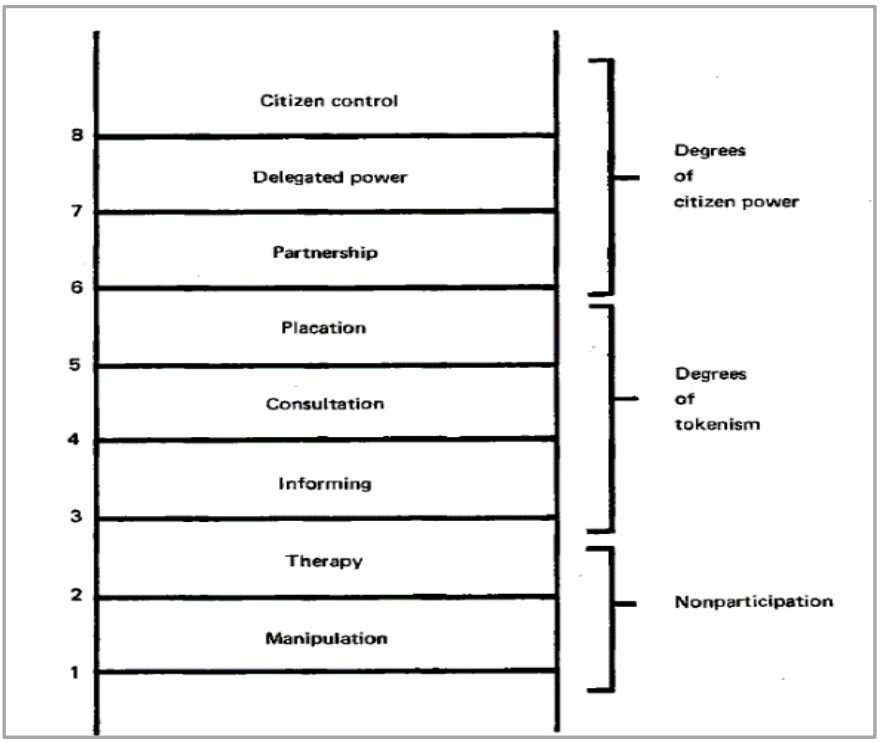
Please see *Caveat* and *References* for full sources information on all included images

Introduction

Further and higher education in 2022 sees COVID-19 impacting on existing challenges such as funding (**Ross, 2020; de Wit & Altbach, 2021**), students' wellbeing (**Aristovnik et al., 2020**), and Brexit (**Amuedo-Dorantes & Romiti, 2021; Riedl & Staubmann, 2021**). There are also pandemic perspectives on academic development (**McAvinia et al., 2022**), and social issues on campus such as racial equality (**Islam & Valente, 2021**) and climate change (**Ono & Nosek, 2021**), and indeed the nature of a post-pandemic university (**Mahon, 2022**).

Throughout, the disruption to learning has underlined the strength and value of the student voice (**Natzler, 2021; Ntem et al., 2020; Hassan et al., 2020; Student Partnerships in Quality Scotland, 2021**), and so as the sector recovers it is worth re-evaluating what the pandemic reveals for the idea of students as partners. This article aims to do so through a multi-disciplinary literature review examining one particular tool: Sherry Arnstein's Ladder of Citizen Participation **(Arnstein, 1969**) (Figure 1). Developed in urban planning over half a century ago, the ladder has been widely applied as one of many frameworks for measuring how citizens shape decisions that affect them (**Hussey, 2020; nonformality.org, 2011; Burns et al., 2004**).

Figure 1: Arnstein's Ladder of Citizen Participation (**Arnstein, 1969, p. 217**)



Sherry Arnstein's work is explored by Gaber (**2021**), who charts her career from juvenile court casework, via administration of hospital desegregation, to her 1967 appointment as chief advisor on citizen participation in the Model Cities programme, an urban renewal scheme established by the US government (**Ibid: 17-20**). Gaber explains the evolution of the ladder (Figure 1) and highlights how Arnstein's earlier roles shaped the themes of disconnection and marginalisation (**Ibid: 20**) that feature in her own article (**Arnstein, 1969**) and have continuing value to a pandemic-era world.

Methodology

My research aim was to synthesise literature about Arnstein's ladder across fifty years of practice in multiple sectors to gain new perspectives and lessons for practice in contemporary, post-pandemic student engagement. To achieve this, I undertook a systematic and 'general conceptual literature review' (**Thomas & Hodges, 2010: 4**) of Arnstein's ladder. Given I strived to bridge Arnstein's world of 1960s planning policy with today's pandemic-defined education sector, core to my research aim was my desire to 'place the research in a historical context to show familiarity with state-of-the-art developments' (**Randolph, 2009: 2**).

Researcher's Position

As a national agency practitioner in Scotland's tertiary sector with an interest in facilitative tools of partnership (**Varwell, 2021**) I embrace student engagement's inherent transformative potential for power dynamics, educational outcomes and society in general. I agree with Gravett et al., (**2020: 13**) that partnership is 'a dialogic and values-based approach to learning and teaching that has the potential to be transformative, developmental and fun,' and that shaping one's learning builds confidence to shape the wider world. I further believe that this requires 'an inclusive and democratic learning community' (**Hassan, et al., 2020: 7**), and that an empowering, Freirean pedagogy is 'a political and moral practice that provides the knowledge, skills, and social relations that enable students to explore the possibilities of what it means to be critical citizens while expanding and deepening their participation in the promise of a substantive democracy' (**Giroux, 2010: 716**).

I also derive inspiration from Arnstein's own manifesto for the participation of society's 'have-nots' as 'the means by which they can induce significant social reform which enables them to share in the benefits of the affluent society' (**Arnstein, 1969: 216**). This echoes methodological literature where 'the ontological assumption of the transformative paradigm holds that socially constructed realities are influenced by power and privilege' (**Cresswell & Clark, 2018: 374**).

Similarly, Hatch's manifesto for qualitative analysis states that 'I do not want knowledge and how it is created to be in the hands of those who happen to hold political power' (**Hatch, 2006: 406**). Therefore, this article, Arnstein's ladder and indeed student engagement in in general all focus on the disruption of power and knowledge.

Research Method

A wide range of student engagement literature reviews were consulted (**Mercer-Mapstone et al., 2017; Healey et al., 2014; Lester, 2013; Trowler, 2010; Bovill et al., 2009; Bryson, 2014; Lowe & Bols, 2020**). Three offered particularly informative explanations of their methodologies. Mercer-Mapstone et al., (**2017: 4**) identified expert bibliographies from active researchers, supplemented by Google Scholar searches and trimmed using criteria developed by Kennedy (**2007**). Shaw et al., (**2017**) searched for keywords in various search engines and journals. Finally, Ní Bheoláin et al., (**2020: 8**) undertook a scoping search modelled on Arksey and O'Malley (**2005**).

Five fields of stakeholder engagement stood out for my comparison with student engagement, including environmental policy because of its political cogency and impact on today's debate about (especially young) citizen voices (**Rogers, 2020**), and planning, the field in which the ladder was developed. Early searches for references to Arnstein's ladder identified health, schools and housing as other fields with useful contributions.

Coming from student engagement, I approached these other sectors with care, so sector-specific literature reviews citing Arnstein (**1969**) were useful launchpads. A Google Scholar search revealed over twenty-three thousand citations of Arnstein's original article, and 'this type of search can easily spiral out of control' (**Newby, 2014: 213**), especially considering Arnstein's vintage model. Thus, a focus on quality and applicability over quantity was paramount. To narrow down on literature where the ladder had impacted on authors' content or methodologies, a further Google Scholar search for 'Arnstein literature review' was conducted, rendering results since Arnstein's original publication (**1969**) in environment and planning (**Puskás et al., 2021; Ahmad & Abu Talib, 2011; Reed, 2008; Sieber, 2006**), and health (**Frankena et al., 2015; Nitsch et al., 2013; Marent et al., 2012**). There was also a wave of publication in planning around the fiftieth anniversary of Arnstein's article (**Lauria & Schively Slotterback, 2021; Schively Slotterback & Lauria, 2019; Natarajan, 2019a; 2019b**). A scan of these springboard publications helped me to 'prise open the literature' (**Newby, 2014: 213**).

A review of tertiary education then followed, synthesising the diverse arguments in each sector, and allowing transferability for student engagement. A spread of literature and policy that referred to, critiqued, or built on Arnstein's ladder was then gathered for further analysis, including several who proposed adaptations of the ladder for their various contexts. This totalled sixty-nine pieces: thirty-three from planning and environment, ten each from health, higher education, and housing, and six from schools and young people. The complexity and disagreement I found across these five sectors shaped my narrative. As Newby (**2014: 213**) argues, 'we should identify contradictions in results, disagreements between authors, how work builds together to create an understanding and explanation'.

I extrapolated and coded references to Arnstein, 'allowing for themes to emerge direct from the data' (**Fereday & Muir-Cochrane, n.d.: 83**). Among the codes I used, it became apparent that the approach, outcome and transferability of literature were most useful, and mapping the year and format provided little value. Figure 2 shows an example of my mapping in health.

Figure 2: An Illustration of my Coding Approach in my Literature Review

Publication	Sector	Year	Approach	Outcome	Reaction	Transferability	Format
de Leeuw	Health	2021	Observation of professionalised, but ineffective, consucrat	Adapted model	Neutral	Value of supporting representatives	Article
Tritter & McCallum	Health	2006	Criticism of ladder's lack of complexity	Adapted models	Negative	Professional development for providers	Article
Dukhanin et al	Health	2018	Systematic lit review of patient engagement lit	Adapted model: taxonomy of metrics for engagement	Positive	Tool of measuring types of engagement	Article
Stewart	Health	2012	Lit review	Combined map of typologies	Positive	Need to not exclude ladder extremes	PhD thesis
Stewart	Health	2013	Debate about purpose of engagement	Defence of Arnstein	Positive	Need to understand purpose of engagement	Article
Frankena et al	Health	2015	Lit review	Prominence of ladder within lit	Neutral	Recognition of its value	Article
Nitsch et al	Health	2013	Lit review	Prominence of ladder within lit	Neutral	Recognition of its value	Article
Marent et al	Health	2013	Lit review	Criticism	Negative	Little - brief mention	Article

Literature Review

Of my five comparator sectors (planning and environment, housing, health, schools and young people, and higher education) the first of these was the largest in breadth of scope and quantity of literature; unsurprising given the ladder's origins. There are, notably, some differences in findings between the literature from planning (especially urban planning) and that of the complex dynamics of climate change policy. I combined them as a

section however due to the shared experiences communities face in these fields (unlike, for instance, health, housing or education where user engagement often features individual engagements and one dominant service provider). Moreover, there is a significant interface between urban planning and responses to climate change (**Araos et al., 2016; Carter et al., 2015; Hughes, 2015; Measham et al., 2011; Wamsler et al., 2013**).

Schools and young people too are combined despite respectively concerning function and demography. Indeed, much literature explores the engagement of young people in shaping wider communities and not merely education (**Hart, 1992; Badham & Davies, 2007; Davies, 2009**), while some authors examine the engagement of parents, not pupils, in school governance (**Stelmach, 2016; Mavuso & Duku, 2014**). I combined them, however, to reflect considerable intersections of youth engagement and education, to avoid losing youth engagement within wider planning literature, and finally because of the important connection between shaping one's learning and shaping broader society, as demonstrated in the positioning of responsible citizenship as a fundamental capacity in Scotland's school curriculum (**Education Scotland, n.d.-a**).

These five sectors are diverse yet share an impact on citizens and their place in the world, and all have been impacted existentially by global factors such as climate change and the pandemic. They all also connect to tertiary education, for instance through students' places in wider society, and through the study of these fields as academic disciplines. Comparison can therefore be made between how these sectors engage their citizens and how students studying those subjects are engaged in their learning.

Across the five sectors, authors mention Arnstein either as one tool among many or as a prism through which to critically analyse literature. Many articles seek to discuss or apply the ladder, particularly in individual case studies. Others offer criticism of the ladder to argue for its inapplicability, to create space for other models, or as grounds for derivations. Throughout this chapter I present various adaptations to emphasise the value of Arnstein's ladder as a starting point for much modern literature on citizen engagement. These adaptations point to the different approaches to categorising and critiquing participation, and present lessons for student engagement.

Planning and Environment

Literature about Arnstein's ladder in planning covers urban planning and rural development, developed and developing economies, the environment and climate change, community foundations, technology, and local government. In short, it demonstrates the diversity of citizen engagement practice.

Lauria & Schively Slotterback (**2021**) contain a wealth of perspectives on Arnstein, from countries such as Indonesia (**Fahmi & Chandra-Putra, 2021**), Australia (**Haughton & McManus, 2021**) and Serbia (**Perić, 2021**), addressing aspects of society from university civic engagement (**Rabinowitz Bussell et al., 2021**) and public art (A**lmanzar & Zitcer, 2021**), to participatory budgeting (**Falanga & Ferraz da Fonseca, 2021**) and socially vulnerable groups in heritage policy (**Gibson et al., 2021**). There is even criticism of the ladder, with Laskey and Nicholls (**2021**) noting the limits of Arnstein's model where 'some residents, finding themselves caged by institutional participation, jump off the participatory ladder, which allows them to articulate an independent policy voice and disrupt the planning process' (**Laskey & Nicholls, 2021: 203**).

Schively Slotterback & Lauria (**2019**) argue that Arnstein sets a standard for public engagement and note that Arnstein's call for a redistribution of power can be undermined by a lack of trust in planning and policymaking or culturally inappropriate planning approaches (**Ibid: 184**). They thus draw on Mandarano (**2008**) to recommend that 'social interaction among participants is essential because it builds social capital and trust' (**Schively Slotterback & Lauria, 2019: 184**). Yet the strength of the ladder lies, they argue, in that social capital, especially at the higher rungs where Arnstein 'presumes knowledge exists in communities' (**Ibid**). This echoes arguments that disempowered citizens are not merely victims to be liberated, but experts with distinct perspectives who can enrich policymaking (**Yosso, 2005**). Natarajan (**2019a; 2019b**) explores similar themes, noting a 'continued agency of citizens and continual creativity in the search for influence' (**Natarajan, 2019a: 6**) and the premise that citizens are 'a rich source of agency, energy, and knowledge about environments' (**Natarajan, 2019b: 141**).

Choguill (**1996**), however, argues that in community participation and international development, there are external influences in engagement dynamics that challenge Arnstein's assumptions, suggests that the ladder and similar models 'provide misleading results within a development context' (**Choguill, 1996: 431**), and proposes an adaptation with eight similar but renamed rungs. Burns et al., (**2004**) also adapt the ladder for community development, outlining a nine-step process between lip-service and ownership (Figure 3) to illustrate what level of participation available in each decision-making space (**Burns et al., 2004: 60**).

Some references to Arnstein's ladder are passing, within wider scans of literature. Sieber (**2006**) argues that the higher rungs may be unachievable in certain non-Western power dynamics and that participation can be top-down or use an intermediary (**Sieber, 2006: 500**). Trzyna (**2007: 37**) highlights the value in talking about engagement with communities rather

than a potentially patronising 'outreach' (**Ibid**). Coleman and Firmstone (**2014: 827**) present the ladder as their theoretical starting point in analysing UK local government's public engagement. Ahmad and Abu Talib (**2011**) use the ladder to explore rural development; while for Reed (**2008**) it is one of many similar typologies of participation.

Figure 3: Burns et al.'s Participation Scale (**Burns et al., 2004: 60**)

Position on scale		Explanation
Ownership	9	Communities have ownership of all assets – there are no conditions which have to be met
Control	8	Communities have control over all activities, but only within conditions laid out in contractual arrangements
Substantial delegation	7	Partner organisations give substantial control over decision making to communities
Limited delegation	6	Partner organisations give limited control over decision making to communities
Advisory input	5	Communities have a formal advisory role
Genuine consultation	4	Communities are properly and genuinely consulted
High quality information	3	Communities are given high quality information
Consultation controlled by decision makers	2	Communities are consulted, but only on options which have been carefully constructed by those with the power
Lip-service only	1	Despite the rhetoric, participation amounts to nothing

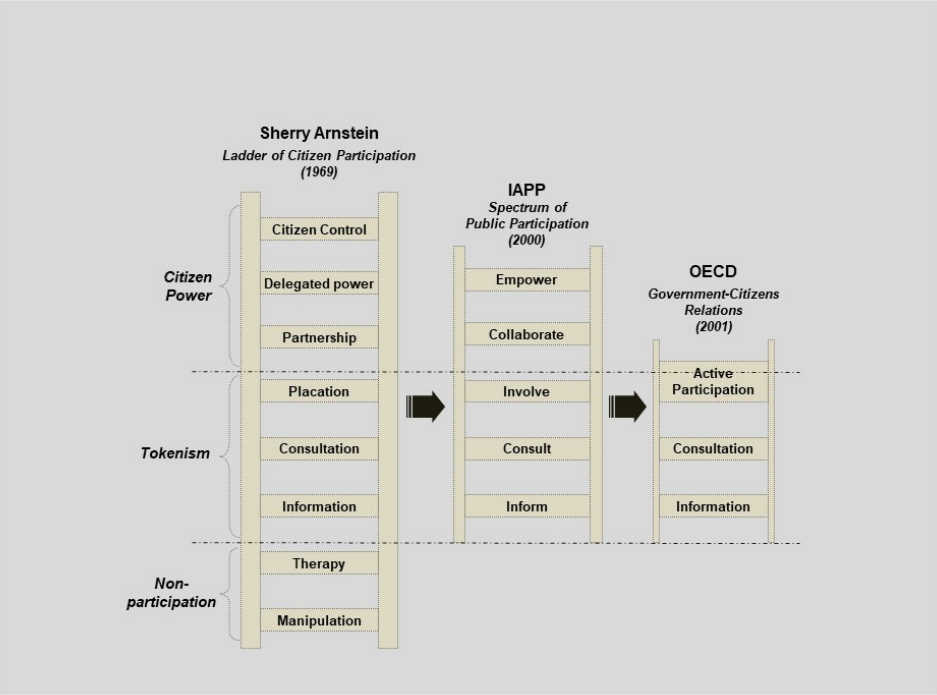
In contrast, Arnstein is central to the approach of Puskás et al., (**2021**), whose literature review uses the ladder as the basis for analysis against five criteria of participation in nature-based solutions, concluding that consultation and partnership are dominant. Their criteria (**Puskás et al., 2021: 3**) perhaps indicate the ladder's resilience against criticisms of its binary nature, and they argue that Arnstein 'continues to provide the basis for a robust classification of the different levels of citizen participation' (**Ibid: 2**).

Carver (**2001**) explores criticism of the ladder's focus on power, citing Slocum and Thomas-Slayter (**1995**) in arguing that participation alone does

not guarantee social justice because of the motivations of those who hold power and the unequal access to information (**Carver, 2001: 3**). He draws on Wiedemann and Femers' (**1993**) adaptation of the ladder for decision-making about waste management (**Carver, 2001: 3**) plus a further version for digital engagement (**Ibid: 4**) which is also cited by Pétursdóttir (**2011: 19**) who in turn describes the ladder's value in highlighting non-participation in a Kenyan slum regeneration.

Prieto Martín (**2010; 2014**) (also in **nonformality.org, 2011: 29**) compares the ladder with two simpler scales (Figure 4) that he argues do not capture the detail of Arnstein's original. In another adaptation (**Prieto Martín, 2014**) he adds two new lower rungs, legitimate coercion and illegal duress. These are spaces of direct action and violence with 'negative levels of collaboration, characterized by mutual opposition and pressures' (**Ibid: 5**).

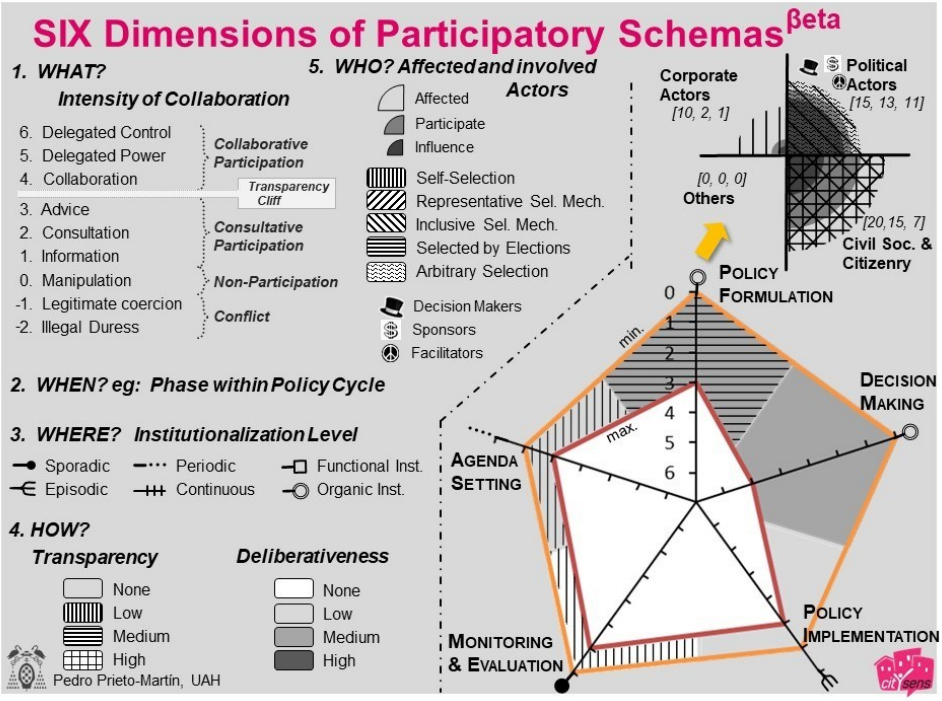
Figure 4: Prieto Martín's Comparison of Three Models (**Prieto Martín, 2010: 47** included with author's permission)



Prieto Martín proposes this new nadir as 'autonomous participation' (**Prieto Martín: 4**), to distinguish it from the 'administrative participation' (**Ibid**) of Arnstein's original eight rungs (Figure 5).

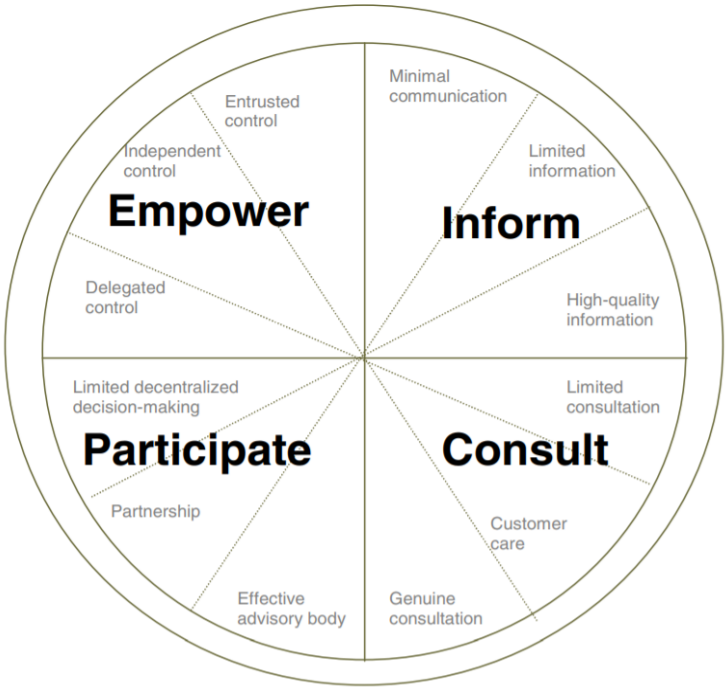
He concludes his study, however, by arguing that his schema still leaves unanswered two critical questions which, nonetheless, are difficult to display graphically: the 'why' and 'what for' of participation' (**Ibid: 12**). He suggests that the schema (and, arguably, Arnstein's original ladder or any such tool) should always be accompanied by reflections on the motivation and impact of any policy process.

Figure 5: Prieto Martín's Participatory Budgeting Schema (**Prieto Martín, 2014: 11**, included with author's permission)



From a local government perspective, Davidson (**1998**; Figure 6), also in Dooris and Heritage (**2013**), converts the ladder to a wheel, because 'it may be helpful to view participation in a non-hierarchical way' (**Dooris & Heritage, 2013: 576**).

Figure 6: Davidson's Wheel of Participation (**Dooris & Heritage, 2013: 78**)

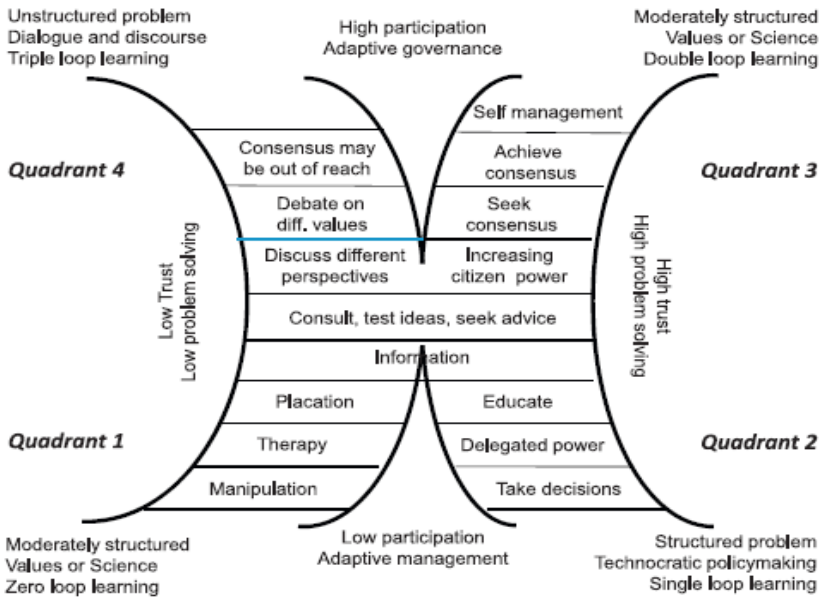


Ruesga and Knight (**2013**) use the ladder to examine community foundations. They highlight the risks and opportunities of such organisations, which combine elite trustees' and leaders' 'personal wealth and power' (**Ruesga & Knight, 2013: 15**) with less privileged residents' lived experience. The authors suggest that in the world of community foundations, the kind of resident engagement that Arnstein holds up as the ideal—full citizen control—is rare or perhaps nonexistent, at least in the U.S. context **(Ibid: 13**). Nonetheless they highlight some examples of leaders and residents collaborating successfully (**Ibid: 15-16**).

Returning Arnstein to her roots in urban planning, Al Waer et al., (**2021**) explore citizen participation in design-led collaborative planning events. They argue that such events can, due to the pre-determined power dynamic, be at the tokenistic stage of the ladder, with the objective merely to engineer consent and tick boxes (**Ibid: 3**). They pessimistically report that 'a half-century after Arnstein's Ladder of Participation (**1969**) set out the power structures inherent in techniques, current methods of community involvement are still seen as paying little more than lip service' (**Al Waer et al., 2021: 4**).

Finally, literature in the climate change debate is especially critical of Arnstein's simplicity given what Hurlbert and Gupta (**2015: 100**) refer to as 'the complex environmental problems of the Anthropocene'. They argue that while while stakeholder involvement is almost universally endorsed, 'literature often romanticizes participation' and participation is 'an inadequately developed puzzle' (**Ibid: 101**). Instead, they present an x-style split ladder with four quadrants that accommodate different levels of loop learning (Figure 7).

Figure 7: Hurlbert and Gupta's Split Ladder of Participation (**Hurlbert & Gupta, 2015: 104**)



Similarly, Collins and Ison (**2009**) underline the importance of social learning and exhort readers in their title to 'jump off Arnstein's ladder'. They suggest that for Arnstein participation itself has become the goal, with a scale that does not reflect any wider context (**Collins & Ison, 2009: 362**), and which is too linear to reflect the diversity of knowledges and stakeholders in climate change (**Ibid: 369**). They concede the simplicity of the ladder forms part of its appeal (**Ibid: 361**). They conclude, however, that the ladder is insufficient for the task of management of the natural environment which is 'better characterized by complexity, uncertainty and multiple stakeholding' (**Collins & Ison, 2009: 369**). The authors do not explain, though, why Arnstein's definition of partnership cannot accommodate multiple stakeholders when her original article speaks of the diversity of citizenship (**Arnstein, 1969: 217**) and whose work was forged in a society defined by its racial inequalities (**Gaber, 2021: 20**). Nor do Collins and Ison recognise compatibility between their social learning model and what might be achieved in the shared planning spaces of Arnstein's partnership rung.

Housing

Tenant and resident participation in housing policy feature easily identifiable authorities and users, presenting parallels with student engagement. In much of this literature, references to Arnstein are passing (**Bradley, 2008; Simmons & Birchall, 2007; Suszyńska, 2015; Kalandides, 2018**). Others delve deeper, such as Cairncross et al., (**1994**), for whom a ladder is one of many tools that frame research into British local authorities' tenant participation. Although the authors do not cite Arnstein, their eight-level scale of tenant participation strongly resembles her ladder, and ranges from information, through consultation and joint management to control (**Cairncross et al., 1994: 183**).

Another, directly attributed, ladder of participation (**Cullen, 2005**) presents an eight-rung model as part of a toolkit for user involvement strategies in housing, and while the attribution to Arnstein is stated (Figure 8), the rationale for choosing it is not. The report does, interestingly, endorse the fourth rung, where users have genuine opportunities to influence decisions, rather than either of the two above it (**Cullen, 2005: 8**). This aligns with other authors who do not unconditionally demand maximum engagement (**Bovill & Bulley, 2011**).

Figure 8: Cullen's participation ladder (**Cullen, 2005: 8**)

Top rung

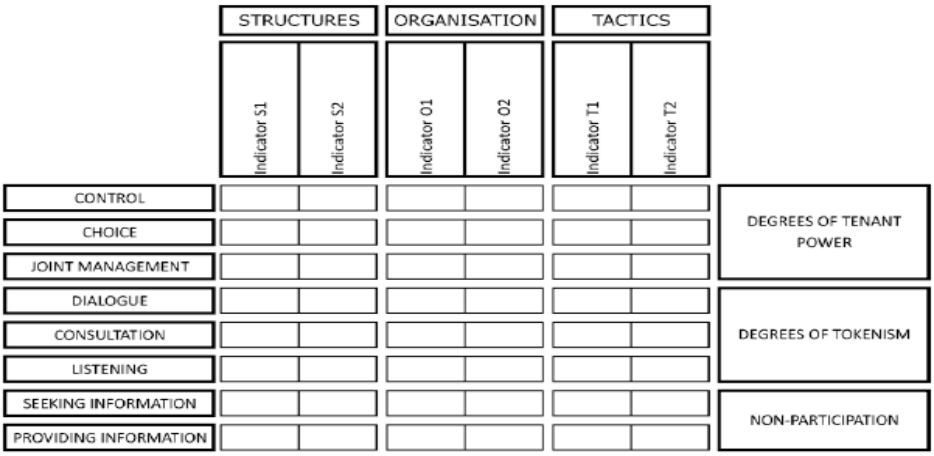
- Users have the authority to make all decisions
- Users have the authority to make some decisions
- Users have genuine opportunities to influence decisions
- Housing provider seeks users' views, then makes decision
- Housing provider explains decisions to users before acting
- Housing provider tells users what decisions have to be made

Bottom rung

Adapted from Arnstein's Ladder of Participation (Arnstein, 1969).

Rich analysis is found in Romanin's (**2013**) thesis on tenant participation in an Australian public housing renewal project in the context of market-driven initiatives in the public sector (**Ibid: 33**) and analysis of power structures by Clegg (**1989**). Neoliberal contexts for students and learning are discussed elsewhere (**Avis, 2020; Matthews et al., 2019; Dollinger & Mercer-Mapstone, 2009; Buckley, 2018**). Furthermore, Romanin's outline of the barriers and potential for tenant participation, including skills requirements and issues of trust and power, are similar to those in student engagement (**Bols, 2017; Carey, 2013**). His adaptation of Arnstein (**Romanin, 2013: 44**) (Figure 9) broadly retains the original framework but adds processes identified by Cairncross et al., (**1994**) plus a second axis covering structures, organisation and tactics, three variables identified by Davies (**2009**). This model, Romanin argues (**2013: 44**), allows better mapping of data and clearer examination of each participatory variable.

Figure 9: Romanin's Model For Tenant Participation (**Romanin, 2013: 44**, included with author's permission)



Housing renewal is also the focus of Hall and Hickman (**2011**), who explores an apparent participation deficit in French housing regeneration. They choose Arnstein's ladder to assess this because she was 'the first author to develop thinking this area' (**Ibid: 834**). While they acknowledge criticisms of the ladder, they argue that 'despite these flaws, Arnstein's model provides a valuable conceptual point of departure' (**Ibid: 835**).

Health

The breadth of health as a field for stakeholder engagement is evident in literature reviews, where studies citing Arnstein discuss engaging people with intellectual disabilities in health research (**Frankena et al., 2015**), stakeholder engagement in evaluation of health promotion (**Nitsch et al., 2013; Marent et al., 2012**), and patient engagement in policymaking (**Dukhanin et al., 2018**). The last of these explores five decades of research in healthcare engagement, creating a taxonomy of metrics based on the outcomes and processes of engagement (**Dukhanin et al., 2018: 894**). The authors develop this taxonomy using Arnstein's ladder. While they present no justification for choosing Arnstein, the authors note that a ladder approach can be a good general guide but fails to generate specific actions, a gap they claim is filled by their taxonomy (**Ibid: 895**).

Frankena et al.'s (**2015**) review of how people with intellectual disabilities are involved in health research draws on Arnstein's ladder as a key theory in stakeholder engagement. They note that this field is challenging due to assumptions made about participants' capacity to understand the subject matter, 'well-intentioned family and carers', and researchers' own ethical concerns (**Frankena et al., 2015: 272**). While the authors place Arnstein's ladder among the most mentioned theories of engagement, they highlight various criticisms (**Ibid: 278**) from Abma and Broerse (**2010**) and Beadle et al., (**2012**). One is that the ladder does not specify how each level should be achieved (albeit arguably the action described by Arnstein at each stage is itself part of the path). Another criticism is that a ladder model suggests the missing ingredient of a support structure. Finally, they add to arguments that higher levels are not, contrary to Arnstein's proposition, always the most desirable.

Nitsch et al., (**2013**) and Marent et al., (**2012**) highlight criticisms of the ladder's simplicity, its focus on power and its assumption of high levels as the optimum place for engagement. Both articles refer to Tritter and McCallum's (**2006**) invocation of snakes and ladders and a call to move beyond Arnstein. Those authors suggest a 'more nuanced model of user involvement' (**Tritter & McCallum, 2006: 157**), instead of Arnstein's stark framing of participation as a struggle between officials and activists (**p. 157**). They refer to various adaptations of the ladder across different sectors, including Choguill (**1996**), and call for engagement that is

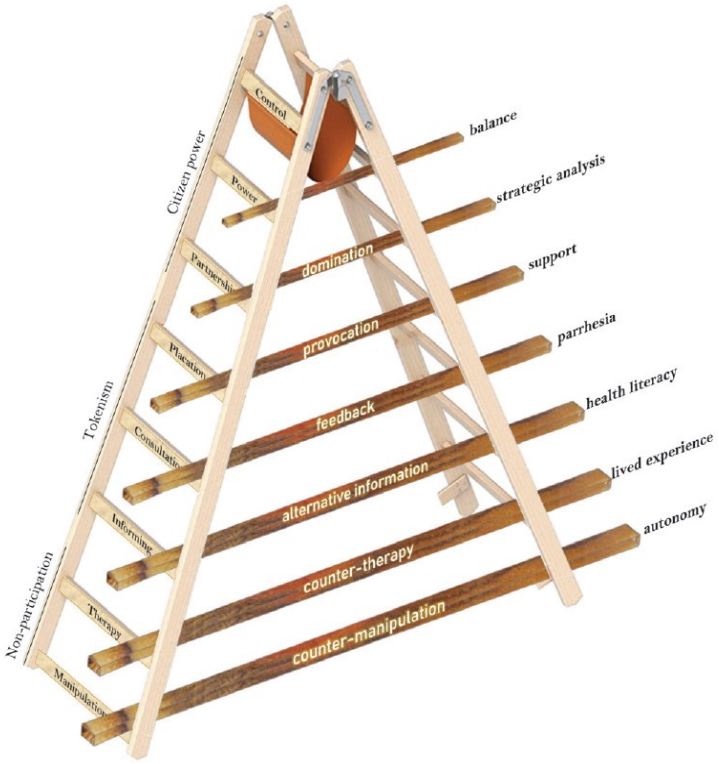
'empowering and enabling at four levels: healthcare system, organisation, community, and individual' (**Tritter and McCallum, 2006: 157**), echoing arenas in which students should be engaged (**QAA Scotland et al., 2012**).

Tritter and McCallum (**2006**) criticise the ladder on various grounds. Firstly, they identify missing aspects, such as its supposed failure to 'differentiate between method, category of user and outcome' (**Tritter & McCallum, 2006: 161**) and that it leaves 'little opportunity to engage in evaluating the nature of involvement' (**Ibid: 161**). They voice a common criticism in the ladder's focus on empowerment as the sole aim, and also propose that Arnstein's most important oversight relates to how users frame problems and not merely design solutions (**Ibid: 162**) – albeit that role is arguably inherent in the three citizen power levels of Arnstein's ladder.

They further criticise Arnstein for ignoring 'snakes' that cause downward movement, including a lack of sustainability, the misguided priorities in delegated power, and a potential tyranny by certain stakeholders over others (**Ibid: 163**). To reflect this and acknowledging that there can be multiple authorities working together in healthcare, the authors argue for multiple ladders to reflect different types of users (**Tritter & McCallum, 2006: Ibid: 165**). They propose bridges between these ladders, creating a complexity that they describe as a mosaic. Sadly, the mosaic receives neither an illustration nor a methodology, ultimately validating the visual simplicity of Arnstein's original ladder.

A key factor in health engagement is the organised voice of service users. De Leeuw (**2021**) describes the consucrat, the consumer bureaucrat, where the policy drive for service user representation mixes with authorities' potential domination of such voices, to create 'co-opted apparatchiks' (**De Leeuw, 2021: 178**) as part of a 'semi-elitist proto professionalization of career consumer representatives' (**Ibid: 177**). Consequently, de Leeuw proposes an A-style adaptation of Arnstein (**Ibid: 179**) (Figure 10), which incorporates 'pushback skills' (**Ibid: 179**) required by the consucrat to respond to each level of the ladder. As de Leeuw points out, the consucrat is 'mostly unremunerated' and requires 'sustained systems support' (**Ibid: 179**), so the prospect of pushback succeeding without major policy change is unclear.

Figure 10: de Leeuw's Consucrat Model (**de Leeuw, 2021: 179**)



Health involvement is explored in a Scottish context by Stewart (**2012; 2013**), who describes a contradiction in that the public are inadequately empowered but do not actually aspire to citizen control (**Stewart, 2012: 14**). She views public involvement as 'an empty signifier, a label which is functionally underspecified, allowing the peaceful, though problematic, co-existence of multiple approaches to the topic' (**Ibid: 13**). She maps various typologies and notes that some of these have simplified Arnstein by removing upper and lower rungs (**Stewart, 2012 & 2016: 10**) (Figure 11).

Figure 11:Stewart's Typologies of Involvement Models (**Stewart, 2016: 10**)

Author	Arnstein	Feingold	Charles & Di Maio	Rowe & Frewer	Martin
Year	1969	1977	1992	2005	2009
Concept	'citizen participation'	'citizen participation'	'lay participation'	'public engagement'	'public engagement'
Levels	manipulation				
	therapy				
	informing	informing		public communication	information
	consultation	consultation	consultation	public involvement	consultation
	placation				
	partnership	partnership	partnership	public participation	co-production
	delegated power	delegated power			
	citizen control	citizen control	lay domination		

Stewart further argues that such scales, even Arnstein's, 'have no awareness of practice, and assume that empowerment is a straightforward process on which we can all agree' (**Stewart, 2012: 30**). She nonetheless praises Arnstein for concern with society's 'have nots' and raises the need to question who is giving views and who might be excluded from such a process (**Stewart, 2013: 125**). She suggests that 'when next we cite [Arnstein's] ladder of participation, we should do so with awareness of the particular radical perspective which has made this work so widely known and so poorly understood' (**Ibid: 125**).

Schools and young people

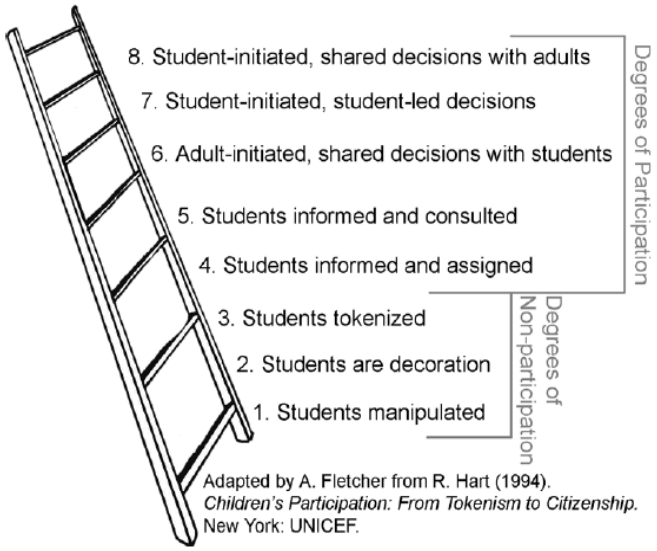
Similar questions about who is engaged (or not) arise in my final comparator sector, schools and young people. There is extensive literature relating to engaging young people in the learning experience and life and work of schools, and Ruddick and Flutter (**2004**) present a thorough starting point. Fielding (**2001**) presents a powerful manifesto for students as researchers and change agents, albeit in the shadow of a potential paradox of engagement as a stifling force (**Ibid: 123**). There is also policy development in Scotland, where there have been moves to incorporate the United Nations Convention on the Rights of the Child into law (**Scottish Parliament, 2021; UNICEF UK, 2021**), and where school pupils are increasingly involved in shaping quality (**Education Scotland, n.d.-b**).

This field also includes research into parent voices, a dynamic present in tertiary education (**Bruner, 2017; Coburn, 2006; Lampert, 2009; Tierney, 2002**). Stelmach (**2016**) explores parent councils in Canada. She applies Arnstein, which, 'with its focus on levels of citizen empowerment, was

appropriate because it allowed a look into decision-making from the perspective of parents who historically have been receivers of educational decisions' (**Ibid: 276**). Her conclusions about barriers and challenges to parent engagement point to a lack of professional capital and skills, role ambiguity, inertia and intimidation from management, staff deficit assumptions about parents, especially those who are underprivileged, and other barriers relating to power, culture and accessibility (**Ibid: 273**). These are familiar to debates about diversity in student engagement (**Marie et al., 2017; Shaw et al., 2017**). In an echo of de Leeuw's consucrat (**de Leeuw, 2021**), Stelmach also highlights the risk of volunteer work turning into a job (**Stelmach, 2016: 280**), concludes that there is limited evidence of partnership or citizen control (**Ibid: 282**), and calls for leadership that enables participation and shifts power (**Ibid: 284**). Mavuso and Duku (**2014**) also explore parental involvement, using Arnstein's ladder as their theoretical framework in a South African context. They highlight similar dynamics to Stelmach (**2016**) with the addition of age (**Mavuso & Duku, 2014: 455**) and gender (**Ibid: 459**).

On pupils themselves, Fletcher (**2005**) imagines 'a place where all adults and students interact as co-learners and leaders' (**Ibid: 4**), linking this to Freirean ideas of learning rooted in students' experiences (**Fletcher, 2005: 4**). He cites an adapted version of the ladder developed by Hart (**Fletcher, 2005: 7; Hart, 1992: 8**) (Figure 12), and argues that when there is co-creation 'students become partners, allies, and companions in school improvement' (**Fletcher, 2005: 11**).

Figure 12: Hart's Ladder of Student Involvement (**Fletcher, 2005: 7** adapted from **Hart, 1992: 8**)



Hart's study takes an international perspective on young people's engagement in various developing economies. His premise, drawing on children's play, is that a sense of ownership is key, though he highlights

risks of manipulation or subversion of young people (**Hart, 1992: 5**). He does, however, observe that 'in cultures where adults themselves have little opportunity to influence community decisions, young people can become the initiating force for change' (**Ibid: 5**). This is a forerunner of contemporary discussions of 'generational empowerment' (**Rogers, 2019: 74**) and the 'Greta Thunberg phenomenon' (**Suman et al., 2020: 75**).

Badham and Davies,(**2007: 90**) build on Hart's ladder, using a matrix to map its steps against various approaches to involvement such as complaints, surveys and governance. Their table (Figure 13), not unlike Romanin's (**2013**) (Figure 9), allows organisations to 'map particular approaches as well as how participative they are' (**Badham & Davies, 2007**). The model is also cited by Davies (**2009**) who suggests social networks as one way of bridging the gap between those participating in different parts of the grid.

Figure 13: Badham & Davies' Participation Matrix (**Badham & Davies, 2007: 90**)

Ladder of Participation		A Individual complaint and feedback	B Surveys and one-off events and consultations	C Practice initiatives: time limited, focused activity	D Peer activity: training, research, evaluation	E Young representatives on advisory groups and shadow boards	F Young people involved in governance – with or without adults
	8 Youth initiated – shared decisions with adults						
	7. Youth initiated and directed						
	6. Adult initiated and shared decisions with cyp						
	5. Consulted and informed						
	4. Assigned and informed						
	3. Tokenism						
	2. Decoration						
	1. Manipulation						

Higher Education

Finally, there is a rich body of higher education research (though notably a dearth in further education) where the ladder has enabled reflection on the student experience. Noteworthy among them are three studies (**Bovill & Bulley, 2011; Carey, 2018; Buckley, 2018**) each with a distinct motivation and focus. Bovill and Bulley's adaptation (Figure 14) presents a model for active student participation in curriculum design, aiming to use the ladder 'as a useful illustrative tool' (**Bovill & Bulley: 179**) that is hoped to 'contribute to debate, enhance understanding and raise new possibilities of ASP [active student participation] in curriculum design' (**Ibid: 183**). Carey (**2018: 14**) maps the ladder on to his own nested hierarchy of student engagement, highlighting the nature of the institution

and the role of students at each of the eight rungs (Figure 15). Finally, Buckley (**2018**) compares Arnstein's original ladder with a model developed by Fielding (**2012**) that is in turn derived from Hart's adaptation of Arnstein (Figure 12). Buckley concludes that 'any literature on student participation in decision-making that substantially relies on the models of Arnstein or Fielding contains an ideological opposition to neoliberal approaches to higher education' (**Buckley, 2018: 729**).

Figure 14: Bovill and Bulley's Ladder of Student Participation in Curriculum Design (**Bovill & Bulley, 2011: 180**)

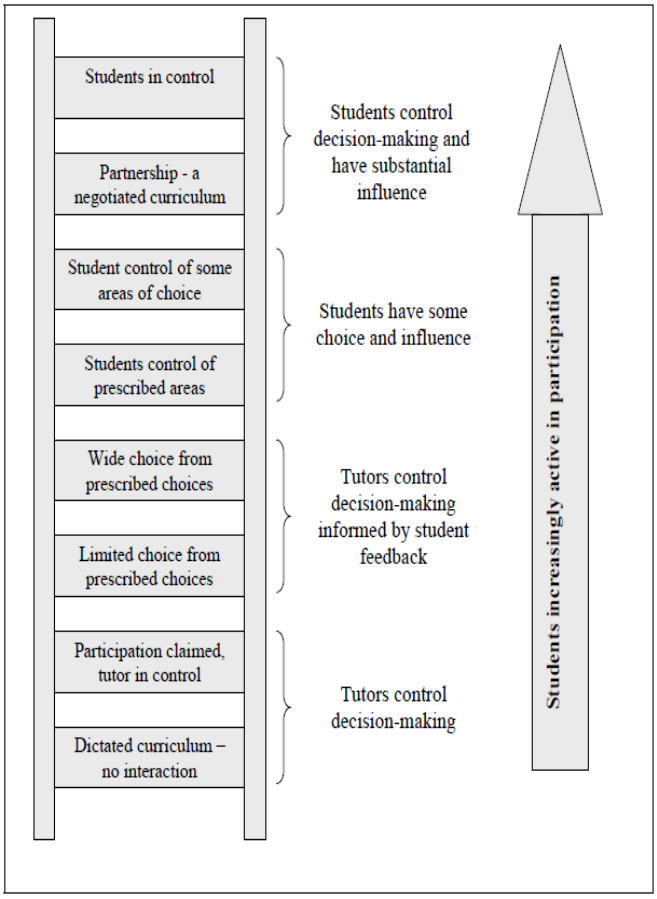
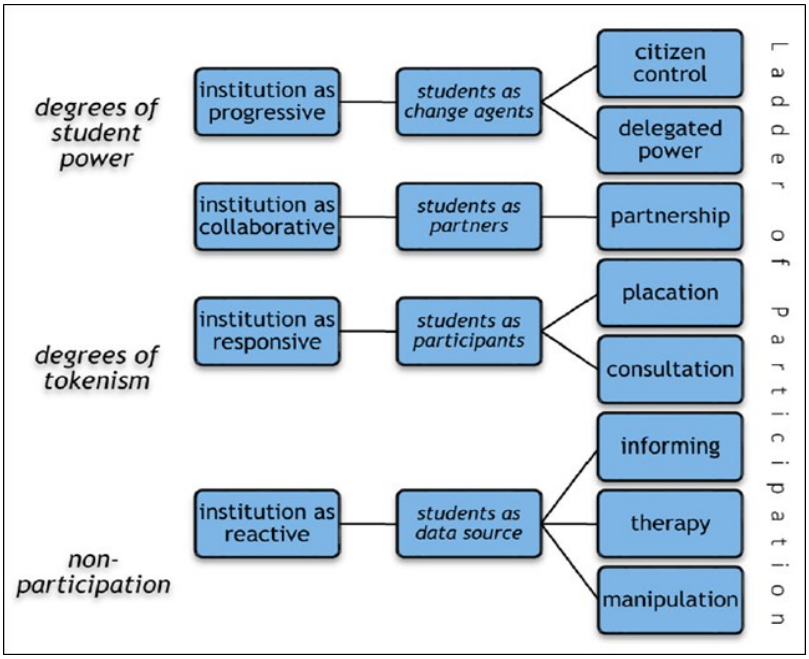
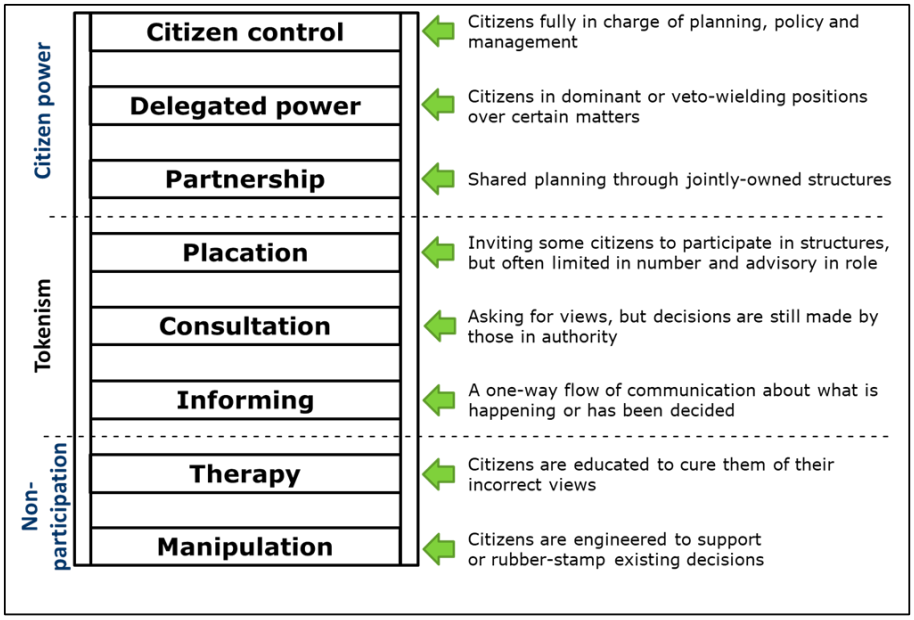


Figure 15: Carey's Nested Hierarchy of Student Engagement with Arnstein's Ladder (**Carey, 2018: 14**)



A version of the ladder has been developed by sparqs (**Student Partnerships in Quality Scotland, n.d.**) (Figure 16), paraphrasing Arnstein's description of each rung to offer a clearer illustration of how engagement changes during progression up (or down) the ladder.

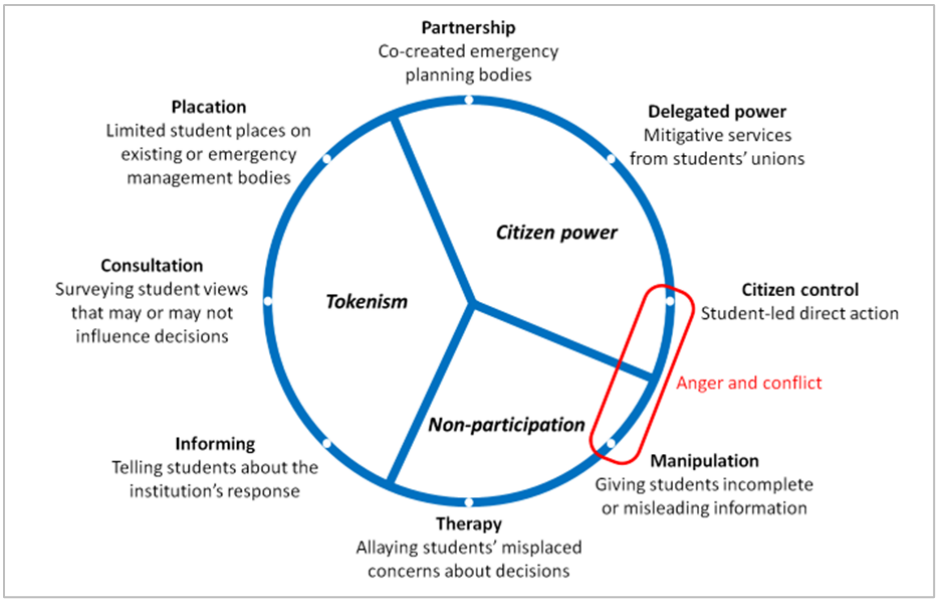
Figure 16: sparqs' Version of Arnstein's Ladder (**sparqs, n.d.-c;** Included under a CC-BY-NC 4.0 License)



The ladder is placed in the context of the pandemic by Woods and Botcherby (**2021**) and adapted for COVID-19 and other emergency decision-making by Varwell (**2022a**). The latter of these draws on Prieto Martín's new levels of direct and potentially violent 'autonomous participation' (**Prieto Martín, 2014**) to produce a circular version of the

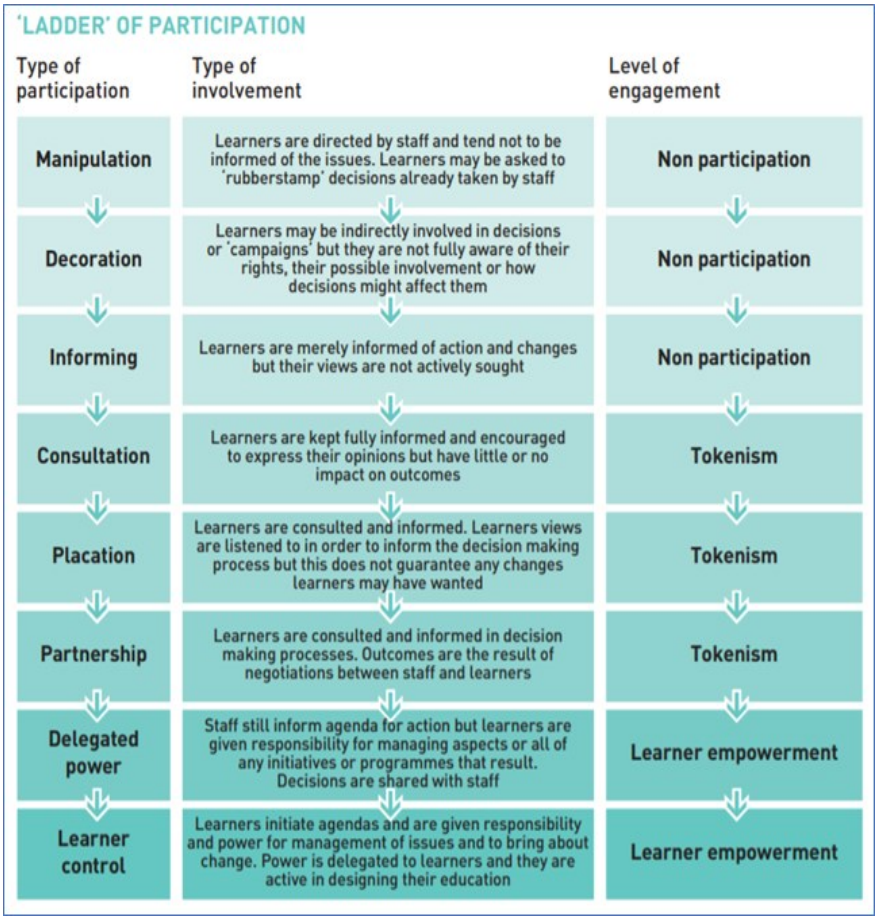
ladder (Figure 17). This illustrates an overlap of the lowest level of participation where students are manipulated, and the highest level where disillusioned students take direct action.

Figure 17: An emergency-era circle of student participation (**Varwell, 2022a**)



Arnstein's ladder has had notable impact in Ireland's changing sector. Collins et al., (**2016**), in framing national student engagement policy, cites Arnstein's ladder as a tool for exploring levels of involvement (**Collins, et al., 2016: 12**). The report highlights (**Ibid: 13**) Rudd et al., (**2006**) whose adaptation is similar to sparqs' own adaptation (Figure 16) in populating each rung with relatable examples (Figure 18).

Figure 18: Rudd et al.'s Ladder of Participation (**Rudd et al., 2006: 11**, included with permission)



Feeney, et al., (**2020**) map student engagement in an institutional merger, arguing that all rungs of the ladder were evident throughout the process (**Ibid: 8**). Elsewhere in the literature, O'Rourke and Baldwin (**2016: 103**), studying student engagement in shaping an Australian campus from a design perspective, cite Arnstein's ladder as one brief example among many paradigms that show how participation can result in better outcomes. They observe that 'there is little evidence that students' views are regularly sought about what would make a good campus' (**Ibid: p. 104**) but that the central placing of a students' union facility on campuses will 'empower students through more visible representation' (**Ibid: 113**). From a Zimbabwean perspective Jingura et al., (**2018**) use Arnstein's ladder, as well as other tools, to call for student engagement that 'must be characterized by active participation and not tokenism' (**Jingura et al., 2018: 131**).

Findings and Discussion

Arnstein's ladder of citizen participation is 'inspirational' (**Haughton & McManus, 2021: 228**), 'seminal' (**Natarajan, 2019a: 5**) and 'foundational' (**Puskás et al., 2021: 3**), as evidenced by more than half a century of analysis across many sectors during a history shaped by multiple crises

outwith COVID-19. Throughout this rich literature, two standout conclusions are proposed, which in turn inform some opportunities and limitations.

Arnstein's Ladder as an Accessible Starting Point

The first theme is a recurring debate about the ladder's simplicity, with authors commending Arnstein's easily understood framework (**Lauria & Schively Slotterback, 2021**), others suggesting it is inadequate for exploring complex power dynamics and decision-making contexts (**Hurlbert & Gupta, 2015; Collins & Ison, 2009; Tritter & McCallum, 2006**), and some doing both (**Stewart, 2013; Bovill & Bulley, 2011**). As such, various adaptations and improvements are suggested: Romanin (**2013**) (Figure 9) along with Badham and Davies (**2007**) (Figure 13) present tables, with further radical departures from linearity in de Leeuw (**2021**) (Figure 10) and Hurlbert and Gupta (**2015**) (Figure 7). Still others propose circles (**Davidson, 1998** (Figure 6); **Varwell, 2022a** (Figure 17)). Both Davidson (**1998**) and Arnstein (**1969**) in turn inspire double-axis models (**Levenda et al., 2020**). Arguments notwithstanding that we should 'jump off' the ladder entirely (**Laskey & Nicholls, 2021; Collins & Ison, 2009**), these numerous adaptations reinforce the value for student engagement practice of Arnstein's original model as a starting point for staff and students' discussion of who should shape learning and how.

Arnstein's Ladder as a Reflection on Power

Allied to this simplicity is a second theme of power. Arnstein herself argues that 'there is a critical difference between going through the empty ritual of participation and having the real power needed to affect the outcome of the process' (**Arnstein, 1969: 216**). She suggests that her ladder 'juxtaposes powerless citizens with the powerful in order to highlight the fundamental divisions between them' (**Ibid: 217**). This underlines the question of the intentions of those who use the ladder to explore engagement, and how using the ladder itself is an exercise of power (**Buckley, 2018; Stewart, 2013; Prieto Martín, 2014**). As we continue to shape learning and teaching after the pandemic, and in an era of stronger citizen voices, reflection by senior leaders and other decision-makers about how they use, share or relinquish that power should deepen.

Limitations and Further Research Opportunities

The importance of power across multiple disciplines presents an opportunity for learning and teaching. The fields explored in this article all have corresponding areas of study, and those learning or teaching geography, planning, teacher training or healthcare may see benefit in comparing their discipline's literature on Arnstein and broader public participation with student engagement literature. Teaching staff may find

value in benchmarking their disciplines' stakeholder engagement practice against their course-level student engagement practice, in order to transfer approaches to partnership (**Varwell, 2022b**). In turn, students could reflect on how shaping their learning equips them to be more engaging practitioners, thus enhancing citizenship in the curriculum and reinforcing the link between student engagement and wider democratic participation (**Hassan, et al., 2020; Giroux, 2010**).

This points to limitations of this article, which explores only five sectors. There is scope to research Arnstein's application in other public services like social work (**Kuruvilla & Sathyamurthy, 2015; Schön, 2016**). Another focus could be stakeholder engagement in business, comparing Arnstein's influence on models of students as partners with notions of students as consumers in debates about marketisation and neoliberalism in higher education (**Matthews et al., 2019**). Furthermore, remedying the lack of further education literature about Arnstein's ladder could, as argued in Varwell (**2022b**), enrich conversations about tertiary integration in Scotland (**Scottish Funding Council for Further and Higher Education, 2021**).

Finally, the world has changed considerably since much literature on Arnstein was published. While some literature about the ladder in higher education has emerged in the context of the pandemic (**Varwell, 2022a; Woods & Botcherby, 2021**) much emerged long before the upheaval of COVID-19. Therefore, further research could explore what Arnstein can reveal for the pandemic and for the many political, environmental, financial, or public health challenges that might lie ahead for student engagement and wider citizen participation.

Caveat

All images included in this article are used solely for the purposes of academic quotation, criticism and review. Additionally, where appropriate, the author has sought permission for their inclusion in this article. All rights in these images are retained by their respective copyright owners and any citations to them should be to the original sources as listed.

Simon Varwell is Senior Development Consultant at sparqs, Scotland's national development agency for student engagement. He has worked there since 2007 and leads the agency's institutional support and staff development activity. He is a 2022 graduate of the University of Winchester's MA in Student Engagement in Higher Education, his dissertation of which forms the basis of this article, and also has an undergraduate MA (Hons) in Politics and International Relations from the University of Aberdeen (2000). He is interested in concepts and frameworks of partnership, institutional decision-making, and the interface of student engagement and educational development.

List of Figures

References

Abma, T. A., & Broerse, J. E., 2010. Patient participation as dialogue: Setting research agendas. *Health Expectations*, 13(2), pp. 160-173.

Ahmad, M. S., & Abu Talib, N., 2011. Decentralization and participatory rural development: A literature review. *Contemporary Economics*, 5(4), pp. 58-67.

Al Waer, H., Rintoul, S., & Cooper, I., 2021. *An investigation into decision-making and delivery activities following design-led events in collaborative planning*. ArchNet-IJAR, Volume Advance online publication.

Almanzar, S. M., & Zitcer, A., 2021. Time, Place, and Voice in Public Art. In: M. Lauria & C. Schively Slotterback, eds. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge, pp. 189-202.

Amuedo-Dorantes, C., & Romiti, A., 2021. *International Student Applications in the United Kingdom after Brexit*, Bonn: IZA Institute of Labor Economics.

Araos, M., et al., 2016. Climate change adaptation planning in large cities: A systematic global assessment. *Environmental Science & Policy*, Volume 66, pp. 375-382.

Aristovnik, A., et al., 2020. Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, 12(20).

Arksey, H., & O'Malley, L., 2005. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), pp. 19-32.

Arnstein, S., 1969. A Ladder of Citizen Participation. Journal of the American *Institute of Planners*, 35(4), pp. 216-224.

Avis, J., 2020. Wither a politics of hope: Neoliberalism and revolutionary reformism? In: M. Daley, K. Orr & J. Petrie, eds. *Caliban's Dance: FE after The Tempest*. London: Trentham, pp. 7-13.

Badham, D., & Davies, T., 2007. The active engagement of young people. In: Harrison, R., Benjamin, C., Curran, S. & Hunter, R. *Leading Work with Young People*. Thousand Oaks, CA: SAGE Publications. pp. 80-96.

Beadle, M., Needham, Y., & Dearing, M., 2012. Collaboration with service users to develop reusable learning objects: The ROOT to success. *Nurse Education*, 12(6), pp. 352-355.

Best, S., 2014. *Understanding and doing successful research: Data collection and analysis for the social sciences*. Abingdon: Routledge.

Bols, A., 2017. Enhancing student representation. *The Journal of Educational Innovation, Partnership and Change*, 3(1), pp. 81-89.

Bovill, C., & Bulley, C. J., 2011. A model of active student participation in curriculum design: exploring desirability and possibility. In: C. Rust, ed. *Improving Student Learning (ISL) 18: Global Theories and Local Practices: Institutional, Disciplinary and Cultural Variations*. Oxford: Oxford Brookes University, pp. 176-188.

Bovill, C., Morss, K., & Bulley, C., 2009. Should students participate in curriculum design? Discussion arising from a first year curriculum design project and a literature review. Pedagogical Research in Maximising Education, 3(2), pp. 17-25.

Bradley, Q., 2008. Capturing the castle: tenant governance in social housing companies. *Housing Studies*, 23(6), pp. 879-897.

Bruner, D. L., 2017. *Giving primacy to the voice of parents: A qualitative study of the involvement of parents of first-generation college students*, s.l.: s.n.

Bryson, C., 2014. *Clarifying the concept of student engagement. In: Understanding and developing student engagement*. Abingdon: Routledge, pp. 1-23.

Buckley, A., 2018. The ideology of student engagement research. *Teaching in Higher Education*, 23(6), pp. 718-732.

Burns, D. et al., 2004. *Making community participation meaningful: A handbook for development and assessment*, Bristol: The Policy Press.

Cairncross, L. I. Z., Clapham, D., & Goodlad, R., 1994. Tenant participation and tenant power in British council housing. *Public Administration*, 72(2), pp. 117-200.

Carey, P., 2013. Representation and student engagement in higher education: A reflection on the views and experiences of course representatives. *Journal of Further and Higher Education*, 37(1), pp. 71-88.

Carey, P., 2018. The impact of institutional culture, policy and process on student engagement in university decision-making. *Perspectives: Policy and Practice in Higher Education*, 22(1), pp. 11-18.

Carter, J. G., et al., 2015. Climate change and the city: Building capacity for urban adaptation. *Progress in Planning*, Volume 95, pp. 1-66.

Carver, S., 2001. *Participation and Geographical Information: a position paper*, Spoleto: s.n.

Choguill, M. B. G., 1996. A ladder of community participation for underdeveloped countries. *Habitat International*, 20(3), pp. 431-444.

Clegg, S. R., 1989. *Frameworks of Power*. London: Sage.

Coburn, K. L., 2006. Organizing a ground crew for today's helicopter parents. *About Campus*, 11(3), 9-16., 11(3), pp. 9-16.

Coleman, S., & Firmstone, J., 2014. Contested Meanings of Public Engagement: Exploring Discourse and Practice within a British City Council. *Media, Culture & Society*, 36(6), p. 826–844.

Collins, K. & Ison, R., 2009. Jumping off Arnstein's ladder: social learning as a new policy paradigm for climate change adaptation. Environmental Policy and Governance, 19(6), pp. 358-373.

Collins, T. et al., 2016. *Enhancing Student Engagement in Decision-Making: Report of the Working Group on Student Engagement in Irish Higher Education*, s.l.: Higher Education Authority.

Cresswell, J., & Clark, V. P., 2018. *Designing and conducting mixed methods research*. 3 ed. Thousand Oaks, CA: Sage.

Cullen, S., 2005. *Involving users in supported housing: A good practice guide*, s.l.: s.n.

Davidson, S., 1998. Spinning the wheel of empowerment. *Planning*, 1262(3), pp. 14-15.

Davies, T., 2009. *Can social networks bridge the participation gap?* Available at: https://www.timdavies.org.uk/2009/05/18/can-social-networks-bridge-the-participation-gap/ [Accessed: 30 August 2021].

de Leeuw, E., 2021. The Rise of the Consucrat. *International Journal of Health Policy and Management*, 10(4), pp. 176-180.

de Wit, H., & Altbach, P. G., 2021. Fighting for funding against inequality post-COVID-19. I*nternational Higher Education*, Volume 105, pp. 3-4.

Dollinger, M. & Mercer-Mapstone, L., 2009. What's in a Name? Unpacking Students' Roles in Higher Education through Neoliberal and Social Justice Lenses. *Teaching and Learning Inquiry*, 7(2), pp. 73-89.

Dooris, M., & Heritage, Z., 2013. Healthy Cities: facilitating the active participation and empowerment of local people. Journal of Urban Health, 90(1), pp. 74-91.

Dukhanin, V., Topazian, R., & DeCamp, M., 2018. Metrics and evaluation tools for patient engagement in healthcare organization-and system-level decision-making: a systematic review. *International Journal of Health Policy and Management*, 7(10), pp. 889-903.

Education Scotland, n.d.-a. *Scotland's Curriculum for Excellence - Page 3 (Scotland's Approach)*. Available at: https://scotlandscurriculum.scot/3/ [Accessed: 30 August 2021].

Education Scotland, n.d.-b. *Young Leaders of Learning Programme - Information for Parents and Carers*. Available at: https://education.gov.scot/parentzone/learning-in-scotland/young-leaders-of-learning-programme/ [Accessed: 1 September 2021].

Fahmi, E., & Chandra-Putra, H., 2021. Community-Based Village Planning for the Reconstruction of Post-Tsunami and Post-Conflict Aceh: Participatory Planning in Practice. In: M. Lauria & C. Schively Slotterback, eds. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge, pp. 67-86.

Falanga, R., & Ferraz da Fonseca, I., 2021. The Scaling-up of Participatory Budgeting: Insights from Brazil and Portugal. In: M. Lauria & C. Schively Slotterback, eds. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge, pp. 35-49.

Feeney, S., Lillis, D., & Ramsey, L., 2020. Students as Partners? Exploring Student Union Engagement in the Creation of Technological Universities in Ireland. *Irish Journal of Academic Practice*, 8(1).

Fereday, J., & Muir-Cochrane, E., n.d. Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1), pp. 80-92.

Fielding, M., 2001. Students as radical agents of change. *Journal of Educational Change*, Volume 23, pp. 123-131.

Fielding, M., 2012. Beyond Student Voice: Patterns of Partnership and the Demands of Deep Democracy. *Revista de Educación*, Volume 359, pp. 45-65.

Fletcher, A., 2005. Meaningful Student Involvement: Guide to Students as Partners in School Change, s.l.: SoundOut.

Frankena, T. K., et al., 2015. Active involvement of people with intellectual disabilities in health research–a structured literature review. *Research in Developmental Disabilities*, Volume 45, pp. 271-283.

Gaber, J., 2021. Building "A Ladder of Citizen Participation". In: M. Lauria & C. Schively Slotterback, eds. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge, pp. 13-34.

Gibson, J., Hendricks, M. D., & Wells, J. C., 2021. Defining Partnership: Incorporating Equitable Participatory Methodologies in Heritage Disaster Recovery Planning for Socially Vulnerable Groups. In: M. Lauria & C. Schively Slotterback, eds. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge, pp. 50-66.

Giroux, H., 2010. Rethinking Education as the Practice of Freedom: Paulo Freire and the promise of critical pedagogy. *Policy Futures in Education*, 8(6), pp. 715-721.

Gravett, K., Kinchin, I., & Winstone, N., 2020. 'More than customers': Conceptions of students as partners held by students, staff, and institutional leaders. *Studies in Higher Education*, 45(12), pp. 2574-2587.

Hall, S., & Hickman, P., 2011. Resident participation in housing regeneration in France. *Housing Studies*, 26(6), pp. 827-843.

Hart, R., 1992. *Children's Participation: From Tokenism to Citizenship*, Florence: UNICEF.

Hassan, O., et al., 2020. Supporting Student Engagement and Partnership in Higher Education Decision-Making during the Pandemic: A reflection from the National Student Engagement Programme (NStEP). *All Ireland Journal of Higher Education*, 12(3), pp. 1-9.

Hatch, J. A., 2006. Qualitative studies in the era of scientifically-based research: musings of a former QSE editor. *International Journal of Qualitative Studies in Education*, 19(4), pp. 403-407.

Haughton, G., & McManus, P., 2021. Participation in Postpolitical Times: Protesting WestConnex in Sydney, Australia. In: M. Lauria & C. Schively Slotterback, eds. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge, pp. 228-249.

Healey, M., Flint, A., & Harrington, K., 2014. *Engagement through partnership: Students as partners in learning and teaching in higher education*, s.l.: Higher Education Academy.

Hughes, S., 2015. A meta-analysis of urban climate change adaptation planning in the US. *Urban Climate*, Volume 14, pp. 17-29.

Hurlbert, M., & Gupta, J., 2015. The split ladder of participation: A diagnostic, strategic, and evaluation tool to assess when participation is necessary. *Environmental Science & Policy*, Volume 50, pp. 100-113.

Hussey, S., 2020. *International Public Participation Models 1969-2020*. Available at: https://www.bangthetable.com/blog/international-public-participation-models/ [Accessed: 29 August 2021].

Islam, M. & Valente, I., 2021. A Critical Dialogue Reflecting on the Potentials of BAME staff-student partnerships. *The Journal of Educational Innovation, Partnership and Change*, 7(1).

Jingura, R. et al., 2018. A Model for Enhancing Student Engagement Within the Context of Higher Education Quality Assurance. *Journal of Higher Education Management*, 32(2), pp. 127-135.

Kalandides, A., 2018. Citizen participation: Towards a framework for policy assessment. Journal of Place *Management and Development*, 11(2), pp. 152-164.

Kennedy, M. M., 2007. Defining a literature. *Educational Researcher*, 36(3), pp. 139-147.

Kuruvilla, C. & Sathyamurthy, K., 2015. Community participation towards effective social work practice. *Indian Journal of Applied Research*, 5(12), pp. 16-18.

Lampert, J. N., 2009. *Parental attachment styles and traditional undergraduates' adjustment to college: Testing the "helicopter parent" phenomenon*, s.l.: s.n.

Laskey, A. B., & Nicholls, W., 2021. Jumping Off the Ladder: Participation and Insurgency in Detroit's Urban Planning. In: M. Lauria & C. Schively Slotterback, eds. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge, pp. 203-227.

Lauria, M. & Schively Slotterback, C. S., eds., 2021. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge.

Lester, D., 2013. A review of the student engagement literature. *FOCUS on Colleges, Universities & Schools*, 7(1), pp. 1-8.

Levenda, A. M., Keough, N., Rock, M., & Miller, B., 2020. Rethinking public participation in the smart city. *The Canadian Geographer/Le Géographe canadien*, 64(3), pp. 344-358.

Lowe, T., & Bols, A., 2020. An introduction to student engagement in higher education. In: T. Lowe & Y. El Hakim, eds. *A Handbook for Student Engagement in Higher Education: Theory into Practice*. London: Routledge, pp. 3-26.

Mahon, Á., 2022. *Hope and hopelessness in the post-pandemic university*. Available at: https://postpandemicuniversity.net/2022/01/15/hope-and-hopelessness-in-the-post-pandemic-university/ [Accessed: 30 August 2021].

Mandarano, L. A., 2008. Evaluating collaborative environmental planning outputs and outcomes: restoring and protecting habitat and the New York—New Jersey harbor estuary program. *Journal of Planning Education and Research*, 27(4), pp. 456-468.

Marent, B., Forster, R., & Nowak, P., 2012. Theorizing participation in health promotion: A literature review. *Social Theory & Health*, 10(2), pp. 188-207.

Marie, J., MacKenzie, S., Rowett, S., & Wright, M., 2017. Staff Perceptions of 'hard to reach'. *Journal of Educational Innovation Partnership and Change*, 3(1).

Matthews, K., Dwyer, A., Russell, S., & Enright, E., 2019. It is a complicated thing: Leaders' conceptions of students as partners in the neoliberal university. *Studies in Higher Education*, 44(12), pp. 2196-2207.

Mavuso, M. P. & Duku, N., 2014. Participation of parents in school governance: A case study of two Eastern Cape schools: A view from below. *Mediterranean Journal of Social Sciences*, 5(3), pp. 454-460.

McAvinia, C., O'Keeffe, M., & Donnelly, R., 2022. *What, So What, Now What? Covid-19 as a Critical Incident in Practice*. Available at: https://thesedablog.wordpress.com/2022/01/26/covid-19-as-a-critical-incident-in-practice/ [Accessed: 30 August 2021].

Measham, T. G., Preston, B. L., Smith, T. F., Brooke, C., Gorddard, R., Withycombe, G., & Morrison, C., 2011. *Adapting to climate change through local municipal planning: barriers and challenges*. Mitigation and adaptation strategies for global change, 16(8), pp. 889-909.

Mercer-Mapstone, L. et al., 2017. A systematic literature review of students as partners in higher education. *International Journal for Students as Partners*, 1(1), pp. 1-23.

Natarajan, L., 2019a. Outlooks on Participating People, Plans & Places 1. *Built Environment*, 45(1), pp. 5-6.

Natarajan, L., 2019b. Realizing Participation People, Plans & Places 2. *Built Environment*, 45(2), pp. 141-142.

Natzler, M., 2021. *What is the student voice? 13 essays on how to listen to students and how to act on what they say*, s.l.: s.n.

Newby, P., 2014. *Research Methods for Education*. 2 ed. London: Routledge.

Ní Bheoláin, R., Lowney, R., & O'Riordan, F., 2020. *Students as partners in assessment (SaPiA): a literature scoping review*, s.l.: Zenodo.

Nitsch, M., et al., 2013. Participation by different stakeholders in participatory evaluation of health promotion: A literature review. *Evaluation and Program Planning*, Volume 40, pp. 42-54.

nonformality.org, 2011. *Participation Models: Citizens, Youth, Online, A chase through the maze*. Available at: https://www.nonformality.org/wp-content/uploads/2011/07/Participation-Models-20110703.pdf [Accessed: 25 August 2021].

Ntem, A., et al., 2020. Students as partners in crisis? Student co-editors' perspectives on COVID-19, values, and the shift to virtual spaces. International *Journal for Students as Partners*, 4(2), pp. 1-8.

Ono, S., & Nosek, G., 2021. Universities Must Do More to Address the Climate Emergency. Available at: https://www.insidehighered.com/views/2021/04/26/universities-should-work-more-youth-movement-combat-climate-change-opinion [Accessed: 27 August 2021].

O'Rourke, V., & Baldwin, C., 2016. Student engagement in placemaking at an Australian university campus. *Australian Planner*, 53(2), pp. 103-116.

Perić, A., 2021. Citizen Participation in Transitional Society: The Evolution of Participatory Planning in Serbia. In: M. Lauria & C. Schively Slotterback, eds. *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. New York: Routledge, pp. 91-109.

Pétursdóttir, S. D. D., 2011. *Technology enabled citizen participation in Nairobi slum upgrades* (Doctoral dissertation). s.l.:s.n.

Prieto Martín, P., 2010. Las alas de Leo: la participación ciudadana del siglo XX, s.l.: Asociación Ciudades Kyosei.

Prieto Martín, P. 2010. *Las alas de Leo. La participación ciudadana del siglo XX, Bubok*. Available at: https://www.bubok.es/libros/170357/Las-alas-de-Leo-La-participacion-ciudadana-del-siglo-XX [Accessed: 13 October 2022].

Prieto Martín, P., 2014. Participation Schemas: a tool to characterize collaborative participation [Paper presentation]. Newcastle, England, s.n.

Puskás, N., Abunnasr, Y., & Naalbandian, S., 2021. Assessing deeper levels of participation in nature-based solutions in urban landscapes–A literature review of real-world cases. *Landscape and Urban Planning*, 210, pp. 1-11.

Rabinowitz Bussell, M., et al., 2021. A Bridge to Civic Empowerment: A Rooted University Approach to Creating Equitable University-Community Partherships and Just Power Relations. In: *Learning from Arnstein's Ladder: From Citizen Participation to Public Engagement*. Lauria, Mickey; Schively Slotterback, Carissa ed. New York: Routledge, pp. 271-287.

Randolph, J., 2009. A guide to writing the dissertation literature review. *Practical Assessment, Research, and Evaluation*, Volume 14, pp. 1-13.

Reed, M. S., 2008. Stakeholder participation for environmental management: a literature review. *Biological Conservation*, 141(10), pp. 2417-2431.

Riedl, V., & Staubmann, H., 2021. Internationalisation, Brexit, and the EU academic system: a case study in Austria. *European Journal of English Studies*, 25(1), pp. 65-79.

Rogers, N., 2019. *Law, Fiction and Activism in a time of Climate Change*. London: Routledge.

Rogers, N., 2020. Victim, litigant, activist, messiah: the child in a time of climate change. In: B. Richardson, ed. *From Student Strikes to the Extinction Rebellion*. Cheltenham: Edward Elgar Publishing, pp. 103-121.

Romanin, A., 2013. *Influencing renewal: an Australian case study of tenant participation's influence on public housing renewal projects*. s.l.: s.n.

Ross, J., 2020. Economic ramifications of the COVID-19 pandemic for higher education: a circuit breaker in Australian universities' business model? *Higher Education Research & Development*, 39(7), pp. 1351-1356.

Rudd, T., Colligan, F., & Naik, R., 2006. *Learner voice: A handbook from Futurelab*, s.l.: Futurelab.

Rudduck, J., & Flutter, J., 2004. *How to Improve Your School: Giving Pupils a Voice*. London: Continuum.

Ruesga, G. A., & Knight, B., 2013. *The View from the Heights of Arnstein's Ladder: Resident Engagement by Community Foundations*. National Civic Review, 103(3), pp. 13-16.

Schively Slotterback, C. S., & Lauria, M., 2019. Building a foundation for public engagement in planning: 50 years of impact, interpretation, and inspiration from Arnstein's Ladder. *Journal of the American Planning Association*. 85:3, pp. 183-187.

Schön, U. K., 2016. User Involvement in Social Work and Education—A Matter of Participation? *Journal of Evidence-Informed Social Work*, 13(1), pp. 21-33.

Scottish Funding Council for Further and Higher Education, 2021. *Coherence and Sustainability: A Review of Tertiary Education and Research*, s.l.: s.n.

Scottish Parliament, 2021. *United Nations Convention on the Rights of the Child* (Incorporation) (Scotland) Bill. s.l.:s.n.

Shaw, C., Humphrey, O., Atvars, T., & Sims, S., 2017. Shaw, C., Humphrey, O., Atvars, T., and Sims, S., 2017. *Systematic Literature Review of 'Hard to Reach' Students and Methods of Inclusive Engagement*, s.l.: REACT.

Sieber, R., 2006. Public participation geographic information systems: a literature review and framework. *Annals of the Association of American Geographers*, 93(3), pp. 491-507.

Simmons, R., & Birchall, J., 2007. Tenant participation and social housing in the UK: applying a theoretical model. *Housing Studies*, 22(4), 573-595., 22(4), pp. 573-595.

Slocum, R., & Thomas-Slayter, B., 1995. Participation, empowerment and sustainable development. In: R. Slocum, L. Wichhart, D. Docheleau & B. Thomas-Slayter, eds. *Power, Process and Participation: Tools for Change*. London: Intermediate Technology Publications, pp. 3-8.

Stelmach, B., 2016. Parents' participation on school councils analysed through Arnstein's ladder of participation. *School Leadership & Management*, Issue 36, pp. 271-291.

Stewart, E., 2016. *Publics and their health systems: rethinking participation. Basingstoke*: Palmgrave Macmillan.

Stewart, E., 2012. Governance, participation and avoidance: everyday public involvement in the Scottish NHS, s.l.: s.n.

Stewart, E., 2013. What is the point of citizen participation in health care?. Journal of Health Services Research & Policy, 18(2), pp. 124-126.

Student Partnerships in Quality Scotland, n.d.-c. sparqs: A Ladder of Citizen Participation by Sherry R Arnstein (1969). Available at: https://www.sparqs.ac.uk/upfiles/Arnstein%20Ladder%20Handout%20-%20sparqs.pdf [Accessed: 28 August 2021].

Suman, A. B., Schade, S., & Abe, Y., 2020. Exploring legitimization strategies for contested uses of citizen-generated data for policy. In: *From Student Strikes to the Extinction Rebellion: New Protest Movements Shaping Our Future*. Cheltenham: Edward Elgar Publishing, pp. 74-102.

Suszyńska, K., 2015. Tenant participation in social housing stock management. *Real Estate Management and Valuation*, 2(23), pp. 47-53.

Thomas, D. R., & Hodges, I. D., 2010. *Designing and managing your research project: Core skills for social and health research*. London: Sage.

Tierney, W. G., 2002. Parents and families in precollege preparation: The lack of connection between research and practice. *Educational Policy*. Educational Policy, 16(4), pp. 588-606.

Tritter, J. Q., & McCallum, A., 2006. The snakes and ladders of user involvement: moving beyond Arnstein. *Health Policy*, 76(2), pp. 156-168.

Trowler, V., 2010. *Student engagement literature review*, s.l.: The Higher Education Academy.

Trzyna, T., 2007. Trzyna, T. 2007. *Global urbanization and protected areas: Challenges and opportunities posed by a major factor of global change — and creative ways of responding*, Sacramento, CA.: California Institute of Public Affairs.

UNICEF UK, 2021. Scotland votes to incorporate children's rights in law. Available at: https://www.unicef.org.uk/press-releases/scotland-votes-to-incorporate-childrens-rights-in-law/ [Accessed: 1 September 2021].

Varwell, S., 2021. Models for exploring partnership: Introducing sparqs' student partnership staircase as a reflective tool for staff and students. International *Journal for Students as Partners*, 5(1), pp. 107-123.

Varwell, S., 2022a. Partnership in pandemic: Re-imagining Arnstein's ladder of citizen participation for an era of emergency decision-making. *The Journal of Educational Innovation*, Partnership and Change, 8(1).

Varwell, S., 2022b. *Research in Practice: Two questions about student partnership in colleges*. Available at: https://www.cdn.ac.uk/blog/research-practice-two-questions-student-partnership-colleges/ [Accessed: 15 August 2022].

Wamsler, C., Brink, E. & Rivera, C., 2013. Planning for climate change in urban areas: from theory to practice. *Journal of Cleaner Production*, Volume 50, pp. 68-81.

Wiedemann, P. M., & Femers, S., 1993. Public participation in waste management decision making: Analysis and management of conflicts. *Journal of Hazardous Materials*, 33(3), pp. 355-368.

Woods, K., & Botcherby, P., 2021. Then & Now Arts at Warwick Student Project: Co-creation in the COVID-19 crisis. *Exchanges: The Interdisciplinary Research Journal*, 8(4), pp. 55-75.

Yosso, T., 2005. Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8(1), pp. 69-91.

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The Use of Collage in Autoethnography

Harriet Richmond

Leadership and Management Development (LMD), University of Warwick, Coventry, UK
Correspondence: harriet.richmond@warwick.ac.uk
Twitter: @HarrietRichmond
ORCID: 0000-0003-0948-8615

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Abstract

In this critical reflection, I will explore my use of collage in critical autoethnography. This reflection was prompted by my participation in a seminar that took place in June 2022, entitled 'Being a Researcher'. This seminar was co-organised by the Non-Traditional Research Methods Network (NTRM), of which I am one of three founder members, and the Society for Research in Higher Education (SRHE). I reflect upon two properties of collage. I suggest that embodiment in the process of making collage, enables researchers to draw upon embodied and affective ways of understanding the world. Furthermore, I propose that the constructive and deconstructive properties of collage enable a critical engagement with one's personal narratives in autoethnography. I conclude that the literally messy aspects of collage pose questions about tidy and messy ways of knowing, and in so doing raise questions what it means to be a researcher in practice.

Keywords: collage; autoethnography; researcher identity; visual research methods

Introduction

In this critical reflection, I will explore my use of collage in critical autoethnography, prompted by participation in a seminar co-organised by the Non-Traditional Research Methods Network (NTRM), of which I am one of three founder members, and the Society for Research in Higher Education (SRHE).

At this seminar, entitled *Being a Researcher*, I presented a series of collages that I created over a six-month period, from January 2022 - June 2022. The collages enabled me to articulate the contrast between my experiences as a Head of Department in a Faculty of Business and Law during the Covid-19 pandemic, and the 'potentiality' (**Gale et al., 2022**) that arose from my involvement in establishing the NTRM Network. The collages I presented at the SRHE/NTRM event are part of a wider autoethnographic study that explores my experiences of UK higher education during this period. However, this reflective piece will not present the outcomes of this study, as there are some aspects that I continue to navigate. For example, I continue to explore the ethical issues arising from my public expression of 'the personal troubles of milieu' (**Mills, 2000: 2**) and the associated challenge of critically situating my personal narratives within a social context. Therefore, this critical reflection will focus on two properties of 'analogue collage' (**Hajian, 2022: 101**) that I identified at the SRHE/NTRM seminar. The first property of analogue collage is embodiment in the process of making collage, and how this enables a researcher to draw upon embodied and affective ways of understanding the world. The second property is how collage enables critical engagement with one's personal narratives in autoethnography, by 'making the familiar strange' (**Culshaw, 2019: 271**). I will show how these two properties align with, and enhance, the broad methodological aims of autoethnography, described by Boylorn and Orbe (**2016**) which aims 'to understand the lived experiences of real people in context', by inviting readers into the 'lived experience of a presumed "Other" and to experience it viscerally' (**Ibid: 15**).

The NTRM was established by two colleagues and I in 2021. The following informal manifesto, which emerged during the Network's development, best expresses its public narrative:

> *The Non-Traditional Research Methods Network (NTRM) was launched in 2021 and was borne out of three colleagues talking and observing that, despite the sheer range of research methods available, in practice decisions in this area are often bound by the conventions of different disciplines. Not all research methods suit all contexts, but we decided that we would really welcome the opportunity to be exposed more to innovative research methods and research methods that are not*

> *traditional in the areas in which we work. The purpose of NTRM is, therefore, to provide a space for meaningful cross disciplinary research debate and thereby encourage more creativity in this aspect of research design.* (**NTRM, 2021**)

This public manifesto of the NTRM provides an important focus for event themes, and a rallying point for researchers interested in research methods and researcher development. However, my co-founders and I quickly became aware of an emerging private narrative of our participation in the Network and the SRHE/NTRM seminar provided a timely opportunity for us to reflect on and articulate this narrative.

Specifically, the Network provided each of us with refuge from the various personal and professional pressures we each experienced during the pandemic. As I explained in the opening of this piece, I was a Head of an academic department during this period, working very long hours, managing a large academic team who were themselves experiencing high levels of insecurity, fear, and anxiety in a highly changeable set of circumstances. The pandemic amplified many pre-existing personal and professional challenges, and the NTRM provided relief from this, for the founders of the Network during this difficult period. The public and private discussions that arose from the events we organised for the NTRM, coupled with our shared camaraderie created a hopeful, forward momentum for us all. My experience of our collaborative effort resonates with the reflections of Gale et al. (**2022**) and their research collaborations:

> *Every time we stand on the podium, bodies arm and arm and do our thing, something happens, there is a movement towards and, in the frisson of every speculative touch, in the excitement of every 'What-if?', a potent and highly capacious force is unleashed.* (**Gale et al., 2022: 8**)

We embraced the 'What-if' that the NTRM project posed, and we each responded to this potentiality in different ways. As we prepared our joint presentation for the SRHE/NTRM seminar, we rejected text-based ways of presenting our experiences. For example, one of us chose poetry as a means of expression, another chose images. I decided that collage would be the way that I would tell my story of the NTRM.

Collage, Expression & NFTs

I created my first collage in January 2022 and by the time of the seminar in June 2022, I had produced twelve collages. The drive to produce a visual record of the personal and professional incongruities and challenges I experienced during this transition period was both joyful and urgent. Since completing a PhD in Drama at the University of Birmingham in 2019, I had struggled to locate myself, and my research, in a Faculty of Business and Law. I found myself bumping up against what Callagher et al. (**2021**) refer

to as 'identity threats'; moments which led me to question whether I belonged within a particular discipline. The SRHE/NTRM seminar was the first time I had shared my collage work in a public forum and doing so assisted in consolidating my identity as a researcher. It also provided a focus for some tentative claims for collage as a method within autoethnography, which I shall now reflect upon in more depth in the next part of this critical reflection.

Hajian (**2022**) suggests that the origins of collage lie in the Japanese and Chinese tradition of 'chine collé', meaning 'pasted Chinese paper' in French. However, the word collage, derived from the French verb 'coller', or 'to glue', was not used to describe artworks until the 20th Century, when this art form was first embraced by Pablo Picasso, George Braque and the Cubists between 1910-1914. At this time, collage was considered 'folk art', and engagement with this form marked a radical departure for the Cubists, disrupting an established fine art hierarchy (**Leighton & Groom, 2022)** as many of this group had trained as professional artists. Collage challenged the notion that the world as we see it no longer has primacy: 'The picture is no longer an act of perception. It's an act of imagination, with a life and logic of its own' (**Farago, 2021**). Collage embraces a broad range of analogue and digital forms of making. For example, my work includes photomontage, figurative expression, landscapes, and seascapes alongside abstract mosaic paper collage.

Figure 1: 'Casting Flower Spells' January 2022. Source: Author created, personal collection.

I intuitively embraced analogue collage, cutting up old magazines and sticking them onto paper, card and board but was only prompted to consider my methods critically when other artists introduced me to the concept of *Non-Fungible Tokens* (NFTs). NFTs are a form of cryptocurrency that can be traded, but unlike cryptocurrency, they can be digitally 'minted' as an original, becoming a unique and collectable digital asset (**Wang et al., 2021**). Scarcity and uniqueness are the defining qualities of a desirable NFT asset. Learning about NFT's marked a critical turning point for me because I began to consider why the analogue properties of my work were so important to me. I knew that it was important to me that I was engaging with an embodied practice, and it also mattered that the effort produced an artefact that could be experienced in the real world. The NTRM/SRHE seminar provided an opportunity to begin to theorise these experiences, leading to my first tentative claim for analogue collage in autoethnography; that analogue collage is an embodied process that prompts 'enfleshed knowledge' (**Spry, 1999: 724**). I will illustrate this by posing two questions: Why did embodiment become significant for me professionally during the pandemic; and why does embodiment matter in the context of research (in broad terms), and in autoethnography in particular?

Experiencing the world in an embodied way is fundamental to human experience, shaping one's emotional, cognitive and physical engagement with the world (**Durkin, Jackson & Usher, 2021**). In the early stages of the pandemic, the ability to touch objects, surfaces and other people, was enmeshed with anxiety and safety concerns. We were distanced from one another and technologies that facilitated our coming together in virtual ways reshaped our relationship with our bodies, because they required the brain 'to process the self as body, *and* as image' (**Abrahams et al., 2020: 3**). The experience of disassociation and disembodiment in virtual interactions is prompted by us looking at ourselves in one virtual place, whilst experiencing ourselves in another place. At the start of the pandemic, we saw and heard unexpected things in online meetings. For example, the appearance of pets, family members and sounds we cannot locate the origins of. We also experienced technical glitches, such as frozen bodies and sudden disappearances, that momentarily reminded us that our bodies existed in a slightly different time and space from one another.

During this period, I experienced an unusual disassociation from my body, only becoming aware of it when I experienced stiffness after sitting in the same position for long periods. Tsakiris, Prabhu and Haggard (**2006: 424**) suggest that embodiment can be experienced in three ways; self-location (where am I), body ownership (my body/not my body) and agency (both actual and imagined). The process of collage making enabled me to locate my body in the same time/space as the artefact. Analogue collage is

unmediated because it does not employ digital tools in making, and so the ownership and engagement of the body in the making process is central. During this period, doing collage felt like an assertion of my agency, and form of resistance, by reclaiming the private space of my home from the demands of work. The collages held and contained my experiences as I actively deposited my memories into them, creating biographical artefacts that contain temporal simultaneity, bringing the past experience into the present moment (**Beckstead et al., 2011**). My observation is that the quality of temporal simultaneity in the collage artefact means that the affective dimensions of an experience are experienced 'viscerally' (**Boylorn & Orbe, 2016: 15**) when returning to a collage, compared to reading written accounts of an experience.

The second aspect of embodiment in collage is concerned with knowledge production. The notion of 'enfleshed knowledge' (**Spry, 1999: 724**) is the knowledge produced by, and through the sensing body. By embracing the somatic, there is potential to move beyond the experience of the body as a foundation for knowledge, challenging the universalising tendency of written language. The linguistic patterns of positivist dualism of mind/body or objective/subjective risk fixing the body as 'an entity incapable of literacy' or as Merleau-Ponty (**2012**) suggests, we do not *have* bodies, we *are* bodies; 'the body is a natural self and, as it were, the subject of perception' (**Ibid: 206**).

Collage, Defamiliarisation & Deconstruction

Now, I will explain and expand upon a further property of analogue collage, and one which I first identified within the NTRM/SRHE seminar. It was during this seminar, that it became apparent to me how by 'dismantling and overlaying, by destroying and assembling' collage enables a critical and deconstructing stance towards one's own personal narratives, and the realities implied by them.

Collage reuses the fragments and refuse of visual culture (**Hajian, 2022: 100**), embracing and drawing attention to cracks and imperfections by 'letting the seams show' (**Farago, 2021**). In so doing, collage embraces failure. Rather like Kintsugi, the Japanese tradition of mending broken pottery by repairing the areas of breakage with gold, we are reminded that failure is something to be valued and celebrated, that the 'pristine is less beautiful than the broken' (**Price, 2021: 1**). The visible damage is integral to the history of the pot, and a potential source of new knowledge:

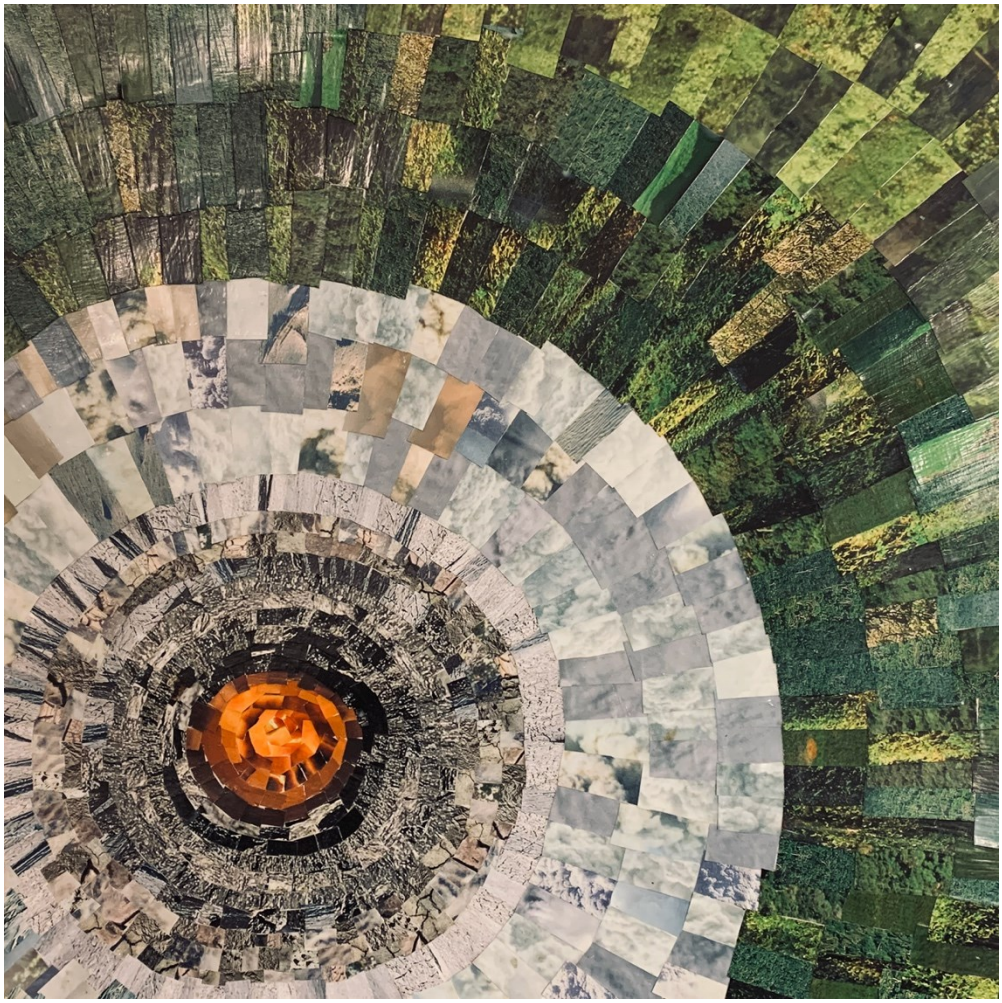
> *…failure itself is also perhaps an interesting (dare we say necessary) space…to dwell. It is in the broken spaces, in the silences, in the messy moments that perhaps new knowledges arise.* (**Schultz and Legg, 2020: 250**)

Collage uses the materials associated with the symbolic real (such as photographs) and by clashing and contrasting this imagery, foregrounds the symbolic real, revealing the constructed nature of the actual and its depiction as image. Collage is 'tantamount to a bug in a system of a superficial truth - it taints' (**Hajian, 2022: 99**). It is a reminder that reality is changeable, complex, and contextual, rather than fixed, stable, and singular. Collage forces an engagement with the constructed nature of reality, making the familiar strange, enabling the expression of experiences that are 'beyond the spoken word' (**Culshaw, 2019: 271**). Whereas verbal and written language seeks to contain and classify, collage expresses through metaphor and metonymy enabling researchers 'to perceive the world "freshly,", and to look for complexity' (**Springgay, Irwin & Kind, 2005: 902**). These forms of expression are not in conflict with one another. For example, the written form of this critical reflection, and the verbal form of the NTRM/SRHE seminar that prompted it, has both contained and clarified my experience of engaging with collage in autoethnography. Therefore, art and writing are in conversation with one another, 'complementing and extending' one another, rather than 'one extracting meaning from the other' (**Schultz & Legg, 2020: 245**).

Conclusion

Through this critical reflection I have explored how my preparation and subsequent reflections upon the NTRM/SRHE seminar 'Being a Researcher' has prompted a deeper understanding of two properties of analogue collage and the methodological aims of autoethnography; a method that uses a 'critical lens…to make sense of 'messy and complex' lived experience' (**Boylorn & Orbe, 2016: 16**). As I reflect on these properties, I am reminded of a line in the song 'Anthem' by Leonard Cohen, where he sings 'Forget your perfect offering. There is a crack, a crack in everything. That's how the light gets in' **(Cohen, 1992).** Collage celebrates the cracks and brings light into understanding. The literally messy and embodied dimensions of collage pose questions about 'tidy' and 'messy' ways of knowing and the conversational nature of embodied, verbal, written and visual forms of understanding. My engagement in collage has also caused me to reflect upon what 'being a researcher' means in practice, am I a researcher or an artist? Neither or both? These are the new questions that I will explore as I continue with the wider autoethnographic study.

Figure 2: 'An Ember in the Ash' June 2022. Source: Author created, personal collection.



Dr Harriet Richmond is the Organisation Development Consultant at the University of Warwick, with responsibility for staff researcher development. Harriet received a PhD in Drama from the University of Birmingham, UK in 2019. Her thesis examines the relationship between theatre design education, design and scenography practice and emergent professional identities of theatre designers. Harriet's research interests are the formation and development of professional identities, using creative and arts-based research methods.

List of Figures

References

Abrahams, A. et al. (2020) 'Embodiment and Social Distancing: Projects', *Journal of Embodied Research*, 3(2), pp. 4–28. DOI: 10.16995/jer.67 [Accessed: 5 October 2022].

Beckstead, Z. et al. (2011) 'Collective remembering through the materiality and organization of war memorials', J*ournal of Material Culture*, 16(2), pp. 193–213. DOI: 10.1177/1359183511401494 [Accessed: 5 October 2022].

Boylorn, R.M. and Orbe, M.P. (2016) 'Introduction Critical Autoethnography as Method of Choice', in R.M. Boylorn and M.P. Orbe (eds) Critical Autoethnography. Routledge, pp. 1–14. DOI: 10.4324/9781315431253 [Accessed: 5 October 2022].

Callagher, L.J. et al. (2021) 'Early career researchers' identity threats in the field: The shelter and shadow of collective support', *Management Learning*, 52(4), pp. 442–465. DOI: https://doi.org/10.1177/1350507621997738 [Accessed: 5 October 2022].

Cohen, L. (1992) *Anthem,* New York: Columbia Records

Culshaw, S. (2019) 'The unspoken power of collage? Using an innovative arts-based research method to explore the experience of struggling as a teacher', *London Review of Education*, 17(3), pp. 268–283. Available at: DOI: 10.18546/LRE.17.3.03 [Accessed: 5 October 2022].

Durkin, J., Jackson, D. and Usher, K. (2021) 'Touch in times of COVID-19: Touch hunger hurts', *Journal of Clinical Nursing*. Blackwell Publishing Ltd, pp. e4–e5. DOI: https://doi.org/10.1111/jocn.15488 [Accessed: 5 October 2022].

Farago, J. (2021) 'An Art Revolution, Made with Scissors and Glue', The New York Times, 29 January. Available at: https://www.nytimes.com/interactive/2021/01/29/arts/design/juan-gris-cubism-collage.html [Accessed: 30 September 2022].

Gale, K. et al. (2022) 'Writing Through and Writing Against: Materials of Resistance', *International Review of Qualitative Research*, pp. 1–10. Available at: DOI: 10.1177/19408447221081248 [Accessed: 5 October 2022].

Hajian, G. (2022) 'Revealing embedded power: Collage and disruption of meaning', *Revista GEMInIS*, 13(2), pp. 94–104. Available at: DOI: 10.53450/2179-1465.rg.2022v13i2p94-104 [Accessed: 5 October 2022].

Leighton, J. and Groom, S. (2022) 'Director's Foreword', in P. Eiiliot (ed.) *Collage: Cut and Paste 400 Years of Collage*. Edinburgh: National Galleries, Scotland., pp. 7–7.

Merleau-Ponty, M. (2012) *Phenomenology of Perception*. Oxford: Routledge.

Mills, C.W. (2000) *The Sociological Imagination*. Oxford: Oxford University Press.

NTRM, (2021). *NTRM Informal Manifesto*. The Non-Traditional Research Methods Network [private communication].

Price, A. (2021) 'Commentary: My pandemic grief and the Japanese art of kintsugi', *The BMJ*. BMJ Publishing Group, pp. 1–2. DOI: 10.1136/bmj.n1906 [Accessed: 5 October 2022].

Schultz, C.S. and Legg, E. (2020) 'A/r/tography: At the Intersection of Art, Leisure, and Science', *Leisure Sciences*, 42(2), pp. 243–252. Available at: https://doi.org/10.1080/01490400.2018.1553123 [Accessed: 5 October 2022].

Springgay, S., Irwin, R.L. and Kind, S.W. (2005) 'A/r/tography as living inquiry through art and text', *Qualitative Inquiry*, 11(6), pp. 897–912. Available at: DOI: 10.1177/1077800405280696 [Accessed: 5 October 2022].

Spry, T. (1999) 'Performing Autoethnography: An Embodied Methodological Praxis', *Qualitative Inquiry*, 7(6), pp. 706–732.

Tsakiris, M., Prabhu, G. and Haggard, P. (2006) 'Having a body versus moving your body: How agency structures body-ownership', *Consciousness and Cognition*, 15(2), pp. 423–432. DOI: 10.1016/j.concog.2005.09.004 [Accessed: 5 October 2022].

Wang, Qin et al. (2021) *'Non-Fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges'*. Available at: http://arxiv.org/abs/2105.07447 [Accessed: 5 October 2022].

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