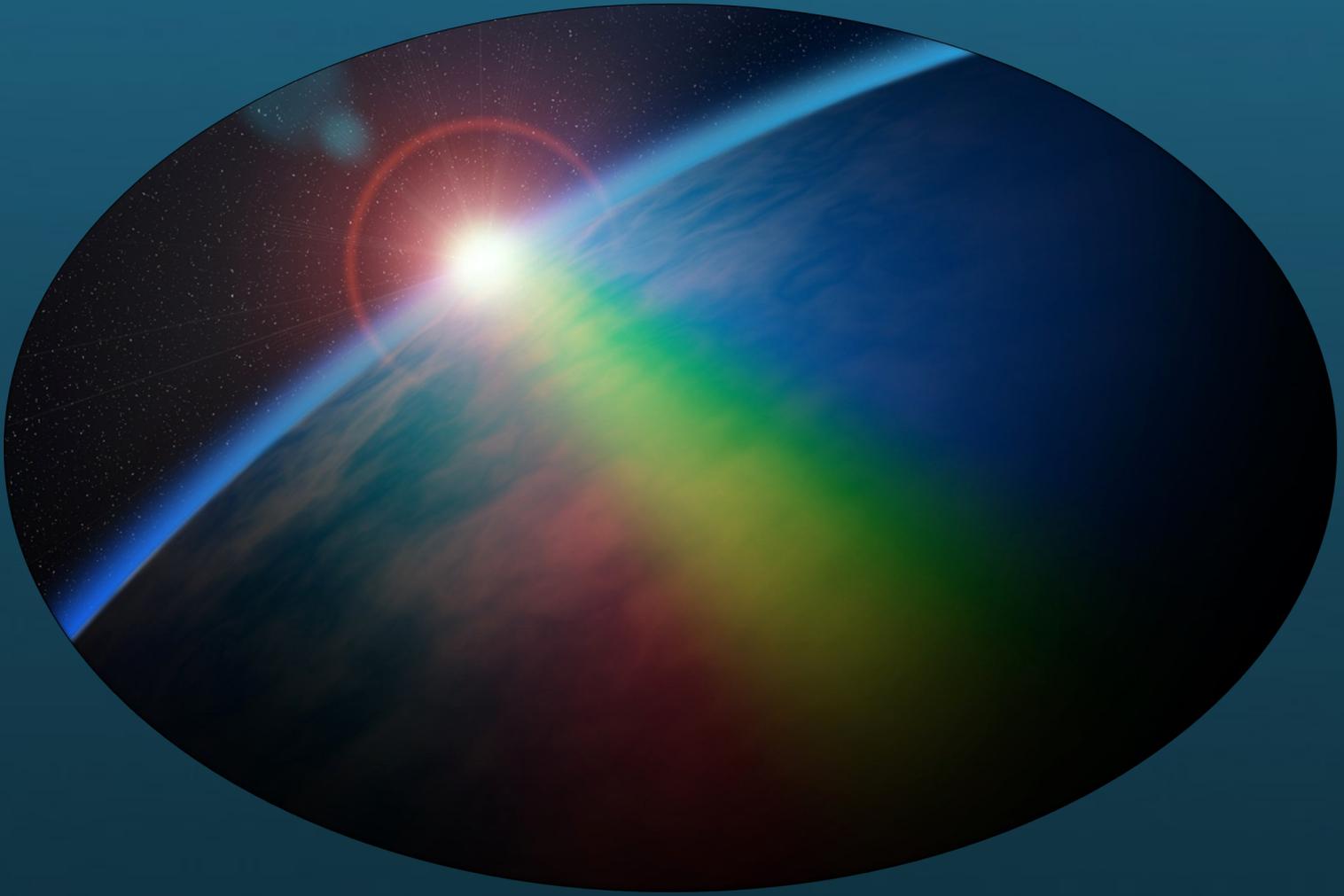# Exchanges

The Interdisciplinary Research Journal

Volume 7, Issue 3 (Summer, 2020)

Issue Highlights:

- Computer gaming for bearded dragons and playful research
- Routes to overcoming academic fraud
- Appreciating fact and fiction in the televisual Shakespeare
- Problematising cannibalism as a civilisation delineator
- DuPont speaks on DAO, Blockchain and Cryptography

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 Tale of Two Developments:
Editorial, Volume 7, Part 3

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*It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair. (**Dickens, 2004**)*

Introduction

Welcome to the Fifteenth edition of *Exchanges: The Interdisciplinary Research Journal*. This issue we are delighted to bring once again a selection of new thinking and insights, drawn from emerging scholars from across the disciplinary spectrum.

Firstly, I would my thanks to everyone who passed along compliments on the publication of January's special issue (**Exchanges, 2020a**). As I said at the time, this issue was the culmination of over a year's work by a lot of different contributors, not least of which our first intake of associate editors. Consequently, I was delighted to witness such a wave of positivity on social media and in conversations concerning the issue as a whole and many specific articles too. Five months on from publication, I am pleased to report the issue's contents are continuing to grow in terms of their readership, reach and visibility, which makes all the effort feel worthwhile. If you haven't already had the opportunity to peruse the issue, I would really encourage you too, as there are many surprises in this heady volume.

Here Am I, Where Are You?

Congratulatory mode to aside, it probably will not have escaped the notice of regular readers that this issue of *Exchanges* is appearing later in the year than we would normally prefer. Sadly, the reason for this is not an excess of celebrations following our special issue launch, but rather the impacts from the ongoing Covid-19 crisis and subsequent lockdown in the UK and internationally. Since early March, the *Exchanges* office has decamped to my home office, and while I have regularly worked from home over the past decade, shifting to entirely home-based operations has impacted on

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my activities. Not least among these being a reduced facility to informally engage with our local early career researcher and graduate student communities, many of whom have regularly supported *Exchanges* as contributors, editors and readers. I sincerely miss these casual, and often unplanned, encounters with our local contributor community not least for the motivational boost towards our endeavours they provide.

Despite the lockdown though, I am fortunate that the vast majority of my work on the journal can be successfully conducted remotely; including managing of my distributed team of editors, who at last count were located in five different time zones around the globe (**Exchanges, 2020b**). The particular challenges which arise alongside managing such a geographically diverse and distributed team is a vein of inquiry probably best mined elsewhere, likely in a future conference paper or other publication. Nevertheless, my editors and their work has also been impacted by the pandemic and local responses to tackle it. Some have been sequestered away from their homes and loved ones for months at a time. Others were able to travel, but now find themselves making a far longer stay at their terminus than would be ideal. They are a dedicated and knowledgeable assemblage of scholars, and a pleasure to work with, but they are only human. Hence, for most of them too there have been unexpected new work and life challenges to meet, all of which have understandably impacted on their editorial efficiency.

Then we have to consider our wonderful authors and reviewers around the world facing similar unknown daily challenges to their work, life and routines. I am regretfully aware of at least two potential contributors to the journal who have had to withdraw their work from consideration because of the impacts of crisis upon them. While I hope they will be able to revisit and perhaps resubmit at a later date, I quite understand that the global situation today is far from ideal for many scholars' labours.

Naturally, all of this has impacted on *Exchanges* in terms of our editorial efficiencies, contributor responsiveness and progress towards the new issue. Indeed, my first message to the editorial team as lockdown approached concerned the need for us all to continue embracing the journal's contributor supporting ethos. Hence, we have sought to be as considerate as possible where some individuals have required longer periods to respond to inquiries or conduct their intellectually productive labour. This expectation was borne out with numerous contributors reaching out to ask for more time; requests which we have granted in every case.

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Oddly, by contrast a publisher I periodically review papers for myself has continued to frequently 'ping' me with regular reminders of the short timespans within which they *need* me to conduct my work.[i] Hence, interestingly, not every publisher or journal title has been working within as considerate a contributor community ethos as *Exchanges* during this crisis. Although, I should acknowledge our work is underwritten by a free-gold (aka *diamond*) economic model (**Fuchs & Sandoval, 2013**), meaning the journal is not expected to generate economic value for shareholders or achieve financial sustainability through author fees. *Exchanges* primarily seeks is to maximise the symbolic value and career capital for our contributors, institutional patrons and the journal itself. Consequently, the imperative to produce a tangible issue to strict deadlines is diminished, although not entirely removed. Nevertheless, working under such a counter-capitalism economic operational mode does create a less exploitative editorial modality than a more commercially constructed title.

However, what this editorial digression has been principally concerned with has been exploring why this issue is undeniably later than planned. With fewer articles being publication ready on schedule, some authors withdrawing their active participation and many reviewers needing longer to construct their critiques, we hit an impasse during the spring. Consequently, I took the decision to push back publication and return once we had sufficient articles ready to comprise a suitable volume collection. As of early June, I am pleased to discover we had achieved this content goal and final preparations for publication could begin in earnest.

Gaining Visibility

There are certainly lessons here for us as a journal, and as a consequence of Covid-19 for the higher education publishing domain as a whole. What has been welcome during this period, is that we have continued to receive articles with a pleasing regularity over recent months. In many respects recently we have actually been receiving more submissions than the comparable time last year, which is deeply gratifying. However, with *Exchanges*' withdrawal from physical conference appearances, a number of which were planned for 2020, my largest fear was the title would become invisible to some potential authors. Which is why there has been increased effort deployed towards maximising our social media presence and activities over this period. Hence, it is with great pleasure that I can announce we are no longer limited to our previous twitter, blog and Linked.In group, which are now joined by *The Exchanges Discourse* podcast (**Exchanges, 2020c**).

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In a personal capacity, I have been a podcast producer for some years now, racking up my hundredth episode in May 2020.[ii] Hence, launching a podcast associated with the journal to complement the blog has long been an ambition. I believe my office whiteboard stands silent testament to this, with the word podcast written on it, since I relocated there last September. The podcast benefits us by continuing to expand on the journal's mission to '*encourage intellectual exchange and debate across research communities*', in between published issues (**Exchanges, 2020d**). Podcasts have undoubtedly come of age in recent years in terms of popularity and access and speaking with friends and colleagues during lockdown has certainly reinforced this impression. Moreover, our podcast hopefully serves to increase our visibility for potential contributors, and readers, within the academic and public spheres, essential for our continued operational health. Thankfully, all of this activity can be very successfully achieved off-site from our institutional offices.

What will *The Exchanges Discourse* cover then? The intention is for it to highlight journal developments and within the scholarly publications field, alongside discussing forthcoming and current calls for contributions. Like the blog, episodes are intended to be spurred by events and encounters relating to the journal, which should make for an eclectic and engaging range of discussions. Episodes to date have been concerned with introducing the journal's mission, examined our submission policies and most recently discussed ways to avoid having manuscripts declined. Future episodes currently in preparation will see me joined by other contributors, including special issue leads, editors, authors and other key figures relating to the journal. I am hopeful we might also be able to feature conversations with some of our local scholars too.

Nevertheless, I have a range of topics outlined which we will explore in future episodes, and I suspect one of these will likely be a guide to the contents of this issue you are currently reading. I also welcome suggestions for future episode topics or potential guests. You can find *The Exchanges Discourse* podcast on its host *Anchor.fm* (**ibid**), as well as on other streaming sites including *Breaker*, *Google Podcasts*, and even *Spotify* too, by searching for it by name. I hope you will consider listening to an episode or two in the near future.

For now, let us turn our attention to consider the academic articles which comprise our latest issue.

Articles

In this issue, I am gratified that we are able to bring our readers once again a selection of topics from across the disciplinary spectrum: from Shakespeare, to pedagogy through cryptocurrency and haptics, there is a smorgasbord of delights on offer. Curiously, through sheer serendipity, a number of these papers touch on areas of my own personal and professional interest, which has made my own editorial processes a touch more pleasurable this time around.[iii] We are especially delighted though in this issue that we are able to open with four peer-reviewed articles.

Firstly, Theo Plothe responded to our call for papers related to 'in-between spaces' with his piece intriguingly entitled *Bearded Dragons at Play: YouTube videos and the haptic interface of Ant Smasher*. Here, Plothe explores and examines the role of bearded dragon lizards playing computer games in terms of both how they represent a '*personification of their owner*' while also acting as conduits for play, providing '*a channel for gamers*' to enter into the '*boundaries of gamerspace*'. Taking as the core of its analysis a myriad of online videos centred on these computer gaming lizards, Plothe considers what light these shed on the relationships extant between gaming and play, by human and non-human actors ([1](#)).

Our next piece, from Paul Wilson, deals with an issue close to every editor's heart. While the piece was submitted in response to our fakery and deception themed call, planned for our next issue, given the delay in this issue arriving and the interest in this field, there seemed little value in delaying its publication. Hence, in *Academic Fraud*, Wilson provides an overview and insight into both fraudulent activities conducted within the academy and the counter measures deployed to detect them. Illustrated through a number of exemplar cases, he explores the deleterious effect such fraudulent conduct can have through undermining academic integrity, potentially creating a generalised distrust of 'expert culture'. While Wilson explores the steps to detect and minimise fraudulent academic output, he acknowledges detection methods remain imperfect, and how only through cultural shifts in academic practice can authentic academic rigour and scholarly discourse within research endeavours be maintained ([14](#)).

Our next two works were both prepared but unable to be included in time within our earlier special *Cannibalism* issue (**Exchanges, 2020a**), and we are deeply pleased to be able to present them to our readers. In the first of these Ronan Hatfull considers *Upstart Cannibalism in the BBC's Shakespearean Biofiction*, considering ideas of '*metaphorical cannibalism*' of Shakespeare's life and works in the creation of fictional representations. Taking at its core considerations around the depiction of 'The Bard' within the tonally divergent representations within *Doctor Who*, *The Hollow*

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Crown, *Cunk on Shakespeare* and *Upstart Crow*. The piece explores how the writers of these works construct their representation of Shakespeare, and their approaches to creating the feel of 'authenticity' within the actors' portrayal through merging factual with fictional elements. *Exchanges* has been fortunate to regularly contain pieces relating to Shakespeare, and Hatfull's fresh addition to this corpus is a very welcome and highly accessible one for scholars and more general readers alike (**45**).

Finally, Desmond Bellamy provides us with a review article in which he considers the manner in which cannibalism is perceived as a marker between 'civilised and uncivilised' societal forms. Within *A horrid way of feeding* Bellamy suggests how for social scientists, such a well-defined delineator represents a somewhat reductionist perception between societies. He stresses despite these perceptions how '*normative European humanist moralities*' can still engender and enable uncivilised mores, bringing the use of cannibalism of a social shorthand for 'uncivilised' into question. This problematisation in turn also presents a challenge to perceptions of humanity's '*inexorable progress*' from savagery to civilisation (**65**).

Critical Reflection & Conversations

We then turn to our two wonderful editor-reviewed critical reflection and conversation contributions. Amy Hondsmerk provides this issue's critical reflection piece, entitled *Playful Presenting*. In this article she examines, *The Present and Future History of Games symposium*, hosted in early 2020. Alongside a narrative framing of the discussions and papers presented, Hondsmerk also takes time to detail her personal engagement with the interactive elements at the event, before concluding how research within this explicitly interdisciplinary field might evolve over time. Notably, the paper is significant for *Exchanges* as the first we have published which formally acknowledges the coming impacts from the Covid-19 pandemic. A theme, I suspect, which will resonate in many of our future papers over the next few years (**90**).

Finally, Mairi Gkikaki and Clare Rowan are in conversation with Quinn DuPont in a piece entitled *DAO, Blockchain and Cryptography*. DuPont, a noted expert in numerous realms including cyber security policy, cryptocurrencies and blockchains, participates in a discussion focussed around the '*phenomenon of the Decentralised Autonomous Organisation (DAO)*'. In particular, the trio examine what are the implications from the DAO for society at large. The piece intriguingly offers insight into the tensions between technological and social determinism within the cryptocurrency realms. It also provides an accessible starting point for scholars new to this field in exploring it further (**103**).

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Call for Papers: Challenge & Opportunity

It is not our part to master all the tides of the world, but to do what is in us for the succour of those years wherein we are set, uprooting the evil in the fields that we know, so that those who live after may have clean earth to till. What weather they shall have is not ours to rule.(**Tolkien, 2011**)

As we enter into the third decade of the 21st Century, there are few people on the planet today who are not experiencing a period of unprecedented and inescapable change, uncertainty and challenge. The impacts from the Covid-19 outbreak on health, working and living conditions alone will likely dominate our individual lifeworlds for decades to come. Even leaving aside the unexpected consequences from confronting the pandemic, the world stands at a crossroads in so many other domains: seismic shifts in geopolitical conditions, climatic changes, economic turmoil, pervasive technology and splintering social life experiences are clearly evidenced globally. From black lives matters to presidential elections, through the emergence of artificial intelligence and recognising environmental tipping points to confronting systematic inequalities. We are, as the aphorism suggests, seemingly cursed to live in the most interesting of times.

However, are such bleak analyses constructed in a simplistic and reductionist way, simply confronting anxieties driven through media and public sphere's obsession with spotlighting the negative? Is there a more positive lens through which they can be viewed? Could these emergent crises actually represent challenges to be overcome or even present us with a glimmering dawn of unprecedented opportunity and renewal? Rather than starting into the eternal abyss, could the human race indeed be about to embark, embrace and engage with revolutionary opportunities for betterment? Albeit, potentially framed in pain of rebirth and renewal. Alternatively, are we witness to a sea-change which empowers counters to the ideals of enlightened liberal democracies freedom of thought and expression which have been largely axiomatic in recent decades?

Submissions

Hence, for the issue of *Exchanges* scheduled for publication in Spring 2021, we invite authors to submit original, exciting, insightful manuscripts for publication consideration inspired by this *Challenge and Opportunity* theme from within their own research or field. Authors are encouraged to consider contributing pieces which address any aspect, perspective, development or individuals related to this theme. Manuscript submissions as potential peer-reviewed research articles, or alternatively as critical reflection or conversation pieces, would all be welcomed under this call. While submissions are invited from all disciplinary perspectives, we would

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be especially pleased to receive manuscripts from previously under-represented fields or geographic regions within *Exchanges*.[iv]

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

Deadlines

Submission deadline for peer-reviewed articles: 1st November 2020.

Submission deadline for conversations and critical reflections: 28th February 2021.

The details of this call will be available on *Exchanges*' site. Authors are also encourages to contact the Editor-in-Chief ahead of submission to discuss their article ideas or outlines. However, this is not a prerequisite for submission. Please see our author guidance for more information on writing for *Exchanges* (**2020e**).

Call for Papers: (Open, Ongoing)

Additionally, *Exchanges: The Interdisciplinary Research Journal* welcomes submissions throughout the year on any subject, with no deadline. Manuscripts which are accepted as articles will be subsequently published in the next available issue of the journal. This open call for papers is in addition to our frequent themed and special issue calls. We therefore invite original, unpublished, manuscript contributions from researchers or practitioners based within any discipline, working anywhere globally, which fulfil our standard article format requirements.

Open Call: No submission deadline.

We are happy to consider research focussed or review articles which will undergo peer-review. We also welcome submissions of interviews with key scholars or critical reflections on important scholarly events, conferences or crucial new texts, each of which will undergo internal (editorial review) scrutiny only. More information on all of these article formats requirements are available in our author guidelines. Likewise, the Editor-in-Chief and Editorial Board members are always happy to explore article ideas further with potential authors.

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Submissions

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. All manuscripts should be submitted via our online journal portal, will guide authors through the submission process.

exchanges.warwick.ac.uk/submission/wizard

You will need to create, or already have, an *Exchanges* account to facilitate our communication with you throughout the editorial processing of your work. For help with your submission, please see our online guidance (**Exchanges, 2020e**) or contact the Editor-in-Chief.

Exchanges has an expressly multidisciplinary, global and largely academic readership, and as such, have strong interests in work which encompasses or straddles disciplinary boundaries. Manuscripts providing an introduction, overview or useful entry point to key disciplinary trends, discovery and discourse are often among the most frequently accessed publications in the journal. Therefore, prospective authors are strongly encouraged to consider tailoring their manuscripts, narrative, thought and analysis in a mode which addresses this broad audience. For interviews and critical reflections, authors are especially advised to highlight the importance of disciplinary discourse or interviewees' scholarly contributions to the global academy, society and the public at large.

Fees, Access & Author Rights

Exchanges is a diamond open access (**Fuchs & Sandoval, 2013**), scholar-led journal, which means there are no author fees or reader subscription charges. Authors also retain copyright over their work but grant the journal first rights of publication as a submission requirement.

Forthcoming Issues

Our next regular issue of *Exchanges* (volume 8.1) was tentatively scheduled for late autumn 2020, although given the continuing Covid-19 impacts I suspect this will be pushed back to the year's end to give all our contributors sufficient time. This issue will hopefully include the remaining papers on theme of fakery and deception, along with our regular selection of academic thought, discussions and insights. There is still plenty of time to submit a critical reflection or conversations piece in time to appear in this issue; ideally no later than the end of September 2020.

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As things currently stand, 2021 is shaping up into being a very busy year, which if all goes to plan, will be seeing the publication of five issues of the journal. Given we have only previously produced two issues a year before, this is a major step forward for the journal.[v] This all begins in January 2021 with our next special issue, containing work celebrating and inspired by the Utopian Studies Society 2019 conference on *Utopia, Dystopia and Climate Change* (**USS, 2019**). As editorial work on these papers is well underway, I can assure readers that this will be another extremely exciting issue to read.

Later in 2021 we have two further special issues coming out. The first is being developed in collaboration with SOAS University of London and Oxford University and will focus on the theme of *fictional representations of nerds and loneliness*. Following an open call for abstract, we have now commissioned the papers for this volume, and I am very much looking forward to receiving them later this year. My thanks to Dr Filippo Cervelli and Dr Ben Schaper for their efforts here, and I will be speaking with both of them in the near future as the subject of a future podcast episode.

Our other special issue will draw on the work of students and scholars who have been exploring the history and student experience relating to the arts faculty, in collaboration with the *Then and Now: Arts at Warwick* research project and exhibition (**Warwick, 2020**). My thanks here to Pierre Botcherby and Dr Kathryn Woods of Warwick and Goldsmiths, University of London for their support. Pierre and I will are in conversation about this issue in an already recorded and soon to be released podcast episode too.

Alongside these special issues, we will also be bringing you the regular issues of the journal twice a year as normal. Hence, there are plenty of opportunities for authors to contribute to our title, and we look forward to reading your manuscripts.

Acknowledgements

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My particular thanks to the Editorial Board, for their input and comments, along with their dedication, focus and commitment they each bring to producing this interdisciplinary research organ. In this respect, I would like to welcome our two newest Editorial Board Members, Dr Salvatore Monteleone and Dr Guilherme Sampaio, both from the Université de Cergy-Pontoise, France. Both have already started working on overseeing the editorial activities on submissions for our next issue. I hope you both find working on *Exchanges*, a valuable experience. I would also like to wish Dr Giannis Moutsinas, who has stepped down from Board, well in his future endeavours.

Practically, my thanks to Rob Talbot and Julie Robinson at the Warwick University Library, and Fiona O'Brien of the *Reinvention* journal for their continued guidance, technical insights and stimulating conversations. I'd also like to acknowledge the regular lockdown discussions between myself and my the IAS' John Burden for acting as a vital sounding board and ray of positivity during this remote working time.

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

Continuing the Conversation

In the meantime, remember *Exchanges* has a range of routes for keeping breast with our latest news, developments and calls for papers; not least of which being the recently launched podcast. Please do join in the conversation, 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/
Podcast:	anchor.fm/exchangesias
Twitter:	@ExchangesIAS

Alternatively, as Editor-in-Chief I am always pleased to discuss potential publications, collaborative opportunities or invites to talk about *Exchanges,* albeit currently largely via video link. Contact me via the email at the start of this article, or via the social media platforms.

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

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Endnotes

[i] Naming no names, but they're a large, and reputable open access publisher with a broad portfolio of titles under the aegis.

[ii] Modesty prevents me linking to the podcast here, but enquiring minds are most welcome to contact me for more details; although the subject matter is rarely academic in focus.

[iii] I would like to note, that these papers have all successfully made it into *Exchanges* through their own scholastic merit, rather than any personal preference on my own part. As Editor, I am quite content publishing issues full of papers with limited appeal to my own interests, provided our Board and reviewers are content they are good enough.

[iv] Please see our back issues for an idea of the areas and regions which have, to date, been less well represented within our pages.

[v] The three issues due for publication this year will be our most ever, a record that will doubtless not last into the new year.

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Bearded Dragons at Play: YouTube videos and the haptic interface of Ant Smasher

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Abstract

Animals have long appeared as the subjects and characters in digital games, but game studies scholars have rarely considered animals as players of digital games. This paper examines the mobile digital game Ant Smasher and YouTube videos of bearded dragons playing the game. This article advocates for the inclusion of these bearded dragons in gamerspace as not only a personification of the gamer within the space but as a conduit for play, a channel for gamers to breach the boundaries of gamerspace – the cultural and discursive space surrounding digital games that negotiates the relationship between the digital game and its impact on the world at large. Through an analysis of 50 YouTube videos representing these play experiences, this article considers the place of these videos within gamerspace. The implications of this work serve to better understand the relationships between digital gaming, play, and human and non-human actors in interaction with haptic media. This example also expands upon our understandings of play as a whole.

Keywords: gamerspace; materiality; haptic play; animals; digital games; YouTube; participatory culture; haptic games

Introduction

Animals have long appeared as the subjects and characters in digital games. From early representations of the cartoonish giant ape of *Donkey Kong* to the slithering snakes, scorpions and crocodiles in *Pitfall*, animals have been featured in digital games as designers wished to represent the natural world. As these gaming interfaces have improved graphically and interactively, digital games have sought to replicate the relationships and representation gamers have with these digital animals. Games such as *Nintendogs* and *Kinectimals* act as simulacra for engagement with real animals in digital world.

These animals, whether they are avatars or other characters in the game, are designed for interaction with human gamers. Amongst the thousands of digital games produced each year for the last 40 years, less than a handful have been designed for animals to in fact play. One casual mobile game, however, called *Ant Smasher*, has become popular with bearded dragons, and their owners often film and upload videos of the lizards playing the game on YouTube. *Ant Smasher*, by Brazilian-maker Best, Cool & Fun Games, has been downloaded over 100 million times. With a simple touch user interface (TUI), *Ant Smasher* urges the player to 'smash ants with your finger in this great game!' (**Best, Cool & Fun Games, 2013**). Studies performed on *Ant Smasher* have included an investigation of the touch-based architecture of digital games (**Mansfield-Devine, 2012**), and touch-spam detection in mobile applications (**Vani et al., 2014**). None of these studies are concerned with the actual content of *Ant Smasher* nor its gameplay, however. This paper will examine a viral phenomenon that has outgrown from the game; the over-11,000 YouTube videos of bearded dragons playing *Ant Smasher*, and its implications of this gaming experience for our understanding of haptic play, defined here as tactile and gestural play.

The YouTube videos present the actions seen on screen as play, though the bearded dragons are simply trying to eat the six-legged creatures they see fluttering and scampering across the screen. The YouTube videos of this quite unique gaming experience, I argue, have a great deal to tell us about haptic play. This paper considers this act of play through the means of the haptic interface. In these videos, I contend in this article, human gamers use the bearded dragon as a virtual controller to play the digital game. While the lizard is engaged with the screen of the mobile device, the gamer uses that lizard as a means through which to play with the haptic interface. This situation demonstrates the expanded influence of the digital game into a space I call gamerspace, the discursive space around digital games.

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This article advocates for the inclusion of these bearded dragons in gamerspace as not only a personification of the gamer within the space but as a conduit for play, a channel for gamers to breach the boundaries of gamerspace. By gamerspace, I mean the cultural and discursive space surrounding digital games that negotiates the relationship between the digital game and its impact on the world at large. In this article, I seek to 1) examine the haptic interface of the mobile game and 2) conceptualize the role of the bearded dragon in the haptic play activity. Through an analysis of YouTube videos representing these play experiences, I consider the place of these videos within gamerspace. The implications of this work serve to better understand the relationships between digital gaming, play, and human and non-human actors in interaction with haptic media. This example, then, also expands upon our understandings of play as a whole.

Literature Review

Animals & Play

The little scholarship that exists on animals and digital play has focused on cats and digital gaming experiences (**Noz & An, 2011**). In a very real sense, these games are meant to simulate the play of animals in the natural world. Noted historian and cultural theorist Johan Huizinga argued that play, even amongst animals, has a significant function beyond physiology or psychology. He suggested that for some, play could be more than just an 'imitative instinct.' In other words, all play is meaningful, even for animals. In defining play, I rely on Huizinga's (**1955**) definition: 'a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding' (**p. 28**).

For Huizinga, animals can engage in play and do not need to be taught how to do so. Pons et al. (**2015**) note that humans have created and evolved tools in order to make play both more rewarding and more stimulating, and this process has left other species behind in the creation of digital devices for play experiences. These scholars draw attention to the ways in which individuals have adapted these devices to allow animals to play with them, including electronic balls for dogs and an organization called Apps for Apes that creates iPad applications and games for orangutans in zoos. As noted above, there are few games designed for animal play or for humans/animal collaborative play, including *Cat Cat Revolution* (2011), which is an iPad game that allows adjustment settings to better match a cat's vision. Pons et al. (**2015**) also discuss a few other available games with collaborative play elements, including *Metazoa Ludens* (2011) where human gamers play in collaboration with hamsters; *Playing with Pigs* (2012) that pairs an electronic ball that pigs move with an iPad interface;

and *Felino* (2014) which is designed for cats to play with humans and catch fish and other sea life on an iPad screen.

Pons et al. (**2015**) argue that gaming interfaces designed for non-human animals need to encourage the following elements: playfulness, intelligence, reactivity and interaction, and animal-centered design (**p. 14**). Baskin et al. (**2015**) note, however, that in many of the behaviors encouraged by these games are predatory in nature, as cats and other animals catch fish, run, and generally chase a prey-like avatar. While it can be difficult to distinguish 'predatory behavior' from 'predatory play,' the authors argue that the practices encouraged by animal-based games are often 'similar to the first stage of predation without consumption' (**Pons et al., 2015, p. 478**). The implications of animal play within these games and with our conceptions of play as a whole are significantly undertheorized.

Haptic Media

When considering games like *Ant Smasher*, it's important to take into account the haptic nature of the mobile interface. Orozco et al. (**2012**) describe a haptic interface as one that provides tactile feedback: 'The interaction can embrace the entire body or only the tip of a finger, giving the user information about the nature of objects inside the world. The introduction of haptics permits one to enhance a vast spectrum of human tasks in a virtual environment' (**p. 217**). Richardson notes that the important aspects of the mobile interface are not just the screen:

> *Describing the particular 'screen-ness' of mobile phones must also involve an account of how the mobile is not just, or even primarily, a screen; it enacts both separately and combined visual, haptic and acoustic incursions into our corporeal schema, and demands variable and oscillating modes of somatic involvement.* (**Richardson, 2007: 210**)

The *Ant Smasher* game invites tactile play in smashing the insects on the screen, and these elements are crucial to the play experience. Chesher (**2004**) uses the term 'glaze' to describe the experience of engagement with the screen: 'The glaze is a liquid adhesion holding players' eyes to the screen. Players are held to the game in two ways, with their hands on the controller, and their eyes on the screen.' He describes console games by their 'stickiness' where players are connected to the screen and have a haptic attachment to the controller through 'a quasi-visceral immersion in depth-perspective virtual space.'

As a casual, mobile game, Ant Smasher achieves this effect through the haptic nature of the play and the graphics on the screen. The insects,

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depending on the screen size, appear almost to scale, and the screen as well as the haptic gameplay create engagement for the player. This dynamic shifts when the bearded dragon is added to the interaction. For the humans in this bearded dragon-interface feedback loop, the reptile becomes the hand-controller providing the haptic attachment to the game. While the bearded dragon is interacting with the haptic interface, the dragon is engaged in what Baskin et al. (**2015**) call 'predatory behavior,' and is not engaged in an act of play, so to speak. The activity is for the pleasure and enjoyment of the human in Chesher's (**2004**) 'glazespace.'

Gamerspace

We can understand the relationship between the player and the bearded dragon in this situation as existing within gamerspace. In an effort to describe the cultural and discursive space surrounding digital games wherein the relationship between the digital game and its impact on the world at large is negotiated, Plothe (**2017**) builds upon the work of Mactavish (**2002**) and Jørgensen (**2012**), defining *gamerspace* as the larger space of influence surrounding digital games. This concept demonstrates the ways in which the space of digital games transcend the console and the interface itself. Huizinga (**1955**) has used the term 'magic circle' to describe this space in a way that draws boundaries between conversations and actions considered game activity and those that are not. Ensslin (**2011**) has also described the magic circle as 'the psychological sphere players are immersed in during gameplay' (**p. 99**). It is a space where 'the normal rules don't apply' (**Schut, 2013: 64**), and 'in-game actions are completely different from out-of-game actions' (**ibid**). Morris (**2002**) has also pointed out that speech that is acceptable within the magic circle, such as taunting and trash talk, would not be acceptable outside of that circle.

The concept of the magic circle is still contested by a number of game researchers because of its permeable nature. For a number of researchers, the notion of the magic circle is a contested one. Castronova (**2005**) and Consalvo (**2007**) have critiqued the concept because of its permeable nature. Castronova (**2005**) noted that it 'can be considered a shield of sorts, protecting the fantasy world from the outside world' (**p. 147**), but this perspective often does not consider the ways that this boundary is porous. Giddings (**2014**) instead used the term 'gameworlds' to describe the ways that digital gameplay and offline content combine; they have a sense of their own universe but are not bound by the edges of the virtual environment or TV screen (**p. 14**). He described this process as 'the transduction of images and forms from the virtual game worlds of video games across actual spaces of the home and playground, and their shaping of new games' (**Giddings, 2014: 14**). Gamerspace acts as a viable and

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valuable lens that recognizes the technological, social, and cultural influence of digital games. It is a discursive space that contains not only the game world but the cultural space around the game. Fan-created videos, video instruction walkthroughs, even t-shirts and stuffed animals of digital gaming characters all live within this fan space. Within gamerspace, digital game players construct their own content and meanings from digital gaming content. Plothe (**2017**) argues that this content is still a type of play that lives within the larger world of the digital game.

For the purposes of this analysis, the videos of bearded dragons playing *Ant Smasher* live within gamerspace. YouTube serves as a folk archive of gaming experiences and knowledge, from walkthroughs, remix videos, and other content, millions of gamers upload representations of their gameplay in order to share that content with other gamers. The videos of bearded dragons playing *Ant Smasher* are no different. The rest of this article considers the ways in which these videos represent bearded dragons and their owners through haptic play.

Methodology

As a user-generated archive, YouTube represents an ideal way to study the representations of bearded dragons at play. The videos portray somewhat planned encounters between the bearded dragons and the gaming interface, as shaped by their human owners. These are also gaming moments that the human gamers found significant enough to upload to share with others. YouTube has also been used by other researchers to study animals' encounters with digital gaming interfaces. Baskin et al. (**2015**) analyzed YouTube videos to study the ways that dogs play games on tablet devices as well.

For this study, I searched YouTube for the terms 'bearded dragon Ant Smasher.' 50 videos were chosen at random for analysis in this study. I numbered each video and used a randomized number generator to select the videos for analysis. The videos were uploaded between 2011 and 2018, and each video averaged 3,718 views. The majority of these videos are unedited, short videos of bearded dragons playing the *Ant Smasher* game. Some videos show a bearded dragon playing on a tablet, but the majority show the lizard playing on a mobile phone. Most of these videos are filmed from behind the bearded dragon so that the viewer can see the screen. The people in the video occasionally talk to the dragon, either encouraging the pet or celebrating smashed bugs.

Each video was analyzed for content to examine the relationships among the gaming interface, the bearded dragon, and the human owner, paying particular attention to how the bearded dragon began its play session. I

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categorized each video by the role of the bearded dragon in the play session. While each video had a bearded dragon present in front of the screen, some videos had the bearded dragon play an active role, where in others, the owner touched the screen and played the game. These videos were then classified by how active a role each bearded dragon had in the play session. Each video served as a unit of analysis and was assessed qualitatively and holistically rather than mined for particular content or specific theme.

Findings and Analysis

I will now describe the nature of several representative videos on YouTube, in order to examine the nature of these relationships in haptic play. YouTube user Insensis's (**2011**) video titled 'Bearded Dragon playing Ant Crusher' shows a juvenile bearded dragon playing the game on a cell phone propped up against a fabric throw pillow, perhaps on the owner's sofa or bed. The dragon taps the screen with his tongue in an attempt to devour the ants marching down the screen. The video is scored using the 'SuperMario Bros' soundtrack; the viewer can only hear the faintest of 'squishing' noises from the dragon smashing the ants on the screen emanating from the video. Insensis writes in the description, 'My Bearded Dragon showing her mad skills :)' implying that their dragon is a protagonist playing the game. But we see the owner's hand tapping the various modes and choices in order to start the game; the dragon cannot start the game on its own. As the action progresses, the dragon looks at the owner. At one point, a 'Game Over' screen appears, and the owner reaches in and starts a new game. The dragon dutifully waits looking at the owner wondering what will happen next. The game restarts with the owner's impetus, and the bearded dragon immediately turns back to the screen to again smash ants scurrying down the screen.

In 'Bearded Dragon playing Ant Smasher' (**2015**) uploaded by Jason Reynolds, another juvenile bearded dragon plays Ant Smasher on his owner's phone. Reynolds writes, 'Our beardy playing Ant Smasher' in the description, but throughout the video, the owner actually plays the game in concert with his dragon, catching the odd ant that escapes the wrath of the bearded dragon. Interestingly, most of these ants are smaller in nature, meaning they probably do not appear as satiating to the dragon, so passing them up is a better choice. The video has no music track and only the barest of environmental audio as the dragon smashes the ants with no accompanying sound from the game. The owner strokes his dragon in positive reinforcement and occasionally pushes the over-eager little fellow back from physically standing on the phone in the ant smashing frenzy he finds himself in.

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JamesPipsetr's (**2014**) video, 'arded Dragon Playing Ant Crusher Action Replay version,' shows a female dragon watching the ants of *Ant Smasher* skittering across a mobile phone. The bearded dragon watches for nearly 20 seconds before finally attempting to eat several of the ants. It appears a cooking show is on a television in the background, but there's no indication anyone is in the room other than the person behind the camera who remains unseen. The dragon, for her part, makes several valiant attempts at smashing the ants, and we see replays of two of these strikes against the ants on the phone. There's no added production quality here, no sound effects, no dramatic music, just the bearded dragon licking the screen. The video ends with a stark blue background and white text emblematic of the Windows Movie Maker program, scrolling to a 'Level Complete' message.

YouTuber and death metal connoisseur Corporal Clegg (**2011**) reposted user Insensis's video 'Bearded Dragon playing Ant Crusher' but replaced the Super Mario Bros. audio track with a heavy screaming and a grinding guitar riff, 'Spirit Crusher' by American death metal band, Death. No other edits are made by Corporal Clegg than to add music, which was the only alteration from the original video.

'Bearded Dragons Play Ant Crusher App' (**2013**) by SebsExotics pits two bearded dragons against each other in a battle for ant crushing supremacy. Replete with competitive title cards and a blaring techno dance version of the Super Mario Bros themes, Ms. Beardie and Fred fight it out in separately filmed gameplay scenes. Each dragon is scored by how long they lasted in play, and the points are tabulated by SebsExotics for the number of ants they smashed. Interestingly, SebsExotics' title cards speak directly to the dragons, as if to reinforce that they are in fact playing the game. 'Your total score is 25' states one such screen, but we do see the owner holding the phone in position for the dragons to play. From a haptic interface perspective, the dragon can only play with the phone held in such a way, or to have the owner key in the appropriate commands for the dragon to begin play. Again, it's not as if the dragon can tap the screens button purposefully on its own to start the game.

Some bearded dragons needed some modeling in order to display the appropriate behavior in the Ant Smasher videos. For example, in YouTube user elmarc56's (**2013**) video, 'Lizard Playing Ant Smasher,' a young bearded dragon is shown sitting on his owner's thigh playing the game. We can see the owner's hands in the video, holding their Motorola in place at an angle for the dragon to attack the screen, but this little dragon doesn't appear all that interested in the digital goings-on. He seems to follow the movement of the owner's thumb as he smashes the ants on-screen and rests to the side of the phone when not. It's not until his owner

models gameplay by smashing the ant with his thumb and the rubs the dragon's head in affection but also slightly pushing his head down and toward the screen before the dragon picks up on his owner's wishes. Even then, after enthusiastically attacking two ants, the dragon, realizing he is sans the reward of a juicy insect as a treat, stops in confusion. He allows two to scurry past him, and he follows them visually as the owner moves the screen to the right, following the path the ants seem to be on towards the right of the screen. The dragon watches as his owner squishes them as to continue the game but continues to look to the right even as the owner readjusts the phone to a central position on his leg. In fact, the owner picks up the bearded dragon and readjusts him to continue the play session on the following level. Eventually, the dragon taps a bee which ends the game by spinning out towards the player whilst screaming 'Yeee-owch!' The dragon, rather disconnected and taken aback by this action, steps back and tilts his head in discombobulation as the game ends with the video ending shortly thereafter.

Again, it is the owner's desire for a play that drives the action in the video, despite the confident 'Lizard Playing Ant Smasher' title. Without the owner smashing a number of ants before and after the dragon comprehends play, the game would have been over in a much quicker manner. Additionally, he has to both model the gameplay and at times, physically spur the bearded dragon to action or move him into a position to play accordingly.

Discussion

What is notable in the representation of these videos is the notion of co-play. A total of 10 videos showed collaborative play between bearded dragons and humans. In some of these videos, people modeled the play activity for bearded dragons to teach them how to play, while in others, the human acted as a co-player and caught the insects the beardie missed. The haptic nature of the bearded dragons' play is the element of these videos that make them compelling. It is interesting and novel to see a lizard lunge at a screen with its tongue out in an attempt to catch an insect crawling across the screen. In everyday life, lizards such as bearded dragons run toward and lunge at actual insects, but to watch a lizard interact with a screen is a new phenomenon. While humans play the game with their fingers, bearded dragons use their tacky tongues on the screen. The bearded dragon, however, is not really participating in play, but instead in what Baskin et al. (**2015**) describe as predatory behavior.

But as Sanders (**2003**) suggests, perhaps this is to be expected, as in play as a social activity, players understand there are rules, goals of play to attain, and 'appropriate moves and counter-moves (that) constrain the means of achieving this goal' (**p. 414**). Furthermore, citing Mitchell (**1990**), Sanders (**2003**) notes that participants in play should be 'frivolous or

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pleasurable' (**p. 200–204**). While our human players in these videos appear to find this activity fun, certainly the dragons (expecting a tasty insect treat for their effort) do not. To the dragon, this is unrewarded labor, harkening back to the predatory behavior mentioned previously, and not within the bounds of play. That few reptiles participate in what animal behaviorists would describe as play is secondary here and unrelated to the argument. Instead, Sanders (**2003**) might suggest what is going on here as 'mutual play' which he positions in contrast to human-with-human play where players centrally engage in competition. Instead, 'human-animal play does not have winners or losers since keeping the play interaction going is the primary shared goal' (**p. 414**). *Ant Smasher* is a rather simple, and frankly, non-challenging game, quickly relegated outside Csikszentmihalyi and Csikszentmihalyi's (**1992**) notion of *flow*. 'Flow' is defined as a state of mental focus that allows for immersion and productivity. While many digital games evoke this particular state, as a simpler game, *Ant Smasher* does not. Without the inclusion of the dragons, the replay value of the game is greatly limited. The dragons have a great degree of additive value.

That humans and animals have varying levels of cognitive capabilities, the human players in mutual play must moderate and compensate these mental and physical abilities in order to keep play going (**Beck & Katcher, 1996: 31–33**). Meaning, both person and pet must, in an elementary fashion, switch roles and adjust their actions on the basis of this movement (**p. 15-16**). It follows that the space in these particular videos, is in fact, non-collaborative and thus not 'mutual play.' The dragon is not a participant in play, although the owners posting the videos frame their participation otherwise, perhaps through anthropomorphizing their pets as willing participants, or that reptiles are capable of the very notion of player we previously dismissed. In the video titled *Bearded Dragon playing Ant Crusher* uploaded November 7, 2011, the account holder Insensis writes in the description, 'My Bearded Dragon showing her mad skills :)' implying that it is not only the dragon solely playing the game but that the dragon is cognitively aware enough to know that it has, in fact, *mad skills.* Acknowledging this description is somewhat tongue in cheek, it does imply that this is a shared *play space*. The videos are arguably within gamerspace; they are an extension of the game world into another medium. In filming the gameplay, unloading it to YouTube, and sharing it with others, these individuals are extending the world of the game into another space. Yet it is only the human players who participate.

The human is the one gaming. By shooting and uploading these videos, these individuals say, 'hey, look, my pet is playing this game.' This experience, of course, is different for the bearded dragon, who is expecting a meal as a reward. This phenomenon, then, shows that the player is human all along. It is the person that is using the bearded dragon

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essentially as a controller, creating gamer space, behaving with the rules of the game, and drawing the bearded dragon into that space. Human gamers upload these videos to YouTube as they would with other examples of their gaming exploits, like posting a highlight reel on YouTube of one's best wins, or a speedrun to show your mastery of Super Mario Brothers.

Conclusion

Through this activity, these gamers place the bearded dragon within gamer space, which is social, collaborative, and participatory. While these videos are a bit novel, they demonstrate not only new implications for haptic play but also a new area of research concerned with ways that play and game space extend to participatory media. As more animals interact with their owners on mobile games, this study points to some important implications for our understanding of digital games as a whole.

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Academic Fraud: Solving the crisis in modern academia

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Abstract

Academic fraud is a rising threat. Schemes to defraud funding bodies, institutions and researchers for personal gain are not a modern invention within academia but one that threatens to topple the integrity of research practice. These manifest in the form of internal research misconduct and external predatory practice, the former perpetrated by the over-ambitious and the latter by organizations predating on unsuspecting researchers. Such academic fraud can undermine academic integrity, profoundly influence key legislation, and cause societal damage. Major reform of the academic system is required to overcome these difficulties. These measures are discussed and can be divided into detection and prevention methods. Detection methods include peer-review, replication, whistle-blowing, external review bodies, digital solutions, and incentivization. Prevention methods include awareness, data repositories, institutional and editorial policies, punishment and deterrence, transparency indices, and changes to the 'publish or perish' mentality. These solutions are as of yet immature, flawed or in need of major revision but do have some potential in overcoming the rising threat of academic fraud.

Keywords: academic fraud; research misconduct; predatory publishers; fraud solutions; peer review

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Academic Fraud: An Overview

Fraud is something of an ancestral condition in human society. The fabrication of precious stones in ancient societies, including Mesopotamia and Egypt, is long-established along with Pliny the Elder's use of diamonds to detect fake gems (**Ruffell et al., 2012**). Hegestratos in 360 BC, perhaps the first case of insurance fraud, was caught in the act of scuttling his boat transporting a pre-paid shipment of corn, being chased off the ship and drowning in the process (**Johnstone, 1999**). Wherever an industry exists, so does fraud. Academia is no exception.

Every academic no doubt has grown accustomed to the constant barrage of emails in their inbox, hundreds of poorly written invitations to present, publish or review for any number of obscure organizations of dubious origin. Some fall for this ruse, being extorted by predatory publishers and conference organizers of ill-repute. Even more sinister are the scandals that emerge from the world of academia all too frequently. Long-term cases of research fraud frequently erupt into the news, such as the infamous Stapel case in psychology (**Stroebe et al., 2012; Stapel, 2014**), the mass fabrication of the promising physics post-doc Schön (**Stroebe et al., 2012; Carafoli, 2015**) and the MMR vaccine fraud purported by Wakefield (**Godlee, 2011; Carafoli, 2015; Mavrogenis et al., 2018**) (Table 1). Each of these high-profile cases sent shockwaves through their respective disciplines, whose impact can cause irrevocable societal damage.

Academic fraud is by no means a modern trend. Babbage (1830) lamented the 'decline of science in England' and described the methods of fraudulency employed by less salubrious researchers at the time. Many will also be familiar with the classic case of Piltdown man, the 'missing-link' discovered in 1912 and later debunked in 1953 (**Goldstein, 2010; de Groote et al., 2016**). Many other giants of science have also been accused of misconduct. For instance, it is suspected that Galileo never actually carried out many of his experiments, Newton to have manipulated his results to better match his theories and Mendel to have 'cooked' his data by presenting only the best results (**Carafoli, 2015; George and Buyse, 2015**). Mendel has been more or less absolved of these accusations however, while the former are mere suspicions lacking serious evidence. These are few and far between compared to now, however. The forms in which modern academic fraud takes are varied but can be considered as belonging to one of two families. The first is 'internal', instigated by researchers and often called 'research misconduct'. The second is instead 'external', fraud instigated through predation, wittingly or unwittingly, on researchers, also called 'predatory practice' (Fig. 1).

Event	Occurrence	Subject Area	Summary	Source
Piltdown Man	1912 - 1953	Archaeology	Infamous case of object forgery of 'missing-link' between man and ape found in England.	Ruffell et al., 2012; Gross, 2016
The Darsee Affair	1966 - 1983	Medicine	Long-term fabrication of data on research in medicine.	Shewan and Coates, 2012; Gross, 2016
Summerlin's 'Painting the Mouse'	1974	Biology	Successful transplantation of skin from black to white mice found to just be black permanent marker.	Gross, 2016; Eisner, 2018
Breuning Ritalin Affair	~1978 - 1988	Psychology	Falsification of evidence proving that Ritalin was an effective treatment for hyperactivity in retarded children.	Goldstein, 2010
Fujimura Jomon Archaeology Scandal	1981 - 2000	Archaeology	An amateur Japanese archaeologist with 'the hands of god' found to be planting artefacts to be found.	Pellegrini, 2018
Fujii Anesthiology Scandal	1993 - 2012	Medicine	Mass fabrication of data in 183 papers in anesthiology, the current record holder for retractions.	George and Buyse, 2015; Pellegrini, 2018
Reuben Pain Management Fraud	1996 - 2009	Medicine	Long-term falsification of clinical trials that were never carried out on pain management.	Stroebe et al., 2012; Carafoli, 2015
Stapel Scandal	1996 - 2011	Psychology	The career-wide fraud of Diderick Stapel, in which he fabricated data for himself and for his students.	Crocker and Cooper, 2011; Gross, 2016
The Schön Affair	1997 - 2002	Physics	Industry-changing research into organic crystalline electronics turns out to be completely falsified.	Stroebe et al., 2012; Carafoli, 2015
MMR – Autism Vaccine Scandal	1998	Medicine	Wakefield found to have taken payments to fabricate and falsify a study linking vaccines to autism.	Carafoli, 2015; Mavrogenis et al., 2018
"Archaeoraptor liaoningensis"	1999 - 2000	Palaeontology	A new bird-dinosaur missing-link turns out to be a composite of two fossils combined together.	Rowe et al., 2001; Ruffell et al., 2012
Ninov's 'Element 118'	1999 - 2002	Physics	Claims of the creation of Element 118 by Ninov and his team turn out to be fabricated.	Goldstein, 2010; Carafoli, 2015
Hwang Woo-Suk Stem Cell Scandal	2005 - 2006	Medicine	Novel research into stem cell cloning turns sour due to data fabrication and bioethical violation	Carafoli, 2015
The Plagiarism of Spivak	2010 - 2014	Mathematics	Multiple counts of plagiarism of a single article written by former postdoctoral adviser and colleagues.	Pellegrini, 2018
Chen Peer-Review Scandal	2014	Engineering	The discovery and mass-retraction of 60 papers published through a 'ring' of fake reviewers owned by author.	Haug, 2015
STAP Cell Scandal	2014	Biology	An easy way of creating stem cells is falsified, resulting in retraction and suicide of a co-author.	Pellegrini, 2018

Table 1: High Profile Research Misconduct Cases

Academic Fraud

Research Misconduct:	Predatory Practice:
- Fabrication	- Predatory Publishers
- Falsification	- Predatory Conferences
- Plagiarism	- Hoaxes and Forgeries

Internal -
Researcher Driven
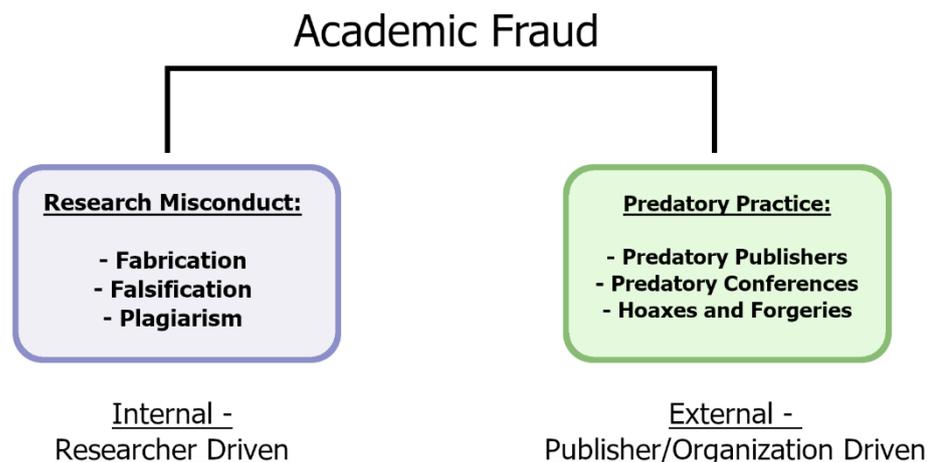
External -
Publisher/Organization Driven

Figure 1: The Nature of Academic Fraud: Academic fraud can be divided into two different categories. Research misconduct involves fabrication, fraud and plagiarism and is internally-driven by researchers. Predatory practice by comparison involves the parasitic l

Research Misconduct

The first, 'internal' source of fraud is that of research misconduct. Research misconduct refers to cases of poor, manipulative or fake research that breaches ethical conduct. The issue is mostly documented in the physical sciences, as evidenced by the breadth of publications on the subject (**Goldstein, 2010; Gross, 2016; Hesselman et al., 2017**). While few articles address the issue in the humanities, the problem is certainly present. The suspected fraud of Castaneda, author of the infamous 'Teachings of Don Juan', is a high-profile case of putative anthropological fraud in the invention of the titular 'Don Juan', whose authenticity is of dubious veracity (**de Mille, 1990**). Likewise, the renowned amateur Japanese archaeologist Fujimura was found to have been planting his Jomon 'archaeological finds' for his team to find for many years (**Pellegrini, 2018**). Plagiarism is known to be a problem in the humanities, although certainly one endemic to all academic disciplines (**Loui, 2002; COPE, 2019a**). Most authors define research misconduct as 'FFP', or 'Fabrication', 'Falsification' and 'Plagiarism'. These constitute serious research misconduct with the caveat that the infraction is committing knowingly and intentionally rather than in error (**Gross, 2016; Mavrogenis et al., 2018; ORI, 2019**) (Fig. 2). This has been widely adopted by many bodies in the US to classify cases of research misconduct, including the National Science Foundation (NSF), the US Public Health Service and the National Institute of Health (NIH) (**George and Buyse, 2015; Gross, 2016**). This definition is not unanimously accepted, however. For example, the definition previously adopted by the Committee on Publication Ethics (COPE) states that research misconduct is "behaviour by a researcher, intentional or not, that falls short of good ethical and scientific standard" (**White, 2000**). The UK Research Integrity Office (UKRIO), formed in 2009,

mirrors the definition of the ORI, highlighting fabrication, falsification and plagiarism along with breaches in ethical protocol, mishandling of private data and the misrepresentation of data or interests (**UKRIO, 2009**).

'FFP': Defining Research Misconduct

- **Fabrication:** The creation of non-existant data and results and the act of recording and reporting them.

- **Falsification:** The manipulation of research materials, equipment or preocesses or omitting data and results so that the research is not accurately represented in the research record.

- **Plagiarism:** The appropriation of another person's ideas, processes, results or words without giving the appropriate credit.

Figure 2: Defining Research Misconduct: The definition of research misconduct as outlined by the ORI (ORI, 2019). Fabrication, falsification and plagiarism are the core tenets of their definition.

The prevalence of research misconduct has also proved difficult to measure. Surveys on observed research misconduct are inconsistent, reporting values between 9% and 27% of respondents who reported seeing potential cases of misconduct among their colleagues (**Titus et al., 2008; George and Buyse, 2015; Gross, 2016**). A particularly high value of 92% was reported by New Scientist from a survey, but this value appears to be an outlier (**George and Buyse, 2015**). Self-reporting surveys show smaller values, Fanelli's (**2009**) meta-analysis of surveys on the subject between 1987 and 2008 finding that 2% of respondents admitted to some form of severe research misconduct and 34% on less serious practices. Other estimates from such surveys for serious research misconduct range from 0.3 – 2% (**George and Buyse, 2015**).

More popular are studies looking into trends in article retraction notices. These studies show that retractions make up 0.02% of all articles and that their frequency has risen steadily from the 70's until the early 00's, followed by a rapid increase until today (**Steen, 2011; Fang et al., 2012; Hesselman et al., 2017**). Geographical distribution depends on whether or not the values are normalized to the total of publications, the US having higher raw values followed by Germany, China and Japan (**Fang et al., 2012; Grieneisen and Zhang, 2012**) but normalized values have higher retractions values for China and India (**Van Noorden, 2010; Hesselman et al., 2017**). Retractions appear to be highest in the sciences, particularly in biomedicine, life sciences and chemistry (**Carafoli, 2015**), appear to be higher in high impact factor (IF) journals (**Grieneisen and Zhang, 2012; Carafoli, 2015**) and also appear to be dominated by men (**Fanelli, 2013**).

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Predatory Practice

The second source of academic fraud arises from 'predatory practice' in which publishers, conference organizers, scammers and agencies seek to gain profit by exploiting researchers for their research and funding. These manifest in the form of predatory conferences, who extort unsuspecting authors for high attendance fees (**Berger and Cirasella, 2015; Beall, 2016**). Another trend has been the rise of open-access predatory journals, often named after more prestigious journals to present a thin veneer of authenticity (**Carafoli, 2015; Beall, 2016**). Authors are charged large sums for the right to publish in such journals after 'peer-reviews' that are anything but, insights gleaned through the numerous sting operations carried out against them (**Bohannon, 2013; Roberts, 2016**).

The victims are not always unwilling. Other schemes also include barely-legal publishers and agencies who help to expedite the careers of researchers willing to pay. The latter has seen a rise in countries with emerging academic communities, India and China being particularly vulnerable (**Hvristendahl, 2013; Sabir et al., 2015**). Hvristendahl (**2013**) highlights an enlightening sting operation into such agencies in China, offering services ranging from paid authorship on accepted papers (up to $26,000 USD) to purchasing pre-written papers and reviews. Others involve schemes to defraud unsuspecting researchers or organizations. The infamous Bre-X scandal and other mining frauds represent conscious efforts to deceive unsuspecting investors by 'salting' mining prospects with small quantities of ore, which inevitably turn up dry when the prospect is sold (**Ruffell et al., 2012**). Others prey on researchers, such as in palaeontology where exciting new finds turn out to be clever forgeries. The bird-dinosaur missing link, 'Archaeoraptor liaoningensis', represents such an infamous example, a composite fossil sold to an unsuspecting amateur (**Rowe et al., 2001; Ruffell et al., 2012**).

The extent of predatory practice is difficult to estimate. It is arguably modern, triggered by the arrival of the open-access format throughout the 90's and 00's, spurred by the rise of the internet and its role as a rapid distribution medium (**Berger and Cirasella, 2015; Shen and Björk, 2015**). Open access sees the publisher as a service provider to authors, charging them a one-time article processing charge (APCs) for publication, to cover the costs of distribution for the article. The format was popularized by well-reputed publications like PLoSOne and BMJ and has now become a dominant publishing platform for distributing academic content quickly with short article turnaround times (**Bowman, 2014; Carafoli, 2015; Shen and Björk, 2015**). However, in the lee of this emergence came a swathe of pseudo-publications that promise quick publication for fees that under-cut their more reputable rivals in both price and content (**Beall, 2016; Watson,**

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2017). This practice has grown explosively within the last decade, evidenced anecdotally through the dearth of spam mails received by even early career researchers (**Shen and Björk, 2015**).

Few studies have attempted to estimate this growth, although Shen and Björk (**2015**) give an estimate of ~11,873 journals that met the criteria of the infamous Beall's list (**Balehegn, 2017**). They also found that the active number of open access journals jumped from 1,800 in 2010 to 8,000 in 2014 and that the majority were based in India (27%). The authors in these publications were mostly Indian (35%), Nigerian (8%) or from the US (6%). This note on geographical distribution agrees with the work of Xia et al., (2015), who also found that the majority of authors in several pharmacological predatory journals came mostly from India, Nigeria and Pakistan respectively. The proliferation of predatory journals has been accompanied by the rise of predatory conferences who operate in a similar manner, enticing naïve scholars to exotic locations only to provide non-existent or poorly provisioned shams in their stead, although no estimates on their growth are available in the wider literature (**Bowman, 2014; Beall, 2016; Cress, 2017**). Other forms of predatory practice, such as the selling of fake specimens to unwitting researchers, a timely issue in Chinese palaeontology (**Wang, 2013**), cannot really be measured due to their stochastic nature. Certainly then, at least according to the limited estimates available, predatory practice is a growing threat within the sphere of academia.

Overcoming Academic Fraud

Academic fraud is thus perpetrated internally by researchers through research misconduct, but also externally through organizations that interface with academia to both support dubious practice and gull the unsuspecting. The degree to which these practices occur is another question entirely. It would appear at face value that such fraud is on the rise in academia but the evidence is unfortunately scant.

One major question in all of this is whether or not academic fraud represents merely the tip of the iceberg. Titus et al., (**2008**) estimate 2,325 potential research misconduct cases a year, far outstripping the yearly number of cases reported to the ORI by a factor of nearly two. Shen and Björk's (**2015**) towering estimate of 11,873 journals that meet Beall's stringent criteria highlights the volume of publications attempting to muscle in on an industry thought to be worth $74 million (**Roberts, 2016**). Countering it is also difficult. Each academic or predatory publisher caught is one of hundreds more that remain undetected. As academia has proliferated over the past few decades and new academic centres have emerged in China and India, the scope for fraudulent practice has only gotten wider. Both China and India are known to be susceptible to

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research fraud due to the way their funding, career paths and reward schemes rely on the quantity of publications produced by a researcher (**Hvristendahl, 2013; Sabir et al., 2015; Patnaik, 2016**). As academic funding becomes ever more scarce, research misconduct will only proliferate. In tandem with this competition rises a market for predatory organizations to make money, preying on academics desperate for recognition and publications to advance or secure their careers. Such fraudulence has dire ramifications on the perception, significance and purpose of academic practice (Table 2). It needs to be curbed in order to ensure that academia remains rigorous, open and trustworthy to the public and policy-makers. However, doing so may be a near impossible task, complicated by three major drivers.

Impact	Description	Example
Loss of Funding	The act of 'embezzling' money from funding bodies takes valuable funding away from meaningful projects.	Eminent psychologist Diederick Stapel was thought to have wasted over €2 million in research funding over the course of this fraudulent career (Stroebe et al., 2012)
Career Destruction of Research Associates	Supervisors, co-authors and other associates have their careers damaged or ended by association with the fraudster.	Mongeon and Lariviere (2016) found that 27.6% of innocent collaborators in biomedicine had their careers ended as a result.
Damage to Reputation of Fields	Single or multiple fraud cases lead to a field being associated with fraud and poor practice.	The scandal of Fujimura and his fake Jomon archaeological findings caused worldwide scepticism of Japanese archaeology for some time after (Pellegrini, 2018).
Academic Retrogradation	The reintroduction of false ideas and 'pseudo-scientific' cults propagated through fraudulent research and publication avenues.	Carl Baugh and his faked human footprints in fossil trackways has encouraged the proliferation of Creationism around his Creation Evidence Museum (Ruffell et al., 2012).
Agenda-Driven	The manipulation of the truth by interested parties through bribery to publish false articles or the obfuscation of true evidence.	The Glaxo-Smith-Kline anti-depressants scandal in which the company bribed researchers and manipulated trials to obfuscate the negative effects of paroxetine and increase sales (Doshi, 2013)
Death	The death of the researcher or their associates by suicide or other means.	Associated with the Fujimura scandal, the reputational shame and accusations of fraudulence against Mitsuo Kagawa, an eminent figure in the discipline, led to his suicide (Pellegrini, 2018).

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Societal Harm	The harm caused by fraudulent research to individuals and wider communities by false or misleading research.	Breuning's falsified research supporting the use of Ritalin in treating hyperactive behaviour in mentally retarded children, having dire state-wide influence on treatment of such conditions (Byrne, 1988).

Table 2: The Impacts of Academic Fraud on Academia and Society.

The first is that the autonomy given to academics to pursue their research without any form of audit or review enables this behaviour. This gives researchers the freedom required for cutting-edge research but ultimately enables opportunities to commit research fraud, close colleagues trusting them to hold true to the intrinsic values of academic rigour. This issue is made particularly acute by the comparative size of modern 'mass academia', meaning that it is extremely difficult to keep track of what any individual researcher is doing. This naturally makes it far easier for individual fraudsters to slip through the cracks.

The second, as discussed by Goldstein (**2010**), is that academia does not reward the scrutiny of existing research. While a rebuttal of a controversial paper may be welcomed by a few authors, it is unlikely to accrue the prestige and academic merit that a metaphorical 'cure for cancer' would have. In simple terms, novelty trumps scrutiny. This ultimately runs counter to the principles of so-called 'Popperian science', the disproving of and replacement of flawed theories with better ones through empirical investigation, the ideal practice in the sciences (**ibid**). Thus, rather than delicately chipping away at ignorance, the only way to accrue academic merit in the modern age is to fundamentally change how fields operate (**Pellegrini, 2018**). However, there are only so many innovative ideas to go around, driving the most ambitious to cut corners on the road to success and secure their own slice of eponymy, as attested by Stapel (**2014**).

The final driver is that of the 'publish or perish' paradigm. A great many authors have taken note of the modern trend towards IF in academia and its importance career progression (**Carafoli, 2015; Eisner, 2018**). Bibliometric index and IF targets must be met at critical career points if one wishes to stay within academia. In the UK, the run up to the Research Excellence Framework has rapidly become a time of stress in which high-quality papers must be published in bulk if an institution wishes to secure a greater proportion of future funding (**Research Excellence Framework, 2019**). Failure to provide often places one's career in jeopardy. The situation is exacerbated in developing scientific communities, such as China and India, where publication quantities and the IF of journals are critical to even survive in the competitive academic climate, on top of the cash bounties offered for publishing in foreign journals for Chinese researchers (**Hvristendahl, 2013; Patnaik, 2016**). Researchers may seek to

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keep up with the competition by fabricating positive results to force a publication while others may employ the services of predatory publishers to expedite their career. The up-front costs for such 'publications' are small change compared to the rewards of a tenured position. Thus, the academic rat-race is an eternal driver of fraudulent practice, a self-reinforcing cycle in which the push for ever higher bibliometric standards results in those who fall behind resorting to underhanded tactics to keep up.

Between these three drivers, incentive to defraud becomes an irrevocable part of academia unless major reform is actuated. As academia has proliferated, old systems of ensuring quality research are straining to keep up with the rate at which new research is being carried out. It is this continual deluge of research that makes research fraud particularly difficult to detect. This is not to say that this academic fraud cannot be fought. On the contrary, such fraud can be mitigated through a number of means. These will now be explored, and their advantages and shortcomings discussed. These can be broadly divided into methods of detection and method of prevention.

Detecting Academic Fraud

The 'gaze of relentless honesty', as Goldstein (**2010**) terms it, is the ultimate tool in academic practice. This paradigm asserts that fraud will ultimately be detected regardless of the lengths gone to hide it. Eventually, some truthful researcher will scrutinize the work or its derivatives, find the error and trace it back to the source and out its fraudulence. By sheer weight of evidence, the unstoppable behemoth of academia will inexorably resolve its own inherent issues, a popular idea in the sciences. Unfortunately, in reality, this is not the case (**Stroebe et al., 2012**). Many fraudsters remain undetected for the majority of their careers and are then not found out because of the 'gaze of honesty', but because someone with inside knowledge knew that they had faked it. Thus, academia is not as self-corrective as one would hope and must be assisted by enabling research communities to more readily detect fraud. Here, these measures will be scrutinized.

Peer Review

Peer review is regarded as the ethical fulcrum of academia (**Goldstein, 2010; Das, 2016**), a vigilant guardian that confers the seal of integrity upon a piece of research. Unfortunately, the guise of peer-review is exploited by predatory journals to protect themselves from suspicion, many practitioners faking positive reviews on flawed research (**Berger and Cirasella, 2015**). Even under proper peer-review, many cases of fraudulence still slip through the net, driven by a lack of understanding of

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the subject, haste or conflicts of interest (**Smith, 1988**). Long-term research misconduct can also be surprisingly difficult to detect. Stapel's submissions to APA journals went through 25 different editors, making it unsurprising that no-one thought something was off (**Crocker and Cooper, 2011; Stroebe et al., 2012**).

The system has been criticized heavily for its slow pace, its lack of transparency, the unrewarding nature for reviewers, the potential for unethical practice by both reviewers and editors and, most importantly, its inability to detect fraudulent behaviour (**Smith, 2006; Stroebe et al., 2012; Das, 2016**). Ultimately, these shortcomings lie with the fact that the editorial system is overwhelmed by the 'publish or perish' mentality that dominates wider academia. Editors are faced with difficulties in finding expert reviewers, coupled with a need to maintain a rapid turnaround on an overburdened review process. This can lead to the assignment of an unsuitable reviewer, resulting in rejection due to a lack of knowledge or conflict of interest, or even blind acceptance without scrutiny (**Haug, 2015; Das, 2016**). Many publishers request that authors recommend reviewers, inviting peer-review fraud all too easily (**Haug, 2015**). This can be abused, as proven by the fabrication of hundreds of reviewers by Peter Chen for sixty of his own articles (**Ibid**). In terms of predatory practice, the slow nature of peer-review conflicts with bulk acceptance to quickly harvest APCs for profit. Many faux-editors fabricate peer-reviews with light comments to expedite the publication process and thrust surprise charges on the unfortunate authors (**Beall, 2016**). Some editors utilize faster forms of publication, such as post-publication review or portable review, to shorten the process. This sacrifices article quality to save time, with the expected consequences (**Das, 2016**). There is also little incentive for reviewers to comply, save advance knowledge of upcoming research, consigning the task to the lowest priority. Guest editors are also problematic, often allowed to invite their own reviewers without vetting. The Indian publisher Hindawi came under fire for this, three editors inventing reviewers which resulted in the publication of 32 articles via falsified review (**Haug, 2015**).

While peer review may be under strain, its problems can be mitigated. Reviewer fraud can be mitigated by verification procedures for reviewers and the development of databases containing trusted, subject experts willing to carry out proper peer review (**Das, 2016**). Even offering greater rewards to reviewers, like free subscriptions, cash bounties or employing reviewers as staff may encourage greater scrutiny of articles, although does potentially encourage poor peer-review practice to simply reap the rewards (**Ibid**). Others advocate the return of open review, that in which the identities of both reviewer and author are openly declared (**Das, 2016; Polka et al., 2018**). However, this introduces strong potential biases in

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review as a result, particularly if the two parties have conflicting interests. Other alternatives include services that enable faster reviews and publications. Services like Faculty of 1000 Research (F1000Research) enable near-instant publication on their platform with completely open review. All readers may see reviewer comments, rebuttals and user comments on the article, the author being strongly encouraged to revise continually. The service PubPeer also enables researchers to anonymously comment on research papers and authors to respond to their queries. A quick perusal immediately yields many discussions on the authenticity of figures. While publication before review is risky, such transparency enables a poorly rated paper to be discarded by a research community. Such a service for general review may provide a positive future for peer review, enabling the wider academic community to more readily dissect research and detect malpractice.

Replication

Replication is considered to be the cornerstone of scientific practice. When a ground-breaking new result is announced, other researchers flock to attempt to replicate and test their validity. This approach has been fundamental in detecting many cases of research misconduct and pathological science. For example, the fabrication of Victor Ninov's Element 118 was uncovered when others with more sophisticated equipment failed to find similar results via the same method while the excitement over cold fusion was cooled by an inability to replicate the same heat release (**Goldstein, 2010**). Replication is one of the best ways to detect research fraud in the sciences but can be challenging. Medicine is thought to be prone to research misconduct due to the difficulty of replicating trials and studies, given the natural variation among research participants (**Eisner, 2018**). Many fraudulent researchers thus seek to abuse this under the expectation that their work will never be deeply scrutinized. There is also little incentive to replicate studies. Due to the fact that innovators accrue greater academic merit, replication studies are of little interest and are unlikely to have much impact in their respective discipline (**Stroebe et al., 2012**). There is also a prejudice against replication studies by both editors and authors, the former not wanting to waste editorial space on low impact papers and the latter due to the relative waste of time in pursuing them (**Ibid**). The result is that fraudulent research may never be uncovered due to a lack of interest in its verification. Replication is also very difficult for some fields. Studies in the social sciences, particularly in qualitative research, are by their nature un-reproducible. For example, an interview study leveraging unstructured interviews would require the exact same interviewees to follow an identical line of conversation. This is naturally impossible. Replication is also a difficult task in psychology, an issue for which it has come under

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considerable fire for the prevalence of questionable research practices and the low statistical power of many studies (**John et al. 2012; Stanley et al. 2018**).

The issues with replication are mostly a product of publication politics. Therefore, the solution is simply to incentivize the practice of replication or provide special dispensation to articles that replicate previous work in attempt to validate them. Rewards for doing so may help, but again may encourage authors to produce low effort replication studies to reap the rewards *en masse*. More beneficial is that such studies find a home away from editorial prejudice. The rise of OA has enabled such practice as journals no longer have to worry about space/impact ratios, allowing the publication of papers that might be of lesser interest. PLOS One advocates this particular standard in its journal information, as do many other OA publishers (**PLoSOne, 2019**).

Whistle-Blowing

In the battle against research misconduct, 'whistle-blowing' is often regarded as the ultimate weapon (**Crocker and Cooper, 2011; Stroebe et al., 2012; Gross, 2016).** The majority of cases of research misconduct are not uncovered by review but by colleagues or students of the perpetrator. For Stapel, suspicions were first raised by post-doc students which went unheeded for some years before being properly addressed (**Stroebe et al., 2012**). In the case of Breuning's research fraud on Ritalin treatments, Sprague of the University of Illinois, a former mentor, raised the issue due to his realization that Bruening could not have physically done his claimed experiments (**Sprague, 1993; Stroebe et al., 2012**). As in most situations, however, whistle-blowers are often treated badly and suffer heavy career penalties. A study by the ORI showed that 69% of whistle-blowers suffered negative outcomes as a result and 43% reported that their institutions discouraged them from reporting it (**Titus et al., 2008; Gross, 2016**). Sprague himself suffered for his accusations, initially being investigated and later having his NIMH funding cut (**Sprague, 1993**). Institutions will often defend their prized researchers, particularly if the accusing party is fairly low in the hierarchy (**Eisner, 2018**). If such individuals are discouraged from reporting misconduct, a valuable tool in the fight against research misconduct may be forever lost.

Many authors advocate whistle-blower protection as a solution (**Titus et al., 2008; Stroebe et al., 2012; Mavrogenis et al., 2018**). The whistle-blower should be able to anonymously report their suspicions to a relevant institutional body who will then carry out an investigation free from bias into the report. The ORI fully endorses the protection of whistle-blowers, ensuring that their reports are taken seriously and are safe from retaliation from other staff (**ORI, 1995**). The ORI only has power in cases where the

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research is federally funded and thus has little jurisdiction outside of the US. COPE provides some insight into how publishers should investigate claims of research misconduct but outside of this there is little legislative power to protect academic whistle-blowers elsewhere in the world.

External Review Bodies

The foundation of external bodies that exist outside of institutional grounds has been a positive move to deal with research misconduct. The first of these 'arbiters of academia', the ORI, have long worked to investigate cases of research fraud since 1992 (**Goldstein, 2010; Gross, 2016**). The ORI has done sterling work in reviewing cases of research fraud, but few other governmental bodies have emerged in support. COPE was created some years later in 1997, a non-profit organisation focussing more broadly on publication ethics over investigation. It instead advocates outreach and informing the academic community on ethical practice and has no real power to directly tackle research misconduct (**COPE, 2019b**). The UKRIO provides similar support, specialising in the provision of advice and guidance for bodies regarding poor research integrity (**UKRIO, 2019**). These groups ultimately provide academics, institutions and potential whistle-blowers with the tools they need to process reported cases of research misconduct. Since the establishment of the above organizations, the majority of European and North American countries now have established national ethical bodies for science (**Shewan and Coats, 2012; Mavrogenis et al., 2018**). To move forward, such bodies also need to be established in emerging science capitals in the developing world to help raise awareness and curb the rise of scientific misconduct.

However, the establishment of these organisations and the time for individual investigations can be time-consuming. Many cases, despite obvious research misconduct, may never result in retraction of the fraudulent work (**Fang et al., 2012**). For instance, Grieneisen and Zhang (**2012**) report that only 38% of their noted retraction cases were ordered by the ORI. Thus, these external bodies, particularly those with lesser power to investigate, may require more legal power to pursue, investigate and forcibly act on cases of severe research misconduct. India's problems with research misconduct represent the issue with the lack of such a body, as highlighted by Patnaik (**2016**). Powerful institutional figures are, in effect, immune to accusation as their influence is too powerful to cause any form of change from within the institution. As a result, these external bodies are necessary to mediate the investigation process.

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Digital Solutions

Academic fraud can also be prevented using digital tools, databases and services that can help editors identify more egregious cases of fraud. Plagiarism software, such as commercial services like TurnItIn, are a defence against simple plagiarism via text matching, but require human-input to confirm whether or not this is truly the case. These solutions also do not have access to every academic source ever created, meaning that some blatant plagiarism may evade detection. While such solutions are useful in detecting low-effort plagiarism, they are less effective in the face of translated article flipping, a practice in which the same paper is published in multiple languages as detailed by Hvristendahl (**2013**). Author identification services, such as ORCiD, are also a useful tool that allow editors to run quick identity checks on authors, their affiliated publications and the veracity of their submission. These services expedite the initial screening process for editors and assist in weeding out poor quality research. Of course, these tools are unable to properly combat more insidious attempts at falsification and fabrication if they are not accompanied by scrupulous peer-review. The widespread use of such tool can also lead to adversarial relationship between student and teacher or indeed author and publisher. If harsh scrutiny is the baseline, trust among academia becomes negligible to the detriment of all.

To this end, more effective tools are required. Some researchers are creating new and innovative solutions to research fraud, such as tools to identify fraudulent publications by their writing style. Markowitz and Hancock (**2015**) found that fraudulent writers used considerably more jargon, included greater quantities of citations and generally had lower readability, properties that hinder readability and the likelihood of detection. Braud and Søgaard (**2017**) attempted to apply this knowledge algorithmically, their solution showing identification rates on fraudulent papers of up to ~70%. Others have also developed solutions to identify doctored images, a common form of falsification in fraudulent papers (**Bik et al., 2016; Mavrogenis et al., 2018**). For instance, Bucci (**2018**) carried out a meta-analysis of open access papers in the Pubmed database, finding that 6% of the sampled papers had some form of manipulated image. Likewise, Bik et al., (**2016**) carried out an analysis on over 20,000 articles from biomedical papers from 1995 – 2014, finding that 3.8% had doctored images, at least half of which appeared to be suggestive or deliberate. These solutions at this stage are relatively immature but, with time and refinement, will become essential tools in detecting research fraud.

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Incentivization

Another method of tackling research misconduct and predatory practice would be to establish a body, a group of funded 'anti-researchers', whose primary purpose is simply to scrutinize the research of others or investigate and identify suspicious publishers. Obviously, the sheer volume of research produced per annum far outstrips what a small body could feasibly cover but it could help to unmask the most obvious cases of academic fraud and act as a deterrent against future fraud.

This idea is ultimately flawed, however. These 'anti-researchers' would need to be perfectly unbiased or else introduce the rabid pursuit of work that contradicts their specific viewpoint. The act of rewarding the disproving of poor-quality research also invites a 'witch-hunter mentality', where all research starts to be viewed as poor quality to reap the rewards. Such practice would invite a community of scepticism into academia, where the default reaction to innovation is immediate suspicion. For the good of all academic practice, this should be avoided at all costs.

Preventing Academic Fraud

As in all things, perhaps the best method of curbing academic fraud is to prevent it in the first place. Achieving this would require changes in academic attitude and practices, a process that would take considerable time to achieve. The net result of this would be a community of researchers who instinctively look for the tell-tale signs of misconduct but ideally not one of pure scepticism to every novel finding. These measures shall now be examined.

Awareness

Spreading the awareness of academic fraud is a tool with potential. Making researchers aware of the signs of research misconduct enables research communities to police themselves. As discussed above, whistle-blowers are a major source of reporting research misconduct and providing researchers with this knowledge arms the wider community with the tools to act. This can be enabled through training courses carried out by universities, labs and institutions that make researchers aware of the existence of misconduct and mandate the maintenance of records of experiments and data sources (**Gross, 2016**). Ensuring that students and staff are all trained with a solid understanding of research ethics and publishing will ensure that the next generation of researchers are aware of how to avoid and detect misconduct (**Crocker and Cooper, 2011; Gross, 2016**). The number of institutions carrying out such training is growing, the National Institute of Health (NIH) for example having enforced mandatory attendance on responsible research conduct courses since 2011 (**Gross,**

2016). The effectiveness of these awareness approaches is however unclear. Bretag et al. (**2013**) for example report a survey of academic integrity among students at six Australian universities. They found that while most students were satisfied with the information provided on avoiding breaching academic integrity, many did not feel confident in how to avoid such breaches. This was low particularly for both international students and postgraduates. This suggests that spreading awareness does not necessarily translate into an avoidance of academic fraud. Moreover, perhaps spreading awareness indirectly gives students the gateway to academic fraud, providing knowledge of forbidden strategies to success.

Awareness of research misconduct and specific cases can also be spread more colloquially through blogs, websites and discussion. Retractionwatch is a well-regarded blog which makes its mission to spread awareness of cases of research misconduct to the wider scientific community by reporting cases of article retraction (**Gross, 2016; Retractionwatch, 2019**). Forums and discussion boards based around academic practice, like ResearchGate, also enable researchers to discuss major cases and spread awareness. This highlights fraudulent research to other disciplines, who may inadvertently cite the paper in error, particularly as many papers are never retracted and continue to accrue citations (**Fang et al., 2012; Grienensen and Zhang, 2012; Gross, 2016**).

Spreading awareness is also essential in dealing with predatory journals and conferences, who prey on less-experienced researchers. The former champion against predatory practice was Jeffrey Beall, publisher of the infamous 'Beall's list' since 2008, which listed many predatory publishers to be avoided at all costs (**Bohannon, 2013; Beall, 2016**). Beall's list was a useful tool in recognising blacklisted journals but was the subject of much controversy. Many authors claimed that Beall was biased against foreign journals and that some were not outright fraudulent, just guilty of sloppy editorial practice (**Berger and Cirasella, 2015; da Silva, 2017**). Regardless of his legacy, Beall's list has not been updated by the author since 2017, although the cause is uncertain (**da Silva, 2017**). His work still provides a good basis for future efforts and has at least highlighted the depth of publisher malpractice. Predatory conferences have proven more difficult to keep track of. A list of guilty conferences was kept by the website 'Scamorama' under the webpage title 'Con-ference', although this list has seemingly been abandoned since 2013 (**Bowman, 2014**). Another site, the 'Dolos list' run by Prof. Alexandre Georges, also lists a great many predatory publishers and conference organizers and still appears to be being maintained.

Awareness of the issue has also been spread in part due to a number of high-profile sting operations into suspicious journals. The first of these was carried out by Bohannon (**2013**) of the journal Science, who sent off a paper on a miraculous cancer-curing lichen to 304 open access journals. The paper was written to contain many fatal errors that would never survive proper peer-review. Alarmingly, over half of them accepted it, 60% offering no peer review and belonging to big name publishers like Elsevier and Sage. Others have attempted such operations, including the charmingly titled 'Get me off your fucking mailing list', accepted but not published in the International Journal of Advanced Computer Technology by Mazières and Kohler (**Carafoli, 2015**). Alternatively, 'Cuckoo for Cocoa Puffs? The Surgical and Neoplastic Role of Cacao Extract in Breakfast Cereals' by Pinkerton LeBrain and Orson G Welles, an article consisting of five pages of randomly generated gibberish, was accepted by 17 out of 37 open access journals (**Carafoli, 2015**). These sting operations raise awareness of the threat of predatory publishers but ultimately do little to stem the tide as more emerge in their stead. While awareness highlights the issue, many will still inevitably succumb to such under-handed tactics.

Data Repositories

Data repositories serve an important role in both allowing detection and acting as a deterrent towards those considering data falsification and fabrication. Many publishers now encourage authors to submit their datasets to data repositories and archives to facilitate replication by others and aid data transparency (**Crocker and Cooper, 2011; Stroebe et al., 2012**), including services such as Dryad or figshare for general data among many other more subject specific repositories: Nature provides a list of approved databases (**Nature, 2019**). This deters fraudsters from trying to submit false data, as they can easily be detected at a glance. In many high-profile misconduct cases, the perpetrators claim to have lost, deleted or misplaced the original data, as in the cases of Stapel, Darsee and others (**Stroebe et al., 2012**).

Mandatory implementation of this practice could be advantageous but comes with its own set of difficulties. Submission to digital databases is a rare practice due to many author's unwillingness to share their data. This may be due to natural fears of scrutiny but also due to the possibility of scooping, in which other authors may appropriate the data prior to full publication and publish it themselves (**Stroebe et al., 2012; Gross, 2016**). This threat is exacerbated by predatory publishers and, while little documentation of such abuse can be found, there is likely an illicit trade of data scooping and paid publication in poor quality journals. It also runs into conflict when dealing with data from human participants. Ethical approvals typically mandate a maximum data storage time, which under

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the General Data Protection Regulation (2018) in the UK requires justification of long-term storage, typically for no longer than is necessary. This means that such data is impossible to store beyond the time of the initial study, which could in turn be used as an excuse for fraudsters to cover up their acts and prevent replication.

Institutional and Editorial Policies

A major foundational issue in dealing with research misconduct historically was that institutions had no idea how to deal with it. Many did not want to antagonize their prized academics, taking a substantial amount of time to act when concerns were raised. The fraudulence of Vijay Soman at Yale was a drawn-out affair in which the accuser, Brazilian physician Helena Wachslicht-Rodbard, demanded an audit of a plagiarized manuscript by Soman and his mentor Felig in 1978 (**Broad and Wade, 1982; Gross, 2016**). The accusations took until 1980, in which time Wachslicht-Rodbard left for hospital practice, to be properly audited. The review, carried out by Jeffrey Flier, revealed both plagiarism and fabrication in the work of Soman and Felig, vindicating Wachslict-Rodbard (**Lock, 2001**). Similarly, Sprague's accusations against Breuning began in 1983 and the investigation took until 1988 to be completed, ending in a prison sentence for Breuning (**Sprague, 1993**).

These large delays in acting were mostly in part due to a lack of a formal procedure for receiving and investigating reports. As heard by Al Gore in the misconduct hearings that established the ORI, researchers believed that misconduct was to be dealt with in an informal fashion by the scientific community (**Gross, 2016**). The issue with this approach is that it relies on the personal involvement of researchers with the free time to investigate, resigning the task to the bottom of a list of competing priorities. In the Soman case, the main delay was that the auditor, Joseph Rall, was too busy at the time. As the need to review research misconduct grew, it became necessary to introduce institutional policies to deal with these accusations. These outline the process by which institutions receive reports of misconduct and how and when they will be investigated in an official capacity. This creates an institutional impetus to resolve the issue quickly, rather than relying on researchers to sort it out themselves. This places a higher priority on resolving cases of misconduct and expedites the overall process.

Similar problems are encountered by editors with regards to fraudulent research. Most journals stipulate that the author is responsible for retracting their papers by request (**Shewan and Coats, 2012**). This is reasonable, considering that journals do not have the manpower or expertise to investigate potentially fraudulent articles and force their withdrawal. The issue is that most fraudulent authors rarely go to the

effort of retraction. This means that many papers exist in limbo, outed but not retracted, as the journal has little power to forcibly remove it. This problem is being solved by the introduction of editorial policies that contain contingencies that allow the editor to retract articles in cases where an article breaches their standards. Shewan and Coates (2012) for example supply a series of eight principles of ethical publishing (Table 3) for the International Journal of Cardiology that enable forced retraction in the case of research fraud. The adoption of editorial policies in handling research misconduct is common in journals, many adopting the recommendations of bodies like COPE, and remains a key defence against research fraud (**BMC, 2019; NatureResearch, 2019**).

1. That the corresponding author has the approval of all other listed authors for the submission and publication of all versions of the manuscript.

2. That all people who have the right to be recognized as authors have been included on the list of authors and everyone listed as an author has made an independent material contribution to the manuscript.

3. That the work submitted in the manuscript is original and has not been published elsewhere and is not presently under consideration of publication by any other journal other than in oral, poster or abstract format.

4. That the material in the manuscript has been acquired according to modern ethical standards and has been approved by the legally appropriate ethical committee.

5. That the article does not contain material copied from anyone else without their written permission and that all material which derives from prior work, including from the same authors, is properly attributed to the prior publication by proper citation.

6. That all material conflicts of interest have been declared including the use of paid medical writers and their funding sources.

7. That the manuscript will be maintained on the servers of the journal and held to be a valid publication by the journal only as long as all statements in these principles remain true.

8. That if any of the statements above ceases to be true the authors have a duty to notify the journal as soon as possible so that the manuscript can be withdrawn.

Table 3: Editorial Policy of the International Journal of Cardiology (Shewan and Coats, 2012).

Punishment and Deterrence

Arguably, one of the main drivers of academic fraud is that it is not normally punished. From the perspective of the honourable academic, the shame of being caught in the act of fabricating data or abusing unscrupulous publishers is punishment enough. Some do get more severe punishment. Stapel was hounded by the media for years following news of his fraudulence being broken (**Stapel, 2014**) while the infamous Darsee

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moved into a clinical position in a hospital before having his medical license revoked a few years in the State of New York (**Gross, 2016**).

Others get caught in the act and comparatively get punished lightly for academic malpractice. This problem is common among Indian universities, as documented by Patnaik (**2016**). The author highlights that the power of these individuals protects them from severe punishment. Gupta represents such an example, an earth scientist who is thought to have fabricated images, stolen specimens and lied about palaeontological finds over his career. After being accused by Talent (**1989**) and Lewin (**1989**), who first brought the fraud to attention, it took nine years, including a four-year enquiry, to prove his falsehood. Yet the only punishment received was a denial of further promotion and being stripped of any administrative responsibilities, continuing at Panjab University until his retirement in 2002 (**Ruffell et al., 2012; Patnaik, 2016**). The price for such mass fraudulence should have a heavier cost, which is likely a motivator for research fraud. A similar driver can be elucidated for predatory publishers. What they do technically is not illegal. They may provide a service for an extortionate cost at a poor level of quality, but the outcome is still a published paper or a 'legitimate' conference event.

This highlights the major problem with academic fraud. There is no legislative power that enables its practitioners to be charged and tried. There are a limited number of researchers that have been convicted of research misconduct. Reuben, Poehlman and Breuning all received prison sentences. Reuben received six months in prison on top of $415,000 in fines and payments, Poehlman one year in prison and Breuning 60 days in a halfway house along with a repayment of $11,352 (**Sprague, 1993; Stroebe et al., 2012**). Hwang Woo-Suk, formerly of Seoul National University, was sentenced for two years for embezzlement, falsification of stem-cell research and breaking bioethical laws (**Cyranoski, 2009; Stroebe et al., 2012**). All of these examples however include major breaches of law rather than just falsification, highlighting that only the most heinous acts can be legally punished. Many cases are never pursued further and proving that the law has been broken is difficult in cases of research misconduct, as highlighted by Stroebe et al., (**2012**). Perhaps introducing legislation that allows research misconduct to be punishable under law could provide a more threatening deterrent to fraudsters.

The disadvantage of such an adversarial approach is the breakdown of trust between academics. The linchpin of training among academics is the relationship between the supervisor and their student. This relationship relies on some modicum of trust. When that trust breaks down through suspicion, careers are put into question and futures at stake, as evidenced by the Stapel case. If research fraud becomes a punishable crime, the risk

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is greater. The relationship may shift to that of the policeman and the criminal, the supervisor scrutinising the student for signs of misconduct. Little meaningful development can happen under such conditions.

Transparency Indices

Another interesting concept is the introduction of Transparency Indices, an externally judged value of the veracity of a journal's publishing practice, as envisaged by Marcus and Oransky (**2012**), the authors of the RetractionWatch blog and discussed by Sabir et al., (**2015**). Such a metric, much like IF, would be an identifier of the journal's review capabilities. Marcus and Oransky (**2012**) highlight that such a metric should ideally cover whether or not it is peer-reviewed, the average number of reviewers, the review time, acceptance rates and details of appeal processes. They would also highlight other variables, such as the names and expertise of the editorial board, costs, data availability, details of review plagiarism checks, its policy on dealing with misconduct and the structure of its corrections and retraction notices. Many journals do supply some, if not all, of these criteria. For example, PLOS ONE provides much of this data in its journal information (**PLoSOne, 2019**).

Such transparency indices would have an obvious effect in mitigating the impact of predatory publishers by using peer-review and editorial transparency as a proxy for journal quality. The first layer of protection is the fact that well-meaning journals who wish to keep a good image would accept such a metric, while those less salubrious would prefer to ignore such a metric, providing an immediate 'black spot' on that journal's veracity. Secondly, the value is a useful tool in identifying poor editorial practice and encouraging improvement among innocent but sub-standard journals. Inevitably such indices would need some form of centralization to an organization which can verify and assess them, or else predatory publishers would merely advertise a false value. However, for now a transparency index is not forthcoming. The conversation continues, albeit slowly, on the RetractionWatch website but its emergence remains to be seen (**RetractionWatch, 2019**).

An End to 'Publish or Perish'

Perhaps the ultimate end to research fraud is simply to ease the metaphorical gas pedal on the race for IF and citation metrics. As many authors have argued, the acquisition of bibliometric domination is a major driver of academic fraud (**Davis et al., 2007; Carafoli, 2015; Haug, 2015; Sabir et al., 2015; Das, 2016; Eisner, 2018**). In the vast majority of research misconduct cases, the perpetrator has admitted that they were under career pressure, Stapel by his own self-admission (**Goldstein, 2010; Stapel, 2014; Gross, 2016**). In a similar manner, predatory publishers are fed by

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researchers looking to enhance their profile with more publications. The rise of services to feed this illicit trade of poor quality research as highlighted by Hvristendahl (**2013**) in China is a symptom of the depth of this problem within academia and one that needs to mitigated to stem the tide of research fraud.

How this can be achieved is a much harder question. IF and citation metrics are now an irrevocable part of academic practice and necessary for justifying the value of research funding. To ignore such metrics, however noble, is to risk losing ever-elusive funding or being passed over for promotion, a fact that almost assures the continued dominance of the 'Publish or Perish' paradigm (**Carafoli, 2015**). Removing such metrics from the equation is advocated by many (**Carafoli, 2015; Haug, 2015; Gross, 2016**). However, even if IF was to be discarded as metric little would change. The advantage of IF is that it provides a quick, informative value of the research quality of a journal, allowing rapid judgement of its worth. If IF were to be removed, another metric would simply take its place. Certainly a number of these would-be replacements are already in common usage. The h-index, a value that relies more on article quality through frequent citation that simple mass publication, is becoming a standard metric. Altmetric also factors in impact beyond academia, the score being tied to news articles, social media interaction, blog posts and citations. These values are arguably better than IF, but ultimately the same. Another number to quote that boils down the complex nature of academic practice into a basic, readable metric.

Some authors and journals are beginning to move away from a dependence on bibliometric indices, however. Many researchers and organizations have signed the Declaration of Research Assessment (DORA), numbering 1553 individual organizations including the University of Oxford, the Public Library of Science (PLOS) and BioMed Central (BMC) and over 15,000 individual researchers (**DORA, 2019**). Developed in 2012 during the Annual Meeting of the American Society for Cell Biology in San Francisco, DORA advocates that IF is not an accurate or transparent measure for assessing research quality. They recommend to funding agencies, academic institutions, journals, organizations and researchers that; 1) journal-based metrics should not be considered for funding, appointment or promotion; 2) that research be assessed on its own merits rather than where it was published; 3) we need to capitalize on the opportunities provided by online publication to overcome spatial limitations on journal space and the exploration of new indicators of significance and impact. While the impetus behind this scheme grew rapidly after its inception, its impact on publishing and funding practice remains to be seen. Among these signees are many journals, such as eLife, who completely reject the use of bibliometric indices. Its former editor-in-

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chief, Randy Scheckman, gave an impassioned statement in 2013, claiming that high IF publications were in effect dominating scientific thought and progress (**Carafoli, 2015**). Regardless of whether or not this statement is true, minimising the reliance on bibliometric indices is certainly an important first step in mitigating the worst of research fraud.

Summary

Over the course of this review the world of academic fraud has been explored, consisting of the internal realm of research misconduct and FFP, fabrication, falsification and plagiarism, and the external predatory realm of predatory publishers and conferences. Both practices appear at the surface value to be on the rise, although research into analysing their temporal trends give mixed results. What is certain is that it represents the tip of an iceberg of incalculable menace that threatens the very foundation of academia as a practice.

However, tackling the issue is complicated by a number of facets. The first is that academic practice is guided by freedom of thought, enabling calculating fraudsters to easily evade detection. Next is that the reward system of academia, success and eponymy through big ideas, directly opposes academic ideals, by repeating and confirming results in additive fashion to refine theory and practice. Finally, the bibliometric machine is the engine that drives academic fraud and is a system that encourages researchers to cut corners to achieve publication in high IF journals for job survival, funding and promotion.

Methods of both detecting and preventing academic fraud were then explored. For detecting academic fraud, the flaws inherent in peer review were highlighted and potential solutions outlined, alongside the importance of placing principles of replication at the centre stage of academic practice. The importance of whistle-blowers as a key identifier of academic fraud was also highlighted in addition to the importance of external review bodies for investigating and acting on charges of research misconduct. Other resources like digital tools, such as plagiarism and image alteration detection software, can be vital in detecting low effort spam while incentivization could promote the active pursuit of research fraud rather than passive indifference.

To prevent academic fraud, interventions centring on changes of attitudes were described. The primary tool against research fraud was that of awareness, spreading the knowledge of such practices so researchers can recognise the signs of research misconduct and predatory publishers. The importance of data repositories to deter the falsification of data was also explored, although mandatory provision would risk the 'scooping' of data. Institutional and editorial policies could also be a useful tool, ensuring that

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institutions and journals have established workflows to deal with cases of misconduct and order their retraction if necessary, removing fraud-based taint from academic knowledge. Deterrence through severe punishment is also an option, but one needing the introduction of national legislation to fully criminalize research fraud. Transparency indices also represent a way of mitigating research fraud, enabling authors to easily verify the editorial process of a journal and identify predatory publishers. Finally, the most effective deathblow to research fraud would be the end of the 'Publish or Perish' paradigm, the never-ending rush to publish big or fast to stay in the academic rat-race.

Overall, a bleak picture of research fraud is painted. This is not something to be sat upon, however. Rather, it represents a realization that the current path of academic practice is untenable in order to maintain the high standards of the past. It will require concerted effort to mitigate and stamp out research fraud from academic practice and likely the hard work of many generations of academics to correct the errors that have crept into the academic record. Given time, awareness and advances in methods of detecting, dealing with and preventing academic fraud, a brighter future can be built for academia free from the taint of the omnipresent fraudster.

Acknowledgments

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'That's One of Mine': Upstart cannibalism in the BBC's Shakespearean biofiction

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Abstract

In televisual representations of William Shakespeare's life which blend biographical fact with fictionalised fantasy, contemporary writers often utilise the trope of the playwright colliding with characters and scenes recognisable from plays which he has yet to create and, consequently, finding inspiration. Others construct a reciprocal loop of influence, whereby Shakespeare is shown to have written or been informed by works that did not exist during his lifetime and which his plays themselves instigated. It has become fashionable in the metamodern era to depict these forms of metaphorical cannibalism in a parodic manner which oscillates between sarcastic rejection of Bardolatry and sincere appreciation for Shakespeare's 'genius'. Gareth Roberts satirised the notion of Shakespeare's originality in Doctor Who episode The Shakespeare Code (2007), through the depiction of the playwright being fed and consuming his own works and specific references. In 2016, the 400th anniversary year of Shakespeare's death, a number of commemorative BBC programmes also exhibited cannibalistic features, including the reverent (The Hollow Crown), the irreverent (Cunk on Shakespeare), and those which combined both registers (Upstart Crow). I will explore how these writers construct their portrayals of Shakespeare and, by interlacing fact and fiction, what portrait of the playwright these cannibalistic representations produce.

Keywords: Shakespeare; biofiction; metamodernism; popular culture; Upstart Cow; Doctor Who; All is True; Will; The Hollow Crown; Cunk on Shakespeare; Game of Thrones

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Introduction: Metamodern Shakespeare

> **SHAKESPEARE:** *Good luck, Doctor.*
> **DOCTOR:** *Good luck, Shakespeare. Once more unto the breach.*
> **SHAKESPEARE:** *I like that. Wait a minute, that's one of mine*
> (**Roberts, 2007**).

This metatextual exchange takes place between a fictionalised version of William Shakespeare (Dean Lennox Kelly) and the Tenth Doctor (David Tennant) during the climax of *The Shakespeare Code*, a 2007 episode of the long-running BBC science fiction television series *Doctor Who*. The central characters are gathered for a final rally against the evil, witch-like Carrionites, who are intent on entering Elizabethan England to destroy the world, when Tennant's Doctor delivers King Henry V's famous line. It is possible to interpret writer Gareth Roberts framing Shakespeare as a literary cannibal who fed on his own words and ideas, created by others, to produce what is widely considered the most significant body of dramatic work in theatrical history. The playwright's realisation that the Doctor's quotation from *Henry V* is 'one of mine' represents the culmination of a running gag throughout the episode, which this article will explore in greater detail, and one which suggests that the playwright has become aware he is embroiled in an ontological paradox created by a time-travelling alien supplying him his own lines.

In this article, I will explore how BBC programmes have, during the last thirteen years, explored Shakespeare's process of literary creation, his sources of inspiration and the various mysteries which surround his life, work and authorship. Televisual representations of Shakespeare's life which blend biographical fact with fictionalised fantasy, such as *The Shakespeare Code*, often utilise the trope of the playwright colliding with characters, scenes and phrases recognisable from plays which he has yet to create and, consequently, finding creative stimulation. Others, such as Charlie Brooker's satirical mockumentary, *Cunk on Shakespeare* (2016) construct a reciprocal loop of influence, whereby Shakespeare is shown to have created work that did not exist during his own lifetime such as HBO fantasy drama series *Game of Thrones* (2011-19).

Although Shakespeare does not directly meet any of his creations in *The Shakespeare Code*, Roberts offers a variation on what Douglas Lanier explains is an extension of 'the biographical assumptions surrounding Shakespeare's life by imagining his engagement with his own characters, who are presented as if they have lives of their own' (**Lanier, 2007: 101**). Shakespeare's encounters with the Carrionites, who operate as a trio and thus resemble *Macbeth*'s three Wyrd Sisters, is not as explicit an example of what Lanier describes as Ben Elton's construction of an imagined encounter between Shakespeare and one of his characters in his situation

comedy *Upstart Crow* (2016-18). In Series 3 Episode 1: *Lord, What Fools These Mortals Be!* (2018), which takes *A Midsummer Night's Dream* as its source material, 'Will' Shakespeare (David Mitchell) meets a confidence trickster named Puck (Ken Nwosu) in a forest who proceeds to sell him a love potion.

In each instance, the origin story for *Macbeth* and *Dream*, both of which contain prominent examples of Shakespeare's use of the supernatural, are represented by depicting the playwright encountering real magic, which constructs the idea in the viewer's mind that Shakespeare's 'greatness' sprang from a connection to otherworldly forces unavailable to an 'ordinary' writer. It has become fashionable in the 'metamodern' era to depict these forms of metaphorical cannibalism in a parodic manner which swings between sarcastic rejection of Bardolatry and sincere appreciation for Shakespeare's 'genius'. Although the term appeared as early as 1975, metamodernism was first proposed as an alternative term to post-postmodernism by Dutch cultural theorists, Timotheus Vermeulen and Robin van den Akker, in their 2010 essay *Notes on metamodernism*, where they argue that:

> *metamodernism oscillates between the modern and the postmodern. It oscillates between a modern enthusiasm and a postmodern irony…Each time the metamodern enthusiasm swings toward fanaticism, gravity pulls it back toward irony; the moment its irony sways toward apathy, gravity pulls it back toward enthusiasm* (**Vermeulen and van den Akker, 2010: 5-6**).

Luke Turner, a British metamodernist artist who collaborates with the American actor Shia LaBeouf and Finnish artist Nastja Säde Rönkkö as the performance art collective LaBeouf, Rönkkö & Turner – all of whom were born in the 1980s – suggests that:

> *[o]urs is a generation raised in the '80s and '90s, on a diet of The Simpsons and South Park, for whom postmodern irony and cynicism is a default setting, something ingrained in us. However, despite, or rather because of this, a yearning for meaning – for sincere and constructive progression and expression – has come to shape today's dominant cultural mode* (**Turner, 2015**).

Turner is describing Millennials and the increasing tendency for contemporary artists to produce work that rejects outright sarcasm in favour of art which metatextually acknowledges the irony inherent in its own plot, setting or process of adaptation, whilst attempting to reach a level of sincerity with which its audience can identify, and thereby gain a greater understanding of their personal identity and issues within the wider world.[i] In the two primary instances of biographical fiction which

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this article discusses, *Upstart Crow* and *The Shakespeare Code*, the writers' responses to Shakespeare as a literary icon veer from a parodic register – which attempts to render the playwright relatable and human through the reveal and explanation of his artistic process as banal, coincidental or lucky – to a more reverential attitude that reaffirms his status as an unparalleled literary force.

Upstart Crow

Lanier discusses how '[s]ome pop presentations, particularly contemporary works of an iconoclastic or parodic bent, emphasize the mundane or sordid nature of Shakespeare's life in order to cut the mythic author down to size' (**Lanier, 2007: 100-1**), which accurately describes the satirical approach taken by Elton towards Shakespeare's creative process and the domestic and workplace obstacles which stand between him and success. Lanier further explains, however, that 'far more typical for pop culture is to construct scenarios that locate the genesis of Shakespeare's writing in fabricated details of his personal experience, while never seriously challenging the extraordinary cultural authority accorded to his work' (**Lanier, 2007: 101**). *The Shakespeare Code* fulfils these criteria by plugging one instance of Shakespeare's 'tantalizing lacunae' (**Lanier, 2007, 102**), the existence of his supposedly lost play *Love's Labour's Won*, with a fantasy adventure which not only explains this specific mystery but also reveals the genesis of other plays, including *Hamlet*, *Macbeth* and *The Tempest*.

Roberts and Elton do not subject Shakespeare to the level of critique, with the playwright portrayed as a dashing genius in *The Shakespeare Code* and a bumbling family man in *Upstart Crow*, who often requires the women in his life to alert him to the flaws in his writing. For instance, in *Lord, What Fools These Mortals Be!*, Elton utilises the metatheatrical conceit of Shakespeare's appearance in the plot of *Dream* to enable a critique of his love juice plot device by Kate (Gemma Whelan), the daughter of Shakespeare's London landlord. This is ahistorically contextualised within modern, progressive attitudes towards sexual consent:

> *KATE: Mr Shakespeare, is your play suggesting that a drugged person is capable of giving consent?*
>
> *WILL: What? Blimey, I didn't see that coming! But, you know, if the drug is administered by well-intentioned fairies that's all right, isn't it?*
>
> *KATE: No, it isn't! Goodness gracious, Mr Shakespeare. This appalling Puck figure goes about drugging people so they can then be forced into intimate relations with those whom they had previously despised. That is sexual assault, Mr Shakespeare.*

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> **WILL:** *God's boobikins, Kate. If a mischievous sprite can't administer a simple love potion to a sleeping innocent without being accused of assault, then I give up! Really! You must curb your tendency to apply a joyless socio-political agenda to every situation.* (**Elton, 2016**)

The transportation of contemporary politics and social principles into Shakespeare's period is a common feature of *Upstart Crow* and one which allows Elton simultaneously to critique uncomfortable aspects of Shakespeare's work – such as Oberon and Puck manipulating the four lovers against their will and leaving one, Demetrius, under the spell at the end of *Dream* – and to satirise modern archetypes, such as the elder, mansplaining male and the younger, woke female, who are here ably symbolised by Shakespeare and Kate.

Despite his rejection of Kate's warranted objections, Shakespeare is frequently shown elsewhere by Elton to be stimulated by specific experiences and encounters with people in his everyday life. Each episode follows the structure of a one or more Shakespeare text, with the episode's title usually referencing which particular plot is being followed. In the episode 'What Bloody Man Is That?', Shakespeare and his companions encounter three women on a heath during their journey back from London, who prophecies that he will be 'Owner of New Place hereafter' (**Elton, 2016**), alluding to the second largest house in Stratford-upon-Avon. He and his wife then become involved in a plot to murder Duncan MacBuff, the Scottish owner of New Place, representing the roles of Macbeth and Lady Macbeth. Although the episode performs a number of comic deviations away from *Macbeth*, the basic structure of Shakespeare's play remains intact. Lanier delineates how '[t]he author's relationship with his own creations is the focus of an entire sub-genre, tales in which Shakespeare meets his own characters' (**Lanier, 2002: 129**) and the way in which Elton relocates Shakespeare's encounters onto specific plays, which he would later write, undoubtedly shares in this creative impulse towards the satirical demystification of Shakespeare's authorship. These collisions between Shakespeare's life and his plays represent a form of self-cannibalisation, where the playwright is shown to be influenced by plots of whose existence the audience are already aware, which, paradoxically, advances the biographical myth that Shakespeare's personal experiences actively inspired his plays.

When these programmes swing back from irreverence towards reverence, this position is frequently signposted through the direct usage of words such as 'genius', however ironic or sincere, and references to future work which he directly or indirectly influenced. In her discussion of *The Shakespeare Code*, Janice Wardle argues that such texts 'explicitly, and conterminously, in their reading of Shakespeare, see the author as both

'of his time' and also 'out of time.' Often the presence of this double time enables films to assert the playwright's genius as an author for all time' (**Wardle, 2018: 2**). Elton metaphorically imports ideas from the present into the past via the prominent female characters, Kate and Shakespeare's wife and daughter, who are frequently given the opportunity to critique or deliver advice but subsequently, with a touch of irony by Elton, receive little credit for this by the male playwright. Roberts, by contrast, transports The Doctor and his companion, Martha Jones (Freema Ageyman) to 1599 London and, consequently, creates a more explicit form of duality through this physical manifestation of Martha, a twenty-first century, black, female Londoner, occupying an older, less diverse and politically correct version of her hometown.[ii]

The blend of Shakespearean parody and social awareness demonstrates that, as Turner expresses, '[t]he metamodern generation understands that we can be both ironic and sincere in the same moment; that one does not necessarily diminish the other' (**Turner, 2015**). Although Elton (b. 1959) and Roberts (b. 1968) belong to an older generation, their writing nevertheless adheres to many of the principles outlined by Turner in his 'Metamodernist Manifesto', such as the need to 'recognise oscillation to be the natural order of the world' (**Turner, 2011**) and his definition of metamodernism 'as the mercurial condition between and beyond irony and sincerity, naivety and knowingness, relativism and truth, optimism and doubt, in pursuit of a plurality of disparate and elusive horizons' (**Ibid**). Moreover, the work often exhibits signs of the writer's own act of literary cannibalisation and an attempt, to some extent, to explore their own artistic identity through a consideration and fantastical speculation of Shakespeare's creative and domestic persona.

Upstart Crow has frequently been compared to Elton's previous success as a co-writer for the sitcom *Blackadder* (1983-99). Indeed, a character from *Blackadder II* makes a guest appearance in the *Upstart Crow* episode *The Quality of Mercy*, while the death of Shakespeare's son, Hamnet, which occurs during the final episode of the third series, echoes the unexpectedly tragic mood at the conclusion of *Blackadder Goes Forth*, when the main characters finally venture into No Man's Land. In *The Shakespeare Code*, Roberts reuses the idea of The Doctor visiting Shakespeare which he had explored two years earlier in the *Doctor Who Magazine* comic book story *A Groatsworth of Wit* (2005), in which the Ninth Doctor (Christopher Eccleston) time-travels to England 1592 with his companion to combat the Shadeys, a race who harness negative emotions as a power source and attempt to manipulate Shakespeare's contemporary, Robert Greene, into killing his rival, thus drawing on his jealousy in order to destroy Earth.[iii]

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The Shakespeare Code

A frequent convention of *Doctor Who* is an opening scene which takes place prior to the episode's title sequence and recognisable theme music, thereby establishing its setting, themes and tonal palate. These scenes often exclude the eponymous Doctor, an alien Time Lord with the appearance of a man or woman, and his/her time-travelling human companion, instead foregrounding the time and period into which they are about to venture. This is particularly prevalent in episodes which take their cue from historical fact and blend it with science-fiction. *The Shakespeare Code* begins by introducing a Wiggins (Sam Marks), a handsome young man, singing to Lilith (Christina Cole), a beautiful young woman, who leans out of an open window, thus creating an image which is instantly redolent of *Romeo and Juliet*'s balcony scene. However, instead of following the pattern of Shakespeare's play, in which Juliet warns Romeo that she has 'no joy of this contract tonight; / It is too rash, too unadvised, too sudden' (***Romeo and Juliet*, 2.1.159-60**), Lilith remarks that 'such sweet music shows your blood to be afire. Why wait we on stale custom for consummation?' (**Roberts, 2007**). Roberts consequently undermines the viewers' expectations – particularly those with prior knowledge of the play – and satirises Juliet's wish for Romeo to be sexually patient by recasting her as a temptress who willingly and immediately welcomes her suitor's advances.[iv]

Encouraged by this invitation, Wiggins incongruously exclaims 'oh yes. Tonight's the night' (**Ibid**), which creates tension between his contemporary vernacular and Lilith's approximation of Shakespearean language. This foregrounds the relationship between the past and present that functions throughout *The Shakespeare Code* and which, as Janice Wardle suggests, creates 'deliberate dramatical capital out of the co-existence of different time periods' (**Wardle, 2018: 2**). Once inside Lilith's home, a second contrast develops, when, instead of the unfolding of an anticipated love scene, she transforms into a fanged, hook-nosed hag after being kissed by Wiggins. Quipping that 'a suitor should meet his beloved's parents' (**Roberts, 2007**), Lilith welcomes two other witch-like creatures, Mother Doomfinger (Amanda Lawrence) and Mother Bloodtide (Linda Clark), who proceed to swoop down on the screaming Wiggins and rip him to shreds. Meanwhile, she turns to camera and addresses the viewer directly, proclaiming: 'soon at the hour of woven words we shall rise again, and this fleeting Earth will perish' (**Ibid**), before her evil cackle gives way to the titles.

Lilith's transformation into witch and the shift from romance to horror – specifically, *Romeo and Juliet* into *Macbeth*, signposted by the appearance of three witches and a prophetic announcement – informs viewers that

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the episode will blend tonal registers from across Shakespeare's plays and, despite the absence of any direct textual references in this scene, prepares them to expect an intertextual approach to the canon. The use of *Macbeth*'s Witches as a malignant force and the notion of magic as a fictional explanation for both Shakespeare's genius and the mystery of *Love's Labour's Won* drive the narrative focus of *The Shakespeare Code*, the title of which, Emily Saidel explains 'intertextually cites Dan Brown's blockbuster novel *The Da Vinci Code* suggesting that Shakespeare is going to be recontextualised within a "popular" discourse' (**Saidel, 2003: 119**).[v]

Significantly, in the scene which follows the opening credits, the Doctor initiates the episode's series of embedded Shakespearean quotations by telling Martha that 'I promised you one trip, and one trip only. Outside this door, brave new world' (**Roberts, 2007**). Indeed, as Martha steps out of the TARDIS (the Doctor's time machine) into Elizabethan England, her expression of wonder evokes Miranda's reaction in *The Tempest*'s final scene upon meeting shipwrecked men, during which she exclaims 'O brave new world / That has such people in't' (**The Tempest, 5.1.184-5**). The quotation is emblematic of Roberts's process of Shakespearean appropriation; 'brave new world' is a phrase with potential recognisability to audience members beyond those with detailed Shakespearean knowledge due to it also being the name of Aldous Huxley's 1932 novel, whilst it draws attention to both the Doctor's intellectual prowess and the parallels between the experiences of Shakespeare and *Doctor Who*'s characters. Consequently, at its very outset, the episode invites viewers to unstitch the layers of its intertextual fabric, while providing references which are less likely to alienate audience members unfamiliar with the playwright.

The Doctor and Martha first glimpse Shakespeare at a performance of *Love's Labour's Lost*. During the curtain call, Lilith is pictured in disguise as a noblewoman in an upper balcony, holding a voodoo doll which resembles the playwright, which is later referred to by the Doctor as a 'DNA replication module' (**Roberts, 2007**), thus combining references to science and magic. Unnoticed by all, Lilith kisses the doll and manipulates Shakespeare into announcing 'the premiere of my brand new play. A sequel, no less, and I call it *Loves Labour's Won*' (**Ibid**). This immediately piques the duo's curiosity; Martha confesses that she has never heard of the play and the Doctor responds by telling her that it is 'the lost play. It doesn't exist. Only in rumours. It's mentioned in lists of his plays but never, ever turns up and no one knows why' (**Ibid**). In the contemporary manner of fans taking a backstage tour to meet a famous personality or performer, they proceed to Shakespeare's tavern to meet him, whereupon he greets them in the weary mode of a modern celebrity:

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> **DOCTOR:** *Hello! Excuse me, not interrupting, am I? Mister Shakespeare, isn't it?*
>
> **SHAKESPEARE:** *Oh no. No, no, no. Who let you in? No autographs. No, you can't have yourself sketched with me. And please don't ask where I get my ideas from. Thanks for the interest. Now be a good boy and shove off […]* (**Roberts, 2007**).

This constructs the fictional relationship between the time-traveller and Shakespeare as one between fan and star, with the question of how Shakespeare became 'Shakespeare' being a common point of exploration for biofictional portrayals of the playwright's life.[vi] This fascination extends to the marketing campaigns for films and television series inspired by Shakespeare's life and works, such the BBC comedy film *Bill* (2015) and TNT drama television series *Will* (2017), each of which proclaimed in their respective promotional posters that '[b]efore he was Shakespeare he was… Bill' and '[b]efore he was Shakespeare he was… Will'. In the 'origin story' tradition popularised by superhero movies, *Bill* and *Will* both explore how the Man from Stratford journeyed to London in order to seek fame and fortune whereas, in *The Shakespeare Code*, the audience is presented with a mid-career writer who despite already having found success, seeks new ideas and inspiration to take his 'genius' to the next level. Although the balance of power in the Doctor-Shakespeare relationship shifts throughout the episode, the Time Lord begins the episode as a fanboy seeking to know more about, as Martha describes Shakespeare, one of his 'heroes' (**Roberts, 2007**). The tenor of their exchange, between a devout fan and world-weary writer, was echoed in Kenneth Branagh's recent Shakespeare biopic *All Is True* (2018), in one of the few scenes which does not feature Shakespeare accompanied by a family member:

> **HENRY:** *Mr. Shakespeare? I don't want to pester you.*
>
> **WILL:** *Good. Excellent news. Cheerio then.*
>
> **HENRY:** *It's just that I wanted to ask…*
>
> **WILL:** *The best way to get started as a writer is to start writing. Cheerio.*
>
> **HENRY:** *No really could I…*
>
> **WILL:** *I don't have a favourite play. I admire all my fellow dramatists equally. And yes I do think women should be allowed to perform the female roles as is the practice on the continent. Now please. If you'll excuse me* (**Elton, 2018**).

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All Is True was also written by Elton, and, in this fictional conversation, he orchestrates a dialogue between a young, aspiring author and the playwright, with a self-aware Shakespeare anticipating the questions which will plague future generations of academics, writers and directors. It is plausible to imagine Branagh, one of the foremost popularisers of Shakespeare in the twentieth and twenty-first centuries, asking these questions of the playwright and consequently there is a metatextual element to this conversation whereby Henry (standing in for Branagh the Shakespeare fan) interrogates Will (Shakespeare portrayed by Branagh). A further thread of the intertextual web which connects *All Is True* to *Upstart Crow* is Branagh's guest appearance as a Dickensian ghost in the 2018 Christmas Special, *A Crow Christmas Carol*, who visits Mitchell's Shakespeare, still grieving for his dead son, during a commute from London to Stratford-upon-Avon. Credited only as 'The Stranger', Branagh's brief but significant appearance, during which he recounts the tale of a miser, prompts Shakespeare into spreading Yuletide joy by 'haunting' his adversary Greene and, in doing so, attempting him to set him on a Scroogean path to redemption. Elton and Branagh also meditate on the spectre of Hamnet's death in *All Is True* by representing the lost boy in visions which plague Shakespeare throughout the film.

Kelly's Shakespeare shares a similar preoccupation in *The Shakespeare Code*. His opening lines are delivered directly to the groundlings who, after a performance of the comic *Love's Labour's Lost*, he tells to 'shut your big fat mouths' (**Roberts, 2007**), with the crestfallen Doctor is consequently warned by Martha that '[y]ou should never meet your heroes' (**Ibid**). However, by the final scene, thanks to the Doctor's creative input, Martha's status as Shakespeare's 'new muse' (**Ibid**) and the adventure they share together, Shakespeare tells the duo, as they are about to depart, that he has 'new ideas. Perhaps it's time I wrote about fathers and sons, in memory of my boy, my precious Hamnet' (**Ibid**). Indeed, the Doctor feeds Shakespeare a line from *Hamlet* and suggests he document another spoken unconsciously during the episode which, as Wardle observes, indicates that 'Shakespeare is being edged by the Doctor towards writing *Hamlet*' (**Wardle, 2018: 13**). Andrew James Hartley also explains that this 'end roots the episode in Shakespeare's repudiation of the frivolity of comedy for something of more weight. That 'something' was to be his father's response to the death of his son Hamnet, the grief of which, we are told, had somehow facilitated the rise of the Carrionites in the first place' (**Hartley, 2009: 11**). Consequently, as the Carrionites attempted to harness the power of Shakespeare's words and exploit his grief, so he is ultimately able, with the Doctor and Martha's assistance, to banish them and reclaim this traumatic event as the impetus for dramatic inspiration, cannibalising the words spoken to him by the Doctor.

In setting and contextualising his life and artistic process in a fictional world where literal magic exists, Roberts likens Shakespeare's abilities to a form of sorcery. Lilith, Doomfinger and Bloodtide are Carrionites, three witch-like aliens from another realm, who, having been banished by The Eternals in ancient times, harness the combined power of Shakespeare's words and the Globe Theatre's fourteen sides in order to open a portal from their own world which will allow the rest of their race to enter Elizabethan England and wreak havoc on humankind. During their first confrontation, the Doctor defeats Bloodtide by naming her, a process which he describes to Martha as 'old magic' (**Roberts, 2007**). In response to her protestations that 'there's no such thing as magic', the Doctor explains that 'it's a different sort of science…The right numbers, the right equation, can split the atom. Carrionites use words' (**Ibid**). At the episode's conclusion, Shakespeare confesses that he does not remember writing the final words of *Love's Labour's Won*, whereupon the Doctor realises that the Carrionites have been manipulating the playwright as a linguistic puppet:

> **DOCTOR:** *That's it. They used you. They gave you the final words like a spell, like a code. Love's Labours Won. It's a weapon! The right combination of words, spoken at the right place, with the shape of the Globe as an energy converter. The play's the thing! And yes, you can have that (**Roberts, 2007**).*

The Doctor's use of the word 'code' reinforces the episode's central plotline, since the code in question is the lost play, *Love's Labour's Won*, which is here revealed as the key to the villains' potential success. The premise of a missing work by Shakespeare grounds this episode in the creative impulse to fill in the blanks our understanding of who Shakespeare was, and what the plays convey about their author. Lanier suggests that '[f]ictionalized biography of Shakespeare supplies what the historical record does not or cannot offer (or even actively contradicts), the inner workings of Shakespeare's emotional psychology or intellect' (**Lanier, 2002: 116**). *The Shakespeare Code* can therefore be defined as an example of biofiction which exploits absent information about Shakespeare as a creative opportunity to discuss the playwright's identity as well as his cultural legacy.

The notion of Shakespeare's originality and the parodic idea of him being cannibalistically fed his own works and specific references is satirised throughout the episode: a running joke features the Doctor feeding Shakespeare well-known lines from plays which he has not yet written, including 'all the world's a stage' (**As You Like It, 2.7.138**) and 'the play's the thing' (**Hamlet, 2.2.581**). Shakespeare signals his approval of the phrases in these metatheatrical moments, culminating in his response to

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the name 'Sycorax' (**The Tempest**), which the Doctor uses to describe a previously defeated foe, that 'I'll have that off you as well' (**Roberts, 2007**). The Doctor remarks that he 'should be on ten percent' (**Ibid**), referring to the idea that he ought to receive commission for his contribution to Shakespeare's work. This simultaneously parodies and supports academic theories that Shakespeare and his contemporaries were more collaborative than first believed, which has resulted in the widespread attribution in recent years of some Shakespeare plays as co-authored works. This was demonstrated by the publication in 2016 of *The New Oxford Shakespeare: The Complete Works: Modern Critical Edition*, a major volume which illustrates Shakespeare's collaboration with contemporaneous playwrights such as John Fletcher and Thomas Middleton and which, its editors suggest, 'offers readers the most up-to-date scholarship about which plays, and which parts of plays, were written by Shakespeare, and which were written with, or adapted by, someone else' (**Taylor and Bourus 2016: 58**).

Hartley observes here that '[t]ime, which seems linear (Shakespeare hears the word and writes it into a later play) becomes a mobius strip, circling back on itself' (**Hartley 2009: 12**). His metaphor, which refers to a surface with one continuous side, reflects the way in which the episode distorts Shakespeare's process of creation by introducing the paradox of reverse adaptation. The Doctor and Shakespeare's unconscious process of collaboration establishes an ontological paradox, which strongly evokes the concept of cannibalisation, explained through the creative collision of adapted materials and their source. The episode explores the paradox in three specific ways. Firstly, when Shakespeare mumbles the line 'to be or not to be' (**Hamlet, 3.1.58**) from the-yet-to-be written *Hamlet,* although the Doctor recommends that he write it down, Shakespeare rejects on the grounds that it is 'too pretentious' (**Roberts, 2007**). This both undercuts the reverence accorded to one of Shakespeare's most famous phrases and subtly interacts with the different version of the now iconic line in Shakespeare's First Quarto or so-called 'bad quarto': 'To be or not be, ay, there's the point'.

Secondly, the Doctor's appropriation of *Henry V* during the episode's climax, and Shakespeare immediate recognition of it as 'one of mine', makes historical sense, given that the play is thought to have been written in early 1599, the year in which *The Shakespeare Code* is set. It also suggests that, as the episode draws to a close, Shakespeare has realised the metatextual game that the Doctor has been playing with him. He hints at this in the episode's final scene, when he tells the Doctor 'you're travelling through time and space…it's not hard to work out' (**Ibid**) which, provoked by the inclusion of a line from *Henry V*, can be theorised as proof of him finally recognising the truth of the ontological paradox being

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created by the Doctor's use of his own words. Kelly V. Jones discusses this moment in terms of the 'ambiguity…that arises as a result of the temporal paradox as to whether it is the Doctor's genius that feeds Shakespeare the lines that will feature in his plays or whether the Doctor here operates as a cultural magpie, playfully citing Shakespeare's own lines from his later plays to inspire their writing' (**Jones, 2015: 243**). The frisson which this produces for *Doctor Who* viewers is the observation that a historical figure receives the opportunity to glimpse their cultural immortality – a theme in other episodes which feature Charles Dickens, Agatha Christie and Vincent van Gogh – explained in this moment by Shakespeare directly acknowledging the existence of time travel. Consequently, it is possible to draw the conclusion that, if Shakespeare realised that voyagers from the future exist, they would only visit and praise him if his work had lasted long beyond his own lifetime.

Finally, the Doctor quotes Dylan Thomas's 'rage, rage against the dying of the light' from his 1951 poem *Do not go gentle into that good night* but, after Shakespeare signals his approval, warns him against its use due to it being 'someone else's' (**Roberts 2007**). Jones suggests that 'Shakespeare is here portrayed as a potential plagiarist, scavenging for inspiration at all times' (**Jones, 2015**) and, moreover, with this quip, *Doctor Who* returns to the point that Shakespeare was 'not actually the "original", but rather a culturally big link in a chain of narratives' (**Hansen and Wetmore, Jr., 2015: 20**) and destabilises ideas of cultural hierarchy and precedence in order to emphasise the role of the playwright as both borrower and lender.

Conclusion: Cunk, Crowns and Thrones

The 'double time' (**Wardle, 2018: 2**) of Shakespeare inhabiting both past and present becomes more prevalent once the celebratory context in which *Upstart Crow* and *Cunk on Shakespeare* were conceived and broadcast is taken into consideration: the quatercentenary of Shakespeare's death. In 2016, the BBC broadcast a number of Shakespeare-themed dramas, comedies, documentaries and live performances to commemorate this anniversary. Some commentators decried this festival of programming as overly reverent and sycophantic towards Shakespeare's work and cultural legacy. For example, Michael Hogan described it as 'the luvvie-ish BBC festival' (**Hogan, 2016**) in his review of *Cunk on Shakespeare* which, by comparison, he went on to celebrate as 'a bracing antidote' and 'gloriously funny, bored schoolkid's view of the Bard'. This offers a rather narrow reading of the festival, drawing the same either/or comparisons between highbrow and lowbrow interpretations of Shakespearean adaptation as Michael Billington's criticism of the birthday broadcast *Shakespeare Live! From the RSC*, in which he suggested that '[b]y including ballet, opera, jazz, hip-hop,

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Broadway musicals and solo songs, the evening stressed Shakespeare's legacy at the expense of his plays and, at times, resembled an upmarket version of the Royal Variety Show' (**Billington, 2016**). Aside from the implicit cultural snobbery, Billington suggests that, by depicting Shakespeare in various popular guises, the celebration failed to define his essence as a writer. Billington's opinion that the event lacked 'cohesion' because of 'trying to satisfy everyone' (**Ibid**) also fails to acknowledge the inherent difficulties embedded in any attempt simultaneously to celebrate the work of Shakespeare *and* his cultural afterlife, and adversely oversimplifies the relationship that Shakespearean adaptations have with their source texts. It also ignores the possibility that, by presenting a variety of different interpretations of Shakespeare, the result was more consistent with the multi-faceted nature of the playwright's influence on popular culture.

In reality, the BBC were far more adept at switching between cultural registers and drawing from a wide range of Shakespearean authorities and viewpoints in single broadcasts than these reviews suggest. One need only acknowledge that *Cunk on Shakespeare*, a satirical Shakespearean spoof, was broadcast on 11th May 2016, just four days after the first episode of the second series of *The Hollow Crown* (bearing the subtitle *The War of the Roses*). A brief glance at this series, which condensed Shakespeare's first historical tetralogy of four plays into three episodes, would suggest that it was more traditional and reverent than *Cunk on Shakespeare*, particularly when taking into account the respective personnel responsible. Each episode was directed by Royal Shakespeare Company and Royal Court director Dominic Cooke, adapted by Deputy Artistic Director of the National Theatre and playwright Ben Power and featured a number of prominent British actors who are well-known for their theatre work, particularly in Shakespeare productions, including Benedict Cumberbatch, Judi Dench and Michael Gambon. It was, therefore, the product of established and celebrated figures in the British theatrical establishment. In contrast, *Cunk on Shakespeare* was written by Charlie Brooker, a satirist known for *Charlie Brooker's Weekly Wipe* (2013-15), which offers acerbic and honest commentary on pop culture and current affairs, and his dystopian science-fiction anthology series *Black Mirror* (2011-present).

Despite these apparent differences, the two programmes share a common point of connection through the construction of a relationship between the respective cultural dominance of Shakespeare and the HBO fantasy drama series *Game of Thrones* (2011-19). *Thrones* is based on *A Song of Fire and Ice*, a series of novels by the fantasy author George R.R. Martin, which are themselves strongly influenced by the events of The War of the Roses. Martin, for instance, expresses his sense of kinship with Shakespeare's adaptational practice towards English history: '[y]ou look at

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Shakespeare, who borrowed all of his plots [from *Holinshed's Chronicles*]. In *A Song of Ice and Fire*, I take stuff from the Wars of the Roses and other fantasy things, and all these things work around in my head and somehow they jell into what I hope is uniquely my own (**Gilmore, 2014**).

Amy Rogers explains that the basic outline and uniting narrative arc in *Thrones* 'displays an unmistakably Shakespearean footprint. 'Lannisters' and 'Starks' (patronyms that echo the War of the Roses' major familial players, the Lancasters and the Yorks) vie for the throne' (**Rogers, 2015: 145**). She discusses a number of similarities between the ways in which Shakespeare and *Thrones* both use historical narratives to highlight similarities between the past and the present moment, also providing their audiences with an escape route from their own world into something even more nihilistic and unstable and further suggests that '*Thrones* and other historical series demonstrate their debt to earlier forms of entertainment historiography via *how* they portray the past – what they bring into deep focus, what they omit from the frame, and how they bring the past and present into proximity' (**Ibid: 144**). Martin is thereby cast as a historical revisionist magpie, selectively borrowing from fact and fiction and mixing these to create a new narrative which is both familiar and unsettlingly alien; Shakespeare's Holinshed consequently becomes Martin's Shakespeare.

Some reviewers of *The Hollow Crown* wrote with apparent ignorance of this connection whilst approving of its re-appropriation of a pop culture phenomenon which itself contains strong evidence of Shakespearean influence. For instance, Billington wrote that the first episode 'will have also kept viewers riveted to their screens, astonished that Shakespeare could outdo Game of Thrones' (**Billington, 2016**), while Tim Auld noted that 'the audience-grabbing spirit of Westeros [the fictional setting of *Thrones*] was everywhere to be seen. To borrow tricks from Game of Thrones should not be seen as dumbing down Shakespeare; rather, as wising up' (**Auld, 2016**). Despite reducing the plot of Shakespeare's three *Henry VI* plays into two episodes, following Peter Hall and John Barton's *The Wars of the Roses* adaptation in 1963, *The Hollow Crown*'s narrative makes time to focus on explicit violence and add sex scenes between Margaret of Anjou and the Duke of Somerset, capitalising on the reputation for frequent gore and nudity in *Thrones*, which lends some credibility to the links drawn in these reviews. In another review which referenced the series' resemblance to *Thrones*, Sam Wollaston described *The Hollow Crown* as 'Shakespeare that hasn't just been trimmed down, it's been sexed up for a television audience' (**Wollaston, 2016**). This suggests a direct link between the act of reduction and popularisation; by 'trimming' Shakespeare's first tetralogy and drawing visual and thematic inspiration from a series which is itself derived from the same source

material, Cooke and Power were aiming to transform a group of texts that are sometimes viewed by audiences as inaccessible, overlong and inferior to Shakespeare's later work into visceral, violent and provocative episodes of sensationalised historical fiction.

In popular culture, *Thrones* has become a shorthand for satirically presenting an ahistorical reading of Shakespeare's influences. Impromptu Shakespeare, a British improvisation group, suggested in their 2016 Edinburgh Fringe performances that Shakespeare had constructed his history plays by 'binge watching Game of Thrones in a weekend' and in the 2017 Edinburgh run of their stage parody *William Shakespeare's Long Lost First Play (abridged)*, the Reduced Shakespeare Company updated their 'list of titles Shakespeare was considering' (**Martin and Tichenor, 2018: 5**) for their fictionalised version of his debut work to include '*Game of Thrones*' (**Ibid**). In the final section of *Cunk on Shakespeare*, Brooker takes this satirical conceit to its logical conclusion by claiming that *Thrones*, rather than being a paradoxical influence on Shakespeare, was created by the playwright himself:

> *Throughout this programme, we've seen how Shakespeare's genius spans 'seven different genres of play.' But all of these pale into insignificance against Shakespeare's most greatest work: Game of Thrones. Game of Thrones is a proper bloodthirsty, action-packed epic, which skilfully combines all the genres Shakespeare invented into one coherent work. It's got everything. It's got history, comedy, Shakespearean, tragedy, horror, fantasy and romance.* (**Brooker et al, 2016**).

I suggest that this presents a parodic alternative to Rogers's suggestion that, in our fast-paced, rapidly disseminated and instantly analysed twenty-first century world, '[q]uickly ingested and discarded, history moves closer and closer to experience itself, as, in the digital era, the present is always-already on the verge of the past' (**Rogers, 2015: 142**). Despite the satirical intent behind the joke, Brooker's implication is that, for modern audiences, *Thrones* and Shakespeare's history plays are so mutually synonymous that distinguishing between them becomes a subliminal process and defies the ways in which we perceive and consume our culture and history. The contemporary audience member is inherently metamodern; not only able to oscillate between reverence and irreverence but trained to view cultural artefacts as existing within the same temporal space rather than part of a chronological series of events. The constant production of prequels, sequels and reboots in film and television and the remounting and reinterpretation of classical texts on stage has resulted in a generation of artists and audience members alike who read their history as intrinsically bound in the present and, as a result,

are subjected to cannibalistic art on a regular occurrence. It is natural, therefore, that the Shakespeare which is produced by and for those consumers, should be one which devours his own material in order to ensure its continued survival.

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Endnotes

[i] The online movie magazine *Screen Junkies*, which focuses on contemporary film and television, published a 2019 video essay 'How Lord & Miller Make Bad Movies Good: Spider-Verse Analysis' in which it was suggested that the films of writer-directors Phil Lord and Christopher Miller, especially their Oscar-winning animation *Spider-Man: Into the Spider-Verse* (2018), were examples of metamodernism. This is due to the film-makers' ability to recycle intellectual property which has been reinterpreted on an exhaustive number of occasions, such as with comic book superheroes like Spider-Man, to create a critically and economically successful film that both acknowledges this process of reiteration and attempts to harness the ideals which drew audiences to those characters and storylines in the first place.

[ii] In their first meeting, Shakespeare uses a number of archaic and offensive racial slurs to describe Martha, to whom he is evidently attracted, including 'blackamoor lady', 'Ethiop girl' 'swarth' and 'Queen of Afric' (**Roberts, 2007**). By the end of the episode, despite having stopped using terms such as these and dedicated Sonnet 18 to her, Shakespeare continues to exoticise Martha by referring to her as 'my dark lady' (**2007**). Although the episode largely dismisses the issue of Shakespeare's potential racism, with the Doctor referring to it as 'political correctness gone mad' (**2007**), *Doctor Who* has tackled the issue of present day companions encountering prejudice in past eras elsewhere. This is more forcefully explored in *Rosa* (**2018**), written the author Malorie Blackman, who depicts the Thirteenth Doctor (Jodie

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Whittaker) and her three companions – one of whom is Black British and one who is British Indian – travelling to 1955 Alabama where they meet another historically significant figure: the civil rights activist Rosa Parks.

[iii] The comic's title and focus take inspiration from the factual tract *Greene's Groats-Worth of Wit*, published by Greene in 1592, which is best known for a passage in which the playwright dismisses Shakespeare, who was near the beginning of his career, as 'an upstart crow, beautified with our feathers'. This has been hypothesised by some critics and creatives as a derogatory comment which references Shakespeare's status as an actor and Greene's consequent belief that a mere player should have the audacity to write plays; an interpretation which has recently been embraced by both *Upstart Crow* and the TNT drama television series *Will* (**2017**), in which Greene is cast as one of Shakespeare's primary antagonists.

[iv] Juliet is similarly reimagined as a sexually aware character, rather than an innocent figure, in the comic book series *Kill Shakespeare* (**2010-17**) and the Reduced Shakespeare Company's 2016 play *William Shakespeare's Long Lost First Play (abridged)*, both of which engineer a number of character 'mash-ups' from different plays. In the latter case, this includes a scene in which Juliet pursues Dromio from *The Comedy of Errors* and is later schooled in love by *Much Ado About Nothing*'s Beatrice and *The Taming of the Shrew*'s Katherina.

[v] Wardle reveals that '[t]he original title was, in fact, "Love's Labour's Won" […] However, Russell T. Davies, the series producer, reveals on the BBC *Dr Who* website that this original title was rejected because the original was "too academic"' (**Wardle, 2018: 11**). Tennant further remarks in a video diary recorded for the Series 3 DVD Extras that another working title was 'Theatre of Doom', which was presumably rejected for its considerably darker tone and lack of Shakespearean specificity. Wardle argues further that, although the titular 'code in this episode has a genuine narrative function […] the reference to code could also allude to the modern audience's concerns that [Shakespeare's] plays are written in a kind of incomprehensible linguistic code, which has to be cracked' (**Wardle 12**). Although this is a secondary function of the episode's title, beneath its primary purpose as a pop culture allusion to Brown's contemporaneous novel (**2003**) and film adaptation (**2006**), Wardle's suggestion that the titular code implicitly encourages the viewer to perceive Shakespeare's work as a riddle or puzzle which can be solved connects it furthermore to Shakespeare and the Doctor's mutual attempts to crack the reasons for each other's genius throughout the episode.

[vi] Graham Holderness delineates the difference between 'a study of "Shakespeare", rather than of Shakespeare…a name which…is merely metonymic of an entire cultural-political formation, and thus more akin to "Disney" or "Rockefeller"' (**Holderness, 2001: x**).

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A 'horrid way of feeding': Pervasive, aggressive, repulsive cannibalism

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Abstract

Cannibalism both fascinates and repels. The concept of the cannibal has changed and evolved, from the semi- or in-human anthropophagi of Classical texts to the 'savage' cannibals of colonial times, whose alleged aberrations served as a justification for invasion, conversion and extermination, to the contemporary cannibal driven often by psychosexual drives. Cannibal texts typically present the act as pervasive, aggressive and repulsive. If these parameters are admitted, alleged cannibals immediately fall outside normative European humanist morality. This paper examines cannibalism as a major delineator of the civilised human. Cannibals offer social scientists a handy milestone to confirm the constant improvement and progress of humanity. The idea that colonised peoples were not savage, degenerate cannibals threatens the concept of the 'Great Chain of Being', which was assumed to show an inexorable progress from plants to animals to humans, and upward toward the divine, led by enlightened Western civilisation. But cannibal mythology, factual or imaginary, offers an opportunity to re-evaluate the assumptions of human supremacism and see ourselves as edible, natural beings.

Keywords: cannibalism; anthropology; savage; civilisation; colonialism; psychosexual

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> *I thought that, in order to bring Friday off from his horrid way of feeding, and from the relish of a cannibal's stomach, I ought to let him taste other flesh…* (**Defoe, 2001**).

Introduction

Cannibals, like royalty, monsters and criminals, have evolved and morphed into new forms, each one reflecting the fears of its time. Each form was, in its time, believed to be pervasive (widespread), aggressive (exceptionally dangerous) and repulsive (unacceptable by standard social norms). Yet the variety of forms of cannibalism and the motivations for the acts make it difficult to define conclusively, even where it can be proven. Who are these cannibals, and how can we identify them?

Cannibals are routinely defined as 'monsters' which, according to the seventh century scholar Isidore of Seville, makes them monstrations (monere) or warnings (monare) of divine will (**quoted in White, 1991, p. 1**). Monsters warn us about the things we fear most, which are very often the phenomena we do not understand. The cannibal is the abject outsider – the one who does not respect the boundaries between inside and outside, between what we control and what is wild, unruly, natural. As humans have expanded their knowledge and control over the planet, what has become of the cannibal? The alien is proven myth, the 'savage' is tamed and colonised, the human/animal border is lost, and only we ourselves are left to threaten our flesh and lives.

Sigmund Freud tried to elucidate the origin of the taboos on cannibalism and incest by speculating on a cultural turning point, which, he thought, might have occurred at a time when a 'Darwinian primal horde' (**1998: 108**) of human progenitors were, like many other primates, dominated by an alpha male. This patriarch refused to share power or access to the females and drove out the younger males. Frustrated and angry, they conspired to kill the father and of course, as 'cannibalistic savages', they then ate him (**Freud, 1998: 122**). Their subsequent revulsion, or perhaps anxiety that the same fate could befall them, led them to create taboos on parricide, incest and cannibalism, which are subconsciously expressed in the Oedipus complex. These inhuman cannibals, in their remorse for their 'criminal act', developed as a result 'social organisation, moral restrictions and religion' (**Ibid**); in other words, civilisation, which thereby established the hard boundary between their animal nature and their human destiny, nature and civilisation.

The earliest reports of cannibalism in Western texts spoke of the perils of the lands outside of the 'civilised' polis, where inhuman or semi-human hybrid creatures on the outer edges of the known world preyed on anyone who ventured into their forbidding lands (**Avramescu, 2009: 10**). Classical

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writers including Pliny and Herodotus recounted stories of cannibals (anthropophagi) engaging in ritual feasting. Greek mythology 'envisioned rings of progressively more primitive social development surrounding a Mediterranean hearth; in the furthest ring, at the banks of Ocean, social primitivism becomes absolute' (**Romm, 1992: 47**). These 'primitive' peoples were likely to be man-eaters, and were usually considered guilty until proven innocent. The quintessential cannibal of Classical mythology was the Cyclops, Polyphemos, from a race of giant 'fierce, uncivilised people' who proved their irrationality by not planting or ploughing or engaging with their neighbours (**Homer, 1946, Book IX: 142**).

Cannibals were often depicted as dog-headed men. Myths of dog-men, often eating human flesh, are found in cultures all over the world, and represent a threshold between the Wolfman, a human who has rejected social norms, and civilised humanity; the dog-man is human in social behaviour, even if recognisably of a different race (**White, 1991: 16**). The stories of Alexander speak of dog-headed warriors; in one case Alexander attempts to capture a specimen by luring him with a naked woman, but the creature instead takes the woman away and eats her (**Price, 2003: 4**). St Christopher, patron saint of travellers, was said to be a black giant from a cynocephalic (dog-headed) race that ate human flesh and communicated only by barking. He was granted the power to speak Greek by an angel and brought down to human size and shape by the Christ child, and his skin became white when he was baptised (**White, 1991: 34-35**).

The modern cannibal, according to the historian Frank Lestringant (**1997: 4**), began with Columbus, whose reports from the New World changed European perceptions of cannibalism, from inhuman monsters to primitive, godless, uncivilised humans. Columbus acknowledged the earlier myths when he reported on the Arawak people, who told him that their 'bold' neighbours the Caribs were dog-like men who ate the peaceful Arawaks. From his account of the Caribs arose both the term 'cannibal' and 'Caribbean' (**Konishi, 2002: 72**). Columbus, and the colonial forces that followed him, changed perceptions of cannibalism – it now involved nutrition more than monstrosity. Columbus wrote, for example, about the Taino Indians who the Caribs hunted for food – the cannibals would capture and castrate small boys 'as we do to capons or pigs which we want to fatten and make tender for food**' (Lestringant, 1997: 23**).

The contemporary cannibal, since the late nineteenth century, is commonly driven by some form of psychosis and has become invisible – he (usually a male) is indistinguishable by his appearance, and only discovered by his deeds. Cannibals of any period are apt to be called monsters and, despite their human form and features, declared inhuman.

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The irony is that, by definition, one cannot be a cannibal unless you belong to the same species as your prey.

What has not changed in portrayals of cannibalism, at least in Western texts, is the simultaneous fascination and revulsion of the public. The anthropologist E.E. Evans-Pritchard observed that 'Both Europeans and Arabs seem to have a morbid interest in cannibalism and tend to accept almost any tale told them about it' (**quoted in Arens, 1979**). Contemporary popular culture seems obsessed with man-eating; a list I have compiled of 249 English-language films involving cannibalism as a significant part of their plot reveals that 145 (58%) have been released between 2000 and 2020, only 42% in the entire previous century. The many books, films and even graphic novels featuring Jeffrey Dahmer, one of many serial killers of twentieth century America, concentrate not on his murders as much as his cannibalising of his victims. Cannibals are sensationalised to titillate the public appetite ('clickbait') at a time when so much else in the news has become prosaic or squalid. Literature and Culture scholar Louise Noble asserts that 'we have an almost pathological need to believe that such behaviour occurs' (**2011: 9**).

Western accounts of cannibalism routinely assume that cannibalism is (or was) pervasive in uncivilised or recently colonised areas, that it is aggressive, involving primarily the killing and eating of enemies, and that it is, ipso facto, repulsive. These assumptions cause conflict in academic discourses about whether culturally-sanctioned cannibalism even existed, its extent, whether it is unquestionably abhorrent in all circumstances, and whether its actual existence really matters. Although I have divided instances of cannibalism into three distinct periods, classical, modern and contemporary, common to all is the occasional need to eat human flesh to survive in an emergency.

Starvation Cannibalism

No culture is innocent of cannibalism. Survival cannibalism, in which human flesh is eaten as a last resort against starvation, has happened since pre-history (**Rodríguez, Guillermo, & Ana, 2019**). Most reports describe the consumption of human flesh as a last resort as repulsive but understandable. During 'The Starving Time' in 1609-10 in Jamestown, the first permanent British settlement in the Americas, settlers ate:

> …'the flesh and excrements of man', including the corpse of a recently slain Indian, dug up from his makeshift grave and 'boiled and stewed with roots and herbs'. Some lapped up the blood 'from their weak fellows' as they bled to death. (**Woolley, 2007: 257**).

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Starvation cannibals often go to great lengths to choose what appears the least repulsive options. The Donner Party, a group of settlers who became snow-bound in the Sierra Nevada ranges in 1846, chose to strip the flesh from the limbs of Patrick Dawson, who had first suggested eating the dead, and who was not a relative of any of the living; no one would touch the flesh of their kin (**Limburg, 2001: 120-121**). The Donner Party did whatever they had to in order to survive, which included eating the pack animals, members of the party who died, and eventually the Indian guides, whom they chased down and murdered for their flesh (**Korn, Hawes, & Radice, 2002: 169-175**). Such desperate behaviour was even less unusual on the oceans, and cannibalism among sailors drifting away from shipwrecks became common enough to be given a name: the 'custom of the sea' (**Simpson, 1984: 144**).

Starvation has led to cannibalism in more recent times too, leading the desperate to eat their dead (or sometimes the living). The survivors of the Ukrainian *Holodomor* in 1932-33 ate whatever or whomever they could to survive a famine deliberately engineered by Stalin (**Davies & Wheatcroft, 2009: 421**). Journalist Harrison Salisbury documented the cannibalism that pervaded the 900 days of the Siege of Leningrad (1941-44), in which, according to a survivor, 'Leningrad was in the power of the cannibals.' (**1969: 478**). During the Great Leap Forward in China from 1958-62, eating of corpses became so commonplace that measures were taken to guard cemeteries, leading the hungry to turn to murder to source their meat (**Dikötter, 2010: 321**). The survivors of the 1972 plane crash in the Andes famously ate their dead teammates to survive, one survivor comparing the act to Holy Communion (**Read, 1975: 308**).

The Classical Cannibal

The mythology of Ancient Greece saw outsiders as either gods or beasts, not humans. Aristotle wrote that the individual who by nature (not by accident) is stateless must be 'either above humanity or below it' (**2000: 28 - 1.2 1253a**) and quotes Homer, who wrote in *The Odyssey* of just such a stateless being, the Cyclops, Polyphemos, described as 'a formidable monster… No one would have taken him for a man who ate bread like ourselves' (**Homer, 1946: 144**). Polyphemos ate sheep, but was also partial to human flesh, tearing the Greek sailors to pieces for his meal **(Ibid: 147)**. He was both a savage and a god, being the son of Poseidon **(Ibid: 153)**.

Greek gods were not averse to eating each other. Cronos, the father of the Gods, to maintain his power, ate all his children except for Zeus, who was hidden by his mother, Cronos instead naïvely eating a stone disguised as a baby (**Jordan, 2004: 163**). Gods, however, could be disgorged with few ill-effects, while eating humans is irreversible, and humans who indulged in cannibalism were apt to become animals. Plato reported that the

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worshippers at the temple of Lycaean Zeus in Arcadia would mince up human entrails with those of other animals; anyone who ate the resulting burger would be 'inevitably metamorphosed into a wolf' (**Plato, 1997: 286**). When Zeus and the other gods came to visit King Lycaon, he tried the same trick on them, slaughtering a young boy, possibly his son, on the altar and mixing his entrails in the sacrificial meat brought to the table for the gods' lunch. Zeus, unimpressed, overturned the table and turned Lycaon into a wolf, and some versions say went on to destroy most of humanity with a flood (**Burkert, 1983: 86**).

Humans who eat other humans are therefore no longer classified as human – in this case, physically transformed rather than socially disconnected. Robert Graves suggests this was not so much a myth as a 'moral anecdote', which reflected the disgust of 'civilised' Greeks toward the cannibalistic practices of Arcadian sacrifice (**1960: 141**). Cannibalism therefore reclassified the perpetrators as inhuman, unless they were superhuman. While not widespread – except perhaps among the gods (Graves, 1960) – Classical cannibalism was usually depicted as aggressive and was widely considered repulsive. It was the work of outsiders, the uncivilised who threatened the polis, and the mythology reflected the fear of the lands outside the 'known world', the people who surely would not recognise or respect the advanced ethics of the mythmakers. It established a firm boundary, for those who credited the myths, between themselves as humans and outsiders as inhuman.

Modern 'savage' cannibalism

The mercilessness of the cannibal did not need elucidation to late-mediaeval explorers, armed with an unshakeable belief in European superiority both culturally and religiously. Their 'discoveries' built on the Classical myths, revealing a New World filled instead with peoples they considered inhumans or inferior subhumans. As reports of modern, savage cannibalism arrived from the Americas and elsewhere, they were eagerly devoured by European readers in a manner that Groesen describes as 'little short of an obsession' (**2008, p. 182**). This even involved adjusting the text to improve the narrative, such as De Bry altering his German translation of Gasparo Balbi's account of Carnalcubar islanders; the Latin had said that they were 'fond of human flesh' but De Bry changed this to say that they 'ate nothing but human flesh' (**Groesen, 2008: 184**).

Stories of 'savage' cannibalism from Columbus to Defoe's *Robinson Crusoe* and on to Hollywood tend to portray tribal and primitive savages, often consuming a white victim, a narrative that serves to reinforce our Eurocentric beliefs of superiority. However, individual 'savages' like Robinson Crusoe's Friday can possibly be educated and enlightened once removed from their environment. All that was required was some

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Western-style clothing and some non-human meat to 'bring Friday off from his horrid way of feeding, and from the relish of a cannibal's stomach' (**Defoe, 2001: 166**). God came later, although He was a splendid pretext for sending in both the missionaries and the conquistadors to either convert or exterminate these pervasive, aggressive and repulsive savages. But the duality of inhuman or subhuman humans posed a dilemma for missionaries – were such savages even capable of receiving the Gospels? (**Lindenbaum, 2015: 85**). If not, this just proved their inhumanity as denizens of a natural world that civilised humans had long-since disavowed.

Europeans set out to conquer the New World, confident that they were on a civilising mission, despite the litany of dispossession and casualties. The Classical cannibals that had been described in the writings of Sir John Mandeville, together with the accounts of Marco Polo, became the guidebooks for explorers like Christopher Columbus. Mandeville had thrilled the mediaeval world with his tales of lands where 'they eat more gladly man's flesh than any other flesh… And they say, that it is the best flesh and the sweetest of all the world' (**1915: 120**). Columbus' scouts eagerly asked local natives about one-eyed or dog-headed men and stories of cannibalism, imageries which arose not from the natives but from the writings of the Roman author, Pliny (**Obeyesekere, 2005: 3**). Their enquiries were confirmed, or 'yessed' (**Morison, 1942: 340**), due perhaps to an understandable eagerness to please the men with the guns, or a failure to understand the questions.

Cultural Studies Professor Patrick Brantlinger has written at length about the way colonial writers blamed the primitive 'savages' for their own demise through their 'interminable warfare, cannibalism and infanticide' (**2003: 123**). Even Charles Darwin, in his anthropological work *The Descent of Man,* described cannibalism as instrumental in the process of natural selection (**2013: 182-183**):

> *… when of two adjoining tribes one becomes more numerous and powerful than the other, the contest is soon settled by war, slaughter, cannibalism, slavery, and absorption. Even when a weaker tribe is not thus abruptly swept away, if it once begins to decrease, it generally goes on decreasing until it is extinct.*

Darwin related stories of savage cannibalism among the natives of Tierra del Fuego, writing, based on hearsay, that 'they kill and devour their old women before they kill their dogs' (**1871: 214**).

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The myth of cannibalism as a strategy for determining the humanity of other peoples was a powerful and profitable one, and the argument was political: Maggie Kilgour, who wrote an important book on cannibalism (**1990**), summed up the postcolonial discourse:

> *…the figure of the cannibal was created to support the cultural cannibalism of colonialism, through the projection of western imperialist appetites onto the cultures they then subsumed* (**foreword to Guest, 2001: vii**).

Of course, it was easy for travellers to distant continents to invent or embroider stories with impunity since, as the explorer Jean de Léry said, 'they cannot be contradicted' (**1992: lx**). But it is also culturally important for societies which have been built on conquered, colonised land to see those who were dispossessed as fundamentally deserving of their fate. John Bevan-Smith, reviewing a study of Maori cannibalism, states that cannibalism as a 'metaphor of savagism helped contemporary settler societies to justify their existence while forgetting the genocidal violence on which they are founded' (**2010: 204**). European settlers similarly assumed the Indigenous people of Australia to be primitive 'savages' and cannibals, despite primary evidence to the contrary. Aborigines were routinely described as 'addicted to cannibalism', with stories told about 'buckets of human flesh in their camps' as well as 'dead Chinese roasted and trussed ready for their feast' (**Evans, Saunders, & Cronin, 1988: 72**). Horrified Europeans reacted with 'revulsion and indignation' to this 'repulsive' and 'disgusting' behaviour, which justified 'an exterminating war' (**Evans et al., 1988: 73**). Cannibalism was not just repulsive in itself: it was a symptom of a degenerate and vicious sub-humanity, which required excision. Hudson Fysh, one of the founders of Qantas in 1920, wrote in his history of the European settlement of Australia that a state of war with the Indigenous population had been inevitable:

> *Their extreme savagery and cannibalistic habits incensed the settlers and diggers and since it was impossible to secure safety and order without severe measure, extreme action had to be taken* (**Fysh, 1933: 185**).

Modern, 'savage' cannibalism in the New World was popularly portrayed as pervasive, aggressive, and repulsive, although more recent, scholarly analyses distinguished the acts as having more nuanced motivations. Peggy Reeves Sanday, for example, in her analysis of 109 reports of cannibalism in 156 pre-industrial societies she had analysed (for a study on male dominance), said that 'cannibalism is never just about eating but is primarily a medium for non-gustatory messages…the maintenance, regeneration and, in some cases, the foundation of the cultural order' (**1986: 4**). Revenge cannibalism, eating the conquered foe, was aggressive

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and repulsive, but other forms included famine (necessary but repulsive), mortuary (maintaining links to the ancestors), behavioural, symbolic, and personal, useful for socialising people and constructing notions of identity (**Sanday, 1986: 25-26**). Philosophy and Religion Professor Mikel Burley insists that the 'vast majority' of cases of cannibalism were carried out as 'an integral component of a culture, one feature of a form of life – a way of being human' (**2016: 484**). Is it repulsive to eat a relative as a form of respect or a mourning rite? Those who condemn cannibals for doing so, and those who deny it ever happened, seem to agree that it is. That may be the only thing on which they agree.

Did cannibalism even happen?

Social anthropologist William Arens tossed a spanner into the normative assumptions of pervasive savage cannibalism in his book, *The Man-Eating Myth: Anthropology and Anthropophagy* (**1979**). Arens wrote that the evidence from prehistory '…does not permit the conclusion that the material evidence ever points to cannibalism as a cultural pattern, in either gustatory or ritual form in earlier times' (**1979: 134**). Arens challenged the routine attribution of the act to native peoples. He accused anthropologists of occasionally acting like 'erudite purveyors of attractive pedestrian myths' (**Arens, 1979: 7**). He added:

> *Cannibalism is so good to think about that the intellectual appetite is not easily satisfied… almost every anthropologist considers it his sacred duty to report that the people studied and lived among were in the past or just recently eaters of their own kind* (**Arens, 1979: 8-9**).

The response to Arens from the world of anthropology was fierce. At the more moderate end of the spectrum, Claude Levi-Strauss, perhaps the most famous anthropologist in the world, called it 'a brilliant but superficial book that enjoyed great success with an ill-informed readership' (**2016: 87**). Sanday maintains that Arens 'overstates his case', because there are eyewitness accounts of cannibalism in writings by missionaries (**1986: 9**). Other responses were more virulent, including terms like 'offensive', 'dangerous', 'mischievous' and 'a scandal'. Lestringant, in his history of cannibalism, wrote that Arens 'is more of a sensation-hungry journalist than an exact historian [and] has received all too much attention' (**1997: 6**).

Some of Arens' colleagues offered the extraordinary accusation that denying savage cannibalism was historical revisionism, in league with Holocaust denial (**Arens, 1998, p. 44**). This argument was intended to compare Arens' disregarding of the large numbers of reports of cannibalism with the deliberate discounting of eye-witness accounts of Holocaust survivors by those who wish to valorise or excuse the Nazi

perpetrators of genocide. The comparison was unfortunate, in that it ignores Arens' main argument concerning the paucity of compelling eyewitness accounts of cannibalism, which was not the case with the Holocaust. The perverseness of this comparison is pointed out by Ganath Obeyesekere, who in 2005 built on Arens' argument in his review of the advent of cannibalism in the South Seas. Obeyesekere points out that the Holocaust relied on making Jews and Gypsies into 'others' — sub-humans, who therefore were not worthy of life. The automatic assumption that acts of cannibalism were taking places in parts of the world ripe for colonial conquest was used in much the same way by the invaders, cannibalism being the ideal concept in that it is essentially 'a discourse on the Other' (**Obeyesekere, 2005: 2**). Comparing the denial of cannibalism as a social system with the bizarre claim that the Holocaust had not been real, despite thousands of eye-witness testimonies, was especially unfortunate. The accusation of cannibalism has itself been an important component of antisemitic accusations since the time of Apion in the first century C.E. (**Horst, 2014: 177)**, a discourse promoting Jewish sub-humanity that was employed until the Holocaust and even beyond (**Avrutin, Dekel-Chen, & Weinberg, 2017: 14**).

Lindenbaum warns that the 'counter-narrative' denying the existence of pervasive 'savage' cannibalism could be 'oversimplifying the story it seeks to overturn' (**2004: 476**). If the colonised people were not cannibals, then they could be imagined as just people like Europeans, different in their beliefs and practices, and sometimes, in the Romantic imagination, somewhat more attractive in their unity with nature. Cultural relativism is not new – the preferences and aversions of our culture are taught to us as we learn to speak. Herodotus wrote some 2,500 years ago of King Darius' discovery that the Greeks, who cremated their dead, were horrified at the prospect of eating their deceased relatives, while the *Callatiae* Indians were shocked at the idea of burning their loved ones, and preferred to eat them respectfully (**Herodotus, 1928: 51 3:38**). The unknown author of 'The Travels of Sir John Mandeville' in the fourteenth century noted that the people of Dondun killed and ate their dying relatives, but only to spare them suffering. 'Men eat their flesh for to deliver them out of pain; for if the worms of the earth eat them the soul should suffer great pain' (**Mandeville, 1915: 133**). In the sixteenth century, essayist Michel Montaigne unfavourably compared the 'savages' being reported by the less than reliable explorers of that time to the often brutal history of European 'civilisation':

> *…we all call barbarous anything that is contrary to our own habits… These nations, then, seem to me barbarous in the sense that they have received very little moulding from the human intelligence, and are still very close to their original simplicity. They are still governed by natural*

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> *laws and very little corrupted by our own* (**Montaigne, 1993, p. 109**).[i]

An uneasy consensus allows that cannibalism has happened (and still does), sometimes from need, sometimes for ritual purposes, but not in the pervasive, aggressive and repulsive ways assumed by earlier chroniclers. Claude Levi-Strauss argued that 'No serious ethnologist disputes the reality of cannibalism, but they all know as well that it cannot be reduced to its most brutal form, which consists of killing enemies in order to eat them' (**2016: 87**). Montaigne was the first to suggest that cannibals were simply carrying out their cultural practices, many of which were less abhorrent than the abuses happening in Europe. As he wrote in 1562 about the religious wars of the time:

> *I consider it more barbarous to eat a man alive than to eat him dead; to tear by rack and torture a body still full of feeling, to roast it by degrees, and then give it to be trampled and eaten by dogs and swine… than to roast and eat a man after he is dead* (**1993: 113**).

However, the assumptions about the repugnance of cannibalism remain largely unexamined. Mikel Burley says that this unquestioned acceptance of universal repugnance to cannibalism, which often motivates the contention that cannibalism is a defamatory myth, ignores many cannibalistic practices that may be forms of respect, particularly mortuary cannibalism, in which consuming body parts may be an act of mourning or paying homage to the deceased (**2016: 500**). The accusation of cannibalism worked well for those looking for a pretext to invade lands with greater natural resources but less weaponry, but only because they knew that cannibalism was repulsive to their audience at home and would ignite the outrage and motivate the funds needed to launch invading fleets.

Educational scholars Sicoli and Tartabini reject the basic postulates of the argument over whether cannibalism really existed as a social system, because both sides assume the repugnance of the act:

> *On the one hand, colonial texts fall prey to an ethnocentric view of cannibalism; on the other hand, contemporary texts explain away this amply documented cultural phenomenon. While the two positions appear to be at variance with each other, it is suggested that what they hold in common is a schema of analysing culture that does not easily admit the existence of a phenomenon that is 'Other' without explaining it as a totalized alterity or without explaining it away. Both positions thus help reinscribe the Wild Savage-Noble Savage stereotypes* (**Sicoli & Tartabini, 1994: 249**)*.*

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Journalist and researcher Reay Tannahill condemned the revival of the Romantic view of 'pure' tribal societies, uncontaminated by the West:

> *To deny the existence of, for example, human sacrifice and/or cannibalism in pre-Columbian America is simply another way of reaffirming the superiority of Western Christian morality* (**Tannahill, 1996: 105**).

The Brazilian anthropologist Eduardo Viveiros de Castro proposed a 'post-structural anthropology' in his book *Cannibal Metaphysics* (**2014**). De Castro sought to 'decolonise' anthropology by challenging the increasingly familiar view that it was 'exoticist and primitivist from birth' (**Ibid: 40**), and so transferred the conquered peoples from the cannibalistic villains of the West into mere fictions of colonialism. Arguing that the 'Other' is just like us is to deny any separate identity and to return the focus of anthropology to that which interests us: ourselves. Rather than deny the existence of cannibalism, which allows a reclassification of the Amerindian peoples as like the colonialists, de Castro examines the details of *Tupinamba* cannibalism, which was 'a very elaborate system for the capture, execution, and ceremonial consumption of their enemies' (**2014: 140**). This alternative view of Amerindian culture rejects the automatic assumption of the repugnance of cannibalism, which serves to either confront it or deny its existence. Instead, de Castro explicates Amazonian 'perspectivist' and 'multinaturalist' views, which offer an explanation of nature in which every creature, particularly the big predators and scavengers, see themselves as 'human' and often will see the human being as prey. 'Interspecific perspectivism, ontological multinaturalism and cannibal alterity thus form the three aspects of an indigenous alter-anthropology that is the symmetrical and reverse transformation of Occidental anthropology' (**2014, p. 50**).

Concepts such as perspectivism and multinaturalism draw anthropology into the world of philosophy and make obsolete the sometimes vicious wars over the existence or otherwise of 'savage' cannibalism, and what it implies (or would imply if it could be proved) for the perpetrators. But even as Europeans were reviling 'savages' for their cannibalism, they were ignoring it at home.

Medicinal cannibalism

Studies of 'medicinal cannibalism' reveal that European colonialists, while furiously condemning cannibalism in their conquered populations, were devouring powdered Egyptian mummies and the blood and pulverised bones of executed criminals to solve health problems. These practices were popular in Europe for centuries, particularly in the sixteenth and seventeenth centuries, even continuing into the twentieth (**Noble, 2011:**

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31). Crowds would gather at executions hoping to partake of the blood of a beheaded criminal, while powdered Egyptian mummy was so popular as a medicine that real or counterfeit parts were on sale in London apothecaries in the eighteenth century (**Sugg, 2016: 8**). Richard Sugg summarises the paradox: 'It was precisely as the cannibals of America were wondered at and reviled that the cannibals of Europe began their most systematic, widespread and profitable use of the human body' (**2013: 825**).

Sugg sees a contemporary continuation of cannibal medicine in the widespread occurrences of organ trafficking. He concludes that corpse medicine and organ trafficking are connected because they are examples of the powerful using the powerless: 'There is nothing which the powerful will not do to us; and that includes making us into medicine' (**2016, p. 429**). Organ transplants involve incorporating a living organ into the body of a recipient to resolve a chronic health issue. If the organ has been taken without the consent of the 'donor', such as the alleged cases of Chinese prisoners being executed according to the demand for their tissue-type (**Sharif, Singh, Trey, & Lavee, 2014: 2248**), is this fundamentally different to a cannibal feast? Although the alimentary canal is not involved, the use of human body parts to maintain the life of another human seems to be a fair use of the term.

Levi-Strauss points out that, just as humans spread bovine spongiform encephalopathy ('mad cow disease') by feeding cattle bone meal to cows, thus transforming them into cannibals, so the human version of the disease, Creutzfeldt–Jakob disease, results from cannibalistic transplantation, such as administering human brain extracts to treat growth disorders, actions which were 'properly speaking cannibalistic' (**2016: 114**).[ii] He asks, 'What essential difference is there between the oral route and the blood route, between ingestion and injection, for introducing into an organism a little of the substance of another?' (**2016: 85-86**).

Social Anthropology Professor Francis Nyamnjoh puts it more forcefully:

> *It is glaringly cannibalism when a 'modern' and 'civilised' people and society in the 21st century condones the savage dismemberment of corpses and the harvesting of the choicest body parts from living humans for the bodily repairs of other humans* (**Nyamnjoh, 2018: 23**).

Europeans, whether harvesting skulls or receiving organ transplants, would be horrified and incensed to be called cannibals. Neither activity, for them, would have fallen into the categories of pervasive, aggressive or repulsive, nor affected their opinions of themselves as civilised humans. Yet to the victim, the person being sliced up for the benefit of the receiver,

there would be little difference. But organ transplants, however harvested, are by no means the only types of cannibalism found in contemporary reports.

Contemporary cannibals

Whether or not the cannibal existed in the tribes colonised or exterminated by conquistadors, we can be sure that they exist inside our own societies today. While earlier reports stressed the social nature of the cannibal tribes or bands, the contemporary cannibal is usually a loner, unidentifiably blending in with his or her society.

I date the 'contemporary' cannibal from Jack the Ripper, who reportedly sent part of a kidney from one victim to the head of the Whitechapel Vigilance Committee, with a note boasting that he had fried and eaten the rest. He said 'It was very nise' (sic) (**Wilson & Odell, 1988: 30**).

The contemporary cannibal still fits the profile: he is aggressive, hunting down his chosen targets, sometimes at random, but often with a logic and persistence that sees him graduate to serial killer status; his defiance of a fundamental taboo generates instant revulsion, which in turn often grants him a following and a certain allure. Just as earlier reports of cannibalism were accepted eagerly by the public irrespective of the evidence, contemporary cannibals are received with similar enthusiasm regardless of their factual basis. This is illustrated in the 'Dahmer-worship' (**Barnard, 2000: 89**) which saw the cannibal serial killer Jeffrey Dahmer receiving letters, gifts and even marriage proposals from young women, despite his admitted murder sprees, and his declarations that he was gay. This attraction to violent criminals, known as Hybristophilia (**Vitello, 2006**) functions not just for actual killers like Dahmer or Bundy, but is displayed in the phenomenon of 'Fannibals' (**Baker, 2019**), fervent supporters of the latest television incarnation of the fictional cannibal Dr Hannibal Lecter. Lecter's elegance and panache elevates him to an elite status, and therefore, to many Fannibals, make his cannibalism merely an alternative dietary choice.

The repulsiveness of cannibalism comes not from witnessing the consumption of human meat (which is practically indistinguishable from that of most other large mammals) but rather from factoring our subjectivity into the picture. Our mortality is often seen as psychologically unbearable (**see, for example, Becker, 1997**); how much worse is the disappearance of even our mortal remains, our incorporation into another human's body? From unique subject, we become objectified into animal, then meat, and finally ordure. Sherryl Vint, in her study of the presentation of animals in science fiction, points out that 'we do not question the premise that animals are always-already meat' (**2010: 28**). Accepting that

we are animals signifies that we are also edible, so the very thin line between carnivorism and cannibalism may lead to a revulsion from eating the meat of any animal. Author Joseph D'Lacey, for example, who wrote a dystopic novel, *MEAT*, about humans raised as food (**2008**) became vegetarian within a few months of finishing the book (**Jones, 2013**). Of course, for others it may just mean that humans join their list of edible prey animals. Fritz Haarmann, known as the 'Butcher of Hanover', killed at least 27 boys and young men between 1918 and 1924, often by biting their throats, and then allegedly eating or selling the meat from their corpses as pork or horse-meat (**Korn, Hawes, & Radice, 2002: 190-192**). Carl Grossmann was arrested in 1921, accused of up to 100 murders of women and girls, whose flesh he was suspected of selling on the black market in Berlin during the Great War (**2002: 193**).

Is the contemporary cannibal prevalent? Here lies the difference from the Classical cannibal, who was monstrous, subhuman or sometimes divine, and in any case easily recognised, as well as from the 'savage' cannibal, marked by his culture, his behaviour and his skin. The contemporary cannibal is invisible. He might be the 'clean-cut, polite' boy next door like Jeffrey Dahmer, the 'Milwaukee Cannibal' (**Korn et al., 2002: 216**), or Richard Chase, the 'Vampire of Sacramento', who expressed his regrets at killing dogs and cats, but not the humans whom he had emptied of blood for his vampire feasts (**Martingale, 1993: 72**). He might seem respectable and harmless like Albert Fish, the 'small, frail-looking' old man who lured small children to their death for his delectation (**Diehl & Donnelly, 2006: 107**), or the 'small, shy' Issei Sagawa, who invited a fellow student to his room at the Sorbonne and killed her so that he could taste her flesh (**Tannahill, 1996: 263**). She could be an apparently submissive young woman like Omaima Nelson, who stabbed and beat her allegedly abusive husband to death, skinned him and told her psychiatrist that she cooked his ribs in barbecue sauce and ate them (**Lynch, 1993**). He may be a brilliant and respected psychiatrist like Hannibal Lecter, a fictional character but probably the most famous modern-day cannibal (**Harris, 1991**). The contemporary cannibal looks like us, lives among us, and preys secretly on us. He may never be captured, like Jack the Ripper, and so we cannot know if he is an oddity, or if the streets are teeming with aggressive, repulsive, invisible cannibals. The cannibal has come home, and is now one of us.

The Great Chain of Being

Arens argued that when anthropologists uncovered evidence of alleged cannibalism, they did not commonly consider it a mark of shame, because citing our primitive origins is very useful to demonstrate how far we have progressed. He puts this down to popular mythologies about a 'once-upon-a-time' past when all our ancestors were cannibals (**1979: 146**).

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Anthropologist Raymond Dart maintains that humans' 'blood-bespattered' history from earliest records to current times accords with 'early universal cannibalism' (**1953: 201**). Arens observes that this is convenient, because 'superior' cultures can then be defined as emerging from their 'pre-civilised' stage at the precise time when they stop thinking of human flesh as food (**1979, p. 146**).

Colonialists saw cannibalism as justifying, or even demanding, the enlightenment of those who are still benighted savages, raising them to our level of human civilisation, or else smoothing their dying pillows (**Bates, 1947**) if that cannot be achieved. Enlightenment philosophers saw 'savage' cannibals as human, unlike the monsters of the Classics. Primitive, unenlightened cultures were simply ignorant of morality or perhaps held mistaken ideas about natural law – cannibalism reflected 'an epistemological deficiency' (**Avramescu, 2009: 18**). The existence of cannibalism, therefore, and its replacement by enlightened civilisation, offered social scientists a handy indicator to confirm the constant improvement and progress of humanity. The Polish aphorist Stanisław Lec summed up: 'Is it progress if a cannibal uses knife and fork?' (**1962: 78**)**.**

Arens explained the fascination with cannibalism as a product of the formative environment of anthropology – the mid-nineteenth century, when Western colonial power was effortlessly subjugating the 'primitive' world, and getting rich in the process (**1979: 119-120**). The ideology of the time was consumed by the thought of progress, and Spencer and others were appropriating Darwin's theory of evolution into a form that Darwin would not have recognised, a supremacism that was to become known as 'social Darwinism', a new faith that replaced the crumbling traditional religions with a new, aggressive humanism. Social Darwinists foresaw an inevitable victory of civilisation over savagery, as had been predicted by Darwin: 'the civilised races of man will almost certainly exterminate and replace throughout the world the savage races' (**Darwin, 2013: 155**).

The idea of linear progress toward god-like human perfection harked back to Plato and the 'Great Chain of Being' (**Lovejoy, 1933: 24**). Lovejoy traces this idea of a hierarchy of creation from inanimate to plants to animals to humans, then on to angels and God, through Aquinas, Leibniz, Spinoza and Bacon among many other giants of Western thought. He calls it:

> *…one of the half-dozen most potent and persistent presuppositions in Western thought. It was, in fact, until not much more than a century ago, probably the most widely familiar conception of the general scheme of things, of the constitutive pattern of the universe; and as such it necessarily predetermined current ideas on many other matters* (**Lovejoy, 1933: vii**).

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As scholasticism declined, the focus of the theory was ever more on humans as the critical transition point from sentience to intelligence (**Fiddes, 1991: 53**). In the age of colonialism, however, it was not humanity in general but Western civilisation that was widely considered the pinnacle of human evolution, refining and enlightening the world. Primitive society, frittering away its natural resources, was the nadir; enlightened Western colonial civilisation was the apex. Cannibalism was a signifier of the morally and culturally degenerate, the bestial subhuman. Casting doubt on its existence as a social practice threatened the structure of this humanist faith.

As Kilgour says, 'Where in the past the figure of the cannibal has been used to construct differences that uphold racism, it now appears in projects to deconstruct them' (**1998: 242**). The binaries it deconstructs, though, are fundamental to our social, cultural and political systems: East/West, white/coloured, male/female, civilised/savage, nature/culture, human/animal. To suggest that modern civilisation had not evolved out of a primitive, savage, cannibalistic past denies the teleology of a future golden humanist age. It is tantamount to denying the Freudian progression of the rational adults from grasping, sucking and biting cannibalistic babies. Without cannibals, it is harder to see where modern humans came from, and, of course, where we might be going. The loss of certainty in our history and doubt about our future helps explain the confusion evident in each morning's news bulletins.

We are all cannibals

Lestringant saw the myths of cannibalism as 'among the most traditional inventions of human memory' (**1997: 40**). He added that the temptation of cannibalism is a fundamental part of the human condition (**1997: 160**). Yet defining the cannibal is a lot more difficult than it first appears. We are drawn to popular cultural images: the 'savages' around the cooking pot (**Lane, 1928**), the raw flesh thawing on the wing of the crashed aeroplane (**Marshall, 1993**), Hannibal Lecter preparing his sweetbreads (**Fuller, 2013**); in other words, the cannibal is the person who eats the flesh of other humans. But it is important to remember the many other faces of cannibalism. Robert Myers, author of a study of the allegations of Carib cannibalism, pointed out that the narrow view is too restricted:

> *'There is an absence of a clear definition of cannibalism, a practice encompassing an extremely broad and sometimes ambiguous range of behaviours. Cannibalism can include drinking water-diluted ashes of a cremated relative, licking blood off a sword in warfare, masticating and subsequently vomiting a snippet of flesh, celebrating Christian communion, or gnawing on entire barbecued limbs as De Bry depicts Caribs doing* (**1984: 149**).

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Definitions of cannibalism, and confirmed instances, are therefore problematic. Claude Levi-Strauss wrote an article entitled 'We Are All Cannibals' in which he dismissed the possibility of a precise definition of cannibalism:

> *So varied are the modalities of cannibalism, so diverse its real or supposed functions, that we may come to doubt whether the notion of cannibalism as it is currently employed can be defined in a relatively precise manner. It dissolves or dissipates as soon as one attempts to grasp it. Cannibalism in itself has no objective reality. It is an ethnocentric category: it exists only in the eyes of the societies that proscribe it* (**2016: 88**).

Nyamnjoh goes further, insisting 'We are all cannibals, we've always been!' (**2018: 70**). Cannibalism, he reminds us, involves denying the humanity of the proposed victim; colonialism and capitalism work the same way, leading to what he calls 'inverted cannibalism', where the atrocities of ferocious appetite are projected onto the victims (**2018: 60**).

Denying victim, living or dead, their humanity, requires objectifying humans for consumption, in the same way humans objectify other animals so that they can inculpably be used for food, clothing, entertainment, experimentation, and so on. Eating human body parts may be too narrow a definition, since it leaves out other forms of exploitation, but also too wide, as it includes forms of auto-cannibalism such as swallowing squamous epithelial cells from our basal mucosa (the linings of our cheeks) or chewing our nails.

Literary and cultural theorist Daniel Cottom sums up these incongruences:

> *The real issue was how to deal with the tendency shown by the concept of cannibalism, once it was allowed to be thinkable in any case, immediately to overrun its own borderlines in all cases until nothing coherent, nothing literal, was left either of the act or of the flesh that was its nominal object* (**2001: 145**).

In other words, Cottom says, the question is not whether it happened, but what it means.

Cannibalism and ecophobia

Everyone must eat, even the mystic in a cave, and food takes us back into relationship with nature. This is usually presented as victory over nature; as Bakhtin (**1984: 281**) says,

> *Inside the open, biting, rending, chewing mouth…. man tastes the world, introduces it into his body, makes it part of himself…. Man's encounter with the world in the act of eating is joyful, triumphant; he triumphs over the world, devours it without being devoured himself.*

Simon Estok observes that cannibalism semiotically 'makes people beasts' (**2012: 3**) – it makes us a part of nature, a link that cultural traditions often do their best to ignore or deny. The victory over nature is reflected in the harvesting of plants and animals for human consumption, but cannibalism takes this encounter in a full circle, establishing us as part of nature, animals who are eating conspecifics. In colonial times, the bounty of the invaded lands seemed to obviate any limits to western appetites. But contemporary cannibalism has emerged as a reflection of what Bartolovich calls 'one of the morbid symptoms of capitalist appetite in crisis' (**1998: 234**). The geological epoch being called the 'Anthropocene' is defined by climate change, mass extinction and pandemics. These are symptoms of voracious appetite outrunning the resources of its environment, but the damage done points back at us, threatening our own existence (**Squire, 2012**). Unsustainability, auto-cannibalism of our own biosphere, threatens the privilege to which humans feel they are entitled over other animals, and other people. Estok uses the term 'ecophobia' to describe a 'fear or hatred of the natural world' (**2012: 5**). It is prevalent in marketing campaigns that tells consumers their natural bodies and homes are flawed, and in the massive corporations that convert the bodies of other animals into commodities, ensuring they are almost unrecognisable as flesh. The contemporary cannibal, whether motivated by psychogenic or entrepreneurial thoughts, does the same to humans, but is deemed monstrous.

Cannibals are so often categorised as monsters because, as Jeffrey Jerome Cohen says, 'the monster's very existence is a rebuke to boundary and enclosure' and 'an incorporation of the Outside, the Beyond' (**1996: 7**). The cannibal, therefore, profoundly challenges the human/nonhuman boundary. The cannibal, Estok tells us, 'is the perfect monster' (**2012: 4**). But as Stallybrass and White say, 'disgust always bears the imprint of desire' (**1986: 191**). Accounts of cannibalism, true or fictional, horrify but also thrill the public; as Hulme points out, the existence of cannibalism within discourse is 'no less historical whether or not the term cannibalism describes an attested or extant social custom' (**1998: 4**). The term continues to be used to define our humanity or inhumanity, and our evolving place in, and attitudes to, culture and nature.

Clearly, cannibal texts have always been prone to emotive interpretations, and so can be easily used to valorise or demonise marginal groups, with those roles changing according to political strategies. But the cannibal,

whether literal or metaphorical, is essentially enacting an extreme form of carnivorism, and thereby questioning the conventional view of humans as above nature, as non-animal, as not made of the same meat as those we eat. The contemporary cannibal sees the rest of us as commodities, as livestock for his consumption. Today's cannibals seems to be ever more voracious; they can be anywhere or everywhere, are indistinguishable from the herd, and make us look at ourselves as edible, and so question our place in, and exploitation of, the natural world.

Desmond Bellamy is a final-year PhD candidate in the School of Culture and Communications at Melbourne University. His thesis is entitled 'If you're gonna dine with the cannibals: becoming meat, becoming-animal'. Half of this project is a critical thesis on the subject of cannibalism as a challenge to anthropocentrism, while the other half is a film script about an alternative present where children are tested at puberty and either declared human or recycled into the food chain. Desmond has always been involved in animal rights causes and is a member and part time staffer for PETA. He also writes a blog about cannibal movies, which can be found at www.thecannibalguy.com.

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Endnotes

[i] From the essay 'On Cannibals'.

[ii] From the essay 'A Lesson in Wisdom from Mad Cows'.

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Playful Presenting: Reflections on The Present and Future of History and Games symposium at the University of Warwick

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Abstract

The Present and Future of History and Games symposium took place at the University of Warwick on the 28th February 2020. This article provides some critical reflections on the symposium and its open theme of the study of history and games, which invited papers from a broad selection of scholars and professionals working in an interdisciplinary fashion at the intersection of these two fields. Papers brought into focus questions around particularly important or difficult topics encountered at this meeting of sectors, such as authenticity, accuracy, ownership, context, barriers, ethics and audience/player perceptions. The symposium explored how current research across various disciplines is intertwined and connected with other projects and subsequently encouraged speakers and attendees alike to consider how their work might develop and shape the future of study at the convergence of history, heritage, and gaming.

Keywords: games; history; museums and heritage; reflection

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The title of the symposium, *The Present and Future of History and Games,* was carefully chosen. Not only did this conference bring together people from broad areas of academia and practice including scholars in history, museum studies, and game studies, but it also welcomed heritage professionals and game developers. At a time of increasing convergence between games and history in practice and research, this symposium had an open theme of history *and* games. As such, the papers and panels presented covered topics of both history *in* games and the history *of* games. Whilst my research lies mainly in exploring the relationship between video games and the ways museums use them to present and explore history, the breadth of the symposium meant that there was space for exploring this too. The organisers made it clear during the opening and closing remarks that they had deliberately avoided placing artificial barriers between the fields in order to encourage an interdisciplinary and cross-sectional exchange of ideas. The resulting program provided a day of fascinating papers from a number of unique perspectives which contributed to a larger discussion on how research into the intersection of history and games might develop and progress in the future.

Fittingly, the event began after these welcoming and inclusive opening remarks with two concurrent panels exploring, on the one hand, video games, and on the other, board games. Whilst this format meant that unfortunately I was not able to attend, and therefore comment on, half of the day's talks, each panel led in to later conversations and open discussions. Nevertheless, I shall briefly summarise the talks I was unable to attend so anyone with a research interest overlapping with this field might be able to contact relevant speakers. In the board game session, Jan Gonzalo-Iglesia, Natalia Lozano-Monterrubio and Nurla Arauna-Baro (Rovira I Virgili) began with a paper on re-signifying playful historiographic designs in board games for audiences, followed by Robert Houghton's (Winchester) exploration of user modification as historical debate, delightfully titled 'Homebrew History', and Juan Hiriart (Salford) presenting on how board games address historical gender imbalances.

Meanwhile, in the other panel, James Sweeting (Plymouth) opened the video game panel with a presentation examining the concepts of vicarious nostalgia and authenticity in historical games, with a particular focus on *Assassin's Creed: Syndicate* (**2015**). Sweeting broke down the various meanings of nostalgia as a 'joyful longing for the past' that people feel towards something to which they have little or no connection. Sweeting drew upon the concepts of collective memory and vicariousness in relation to nostalgia to argue that it is more effective when dealing with recent events, either in living memory, or just before. He also suggested that authenticity - a problematic term in many senses and one which arose throughout the day - does not equate to accuracy, and that an

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understanding of authenticity as of undisputed origin was more useful to examining games. Sweeting's study of *Assassin's Creed: Syndicate* led him to conclude that the game followed a policy of 'selective authenticity', a balance of fact and fiction. Sweeting argued, that the need to balance fact and fiction was exacerbated by the games temporally proximate setting – a version of Victorian London - which was less the case with the later *Assassin's Creed: Odyssey* (**2018**), set in ancient Greece, for which Sweeting claimed no one could feel this type of vicarious nostalgia.

Following on from this, Regina Seiwald (Birmingham City) led an exploration of historical bias and propaganda in Cold War video games. Her description of propaganda as the 'presentation of one message or point of view that sought to change people's views and actions' was especially useful to consider when examining the case studies Seiwald used. In particular, she focused on how video games developed by the US and the USSR portrayed themselves and their rivals and how this contrasted with depictions in third party games developed by other countries. One of the overarching trends Seiwald uncovered was that the propaganda in the video games tended to mimic the propaganda in real life. US based games, such as *Freedom Fighters* (**2003**) and *Call of Duty: Black Ops* (**2010**) generally focussed on a theme of 'good versus evil', looking outward and portraying the USSR as weak or as an aggressor. In contrast, *Hammer and Sickle* (**2005**) developed by a Russian company flips the narrative to present the US as the antagonist. Seiwald found that USSR games tended to be more inward-focussed, concerned more with portraying the USSR as good and righteous than in ensuring that the US were seen as weak. Interestingly, Seiwald noted, USSR games were less overt with their use of propaganda and generally depicted larger historical events in games focused more on military tactics. In the few games that allowed the player to choose a side, the developer tended to depict conflict not with their Cold War rival, but with a fictive third party. Seiward's paper presented some interesting thoughts on recognising the importance of a game's origin and on acknowledging and critically examining the messages video games contain. It certainly led to me re-evaluating some of the Cold War-inspired games that I have played such as *Command & Conquer: Red Alert 2* (**2000**) and *Papers Please* (**2013**).

The discussion that followed these papers was lively and invigorating. Conversation began around the idea that nostalgia cannot be claimed for 'far' historical events as raised by Sweeting. The discussion highlighted a number of important points here. The idea of 'near myths' and 'far myths' was mentioned in a response that the effectiveness of nostalgia depends on the individual and what they perceive as part of their collective memory, which may differ depending on other media they had consumed such as film and television. My contribution to the discussion drew upon

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the variety of work in museum studies which explores how individual experience has an impact on interpretation and the construction of meaning (**Silvermann 1995, Hooper-Greenhill 2000, Mason 2005**). Furthermore, drawing on personal experience I noted that I arguably felt more nostalgia for *Assassin's Creed II* (**2009**), set in Renaissance Italy, than I did for the more recent historical setting of the French Revolution in *Assassin's Creed: Unity* (**2014**) as I have personal experience of both studying Renaissance Italy and visiting Venice, one of the settings of *Assassin's Creed II*. This provoked a discussion into the idea of distance from a historical situation and how that might affect how historical events are perceived. A comment was made that this might also affect how a developer choses to be cautious in addressing an event that occurred in their own country compared to how they might be willing to take more risks in relation to a geographically distant history. From this conversation broadened into topics such as commercial viability and regulatory issues which might also affect the way developers approach history in games. One of the themes to emerge from the discussion that was particularly relevant to my research was the ways in which these factors contribute to how video games help people see things from different perspectives and how they can be channels for ideology (as per Seiwald). Finally, the discussion turned to how conceptual or 'authentic' depictions of history as opposed to realism held different affordances and impacted gameplay, game mechanics, dramatic narrative, and the extent to which they could be included. It was argued that the 'authentic' depiction of history was preferred as not only did it prevent criticism for inaccurate portrayal, but it also gave the developers and subsequently the players more freedom in creating a playful experience.

Following on from the first set of panels, and after lunch, delegates entered into a discussion panel entitled 'Museums and Socially Engaged Practice'. The panel was led by Hwa Young, a professional artist, Alex Moseley (Leicester), Jen Bergenvin (Leicester), and Ceciel Brouwer (Leicester), all of whom were involved in either research into museums, or work within museums, or both. To begin with, the panel introduced how games in museums were currently perceived, exploring how games, as a participatory and experiential medium, were seen as a way to move beyond the museum as the authoritative voice (**see: Hein 2006, Kidd 2012, Proctor 2015**). Equally, the panellists discussed what they understood by 'socially engaged practice' with meanings including inclusivity, representation, democratic practice, empowerment of the visitor, participation, and a focus on everyday life. From this broad understanding, it was immediately clear to see how games and video games might address and feed into some of the aspects of socially engaged practice in museums.

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The panellists then provided some thoughts on a few key themes and practical examples of games. The theme of games transforming museum visitors was explored through the 'lunch counter experience' at the National Centre for Civil and Human Rights in the USA.[i] In the interactive exhibit, visitors are encouraged to put on headphones and sit at the lunch bar to relive the experiences of those who undertook the sit-in protest during the American Civil Rights Movement of the 1950s. Bergenvin noted that visitors tended to act differently at the centre after going through the experience and drew out the issues of ethics of creating game-like experiences around difficult topics and, consequently, whether or not games had to be 'fun'. Brouwer made a useful comment on the need to balance 'shock factor' in this sort of experience which was often aimed at encouraging longer engagement and the actual content of the experience. Young, in response to the ethics and playfulness questions, reminded us of the idea of games as safe spaces to explore difficult or scary things (**Flanagan 2009**), but also stressed the importance of a game's context. However, the discussion also raised problems around ownership and outreach when the topic turned to how games connect people within and outside of the museum. Brouwer noted that whilst one of the projects that she has been involved with did help young people feel a sense of ownership, the project only reached young people who were already committed to working with the museum. From this Young added that, even today, history and interpretation is so often written by those who were 'in the room'. The challenge for them was to get people to buy into the projects and move into that space.

In the spirit of play, the panel then took a rather more interactive turn and out came the inflatable dice. The panel provided us with twelve topics and encouraged us to roll the dice to pair up two of the topics for open discussion. Indeed, I would encourage readers to try this exercise for themselves. Personally, I have found it an excellent way to spend some time thinking about some of the issues around these fields that, whilst not intrinsically connected to my research, are nonetheless at play; pun intended.

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Figure 1: The Topics for the Dice Roll Discussion. Author's own image.
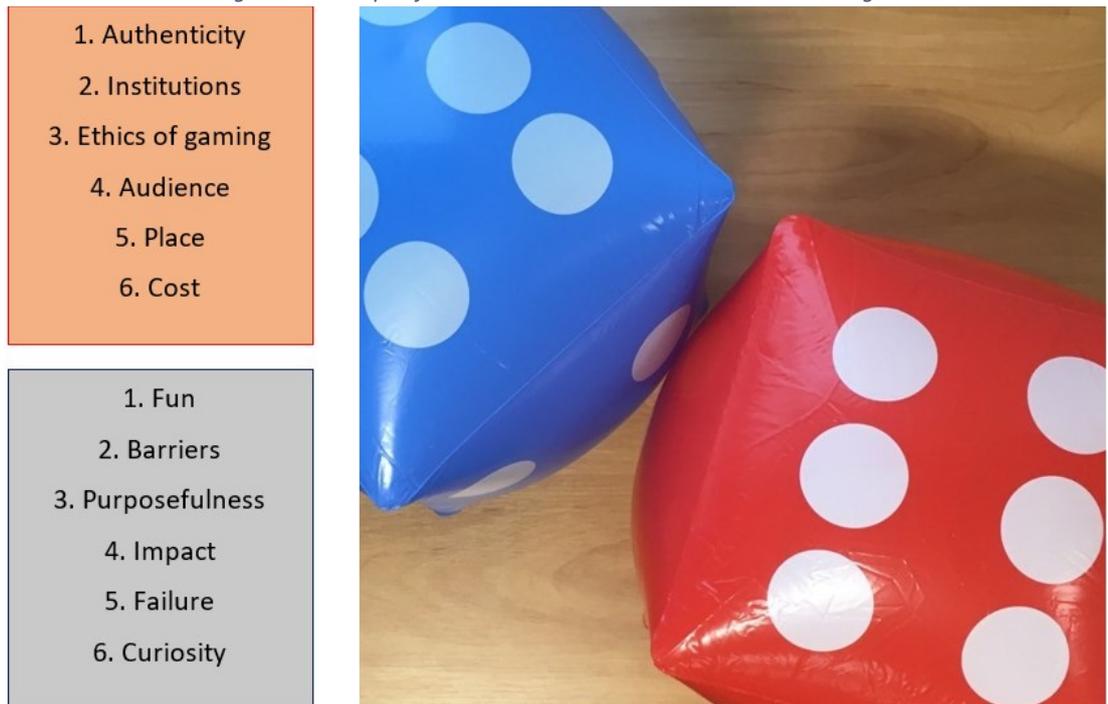
Our first dice roll directed us to the topics of the ethics of gaming and barriers. Perhaps the key discussion point to arise from this conversation was the role that self-censorship often played on the part of both the museum and the visitors, especially when dealing with difficult topics where both might shy away from wanting to provoke. We then moved onto place/impact which provoked a number of interesting responses. The importance of personal connection to place as key to impact was discussed, along with the need for people to be open in order to be impacted. A particularly interesting point that was raised was about how game places could be made meaningful. The topic of *Minecraft* (**2009**) arose quickly as a game in which place could have meaning because, it was argued, players could inhabit the space in *Minecraft*, change and shape it, in a way that was impossible in games such as the *Assassin's Creed* series. Indeed, the affordances of *Minecraft* in relation to place have already begun to be explored in museums with projects such as *MuseumCraft* and English Heritage's instructional videos on how to build Kenilworth Castle in *Minecraft* already linking real-world place with game place and encouraging players to take ownership of those places. Finally on this topic, the ways in which the inclusion of games impacts museum space was brought up, especially the impact the inclusion of games had on the way visitors interacted with the space and the ways it challenged the mindset of what was considered 'permitted' in a museum space. Conversation around cost and purposefulness highlighted how they are often linked, with cost often being a barrier to museums in using digital technology in particular, and that maintenance costs were often not

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considered. Yet Alex Moseley also expressed how institutions are increasingly considering purpose before cost, thinking more deeply about what they want the game to achieve rather than relying on the appeal of new technology. Before the next set of parallel panel sessions participants had time for one more roll of the dice and ended up with institutions and fun as our final topic which due us back to our earlier ponderings on whether games had to be fun to be effective. We were also reminded that fun is a very subjective term. This led to discussions on how museum staff often considered the learning experience or engagement before fun, but how it was important not to work towards engagement at the expense of fun.

For the second set of panels we once again split. I had spoken with one of the speakers over lunch regarding museum games so chose to join the panel they were participating in to hear more. In the other panel Nick Webber (Birmingham City) kicked off with a discussion of games and historical time, followed by Lysaine Lasausse (Helsinki) exploring games as having the potential to critique societal issues through the lens of game noir. Alex Wade (Birmingham City) then explored British video games in the Cold War in relation to welfare and warfare and finally, Jake Blunt (Reading) examined 'nerd culture' and the 'satanic panic' in relation to 1993's *Doom*. In the panel I attended, we started by watching a video presentation from Manuel Cruz (São Paulo), who sadly was unable to attend in person. Cruz narrated us through the creation of *Time Historians*, a 'deconstructionist historical video game' that he designed as part of his research. Drawing upon Munslow's ideas of deconstructionism (**1997, 2006**) the aim of *Time Historians* was to explore how we construct our knowledge of history and to encourage players to consider and call into question historical narrative. In order to achieve this, Cruz studied how the player narrative, game narrative, and the context of creation and consumption interacted. He also drew upon creative judgement games wherein the validity of the answer depended on the judgement of the player, and therefore wanted to explore the process of subjectivity, interpretation and consensus and how they worked together. *Time Historians* incorporated a local multiplayer mode in order to build a system capable of providing creative judgement. Players travelled through the in-game location of ancient Egypt playing the role of futuristic historians, cut off from our modern quotidian understanding by some unknown disaster and using time travel in order to search for lost knowledge. Players spoke with ancient Egyptian characters in order to learn information, however they each gather different pieces of fragmented information and must vote on what they think is the correct answer to historical question from a set of options at the end of the level. This is where the consensus and

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creative judgement aspects comes into their own and engage players in the construction of historical knowledge.[ii]

Ylva Grufstedt (Helsinki) then presented on her research of game design practices from the perspective of the developers of historical strategy games. Grufstedt focused on decision points in game making and how this impacted content and form, and the values behind the games. She developed a game design praxeology in order to examine the frameworks within which developers worked when building historical strategy games, including games which had elements of counterfactual history.[iii] Grufstedt explained how she had looked at *Europa Universalis IV* and *Hearts of Iron* in her research through this praxeology, working with the developer of the games in order to build and understanding of how social and political values, the developer's interest in history, studio values, entertainment-centric values, player-centric values and genre conventions had impacted how history was depicted within the game. There were a number of key takeaways from Grufstedt's research, particularly the importance of exploring the developer's perspectives and considering how this impacts our understanding the game in the larger academic context. Finally, Grufstedt also stressed the importance of acknowledging the authors and producers of historical content as part of our broader study on history in games.

Iain Donald (Abertay) brought a different perspective to the study of history and games in his exploration of how commemoration and collective memory were designed into a virtual reality game*, Their Memory.* He had also brought a few virtual reality, or VR, headsets so we could experience the game ourselves. Created in collaboration with the charitable organisation Poppyscotland, *Their Memory* explored the stories of veterans as told by the veterans themselves. Donald first highlighted how research amongst developers using game design tended to be broader than academic research, but also acknowledged that game developers often encountered problems when working at the intersection of games and history. Donald described his experiences with how the original vision for *Their Memory* was subverted and adapted to meet the needs of the partnering companies, such as Poppyscotland. The project partners wanted a focus on the legacy of WWI and not the war itself, and the veterans participating in the creation of the game's content expressed the desire that no battlefield or conflict imagery be included. As such, the original plans had to be scrapped and a new design thought out that used the Poppyscotland factory as the setting for the telling of stories as it meant a great deal to the veterans. The development of this game raised a lot of issues and difficulties that Donald shared with us. These included the mundane and perhaps easily overlooked problems of compliance with the amended Data Protection Act 2018, intellectual property and

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licencing. Yet Donald also addressed the reluctance of game companies to work with outside partners as these projects are usually not financially viable. This suggests an explanation for why museum video games are still relatively uncommon.

The final speaker for the panel was Vinicius Marino Carvalho (São Paulo) who presented on the game *Triumphs of Turlough,* asking whether it would be possible to create a game that could be used by historians in the same way a research article would be. Carvalho stressed that *Triumphs of Turlough* is a work in progress, but the intention is to create a game that maps out the landscape of Turlough in the early medieval period in order to enable historians to use as a resource upon which to run historical experiments about the movement of people and grown of settlements. Carvalho expressed a desire to show the complexity of real-world territories and landscape in a medium where complex maps are often eschewed in favour of simple divisions of land.

Following the presentations, there was an opportunity to discuss some of the topics that had been covered. One of the first questions to come out of conversations was around abstraction and how far a game could move away from an accurate historical depiction and it still be useful. Donald raised an important point that researchers often fall into the trap of assuming that players have the same knowledge as them, so that even without abstraction the game content could prove a barrier to some of the players. Grufstedt also commented that abstraction within the visual design of a game was often needed when the game dealt with macro-history and the content of a more realistic depiction would be too complex and large to attempt. Carvalho commented that it depended on the historical content in question, if historical figures were involved, he argued from a moral and ethical point of view, you shouldn't abstract at all. The other main topic that arose was in how to engage players, but especially younger generations, with narrative in historical games. Donald explained from their experience of testing *Their Memory* that the VR experience tended to engage students regardless simply because they are caught up in experiencing the new technology, he also urged us to recognise that VR is not nearly as established as we might think. However, Donald also pointed out that players will always interact with a game in unexpected ways and we have to be ready to design around that. On the other hand, Grufstedt noted how it was through engagement with the narrative that players tended to pick up on the historical context. The big take away from this conversation was the need to have gameplay content as well as historical content. As Esther Wright commented during this discussion, 'you need to have content as well as agency to make it a game, otherwise all you have is a recreation of a heritage site where all you can do is stand

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and look' as whilst this might be useful for improving access, it isn't a game.

After a final tea and coffee break, we re-joined the other panel group for the final session of the day. For the closing roundtable we returned to the theme of the day to consider the present and future of the study of history and games and a number of key topics of the day re-emerged during the panel and subsequent discussion. The panellists for the roundtable were Ylva Grufstedt, Linzi Harvey (Natural History Museum) and Benjamin Litherland (Huddersfield). They began by talking about their specific research interests and, from their respective perspectives, what they would like to see emerge from future study at the intersection of games and history. Grufstedt, from the background of arts and humanities commented that we needed to consider more the internal practices of game developers and how that translated into their chosen depiction of history. She also wanted to see more discussion on the juxtaposition between history and historiography and the demystifying of games for players as a way to challenge perceptions of games and developers. Litherland, from a cultural and media studies background wanted to see more research into history and games through the lens of social history, with a focus on everyday life. He also expressed a need for researchers to step back from the text of the game and examine the social bonds and connections that formed around games and in game culture. Finally, Harvey, an archaeologist, spoke about her research into the depiction of human bones in historical games and in the types and breadth of data you could learn from in-game bones, which led to the quote of the day: 'syphilis is amazing on bones'. From this Harvey suggested more research was needed into how developers chose what to include in their games and where that data comes from, and the ethics of game development.

The final discussion time built upon conversations throughout the event. The theme of authenticity and accuracy came up a couple of times. We queried whether the terms had or even could have stable meanings. Particularly when talking about accuracy it was commented how even monographs are not 'accurate' and that accurate is probably an unhelpful term. Nick Webber described both terms as problematic and suggested that their use implied an appeal to the truth. Instead of talking about authenticity and accuracy, he suggested, we should talk about history. The idea of context as key re-emerged, both in regard to how and where we encounter games, and in how we share our love of them with friends. Sometimes we forget that games are so prevalent in society and that even talking to non-gamers about games is not actually that hard![iv] Yet, at the same time we do need to recognise the barriers at play, especially in regard to access to the more expensive technology such as VR equipment. Esther raised an interesting comment that the emphasis we tend to place

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on progress and the development of technology is not a useful way to frame discussion of games and instead we should look at other means of assessing their meaning and value. Finally, we turned to the topic of diversity, representation, and ownership as this brought together many important considerations that need to be kept in mind when exploring history and games. Who gets to tell stories about the past? Who gets to make games? Who gets to consume these games? Indeed, representation and diversity are an issue both in what games simulate and in how they are made and consumed.

As we face uncertain times, these discussions are more relevant than ever. With much of the world facing lockdowns and social distancing in response to the COVID-19 pandemic, interaction with the digital world has become vital to maintaining patterns of work and play alike. Video games, in particular, are seeing a growth in usage as people seek the escapism they provide, institutions of learning are building lists of games for learning, and playing together has become a pathway to fulfilling social needs.[v] It will certainly be interesting to see how this period impacts upon the video game industry and on how we study games. In light of this, I will leave readers with one particularly challenging and thought-provoking question that Nick Webber posed towards the end of the day: 'what is the single biggest contribution we could make to the study of history and games, and what are we missing in order to make that contribution'? I encourage readers to consider this question in relation to their own research interests. Personally, I look forward to seeing the increasing breadth and depth of research in the future exploring history and games.

Acknowledgements

Amy is a second-year PhD researcher based at Nottingham Trent University, exploring the intersection of museums, video games, and interpretation. She has previously gained a BA in History at the University of Nottingham, before shifting focus to Museum and Heritage Studies for her MA, which she studied at Nottingham Trent University. Amy also works freelance for a heritage consultancy and has experience working with a large range of museums and heritage sites. She spends much of her free time playing video games.

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Endnotes

[i] https://www.civilandhumanrights.org/exhibit/american-civil-rights/

[ii] Manuel Cruz's thesis is available here: http://sro.sussex.ac.uk/id/eprint/90194/1/Cruz%20Martinez%2C%20Manuel%20Alejandro.pdf

[iii] Praxeology is a theory and methodology of human action. The primary concept of praxeology is that human beings consciously act towards chosen goals.

[iv] The phrase 'non-gamers' refers to those who do not habitually play video games.

[v] See, for example, the record sales of Animal Crossing: New Horizons, https://techcrunch.com/2020/03/30/despite-pandemic-gaming-is-well-positioned-to-withstand-recession/ The National Videogame Museum in Sheffield has provided a list of educational games for parents: https://twitter.com/nvmuk/status/1240634714224017408?s=20

DAO, Blockchain and Cryptography: A conversation with Quinn DuPont

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Abstract

In Classical Athens, as well as in our modern digital era, governance has been achieved through tokens. Tokens enabled voting on projects, representation, and belonging. The Distributed Autonomous Organisation (DAO) launched on the basis of cryptocurrency and blockchain technology was conceived as a form of algorithmic governance with applications in the organisation of companies. The visionaries of the DAO envisaged, among other things, a new form of sociality, which would be transparent and fair and based on a decentralised, unstoppable, public blockchain. These hopes were dashed when the DAO was exploited and drained of millions of dollars' worth of tokens within days after launching. The conversation published in the present article is conceived as an interdisciplinary discussion about the phenomenon of the Decentralised Autonomous Organisation and its impact on perceptions of sociality. Topics include the idea of the DAO as an algorithmic authority, the lessons learned when the project failed, the revolutionary beginnings of cryptocurrency technology and its potential in voting technologies, as well as the changing notions of cryptography in light of cryptocurrency technologies.

Keywords: blockchain; Decentralised Autonomous Organisation (DAO); cryptocurrency; tokens; cryptography

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Introduction

Quinn DuPont (figure 1) is a renowned expert on cyber security policy, information ethics, blockchains and cryptocurrencies. He received a PhD in Information Science at the University of Toronto before moving to the USA to take up a position as a research associate at the University of Washington (2017-2019). He is currently assistant professor of Management Information Systems at University College Dublin.

DuPont is the author of the book 'Cryptocurrencies and Blockchains' (2019), which has been instantly acknowledged as 'harnessing the richness of scholarly perspectives' and as informed by amazing insights into media, legal, monetary and social theory, review published in (**Campbell-Verduyn, 2019**). In his study, DuPont includes his personal experimentation with digital charity and trading cryptocurrencies. DuPont draws particular attention to the social nature of blockchains from Bitcoin to the Decentralised Autonomous Organisation (DAO) as a governance system with multiple applications. If governance is the process of decision making, then cryptocurrencies and blockchains cannot be considered separately from community consensus and visions of fair and democratic sociality.

Figure 1. Quinn DuPont with Mairi Gkikaki (right) and Clare Rowan (left) in the garden of the British School at Athens, where the conversation as well as the workshop 'Symbola: The Athenian Legacy to Modern World' took place. Authors' own image.

The DAO: How it was launched and how it failed

MG: Quinn, you have performed research on the DAO, a short-lived attempt to create a decentralised autonomous organisation. Could you tell us more about the DAO? What were the DAO tokens and what was achieved with them?

QD: The DAO is a bit of a complicated thing because it is an example of this more general idea, a decentralised autonomous organisation, which is what it sounds like: it is decentralised, it is autonomous, it runs on blockchain, and it is meant to replicate an organisational structure. Then, in 2016 there was a group of people who came together and created *the DAO*: a specific decentralised autonomous organisation. It was kind of like Kickstarter in that it was a funding mechanism to create new styles of organisation in companies. So, this is *the DAO*, not to be confused with the idea of decentralized autonomous organizations in general.

The DAO was very ambitious — it was an entirely new way of bringing people together, with new forms of power and hierarchy and structure. However, as it turned out, within just a few days of being launched there was a security issue that was not discovered until quite late, and then the DAO was attacked. Millions of dollars' worth of DAO tokens were exfiltrated and then very quickly the entire project was shut down (**DuPont, 2017**). That brought an end to this wonderful experiment, which I think was a real shame because there was a lot of opportunity for trying out new things. In the end, they ended up recovering all the money, but that was also the end of the DAO. And it turned a lot of people off the idea of decentralised autonomous organisations for that reason.

MG: It is interesting that they managed to retrieve their money.

QD: There is a story here, if you want. The recovery process wasn't 'really' a technical fix, as one might have expected. They actually came together as a community and went against the algorithmic rules, which was, of course, against the very idea of the decentralised autonomous organisation. It is supposed to be autonomous; it is not supposed to be something where humans are really in the mix, that's supposed to be the virtue of the system. But when things went wrong, when it got hacked, the algorithms failed the community, so instead they came together and implemented a 'hard fork', which is to say, they overrode all the old code and started fresh (**i3nikolai, 2016**).

MG: To bail out!

QD: Bail out was the term people were using. They said, 'OK now we've got bail outs for the blockchain,' which bothered a lot of people who joined

the DAO in the first instance, who were of the opinion that it was the 2008 global economic crisis that blockchain was designed to fix.

MG: It failed so quickly, so miserably and so disappointingly. It did not work at all.

CR: What I find interesting about it, also when examining the tokens of ancient Athens, is to what extent an existing media, like the blockchain, allowed people to create a community. But then it seems that community, with their vision, might then go on and shape the media that created them. A weird chicken and egg situation (**Crisà et al., 2019**, especially the introduction).

QD: Yeah, that's right! The term that gets used in the literature on decentralised autonomous organisations is algorithmic authority, this idea that power comes from the algorithms and that these are supposed to be infallible things (**DuPont, 2017**). But as it turns out: 1.) they are created by humans (so there's going to be issues there) and 2.) they are about humans, so, there is power and contests of differing visions that are part of the apparatus itself. So, while some people thought it was a bail out and that was terrible, other people thought that this was the community coming together and acting appropriately. They saw this as a test of the strength of the community, where the people were able to come to a smart, good resolution.

MG: All your recent papers on the DAO discuss the ethics of it. Can power also be discussed as an issue of ethics?

QD: Yeah, I think so. There are two ways that ethics for these technologies become really problematic. One, which I have been working on recently, is research ethics. Blockchain research ethics is really challenging because these technologies, these tokens, have value built into them. So, as a researcher it is difficult to engage with your research subject without bias, without harming users, or without causing security and privacy issues (**DuPont, 2020**). The other sense of blockchain ethics relates to the ways that we see the emergence of community, or an organisation. I think we are still very much in the early days of understanding what this kind of ethics might be, and I don't think we have any resolutions, in part, because the community takes itself to be committed to algorithmic authority, or what's sometimes described as 'code is law'. They believe that these technologies are trustless: they are amoral, they don't really have a moral quality to them. This, of course, plays into this perennial idea that technology is neutral. But as we see with the example of the DAO, and many other cases, this is simply not true. In my keynote[i], I talk a little about the ways in which the community needs to be socialised or has been socialised. The forms of socialisation are interestingly robust and play with

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this idea that technology isn't where authority and power gets operationalised, but rather, the community uses these tools to *do* the socialisation. And so, the community coheres around these technologies rather than use the technology itself to get ethical behaviour and power and these sorts of issues on the table (**DuPont, 2019a**; **DuPont, 2019b**).

MG: Do you think that there are mechanisms that can be employed in the future to prevent a failure analogous to that of the DAO? Have we learnt something out of the whole story?

QD: I think it's too early to have any real solutions. The community still believes that there are technical fixes to these sorts of problems; I don't think that's right. I think that the technology plays a role but at the end of the day, it's made by humans and it is for humans, and so there is always going to be a human element. I think the challenge for the research community is to understand the ways that these technologies are social and then there's the possibility of social solutions and not just technological fixes. We are also learning about cyber security as an important part of a broader shift in society, which has been growing rapidly over the last couple of decades. This is something that is new in most people's lives and we do not really fully appreciate the ways that security technologies are basically essential to everything we do online.

CR: I am fascinated with the idea of trying to find a technical solution to essentially 'messy humanity'. And this is also the story with *kleroteria* in ancient Athens, the machines that were invented for drawing magistrates by lot. But they were also open to abuse since they were operated by a human at the end of the day (figure 2).

MG: Obviously. We tend to think that *kleroteria* were invented because there was the phenomenon of bribery, the phenomenon of vote buying in ancient Athens. *Kleroteria* and tokens were used to prevent relationships between a patron and his clients corrupting the democratic system (**Taylor, 2007**; **Maurer, 2019**). Tokens were devices that were supposed to prevent fraud (**Bubelis, 2010**). Tokens were the high technology of the fifth century BC. But when society changed, then tokens were also abandoned. And I think that it all begins with humans and society.

QD: Allusions to ancient tokens are frequently found in the contemporary token communities as well. This is something Bill Maurer has previously discussed (**Maurer, 2019**).

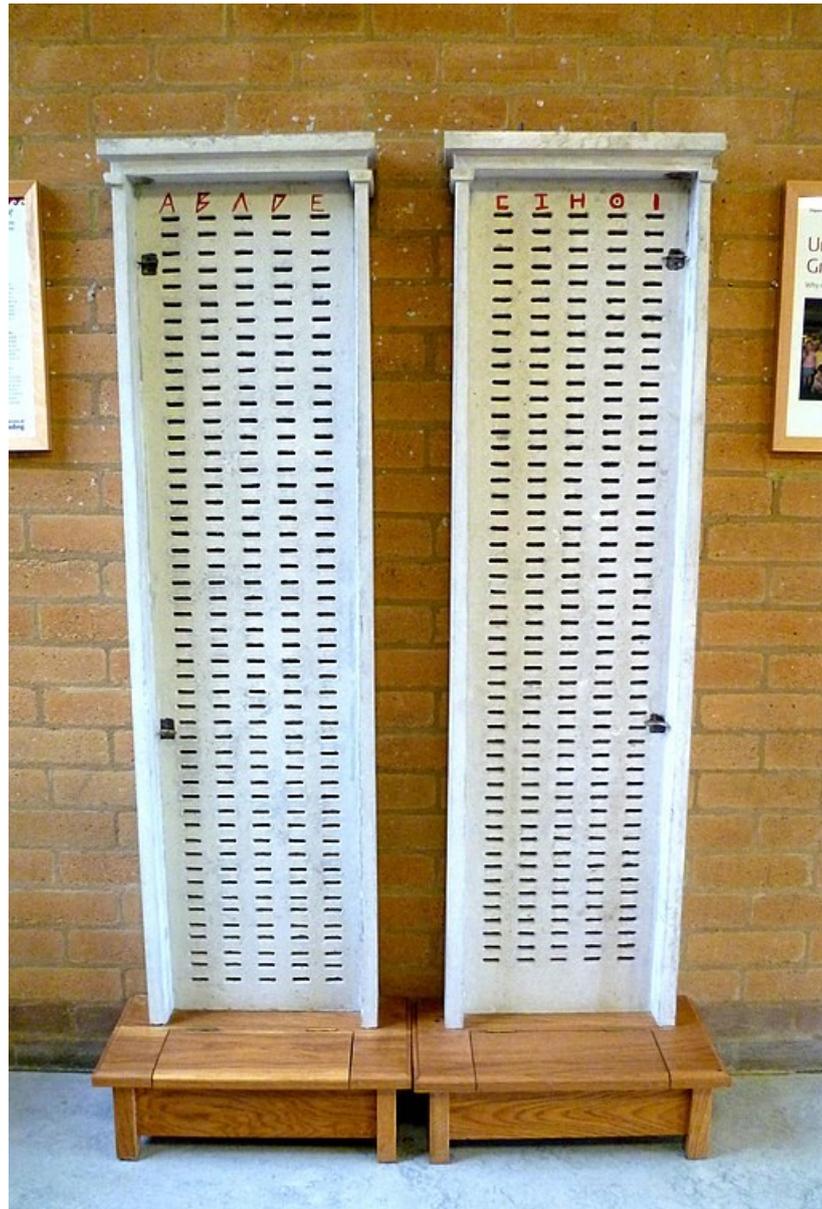**MG:** The way communities connect meaningfully to the ancient world.

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Figure 2. Reconstructed Kleroteria in the Ure Museum, University of Reading.
Photo by Philafrenzy. Available at: https://w.wiki/Lms (Accessed: 29 January 2020).
Creative Commons 0 (public domain).

QD: They connect meaningfully, yes — to forms of voting, of community representation. There is a strong connection.

MG: In the case of the DAO, because the DAO was a social community, was there a code of conduct, a code of correct behaviour, or nothing?

QD: The community does not think of itself as requiring these sorts of —

MG: Autonomous, they are autonomous!

QD: That's right! It's the technology that's supposed to be controlling people; the authority is invested in the technology. Now, as it turns out, there is very much a code of conduct. Including, even, the way that the DAO was set up. It was set up in a very remarkable way to preserve the

'purity' of the technology. Nobody knows who launched the DAO because it was launched by simultaneous groups, who —

MG: Spontaneously and simultaneously —

QD: — Yes. They purposely had multiple groups all pressing the button at the same time. The idea was that it randomized which actual instance of the technology would be born. And that way it had no human place of origin. It was just somebody, somewhere, somehow. They were trying to walk back social influence; to have this technological origin story, and of course it very much does. And so everything stems from that, including, of course, the kinds of proposals submitted to the DAO. Remember, the DAO was intended to fund proposals, which would be products that the community invested in. DAO tokens would fund these products. But also, sometimes, other, stranger ideas emerged. For instance, there was something that I was involved in — unfortunately, however, just as I went to submit a proposal the DAO was hacked!

CR: The whales![ii]

QD: Exactly!

MG: The charity project!

QD: Exactly! I thought this would be an ideal way to create a very future-orientated charity, because people often say that one of the issues with charities is mismanagement of funds. I thought this is something that the technology could help prevent (**DuPont, 2017**). This idea of vote buying and collusion that you mentioned — and all sorts of things — you can prevent a lot of this with a DAO.

I think that if you look at how this technology was born, and its very brief life, it has an implicit code of conduct; it is just that the community didn't understand this and didn't think that this was essential.

Virtue, Voting and Blockchain Systems

MG: You also talked about Bitcoins. Bitcoins have many things in common with Athenian tokens: the singularity of the transactions, the cryptography, the anonymity. Could you explain what you mean with the expression the 'virtue of Bitcoin' (**DuPont, 2014**)? Is the virtue of Bitcoin its cryptography and anonymity?

QD: It depends on the sense of virtue. There are definitely ways that you can be virtuous within the Bitcoin community — for instance, being a virtuous trader. There is a term called 'hodling' [sic] — if you hodl, they say, you are very virtuous and will make money.

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There are virtues encoded in the technology of Bitcoin, which very concretely emerged from the 2008 global economic crisis. This, in my opinion, structures everything about Bitcoin and, in fact, pretty much all the blockchain projects that have emerged since.

Bitcoin started out as a punk ideal. It was for people who were unhappy with the bank bailouts. At the time, there was a great deal of financial exclusion and social unrest and this is the world that Bitcoin emerged into. But, interestingly, many people who became familiar with Bitcoin a decade later, around 2017, where unaware of these political origins, or didn't care. In 2017 there's an 'ICO boom.' That's a boom of Initial Coin Offerings, which are kind of like Initial Public Offerings. An ICO is a way of funding companies very much inspired by the DAO. The ICO boom moved the community away from the punk ideals of Bitcoin. It was largely millennials that drove the ICO boom. They had been excluded from the traditional financial and labour sectors and drew linkages between Bitcoin and their own social situation. So, they took Bitcoin and transmuted it — into a significantly more capitalist, even consumerist, sort of thing. And that's why, I think, the 2017 ICO boom emerged out of its antithesis. Bitcoin was punk!

There are obviously some latent right-wing ideologies preexisting within Bitcoin (**Golumbia, 2016**), and Bitcoin had an anarchist ideology to begin with. So, it wasn't like Bitcoin was completely unfamiliar with capitalism, but it was definitely not of the sort that we have today: big banks, technology companies, and start-ups galore.

MG: So, the basic idea is voting, people's votes for projects.

CR: For the DAO you mean?

MG: For the DAO and also for Agorism! Agorism is also this idea: people voting for a project, perhaps a financial project, or a project that has to do with politics (**Maurer, 2019**). So, it is something that emerges from the community and goes back to the community. In a way the community is free to destroy the system, if it thinks that it doesn't meet expectations any more.

QD: Voting is definitely one of the key parts of the DAO. Most of the cryptocurrency and blockchain systems use voting, in part, because they are token systems, so it seems like a natural thing to do. The term that gets used in the literature is 'cryptoeconomic systems.' These are mechanisms that use behavioural economics to encourage certain behaviours, and then, when combined with voting, you get political representation. This is the way that most blockchain systems get governed.

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There are two senses of governance. One is called 'off-chain' governance. 'Off-chain' governance is what we normally associate with governance, in our regular world. This sometimes involve voting or establishing company by-laws, and other regular mechanisms. But 'off-chain' governance is generally seen as a last resort.

The way these projects really imagine themselves being governed is through 'on-chain' governance. These are voting mechanisms that are built into the system itself. Any decision that needs to be made, small or large, can be voted on from within the mechanism itself (**DuPont, 2019a**). In an ideal world, these projects would evolve towards 'on-chain' governance: humans are made reference to only through these voting mechanisms. There are many possible benefits to this: if it was possible to do this perfectly you could have secure and transparent forms of governance and that would be great.

But as people are starting to realize, 'off-chain' governance is just as important. The trick here is that nobody is supposed to be able to 'stop' these mechanisms. Some envision themselves as being censorship resistant or impervious to stoppage. Bitcoin is definitely of this sort - you can't stop Bitcoin today. No one person can stop it. No government can stop it. It lives on. This governance issue is also the source of the trouble we saw with the DAO: its autonomous nature. And, I think this is what makes it so exciting. You could, in theory, program the system to just to keep doing what it does with no mechanism for stopping it. You could even have it do illegal or immoral things — you just set it up and let it run. It'll just keep going forever, unless you build into it these 'off-chain' governance mechanisms to give us some kind of human control over it (**DuPont, 2019a**).

CR: Even with the Ethereum Classic there was an attempt at governance and it didn't work in the end. It's impossible to stop in a sense. I find it fascinating that there is this parallel existence.

QD: Ethereum Classic grew out of this 'off-chain' governance. This spin-off coin emerged from a community that, some people say, behaved intelligently, given the DAO crisis they faced. But there were some people who disagreed with the intelligent, reasonable decision to do a hard fork, so they split off and didn't bail out the blockchain (**DuPont, 2017**). They're considered the ones that lived by their ideals: it is the algorithm where truth lies and they stuck to that.

The majority, however, adopted the bailout because of powerful leaders. It was just a campaign of influence that convinced people to adopt the hard fork solution, and that's the one that lives on today. Ethereum today is really Ethereum that has been bailed out.

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MG: So, there is a future for blockchain technologies.

QD: Yeah, I think there is.

MG: How do you imagine this future?

QD: People always ask me this and I always say that the future of blockchain technology is a transition to something much more like plumbing.

MG: Fixing and repairing?

QD: It will be infrastructural, probably. I assume we will see less discussion or hype around blockchain. For example, if we look at cloud computing today we don't really think about cloud computing as being special. Blockchain will probably end up in that direction. What will change in the future—what blockchain provides—is a whole different suite of tools for, for instance, voting, autonomous organisations, new mechanisms for funding, and new forms of payment. These will seep into other technologies that we won't label as blockchain projects or companies, but they will use these mechanisms.

Old and Modern Notions of Cryptography

MG: If I may use one of your expressions, you say that that 'the cryptographic machines used for Bitcoins can be reimagined and reconceptualised' (**DuPont, 2014**). In my opinion, this view deviates from the traditional view that cryptography essentially means secrecy. This is the meaning in relation to Athenian tokens: cryptography meant secrecy, that the community of a magisterial board in ancient Athens had a 'secret' (**Bubelis, 2010**). Holding a token was like sharing a secret, a piece of information. But then the token is shared, and this creates a feeling of belonging, the interaction of the community based on this token (**Rowan, 2019**).

QD: Secrecy has always been part of cryptography. This is something I've researched in depth, which I find endlessly fascinating and I think is really important.

A lot of my research tries to put the newest forms of cryptographic technologies in dialogue with the very old history of cryptography, which is, in some cases, many thousands of years old. Secrecy has always been part of it. Military and state organisations have always needed to communicate secretly.

The problem with this view is that it is a little too narrow and ends up not giving full appreciation of the other modalities of cryptographic technologies. There is a great, big, long history here, but I can give a couple

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of examples to flesh out some of what I mean by this. In the Middle Ages, for instance, cryptography was deeply associated with the occult and magic, but this also meant that it was used for scientific purposes. Even Francis Bacon, a noted cryptographer, looked at the world as a cryptographic puzzle to be solved. Pesic has previously explored Bacon's relationship to cryptography (**Pesic, 2000**). This is the 'scientific' use of cryptography.

Most people, however, think that cryptography is a system of mathematics. In fact, this is what all cryptographers today believe. I've asked the top cryptographers in the world and they say 'of course it's mathematical'. But this is, I think, absolutely wrong. I think it's a form of writing; it's a representational system. Once you have that vision in mind you understand it's a much more powerful technology. As a system of writing and as a representational system there are many more things we can do with cryptography.

The reason why cryptographers today think cryptography is mathematical is because it was industrialised, around the time of the American Civil War. At some point, maybe in the 19th century, the study of cryptography (cryptology), moved away from the occult. But, that also meant it moved away from the scientific and the representational, and this is when we start to see the narrowing, to just this notion of secrecy and mathematics. Cryptography started to become only for secret communications, only useful for governments and militaries. Technically, cryptography also had to transform itself into something that was repeatable, with a public algorithm and a private key that was kept separate and secret. This is, of course, precisely how we think about cryptography today. But, if you go back to Francis Bacon, this would have been completely alien. The algorithm was part of the mechanism. There wasn't this separate notion of a key that is somehow kept separate and private. And so, this was an essential transformation within the industrialisation process, because it is only once you have a separate private key and a publicly known algorithm that you can have efficient secret communication.

Except, what I think is really exciting about blockchains, Bitcoin and DAOs is that we are inadvertently returning to a much broader vision of cryptography. All of a sudden cryptography is money. That is not something that we have ever thought about, except for maybe the folks in the 1980s who were creating cryptocash. So, it is not unique to today, but it's all occurred within the last couple of decades. The 'encrypted information society' is the label I give it. Money is all of a sudden something that can be cryptographic.

We're starting to see a return to the 'scientific' modalities of cryptography. Look at the way machine translation works today: it is effectively code

breaking. It's cryptanalysis. Machine translation goes back to the Arabs, who invented cryptanalysis and who used their sophisticated linguistics and statistical knowledge to invent scientific code breaking (**DuPont, 2018**). I think this is very exciting. We get away from this idea that cryptography is just this narrow tool of secrecy. And of course, most recently, we now do politics, we do law, on blockchains.

The problem with the DAO hack was that we were operating in the industrial mode of cryptography, rather than this much richer one I'm sketching here. If we look back, if we look very seriously at ancient practices using tokens and cryptographic technologies, I think that we will also start to see some of the ways these technologies are broader than as tools of secrecy. They have everything to do with senses of belonging—political belonging, representations—ways of being and thinking about the world in ancient and different senses. These are things that can be excavated out of a richer history.

MG: Yes, it's completely different from what people commonly believe. Cryptography is about sharing and belonging and it is also like a language. Cryptography means first and foremost a code of language, a code of communication and not exclusion. It's not about exclusion, which is something connected only with secrecy.

QD: This is another thing I have been working on recently: understanding how exclusion and secrecy are tied. Actually, I think that a lot in our current (politicized) view of privacy has, unfortunately, adopted security technologies in place of what should have been much more human, with a true respect for privacy. Privacy today is security, and it's made possible through security technologies. It's trite, but privacy for its own sake is rarely valued. Someone like John Stuart Mill would say, I paraphrase, 'we need privacy to have flourishing lives, to have independent creative thoughts, and so on'.[iii] Well, none of this is captured by security technologies. Security technologies are mechanisms of exclusion and of course this means there is a political economy here, as well. Companies recognise they can sell security in place of a more genuine, more robust, sense of privacy.

MG: There is another project at the University of Warwick about the concept of the pledge.[iv] This is also a kind of security, a security in communications, a security in the knowledge that something has been promised and can be collected.

QD: I think it is bad to approach essential human qualities as security technologies. On the other hand, there are a lot of people who are exploring a broader sense of security technology, who are able to use the best parts of the technology. Bitcoin being a really interesting example of…

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MG: The potential!

QD: Yes, the potential! Now we have different ways to imagine what money might look like in our modern, digital world. I think that's really positive and encouraging, as long as we don't forget that humans still have to use these technologies and that it does us no favour to turn everything into a security technology and erode what it means to be a human. Laugh, love, play — all these things are part of what it means to be human, and I know that there are people investigating this with an open mind. I think that is really positive and exciting.

Acknowledgments

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End notes

[i] The keynote lecture of the Workshop 'Tokens: The Athenian Legacy to Modern World', The British School at Athens 16-17 December 2019. Available at: https://www.blod.gr/lectures/the-social-order-of-crypto-communities/ (Accessed: 15 April 2020).

[ii] 'The DAO of Whales' was the environmental charity proposed by Quinn DuPont. The charity, which would run in a transparent fashion on the Blockchain, sought to care for a pod of orca in the Pacific Northwest. The voting mechanisms supplied by the DAO would help choose the research group to receive funds. The payments would be automated, verifiable, and censorship-resistant. 'The DAO of Whales' was cut short when the DAO was erased by the hard fork.

[iii] John Stuart Mill is famous for his philosophical essay *On Liberty* published in 1859.

[iv] *Pledge* was the title of the workshop run by Nina Boy in November 2019. Available at: https://financeandsocietynetwork.org/pledge-workshop-2019 (Accessed: 12 January 2019).