



# Cross-sections

The Bruce Hall Academic Journal  
Volume XIII 2022

# Cross-sections

The Bruce Hall Academic Journal



Volume XIII 2022

*Cross-sections: The Bruce Hall Academic Journal*  
is an annual publication co-ordinated by the students of  
Bruce Hall and The Australian National University.

**Bruce Hall**  
162 Daley Road  
The Australian National University  
Acton ACT 2601, Australia

P: +61 2 6125 6444  
E: [reception.brucehall@anu.edu.au](mailto:reception.brucehall@anu.edu.au)

Opinions published in *Cross-sections: The Bruce Hall Academic Journal* do not necessarily represent those of Bruce Hall, The Australian National University, nor the Editors.

**ISSN: 1832-9578 (print) ISSN: 1834-7983 (online)**

**Copyright © 2023 Bruce Hall & The Australian National  
University**

All rights reserved. No part of this publication may be reproduced, stored in a retrieval electronic, mechanical, photocopying or otherwise, without the prior permission of the publisher.

*Felix qui potuit rerum cognoscere causas.*

Happy is the person who knows the reason for things.

## Editorial Team

Editor-in-Chief	Manett Gill
Managing Editor	Chloe Woodburn
Senior Copy Editors	Sreenath Didugu Cian Münster
Copy Editors	Justin Cementon Ben Huntsman Lara Thurgood
Design Editors	Duncan Currie Sreenath Didugu

## Contents

<b>About the Front Cover</b>	<b>viii</b>
<b>Foreword</b>	<b>ix</b>
<b>Introduction</b>	<b>xi</b>
<b>Editorial Note</b>	<b>xiii</b>
<b>Do Future People Matter?</b>	<b>1</b>
<i>Harrison Bailey</i>	
<b>Tone It Down</b>	<b>13</b>
<i>Ally Pitt</i>	
<b>Japan and Germany</b>	<b>27</b>
<i>Cian Münster</i>	
<b>Bounded Neofunctionalism</b>	<b>37</b>
<i>Ben Huntsman</i>	
<b>Crackdown on Counterfeits</b>	<b>48</b>
<i>Chloe Woodburn</i>	
<b>Legal Technology</b>	<b>60</b>
<i>James Boyd-Clark</i>	
<b>How Lawyers Can Assist Aboriginal and Torres Strait Islander Peoples to ‘Heal Country’</b>	<b>71</b>
<i>Matthew Box</i>	

**In the Context of Australia, is it Now Time to Remove Statues of Captain Cook?** 83

*Phoebe Barnes*

**How Can Building Memorial Museums Help Divided Societies Secure a Lasting Peace in the Aftermath of Genocide?** 89

*Anjali Jackson*

**Exploring Processes of Radicalisation in Jihadist Terrorist Organisations** 104

*Emily Horbach*

**Since 1945, in Asia, have Alliances Formed and Functioned as Expected by Alliance Theory?** 124

*Anjali Jackson*

**Das Brandenburger Tor: Spiegel der deutschen Geschichte [The Brandenburg Gate: Mirror of German History]** 138

*Cian Münster*

**Die mittlere Schicht, Der moralische Grundstein der Gesellschaft [The Middle Class, The Moral Cornerstone of Society in Weimar Germany]** 150

*Cian Münster*

**Non-financial Performance Measures in Executive Compensation** 159

*Sofia Memed*

**Continued Fraction Factorisation Algorithm** 169

*Jean-Paul Hii*

**Supramolecular Self-Assembly and Investigation of an Anthracene-linked [Pd<sub>2</sub>L<sub>4</sub>]<sub>4</sub>+ Cage. 184**

*Jacob Gome*

**Critical Analysis and Discussion of The Biological, Social and Environmental Determinants of Health 201**

*Navod Senanayake*

**Should We Allow the Use of Human Challenge Vaccine Trials for COVID-19? 214**

*Jordan Tassone*

**Should Australia Make Medically Recommended Vaccinations Mandatory? 220**

*Saskia Newman*

**Postface 227**



## About the Front Cover

This abstract painting combines gestural and geometric pictorial devices. The basis for the work was a series of small studies in ink focussing on organic forms and the built environment on the ANU campus. These drawings were then transferred onto transparent perspex sheets and projected onto the canvas, which had been covered with a moody series of grey tones. The projections of new and unique shapes were then painted over in different earthy colours. The final result is a multi-layered work that balances geometric and organic lines and forms.

*Duncan Currie*

Bruce Hall has long stood as the academic hall. Its dedication to resident-led tutoring and collaborative learning environments has fostered a strong sense of community and a commitment to knowledge-driven endeavours. This is aptly represented by the symbol of the Ouroboros, which has been associated with Bruce Hall since its establishment in 1961. The Ouroboros, depicting the cyclical nature of life and the relentless pursuit of knowledge, aligns perfectly with the Hall's motto, "Felix Qui Potuit Rerum Cognoscere Causas," meaning "Happy is he who is able to discover the reason for things." Thus, the inclusion of the Ouroboros serves a dual purpose: it symbolises both Bruce Hall itself and the pursuit of knowledge that it upholds. Ultimately, it reflects the outstanding works showcased in Cross-Sections and the high standard of academic rigor demonstrated within.

*Sreenath Didugu*

## Foreword

The community at Bruce Hall make an extraordinary contribution to the university through sharing the scholarship and ideas of students. The 2022 issue of Cross sections is a testament to the excellence of scholarship of residents of the Hall with a range of articles that make a nationally significant contribution to knowledge.

Bruce Hall opened in 1961, with the new state of the art residence opened after rebuilding in 2019. The community has led through many innovations over the decades including being the first undergraduate hall of residence at the university and the first in Australia to admit both men and women. The Hall's motto "Felix Qui Potuit Rerum Cognoscere Causas" means "Happy is he who is able to discover the reason for things" inspiring students to be part of a community that will bring lifelong benefits to them. Cross-sections most ably reflects the discoveries achieved by the students providing the opportunity to realise their commitment to share that knowledge to create new scholarship.

The first issue of Cross-sections was published in 2005. There are now five student journals published at the university by ANU Press, with Cross-sections leading through its excellence, regularity and wide readership.

It has built on a commitment to include diverse disciplines in a way that promotes academic excellence. Authors gain extraordinary benefits from learning first hand capabilities relating to scholarly writing and publishing. The relationship between undergraduate students, academic staff and alumni inspires connections that will contribute to future achievements for the students whose work is contained in the volumes.

Volume XIII contains extraordinary scholarship that places important voices into many debates. Readers are challenged to think in new

ways about the past, the present and the future. I have no doubt that the articles and art will stimulate much debate and be the cornerstone for new career steps for the authors.

Bruce Hall's reputation of academic excellent is demonstrated on every page of this excellent issue.

I congratulate the editor-in-Chief Manett Gill, Managing Editor Chloe Woodburn and all who have contributed to this volume. It a great pleasure to acknowledge the work of authors and the editorial team. I encourage all readers to reflect and engage with the content of this volume.

*Roxanne Missingham, FALIA, PFHEA, OAM*

*University Librarian (Chief Scholarly Information Services Officer)*

## Introduction

It is a pleasure to introduce Bruce Hall's newest instalment of *Cross-Sections* for 2022. Volume XIII marks the first issue of this important ANU journal since the global pandemic took hold in 2020 and it represents some of the outstanding qualities displayed by students across the last few years, not least of which are resilience and community cohesion. Specifically, the collection reflects the tenacity of Bruce residents who have continued to pursue excellence in their studies – as illustrated by the number and quality of its contributions. Just as significantly, these students have also collaborated actively as authors, editors, and peer reviewers, to produce a broad-ranging journal which exemplifies the academic strengths and personal interests binding the Bruce Hall community.

*Cross-Sections* was conceived in 2005 to offer Bruce residents an opportunity to refine their research skills and to showcase the interdisciplinary range of academic interests across the hall. In this, the journal supports the ANU commitment to inspire curiosity and to foster several core intellectual attributes among its graduates. Notably, contributions demonstrate students' attention to Indigenous perspectives and knowledge through essays discussing the importance of supporting processes of 'Healing Country', including through Indigenous land management and native title structures, and debating the place of colonial statues in modern Australia.

Journal contributions also illustrate students' capacity to apply disciplinary knowledge to address transdisciplinary contemporary issues, with essays exploring the use of technology in the legal profession, and investigating ethics and population health in relation to Covid-19. Further, the ANU goal to nurture critical thinking among its graduates is represented in articles which sensitively appraise such issues as home-grown radicalism and terror, the competing political and socio-cultural interests which inform the construction of memorial museums, and financial compensation for executives. These essays sit

alongside more technical contributions critically investigating supramolecular assemblages and thermodynamics, and continued fraction algorithms.

The internationalism of Bruce residents is moreover reflected in outward-looking multilingual discussions of German national identity, class and morality; post-war nation-building and alliances across Asia and Europe; consumer law in China; Papuan languages; and the European Court of Justice. These contributions reflect not simply the diversity of the Bruce community but their active involvement in the world beyond ANU.

This is an inspiring collection of essays which offers insights into a range of contemporary global and regional issues. Contributors' attention to detail and nuance demonstrates their sensitivity to the complexity of the challenges of the modern world, and to the historical influences shaping our society. The volume also collectively highlights the capacity of Bruce Hall residents to engage with the wider world and to make positive change as national and international leaders. In providing an avenue for students to share their research and visions for society, this volume of *Cross-Sections* reflects the vibrancy of the Bruce Hall community and their commitment to the future.

As Academic Fellow and a former resident of Bruce Hall, I congratulate everyone who participated in the production of this volume of *Cross-Sections* and encourage all members of the ANU community to explore its contents – there's something for everyone!

*Dr Tania M. Colwell*

*Academic Fellow (Residential Experience)  
Bruce Hall alumna 1993–1994*

## Editorial Note

Cross Sections serves as a testament to the academic calibre of Bruce Hall, showcasing the best works, insights, and essays from our talented residents. This collective body of work truly represents a diverse cross-section of their interests, studies, and extracurricular activities. It not only demonstrates the intellectual diversity within Bruce Hall but also reinforces its reputation as a hub for academic excellence, fostering a sense of community among its members. Through this publication, students have the opportunity to explore topical issues and express their opinions freely.

As an inherent chronicle of contemporary Australia, Cross Sections delves into a wide range of subjects that shape our nation. It addresses pressing matters such as vaccinations, Indigenous concerns, and legal issues that arise in the modern age. Additionally, it examines international issues and their complex dynamics, influenced by geopolitical factors. The inclusion of transnational analyses of geopolitical situations and examinations of international bodies enriches the publication further. By combining domestic and international pieces, along with a diverse range of academic topics, Cross Sections ensures accessibility for readers with varying interests.

Reflecting on my role as Editor-in-Chief, I see myself as an artistic curator, deriving immense pleasure from observing the academic excellence within Bruce Hall and capturing the remarkable talent of its residents. However, this responsibility also came with the daunting task of selecting a diverse and exceptional few pieces from a vast array of knowledge for the thirteenth edition of Cross Sections. It was a challenging yet rewarding experience, as I had the privilege of working with an incredible and hardworking team.

Delivering Cross Sections, alongside this dedicated team, has been an extraordinary journey filled with both highs and lows. Producing an academic journal is no easy feat, but with the support of such a

remarkable team, the process felt slightly more manageable, and the act of publishing brought even greater satisfaction. The unwavering dedication and persistent efforts of the entire team cannot be overstated. Through numerous revisions and drafts, the editing team worked tirelessly to polish and refine these exceptional pieces, elevating them to their fullest potential.

I want to extend my heartfelt congratulations to the contributors of this year's Cross Sections, as well as those from previous editions. These exceptional 'Brucies' come from various year groups and have been a pleasure to work with. I commend them for their outstanding work, unwavering dedication, and commitment to academic rigor.

In conclusion, I am incredibly proud of the team and the final version of Cross Sections that we have published. Our goal was to foster intellectual diversity and make the publication accessible to all readers, and I firmly believe that we have achieved this objective.

*Manett Gill*

*Editor-in-Chief  
Bruce Hall Community Coordinator 2022  
Bruce Hall alumna (2019-2022)*

# Do Future People Matter?

*Harrison Bailey*

## I. INTRODUCTION

While many people instinctively agree that future generations are worthy of consideration when deciding between policy options, whether this instinct can be rationally justified has been a matter of philosophical dispute. Most notably, the nonidentity problem challenges the notion that existing people can, in any way, harm future people. As such, many philosophers have attempted to produce an account of well-being and harm that solves the nonidentity problem without leading to absurd conclusions. This essay will argue that we cannot justifiably ignore future people when deciding what policy option to pursue. This argument will be predicated on a sufficientarian theory of welfare, which I deem the best response to the nonidentity problem. I will first articulate how the nonidentity problem compellingly refutes our supposed duties to safeguard the well-being of future people. I will then argue that sufficientarianism can justify these duties and thereby, resolving the nonidentity problem. In doing so, I will demonstrate how the present theory circumvents the flaws of alternative solutions and will defend it against various objections.

## II. THE NONIDENTITY PROBLEM

Parfit's (1984) nonidentity problem questions our intuitions about the obligations we think we have toward future people. Suppose the person-affecting principle is true which states that an act can only be wrong if it harms some existing or future person, i.e., it makes that person worse off than they would have otherwise been under an alternative act (Parfit 1984, 363). We can also observe that ordinary acts often have an



“existence-inducing nature” insofar as they will inevitably alter the time and manner of conception for future people, generating an entirely distinct population in the distant future. Kavka (1982) describes this phenomenon as the “precariousness” of existence (83).

Now, consider the case where a person who, by our present acts, is both caused to exist and to have an existence that is flawed but not so flawed that it is less than worth having. Parfit (1984) argues that, in such cases, a person’s life is unavoidably flawed because it is the flawed conditions themselves which give rise to their existence. Any alternative act that improved those conditions would have brought a different person into existence, a person who is nonidentical but better off. Since we assumed that our original person’s existence is worth having, and alternative acts would have instead brought about their nonexistence, it is argued that such acts cannot possibly have “wronged” that future person. However, many find these results implausible.

Imagine, for example, the depletion policy (Parfit 1984, 361–363). Suppose a government has to make a policy decision between depleting and conserving certain resources. Under the depletion choice, the consumption of such resources would marginally increase the general level of well-being for the next two centuries, but this would be at the cost of those resources becoming unduly scarce for future generations such that they will suffer disproportionately as result. Under the conservation approach, the well-being of current and future generations would be roughly similar, both enjoying sufficiently good lives. While “the great lowering of the quality of life must provide some moral reason not to choose depletion,” the nonidentity problem seems to show that depletion harms no one (Parfit 1984, 363). Pursuing the conservation policy instead would have changed the time and manner of conception for future people, changing the identities of those conceived and thus, producing a distinct population. Any suffering, therefore, of people under the depletion choice is unavoidable if those people are ever to exist at all. Since, by assumption, these lives are

worth living, the claim that the depletion choice is wrong seems morally unsubstantiated.

Ultimately, since all premises of this argument other than the person-affecting principle have garnered much support, the nonidentity problem highlights the need to develop an account of well-being and harm that transcends this principle – an impersonal account. Such an account, if it exists, would allow us to compare the moral desirability of populations as a whole, without reference to the specific identities of the constituent individuals. This account – “Theory X” – would allow us to claim that, for example, the depletion policy is wrong and that we ought not to pursue it since it produces a population that is, in some way, “worse off.”

### **III. SUFFICIENTARIANISM: A POTENTIAL SOLUTION**

I propose that the sufficientarian theory of well-being allows us to generate such insights without causing further problems. Sufficientarianism rests on the principle of sufficiency which states that it is intrinsically bad if any person is not sufficiently well-off and that this is made worse the farther from sufficiency a person is and the more people who are not sufficiently well-off (Huseby 2010, 180). From a sufficientarian view, we have moral reasons to minimise the number of people below the sufficiency threshold. However, this view is indifferent to the well-being of those above this threshold. Following Huseby (2012), we can set the sufficiency threshold at a level of well-being which guarantees that people have “a reasonable chance of being content” (193). If we consider zero as denoting the level of welfare at which life is worth living, we can plausibly assume that the sufficiency threshold is strictly greater than zero since many would agree that there is a significant difference between a content life and a life barely worth living.

Sufficientarianism allows us to refute various forms of the nonidentity problem by observing that some states of affairs are evaluatively bad or worse than others, even if they are not worse for specific individuals. For example, recall Parfit's (1984) depletion example. We can imagine that future generations under the depletion policy would lead lives that are still worth living but that do not guarantee a reasonable chance of being content and thus, below the sufficiency threshold. We can also imagine that under the conservation policy, current generations would

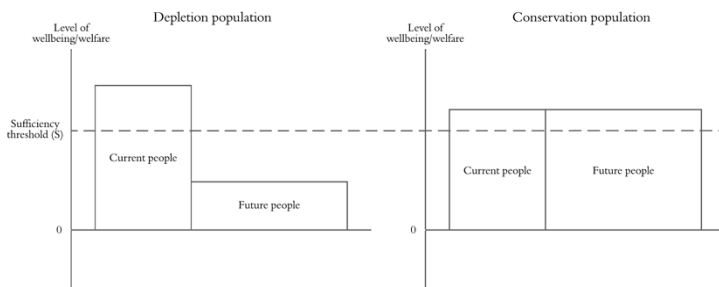


FIGURE 1

be slightly worse off than under depletion but still above the sufficiency threshold. This level would hold for future generations as well, which yields the following comparison:

The number of people living below the sufficiency threshold is greater under the depletion policy than under conservation and thus, we have adequate moral reason to pursue conservation over depletion. Hence, in cases where the welfare of future people would be below the sufficiency threshold, sufficientarianism plausibly resolves the nonidentity problem and thus, justifies our consideration of future people when deciding between policy options.

#### IV. AVOIDING ABSURD CONCLUSIONS

The sufficientarian theory of welfare also allows us to evade the absurd conclusions of other welfare theories. Many utilitarian theories, including totalism which measures the “goodness” of a state of affairs

by the sum of its welfare, imply the Repugnant Conclusion: for any population (A) with very high positive welfare, there is a population (Z) with very low positive welfare which is better, given this population is sufficiently large (Parfit 1984, 387).

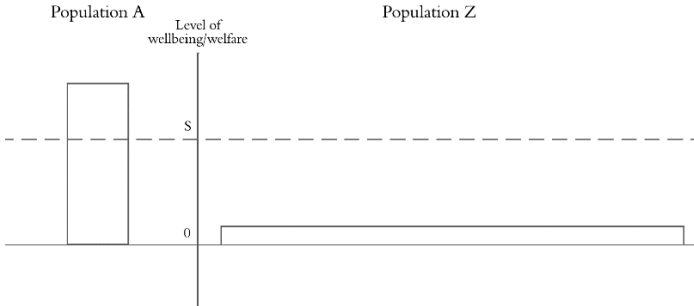


FIGURE 2

Many find “repugnant” the idea that lives barely worth living could be considered more desirable than lives of bliss. Under sufficientarianism, this intuition is vindicated. Since decreases in welfare to a point below the sufficiency threshold cannot be offset by an increase in population, as this would simply add to the number of insufficiently well-off people, the Repugnant Conclusion as stated above does not hold in general.

Moreover, sufficientarianism also avoids the Very Repugnant Conclusion: for any population (A) with very high positive welfare, and any number of lives with very negative welfare, there is a population ( $Z^*$ ) consisting of the lives with negative welfare and lives with very low positive welfare which is better than the high welfare population (Arrhenius 2012, 60). While this result holds for totalism, it does not hold for a sufficientarian theory of welfare.

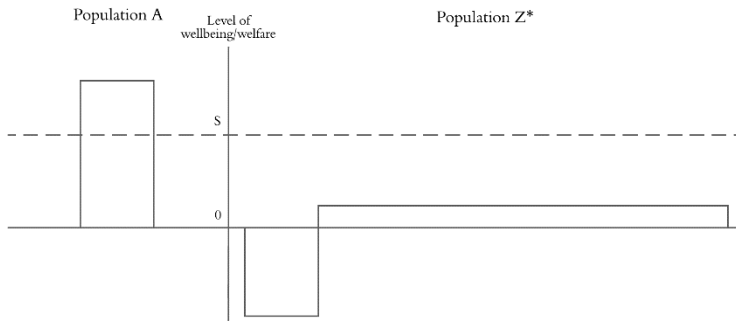


FIGURE 3

Finally, we can consider the Very Sadistic Conclusion of critical-level utilitarianism: for any population (X) with negative welfare, there is a population (Y) with positive welfare which is worse (Arrhenius 2012, 85). Critical-level utilitarianism generates this conclusion since positive welfare beneath the critical level (S) counts negatively toward the sum. While this result strikes many as objectionable, it would seem that the present theory has a similar attitude toward insufficiency, insofar as it would be possible, for any population of negative welfare, to construct a population of people with positive but sub-sufficient welfare which is worse.

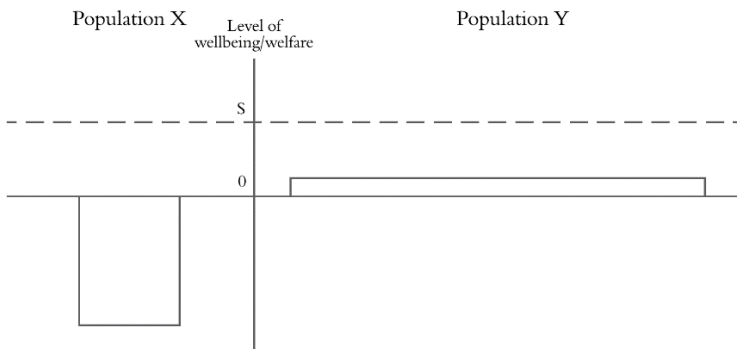


FIGURE 4

However, Huseby (2012) argues that it is possible to avoid the Very Sadistic Conclusion if we grant that, although worthwhile lives below the sufficiency threshold are bad, “it is lexically worse if people have

lives below the neutral level” (194). In other words, having one person suffer a life of negative well-being is worse than having any number of people live insufficiently well-off lives. This additional consideration not only avoids the Very Sadistic Conclusion, but also reflects the significant intuitive difference between “having a life worth living, and having a life of constant pain” (Ibid). Therefore, it is clear that sufficientarianism is capable of providing an impersonal account of morality without surrendering itself to common absurdities.

## V. THE SOFTENING OBJECTION AND THE EXTENDED VIEW

The most notable objection to the sufficientarian view is that, while it does address cases of the nonidentity problem where the welfare of future people is below the sufficiency threshold, it fails to account for cases where a future person is caused to have a worse life but is still above the threshold (Roberts 2019). If acts which cause such a worsening can be considered wrong, it follows that sufficientarianism does not completely solve the nonidentity problem, but rather softens its blow.

For example, consider the blinded child case (Roberts 2019). Imagine two parents who wish to conceive a child but only on the condition that they commit an act before conception that causes the child to be born blind such that blindness is a condition for the child’s existence. Suppose this child is, nonetheless, sufficiently well-off. Many would consider the activities undertaken by the parents to be wrong. However, since sufficientarianism is indifferent to lives above the threshold, there seems to be no ground upon which this claim can be made. Similarly, we can consider a modified version of the depletion example from before. If instead, we assumed that the welfare of future people under depletion is lower than under conservation but still above the sufficiency threshold, sufficientarianism would have no reason to

choose conservation over depletion. Hence, it would seem that the nonidentity problem remains unsolved.

I concede this objection and believe that the non-maximising conception of sufficientarianism advanced thus far is ill-equipped to surmount it. However, by modifying the sufficientarian indifference claim, I believe such an objection may be overcome. Rather than asserting that under no circumstances does welfare above the sufficiency threshold matter, we could instead assert that it does, but only once insufficiency has been properly addressed. This produces a new form of sufficientarianism which states that population A is better (morally) than a population B if and only if either one of the following conditions holds:

The total insufficiency of A is strictly less than the total insufficiency of B; or

The total sufficiency of A is greater than the total sufficiency of B, given that A and B have the same amount of total insufficiency.

In other words, this revision means that, morally, our first priority is to reduce insufficiency below zero, our second priority is to reduce insufficiency above zero, and our last priority is to maximise sufficiency. We can call this view ‘extended sufficientarianism’.

Under extended sufficientarianism, we can reach much more defensible conclusions. For example, in the above case of the blinded child, suppose we make the modest assumption that the child’s lifetime well-being is marginally lower than it would have been if they had never been blinded. Subsequently, we can now claim that, since all else remains constant (particularly, the world level of insufficiency), bringing into existence a child who is blind is worse than bringing into existence one who is not since the former does not maximise welfare above the threshold. Moreover, in the modified depletion case, we would also be justified in pursuing conservation over depletion since

this would maximise sufficiency for future people. It is also important to note that the absurd conclusions remain false under extended sufficientarianism as their rejection relied purely on the first condition of the above reasoning. Hence, it is plausible that extended sufficientarianism produces the correct moral judgements in all cases of the nonidentity problem.

## VI. THE SURVIVAL OF THE REPUGNANT CONCLUSION

One possible objection to extended sufficientarianism is that it still implies a milder form of the Repugnant Conclusion: for any population (A) with very high sufficient welfare, there is a population (C) with welfare just above sufficiency which is better, given this population is sufficiently large.

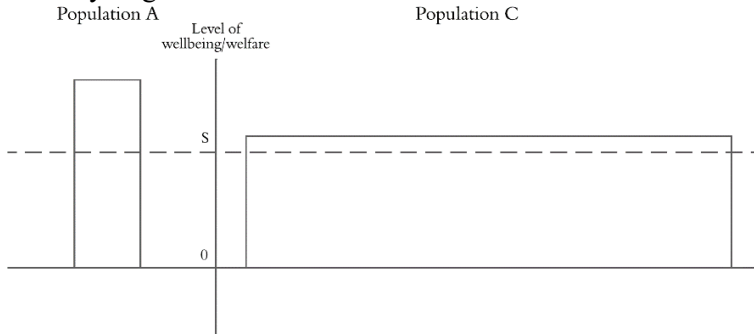


FIGURE 5

While some might argue that this result is still “repugnant,” I would argue that this position is, in fact, defensible. Consider two worlds: one with five extraordinarily well-off people, living lives of pure bliss, and one with millions of people who are just sufficiently well-off. We must recall that a life just above sufficiency is a life that is not just worth living, but one that yields a reasonable chance of being content. Under these definitions, it is plausible that the latter population is, as extended sufficientarianism claims, more desirable. This is because more people



can participate in a life of contentment and yet no single person is caused to be insufficiently well-off. This result is also in accordance with the egalitarian intuition that welfare significantly higher than sufficiency for a small number of people is not a particularly “good” outcome, and that it would be better for this surplus welfare to instead be dispersed amongst a larger group of people. Ergo, while a mild form of the Repugnant Conclusion survives under extended sufficientarianism, I find this to be a virtue rather than a vice.

## VII. LEXICALITY OBJECTION

One further objection to sufficientarianism which remains pertinent for the extended view is known as the “lexicality objection” which argues that it is implausible that “small reductions in negative welfare ... outweigh endless gains in positive welfare” (Huseby 2012, 196). However, again, I find this position defensible. It must first be noted that to claim otherwise – to claim that negative welfare can, in some way, be outweighed by positive welfare – would likely commit oneself to the Very Sadistic Conclusion which is undoubtedly a more absurd proposition. Nevertheless, we can, again, imagine two worlds: one with millions in bliss but one insufficiently well-off person, and one with 100 people, all of whom are sufficiently well-off. Sufficientarianism would claim that the latter is more desirable than the former. While this may seem counterintuitive to some, one might observe that in the first world, there is some badness. However, in the second there is none. Furthermore, many would share the intuition that more welfare above what one requires to be content is not particularly morally relevant, especially if it comes at the cost of others. Hence, while the objection to lexicality is plausible on its surface, various observations can put this result on solid ground.

## VIII. CONCLUSION

This essay has argued that we cannot justifiably ignore future people when deciding between policy options since certain policies may produce worlds that are worse than others. To substantiate this claim, I argued that extended sufficientarianism was the most plausible solution to the nonidentity problem as it avoided the counterintuitive results of competing theories and also averted the softening objection. I further articulated potential criticisms of this view concerning the survival of the repugnant conclusion and the implausibility of lexicality, demonstrating how these objections lack intuitive force and how they can be considered positive features rather than flaws. Ultimately, one must see that extended sufficientarianism is a plausible theory of population ethics which provides compelling reasons to consider future people in our policy decisions.

## References

- Arrhenius, Gustaf. 2012. *Population Ethics – The Challenge of Future Generations*. Oxford: Oxford University Press.
- Huseby, Robert. 2010. “Person-Affecting Moral Theory, Non-Identity, and Future People.” *Environmental Values* 19 (2): 193–210. <https://doi.org/10.3197/096327110X12699420220590>
- Huseby, Robert. 2012. “Sufficiency and Population Ethics.” *Ethical Perspectives* 19 (2): 187–206. <https://doi.org/10.2143/EP.19.2.2160703>
- Kavka, Gregory. 1982. “The Paradox of Future Individuals.” *Philosophy and Public Affairs* 11 (2): 93–112. <https://www.jstor.org/stable/2264924>
- Parfit, Derek. 1984. *Reasons and Persons*. Oxford: Oxford University Press
- Roberts, Melinda. 2021. “The Nonidentity Problem.” In *The Stanford Encyclopedia of Philosophy* edited by E. N. Zalta (Fall 2021). Metaphysics Research Lab, Stanford University.

<https://plato.stanford.edu/archives/fall2021/entries/nonidentity-problem/>

# Tone It Down

The complexity of tone in Papuan languages

*Ally Pitt*

## I. INTRODUCTION

Tone languages are languages in which “an indication of pitch enters into the lexical realisation of at least some morphemes” (Hyman, 2001, p. 1367). Tone is a common feature of Papuan languages, a grouping of non-related, non-Austronesian and non-Australian languages spoken indigenously in New Guinea and its surrounding islands. This essay seeks to chart the complexity of tone systems in Papuan languages. To do this, I will first survey recent works on tone in Papuan languages, charting the development of linguists’ understanding of the phenomenon. Then, this essay will describe Iau (Lakes Plain), Mian (Ok), Coastal Marind (Anim) and Urama (Kiwai), in the process exemplifying the complexity and diversity of tone in the region.

## II. LITERATURE REVIEW

There have been three major texts written in the past 25 years concerning tone in Papuan languages: Donohue’s 1997 work on tone in New Guinea, van Zanten and Dol’s 2010 study concerning pitch-accent in Papuan languages and Cahill’s 2011 examination of tone in the languages of Papua New Guinea. Donohue’s (1997) study on tone in Papuan languages identified key categories of tonal systems and explored their manifestations and complexities in several languages. Donohue identifies three main categories of tone present in Papuan languages: syllable-tone, word-tone and pitch-accent, though he notes

that he does not exclude the possibility of other systems being present (Donohue, 1997).

Donohue (1997) illustrates that syllable-tone languages in New Guinea exhibit considerable variation. Syllable-tone languages have a tone system “that allows each syllable in [a] word to bear a distinct tone” (Donohue, 1997, p. 353). The number of contrastive tones present in the languages studied varies from two to eight, with the number of syllables present in a language’s words being inversely proportional to the number of contrastive tones. There may be complete independence between syllables or restrictions on the distribution of tones. Furthermore, most languages in the region have a mix of level and contour tones. Syllable-tone languages are the most likely tonal systems to spread to other, non-tonal languages, resulting in isolated tone languages within non-tonal families that appear to have gained tonal features through language contact (Donohue, 1997).

Contrasting word-tone from syllable-tone, Donohue (1997) defines word-tone systems as systems where the “word as a whole is more important than the syllable as a domain for the assignment of tones” (Donohue 1997, p. 360). There is significant variation between word-tone systems, with different languages employing unique strategies to distribute tonal melodies across stems and words. Within a single language, the inflection point of the underlying tone patterns may vary, resulting in several possible phonetic realisations of one tonal melody. In some cases, the accent may be allowed to be assigned outside a stem, only being phonetically realised when the stem is inflected with prefixes or suffixes. While word-tone languages occur across a wide geographic area, they are relatively more restricted in spread than syllable-tone and pitch-accent systems, typically only found in areas with other tonal languages (Donohue, 1997).

Donohue describes pitch-accent systems as displaying “minimally complex” tonal behaviour in comparison to syllable-tone and word-tone languages (Donohue, 1997, p. 367). Donohue (1997) suggests that

pitch-accent languages are highly common in New Guinea and are found in at least 40% of language families. Similarly to syllable-tone languages, pitch-accent systems occur independently of the tonal status of surrounding languages. Finally, Donohue (1997) notes that there exist intermediate cases between word-tone and pitch-accent systems that cannot be definitively classified according to his definition, as well as certain exceptional uses of tone, such as in Central Asmat, where pitch contrast is limited to ritual words.

Van Zanten and Dol's (2010) examination of pitch-accent systems in Papuan languages expands upon Donohue's discussion. In contrast to Donohue, the authors define pitch-accent systems as those in which the prominence of one syllable is determined through the use of pitch (van Zanten & Dol, 2010, p. 114). The survey found a majority of tonal languages studied were 'hybrid', in that both tone and stress were features of the language. Hybrid languages can be subdivided into those with no relationship between stress position and tone, those where tone is conditioned by stress position and those where stress is conditioned by tone position (a majority of languages). In line with Donohue's analysis, van Zanten and Dol (2010) also note the large variation in prosodic systems employed by languages of the same family, stating that "hardly two languages seem to use the same system" (p. 130). Van Zanten and Dol's categorisation of hybrid languages allows for more clarity surrounding the definition of pitch-accent systems, as it allows for analysis of pitch-accent systems to more easily transcend definitional vagueness.

Cahill (2011) also analyses the broad tonal diversity in Papuan languages, though his study is restricted to Papua New Guinea. Cahill also observes that tone in Papua New Guinea appears to be somewhat independent of genetic lines, with even closely related dialects having different prosodic systems. This analysis aligns with Donohue's explanation of syllable-tone and pitch-accent systems being able to spread as a result of language contact between genetically-unrelated languages. While Cahill analyses several Papuan languages and the

intricacy of their tonal systems, he provides a limited discussion of tonal systems across Papua New Guinea in general. He also offers the same categories as Donohue, dividing Papuan languages between syllable-tone, word-tone and pitch-accent systems. As a result, it is not clear there has been a transformative development in our understanding of tonal systems in Papuan languages, aside from van Zanten and Dol's analysis of specific classifications of pitch-accent systems.

One notable element of Cahill's (2011) work is his classification of languages that have since been re-analysed. Cahill identifies Mianmin (also known as Mian) as a syllable-tone language and suggests that Gadsup is unclassifiable. However, since publication, both languages have been re-analysed as word-tone systems (Fedden, 2011; Pennington, 2014). This reclassification could raise questions about previously offered estimates of the relative frequency of particular tone systems, as the current understanding of some languages may remain flawed.

A major issue in the description of tonal systems in Papuan languages is the contestation of what constitutes a pitch-accent system. Authors variously define pitch-accent as a "minimally complex" tonal system (Donohue, 1997, p. 367), a system in which the prominence of one syllable is achieved by pitch movement as opposed to stress (van Zanten & Dol, 2010, p. 114) or a system in which "there is a constant physical property [i.e., a tone] associated with [an] accent" (Hyman, 1977, p. 4). While these definitions vary according to their criteria, the distinction between the first two definitions may be minimal, as languages that have one contrastive tone that is limited to a single syllable of a word, i.e., a 'minimally complex' tone system, may have that syllable be perceived as increasing in prominence. This is furthered by some authors arguing that high tone can be accent-like in circumstances where tone and stress act simultaneously (Downing, 2010). Similarly, both van Zanten and Dol and Hyman's definitions require tone to be used to achieve an accent, rendering the distinction between their classifications relatively marginal. However, Hyman (2009) instead

suggests that pitch-accent is not a useful classification of languages, as the variation in definitions is so great that there is no prototypical pitch-accent system and unclear boundaries between ‘minimally complex’ and other restrictive tone systems.

Despite this criticism, this essay will still use pitch-accent to describe specific Papuan languages. The use of pitch-accent as a descriptor by Donohue, Cahill, van Zanten and Dol implies that many authors feel there is merit in clearly distinguishing between tonal systems of significantly different complexities. Furthermore, some languages have been classified as pitch-accent by their researchers without further information available to assess whether their claims of ‘accented’ syllables are accurate. Finally, it appears as if there would be a significant overlap between van Zanten and Dol’s (2010) proposed definition and that of Donohue (1997). This is because any language that achieved the prominence of one syllable by a movement of pitch would likely also have a ‘minimally complex’ tonal system by Donohue’s definition, thus at least somewhat mitigating the scale of possible confusion. However, it should be noted that some languages that Donohue deemed to be of low tonal complexity would not fall into van Zanten and Dol’s definition.

### **III. PAPUAN TONAL LANGUAGES: SOME DESCRIPTIONS**

This essay will now shift to describing four Papuan tonal languages to illustrate the complexity of tone in the region. Firstly, I will examine the syllable-tone system present in Iau (Lakes Plain), one of the most complex tonal systems in the world (Foley, 2018, p. 534). Then, I will turn to Mian (Ok), a recently re-analysed word-tone language with five distinct tonal melodies. Finally, I will describe two pitch-accent languages, Coastal Marind (Anim) and Urama (Kiwai) to illustrate the differences between pitch-accent systems.



## A. Iau (Lakes Plain)

Iau is a member of the Lakes Plain language family, located in North-western New Guinea (Foley, 2018, p. 530). It is a syllable-tone language with eight contrastive tones, being high (44), mid (33), high-rising (45), low-rising (23), high-to-low falling (42), high-to-mid falling (43), mid-to-low falling (32) and falling-rising (423) (where the numbers 2 to 5 represent the lowest-to-highest extremities of pitch in Iau) (Foley, 2018). Iau is furthermore a largely monosyllabic language, in line with Donohue's (1997) analysis of the relationship between the number of tonemes in a tone system and the number of syllables common in a language's words. This was the result of large-scale truncation which engendered the loss of consonants and syllables while their tone remained. These tones are attached to the remaining syllables, producing an expansion of the language's tonal inventory (Foley, 2018). Tone in Iau provides both lexical contrast and contrast between aspects and other grammatical functions (Bateman, 1990).

Tone in Iau verbs solely functions to provide a contrast between aspects, with verb stems lacking inherent tone, instead inflecting with tone to represent different aspects (Foley, 2018). Each of the eight tones corresponds to an aspect, as seen in Table 1 (Bateman, 1990).

<b>Tone</b>	<b>Aspect</b>
High (44)	Totality of action, punctual
Mid (33)	Resultative durative
High-rising (45)	Totality of action, incomplete
Low-rising (23)	Resultative punctual
High-to-low falling (42)	Telic punctual
High-to-mid falling (43)	Telic, incomplete
Mid-to-law falling (32)	Totality of action, durative
Falling-rising (423)	Telic durative

Table 1: the eight tones in Iau and their corresponding aspects

The use of tone to distinguish between the aspect of verbs is evident in (1) and (2). In (1), *bau*<sup>32</sup> ‘come.to.DUR’ has a distinct aspect from *bau*<sup>33</sup> come.to.RESULT in (2). See Appendix A for the abbreviations utilised by Foley (2018).

(1) o<sup>45</sup> fai<sup>44</sup>ta<sup>44</sup> be<sup>45</sup> bau<sup>32</sup>  
 sandbar end OBL come.to.DUR  
 ‘We came to the end of the sandbar.’

(Foley, 2018, p. 539)

(2) o<sup>45</sup> fai<sup>44</sup>ta<sup>44</sup> be<sup>45</sup> bau<sup>33</sup>  
 sandbar end OBL come.to.RESULT  
 ‘We had come to the end of the sandbar.’

(Foley, 2018, p. 539)

Tone also alters the mood and illocutionary force communicated by Iau’s sentence-final mood and speech act particles (Foley, 2018). As is evident in (3), the speaker is understood to have a higher degree of certainty about their presupposition than in (4), communicated by the tonal variation on the question particle.

(3) a<sup>43</sup> ty<sup>45</sup> Bi<sup>45</sup>e<sup>44</sup> a<sup>45</sup>se<sup>44</sup> u<sup>23</sup> di<sup>44</sup> be<sup>44</sup>?  
 father people Bie SEQ before kill.TOTAL.PUNCT Q.FACT  
 ‘So the people from Bie killed father first?’

(Foley, 2018, p. 541)

(4) da<sup>44</sup> a<sup>423</sup> tv<sup>44</sup> be<sup>43</sup>?  
 2PL land travel.TOTAL.PUNCT Q.GUESS  
 ‘(I’m guessing) did you(PL) go by land?’

(Foley, 2018, p. 541)

There are also tonal restrictions placed on verbs depending on their grammatical properties. Dependent verbs are unable to occur with high, high-to-low falling and mid-to-low falling tones, which is a grammatical rather than restriction due to the occurrence of all eight tenses on free verbs (Foley, 2018).

Overall, the syllable-tone system of Iau is highly complex. While the prevalence of monosyllabic words in Iau has resulted in fewer restrictions on the use of different tones, Iau instead has a very complex

tonal inventory. Tones not only contrast lexical meaning, but have grammatical functions, both communicating the aspect of verbs and subtly contrasting the mood of a speaker's utterance.

## **B. Mian (Ok)**

Mian is a member of the Ok family, which is a sub-grouping of the Trans-New Guinea family and is spoken in the Sandaun province of Northwestern Papua New Guinea (Fedden, 2011). Despite being initially analysed by Smith and Weston (1974) as a syllable-tone language with very restricted tonal contrasts, leading to it being analysed as such by Cahill (2011), Fedden (2011) instead analyses Mian as a word-tone language. Fedden (2011) justifies this re-analysis by referring to the very limited number of allowed tone patterns in disyllabic and trisyllabic words relative to the possible number of acceptable patterns if Mian were truly a syllable-tone language. Mian is now described as having five tonal melodies that spread out across their tonal domain: L, H, LH, LHL and HL (Fedden, 2011).

The inflection point of the tonal melody is dependent on the type of stem on which the melody inflects. All stems are either unaccented or accented. Unaccented stems have either an L or H tone melody, with the melody consistent across the whole tonal domain. Accented stems have either an LH, LHL or HL melody, with the tonal melody inflecting upon the accented syllable. Stem accented roots have their accents on the stem's last syllable. Off-stem accented roots have their accent on the next syllable to the right of the final stem syllable, or, when the stem occurs without any suffixing morphology, on the final stem syllable (Fedden, 2011). Off-stem accented verbs are a clear example of the phenomenon Donohue (1997) identifies of pitch being assigned to a syllable outside of the stem.

Mian follows invariable steps to assign tones to tone-bearing units once the accent of a stem has been determined. Firstly, the penultimate tone in the tonal melody is associated with the tone-bearing unit of the accented syllable, with all remaining tones associated in a one-to-one fashion with the surrounding tone-bearing units. Then, any unassociated term at the right edge of the word is ‘dumped’ onto the last syllable, creating a counter syllable. Finally, the leftmost and rightmost tones are mapped to any leftover tone-bearing units in their respective directions (Fedden, 2011). This process is evident in (82), where the penultimate tone of the LHL melody, H is associated with the accented syllable of *alukum* ‘all’. Then, the first tone of the melody, L, is mapped to the syllable to the left of the accented syllable, before the final L tone is dumped on the final syllable and the first L tone is spread to the remaining leftmost syllable.

(82) /<sup>LHL</sup>alukum/ ‘all’

LHL		LHL		L H L		L HL
						/   /
alukum	→	alukum	→	alukum	→	alukum
*		*		*		*

[aluk<sup>h</sup>um] ‘all’

(Fedden, 2011, p. 61)

In most instances, phonemic tonal melodies spread across the entire word. However, illocutionary clitics that are specified for tone lie outside the tonal domain of the stem (Fedden, 2011). This is evident in (84), where =o, a toneless predicator, is included in the tonal domain of the stem but the obligatory illocutionary marker =be carries its own tone.

(84) /<sup>H</sup>an=o=<sup>L</sup>bε/ ‘it’s an arrow’

H	L	H L	H L	H L
				\
an=o	=bε	→ anobe	→ anobe	→ anobe

(Fedden, 2011, p. 63)

Contour tones are sometimes dissolved in continuous discourse, including across word boundaries, particularly when a noun head is followed by a modifier or when a nominal adjunct precedes a verb. In such instances, the second tone in a contour tone on the last syllable of a word is delinked from its syllable and relinked to the next tone bearing unit to the right. When this occurs, the original tone of the second word’s first syllable is discounted (Fedden, 2011). This is evident in (109), where the initial LH tone associated with *εil* ‘pig’ is relinked to the first syllable of *ami* ‘domestic’, such that *ami* gains an HL tonal melody.

(109) /<sup>LH</sup>unaŋ/ /<sup>L</sup>mak/ ‘another woman’ (constituents being /<sup>LH</sup>unaŋ/ ‘woman’ and /<sup>L</sup>mak/ ‘other’)

L H L	L H L	L HL
/ \	/ \ \	\
→ unaŋ mak	→ unaŋ mak	→ unaŋ mak

[unaŋ mâk<sup>h</sup>] ‘another woman’

(Fedden, 2011, p. 71)

There are restrictions on the tonal melodies allowed in verb stems. All unaccented verbs have an L tonal melody, while accented verbs are specified for either LHL or HL tonal melodies. As with other stems, stem accented verbs have their accent on the stem’s final syllable. Off-stem accented verbs have their accent on the first syllable following the last syllable of the stem, except when there is no suffixing morphology, wherein the accent moves to the last syllable of the stem (Fedden, 2011). However, when a verb takes the irrealis suffixes *-amab* or *-aamab*, there is an inherent accent on the last syllable of the suffix,

which becomes the inflection point of the tonal melody for off-stem accented verbs (Fedden, 2011). This is evident in (126), where the H of the LHL tonal melody attaches to the second syllable to the right of the stem.

(126) /<sup>LHL</sup>lowonaalmabibe/ 'I will eat'

Morpheme breakdown:

*dowôn'-aamab-i=be*

eat.PFV-IRR-1SG.SBJ=DECL

LHL	L	LHL	L	HLL	/	/	L	HLL
					/	/		
lowona <sup>ʰ</sup> mabibe	→	lowona <sup>ʰ</sup> mabibe	→	lowona <sup>ʰ</sup> mabibe	→	lowona <sup>ʰ</sup> mabibe	→	lowona <sup>ʰ</sup> mabibe
*		*		*		*		*

[<sup>ʰ</sup>dowona<sup>ʰ</sup>māβiβe] 'I will eat'

(Fedden, 2011, p. 80)

There are several aspects of Mian that elevate its complexity as a tonal language. The dissolving of contour tones when they occur between certain elements in discourse creates exceptions to the overarching rules of tone assignment. Furthermore, the distinction between stem and off-stem accented verbs results in the inflection points of tonal melodies being inconsistent. Finally, in some forms of the non-hodiernal past the subject-marker bears an H tone, disambiguating it from the imperfective, demonstrating that tone has an extremely limited grammatical function in Mian. However, the instances in which this occurs are not entirely predictable, further rendering the Mian tone system complex (Fedden, 2011). Overall, despite the relatively straightforward nature of the tone assignment rules in Mian, there are still several complexities to its tone system.

### C. Pitch-accent systems: Coastal Marind (Anim) and Urama (Kiwai)

Coastal Marind is a member of the Anim family, which Olsson (2021) posits is likely a member of the broader Trans-New Guinea language

family. The tonal system of Coastal Marind is manifested in a stress that is characterised by a higher pitch on stressed syllables. As a result, the language has no tonal contrasts (Olsson, 2021). This information suggests that Coastal Marind has a very restricted tonal system that can be classified as a hybrid tone-stress system.

Urama is a member of the Kiwai family, a subgrouping of the Trans-New Guinea family and is spoken in the Gulf province of south Papua New Guinea. Urama has a system of tonal accents. All words must have at least one L tone, but can have a single H accent on any syllable, though it is not necessary (Brown et al., 2016). Similarly to Coastal Marind, this also appears to be evidence of a limited tone system in Urama.

Coastal Marind appears to fall into the definitions of pitch-accent proposed by both van Zanten and Dol and Donohue. The tonal system is not contrastive and only has evidence of one tone, thereby being ‘minimally complex’. Furthermore, it also has evidence of prominence being achieved by pitch, though this occurs in conjunction with stress. Urama also appears to fall into Donohue’s definition, demonstrating a highly restricted tone system. Van Zanten and Dol’s definition may also apply in this case, but it would require more evidence as to whether the ‘accent’ is considered to be more prominent than other syllables to make such a determination. While these systems are not ‘complex’, they illustrate the potential for variation within pitch-accent languages, which may have both contrastive and uncontrastive instances of tone.

## IV. CONCLUSION

The evolution of surveys of Papuan languages has largely demonstrated concurrence between authors surrounding the existence of syllable-tone, word-tone and pitch-accent languages in New Guinea. There is also broad agreement that tonal systems demonstrate considerable variation between languages, even within genetic groupings. The area

of greatest disagreement between authors is the definition of pitch-accent, though in many instances the various definitions offered by authors have areas of overlap. Upon analysing Iau, Mian, Coastal Marind and Urama, it is evident that there is significant complexity evident in the tonal systems of Papuan languages, across syllable-tone, word-tone and pitch-accent systems.

## Appendix A – Glossing abbreviations

DUR durative  
 PUNCT punctual  
 RESULT resultative  
 TOTAL totality of action

## References

- Bateman, J. (1990). Iau segmental and tone phonology. *NUSA: Linguistic studies of Indonesian and other languages in Indonesia* 32(1). 29-42. <http://sealang.net/archives/nusa/pdf/nusa-v32-p29-42.pdf>
- Brown, J., Muir, A., Craig, K. & Anea, K. (2016). A short grammar of Urama. *Asia-Pacific Linguistics*.
- Cahill, M. (2011, September). Tonal diversity in languages of Papua New Guinea. (SIL Electronic Working Papers 2011-008). [https://www.sil.org/system/files/reapdata/11/10/01/111001400370819501514438364076792380756/silewp2011\\_008.pdf](https://www.sil.org/system/files/reapdata/11/10/01/111001400370819501514438364076792380756/silewp2011_008.pdf)
- Donohue, M. (1997). Tone systems in New Guinea. *Linguistic Typology*, 1(3). 347-386. <https://doi.org/10.1515/lity.1997.1.3.347>
- Fedden, S. (2011). A grammar of Mian. De Gruyter Mouton.
- Foley, W. A. (2018). The languages of Northwest New Guinea. In B. Palmer (Ed.), *The languages and linguistics of the New Guinea area* (pp. 433-569). De Gruyter Mouton.



- Hyman, L. M. (1977). Tone and/or accent. In D. J. Napoli (Ed.), *Elements of tone, stress and intonation* (pp. 1-20). Georgetown University Press.
- Hyman, L. M. (2001). Tone systems. In M. Haspelmath, E. König, W. Oesterreicher & W. Raible (Eds.), *Language typology and language universals* (Vol. 2) (pp. 1367-1380). De Gruyter Mouton.
- Hyman, L. M. (2006). Word-prosodic typology. *Phonology*, 23(2). 225-257. <https://doi.org/10.1017/S0952675706000893>
- Hyman, L. M. (2008). How (not) to do phonological typology: the case of pitch-accent. *Language Sciences*, 31(2-3). 213-238. <https://doi.org/10.1016/j.langsci.2008.12.007>
- Olsson, B. (2021). *A grammar of Coastal Marind*. De Gruyter Mouton.
- Pennington, R. (2014, September). Tone in Gadsup noun phrases. In *Linguistics Society of Papua New Guinea 2014 [symposium]. Annual conference of the Linguistics Society of Papua New Guinea, Madang, Papua New Guinea*.
- van Zanten, E. & Dol, P. (2010). Word stress and pitch accent in Papuan languages. In H. van der Hulst, R. Goedemans & E. van Zanten (Eds.), *A survey of word accentual patterns in the languages of the world* (pp. 113-155). De Gruyter Mouton.

# Japan and Germany

A comparison of demographic and foreign policy

*Cian Münster*

Japan and Germany, which are both nations that were defeated during the Second World War, have developed into stable democracies. The two countries' politics have certain similarities and differences that are both advantageous and disadvantageous. This essay will focus on these key differences and present a detailed comparison of certain areas in which either country has achieved more success. Firstly, it will discuss how Japan and Germany have sought to mitigate their demographic issues. Secondly, the essay will examine foreign policy by examining the different states of both nations' regional ties following the Second World War. Finally, it will also evaluate how Japan's relationship with regional adversary China has had greater success than Germany's relationship with Russia.

## I. POPULATION DECLINE

Firstly, Japan is currently experiencing a massive demographic decline. Clark et.al (2010) notes that while population and workforce decline are not a process unique to Japan, the nation will likely experience this decline first. It is projected that Japan's workforce will have declined by more than a third in the first half of the 21st century and that this impact will be even more significant in per centage terms (Clark et al. 2010). Due to Japan's high life expectancy, the working population is expected to shrink faster than the overall population, leading to an overall lower share of the population able to work (Clark et.al 2010). This overall decline in the working-age population will slow economic

growth and raise pressure on the country's social security system (Clark et al. 2010).

Germany faces similar demographic issues. Its natural population growth has been negative since 1972 and also has an ageing population along with low birth rates (Goldenberg 2020). In 2020, 1 in 15 Germans were over the age of 80 compared to 1 in 100 in 1950 with projections showing this will reach 1 in 10 by 2040 (Goldenberg 2020). Both countries' responses can be roughly divided into efforts to reduce the scale of the demographic problems and to mitigate their consequences.

The German approach to managing its demographic problems has some differences from that of Japan. Firstly, Germany has managed to temporarily offset its population decline through large amounts of immigration (Arnold 2020; Fuchs 2017). The 2015-2016 European Migrant Crisis led to a large inflow of young working-age people into the country. This resulted in German population growth returning to positive levels after a steep decline in the early 2000s (Arnold 2020; Fuchs 2017). In comparison, Japan has faced several issues in attracting immigration to solve its demographic issues. The innate conservatism and homogeneity of Japan mean that opposition to immigration is much stronger (Evaniuk 2017; Strausz 2022). Several initiatives to promote immigration to Japan have also largely been unsuccessful (Strausz 2022). Meanwhile, in Germany, large waves of migration have occurred since the 1950s which has led to a greater acceptance of immigrants (Evaniuk 2017).

While Japan may struggle to promote immigration by traditional means, it could play a larger role in the intake of refugees. The intake of refugees in Japan has historically been low compared to other developed countries (Strausz 2022). In the year 2020 for example, there were approximately 4000 applications in Japan for refugee status and special residence permits however only approximately 100 applications were approved (Nippon 2021). In comparison, there were approximately 1.8 million people with a refugee background in

Germany in 2018 of which 72% had approved applications for asylum (Keita & Dempster 2020). Approximately half of these refugees have since found work or are involved in the workforce through other means (Keita & Dempster 2020). Therefore, if Japan were to increase its humanitarian intake, the shrinking of Japan's workforce may be reduced in line with the German experience.

Likewise, Japan and Germany's policies for incentivising higher birth rates have significant differences. In Germany, generous policies for working families with children have been credited with raising the country's birth rate from 1.33 children per woman in 2007 to 1.57 in 2017 (Arnold 2020). However, policies directly incentivising having children have largely not been implemented due to the historical legacy of similar policies implemented in Germany during the Nazi era (Evaniuk 2017). Despite this lasting influence, the German government did implement a program during the Covid-19 pandemic that provided a one-off bonus to families that had children in the year 2020 (Seibel 2020). Meanwhile, in Japan, similar policies have proved successful. The birth rate in Japan rose from a low of 1.26 in 2005 to 1.46 in 2015 (Holodny 2010). The areas where births increased the most were places where bonuses were paid for having children (Holodny 2010). Should Japan extend the granting of funds for having children and work to support working families, this may help further increase birth rates. Similarly for Germany, directly incentivising having children and expanding upon the 2020 one-off payment may be another step to raise its birth rate provided it is considered culturally acceptable.

Japan and Germany have also placed significant emphasis on managing the impacts of their unfavourable demography. In Japan, the comprehensive long-term care insurance policy implemented in 2000 offers a variety of ways to care for the elderly mitigating healthcare costs (Sze-Yunn & Arivalagan 2020). Additionally, the development of robots and research into new medical treatments seek to automate processes and thus mitigate and reduce future shortages in the workforce (Sze-Yunn & Arivalagan 2020). In Germany, steps to

mitigate the impact of demographic issues have taken a more economic focus. The country has already legislated an increase in the retirement age from 65 to 67 by the year 2029 and there are discussions of raising this further to 69 soon (Scuster 2021). Furthermore, restrictions on private pension plans have been eased in an attempt to incentivise private savings (Bonin 2009).

## II. POST-WAR REGIONAL TIES

Furthermore, a key area where Japan could take inspiration from Germany is in its reproach of former enemies of the Second World War. Germany has normalised openness about its role in the second world war and the atrocities of the Holocaust, allowing the nation to forge strong partnerships with its former enemies and retain a greater degree of independence from the United States. Meanwhile, Japan's actions are often seldomly discussed. This has made Japan's neighbours wary of it and caused several disputes (Gauder 2017). These disputes have significant economic consequences for Japan.

An example of Japan's unwillingness to recognise the effects of its actions during the Second World War is the current trade dispute between Japan and South Korea, which began as a result of court rulings that ordered Japanese companies to compensate wartime labourers and families (Ezell 2020). The ruling led Japan to reintroduce several export controls on trade with the country (Ezell 2020). A particular economic area which could be harmed is the Japanese chemical industry, which has many connections to South Korea's semiconductor industry (Ezell 2020). Japan's problems in finding regional partners ultimately leads to its continued dependence on the US. This increases the extent to which Japanese security is dependent on accommodations from the United States. Tsuruoka (2018) notes that while Japan was spared from the Trump administration's demands to increase defence spending, many European NATO allies were faced with a less accommodating United States. Should a future American administration be less willing to

guarantee Japanese security, Japan would be left considerably exposed (Tsuroka 2018). If Japan is to further ensure its security, it should seek to diversify its ties with other regional neighbours. The recent trade dispute with South Korea, along with other disputes Japan has with its neighbours regarding its actions during the Second World War, needs to be resolved to do so.

In comparison, Germany has pursued effective rapproach with its former enemies. This has been done through economic and political integration with its neighbours. This is particularly the case with France with which Germany once shared a centuries-long enmity but is now considered its closest partner (Krotz 2014). Additionally, West Germany under chancellor Willy Brandt pursued a policy known as “Ostpolitik” (Eastern Policy) in the 1970s in which he successfully pursued reconciliation with the then nations of the eastern bloc in Europe (Grau 2003). While Germany continues to have disputes regarding the payment of reparations from the Second World War with countries such as Greece, the normalisation of relations has mostly stayed intact and has not led to major trade disputes on the scale of Japan and South Korea (Deutsche Welle 2021). Japan could thus attempt a similar undertaking with its regional neighbours.

### **III. REGIONAL ADVERSITIES**

Japan’s experience in conducting diplomacy with adversaries appears largely advantageous when compared to that of Germany. Under the leadership of chancellor Angela Merkel, the country’s approach to bilateral relations with Russia attempted to separate political differences from economic opportunities (Falk 2022). Through this approach, Germany became dependent on Russian gas and has indicated it would be unable to sanction gas trade with it in response to the country’s invasion of Ukraine (Von der Burchard & Segue 2022). While Germany has made commitments to reduce its dependency on Russia, these are long-term measures that will not have an immediate

effect (Atlantic Council 2022). Germany's dependency on Russian gas relates to its energy needs. With the country planning to phase out nuclear energy by the end of 2022 and phase out coal in the longer term, gas is an important transition fuel (Fenkse 2021; Wettengel 2022). Therefore, its dependence on Russian gas has placed it in a situation where it must factor in both geopolitical and domestic factors. Meanwhile, Japan has engaged China both as an important trading partner and a geopolitical adversary. Under Japanese prime minister Shinzo Abe, the "Free and open Indo-Pacific" strategy was launched which had the initial goal of countering Chinese influence in the region (Wan 2022).

This approach however was not directly confrontational and allowed room for cooperation with China on certain Belt and Road Initiative (BRI) projects (Wan 2022). Japan also successfully led ratification efforts for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a grouping which did not include China (Wan 2022). At the same time, Japan was one of the major parties in the ratification of the Regional Comprehensive Economic Partnership (RCEP) which did include China (Wan 2022). The Japanese approach to its adversary China is therefore one of both countering and cooperating with it to ensure stable relations. In comparison, Germany's economic dependence on Russia for gas supplies has weakened its position.

## IV. CONCLUSION

Overall, Japan and Germany have different approaches to demographic and foreign policy issues. Both countries face major demographic problems, however, Germany's approach appears to be more effective and could inspire future Japanese policy. Likewise, Germany has encountered more success in building regional partnerships with its former Second World War enemies. On the other hand, Japan appears more effective at handling relations with its regional adversary, China,

as opposed to Germany's relationship with Russia. This analysis shows that both countries have differing strengths and weaknesses in developing their international relationships following the Second World War.

## References

- Arnold, M 2020, 'German population declines for first time in decade', *Financial Times*, viewed 17 March 2022, <<https://www.ft.com/content/ab4c4008-35d9-4948-bf00-33196baf889c>>.
- Atlantic Council 2022 'Experts React: What's behind Germany's stunning foreign-policy shift?', viewed 18 March 2022, <<https://www.atlanticcouncil.org/blogs/new-atlanticist/experts-react-whats-behind-germanys-stunning-foreign-policy-shift/>>.
- Bonin, H 2009, '15 Years of Pension Reform in Germany: Old Successes and New Threats', *The Geneva Papers on Risk and Insurance. Issues and Practice*, vol. 34, no. 4, pp. 548–560.
- Clark, RL, Ogawa, N, Kondo, M & Matsukura, R 2010, 'Population Decline, Labor Force Stability, and the Future of the Japanese Economy', *European Journal of Population / Revue Européenne de Démographie*, vol. 26, no. 2, pp. 207–227.
- Deutsche Welle 2021, 'Greece makes fresh WWII reparation claims from Germany', viewed 20 March 2022, <<https://www.dw.com/en/greece-makes-fresh-wwii-reparation-claims-from-germany/a-57102886>>.
- Evaniuk, J 2017, 'Aging Populations: A Comparison between Japan and Germany', *Demographics, Social Policy and Asia (part 1)*, vol. 22:3, no.3, pp. 52–55.
- Ezell, S 2020, *Understanding the South Korea-Japan Trade Dispute and Its Impacts on U.S. Foreign Policy*, 16 January, Information Technology and Innovation Foundation, viewed 19 March 2022, <<https://itif.org/publications/2020/01/16/understanding-south-korea-japan-trade-dispute-and-its-impacts-us-foreign>>.



- Falk, T 2022, 'Germany's U-turn on Russia underlines its failed policy of appeasement, South China Morning Post, viewed 15 March 2022, <<https://www.scmp.com/comment/opinion/article/3168865/germanys-u-turn-russia-underlines-its-failed-policy-appeasement>>.
- Fenske, M 2021, 'Weitere Atomkraftwerke gehen vom Netz – Rufe nach Laufzeitverlängerung werden lauter', RedaktionsNetzwerk Deutschland, viewed 20 March 2022, <<https://www.rnd.de/politik/atomkraft-ende-2022-weitere-kraftwerke-gehen-vom-netz-rufe-nach-laufzeitverlaengerung-werden-lauter-W7JLD4KCDJSX3JJDEL4OXLAU3Y.html>>.
- Fuchs, R 2017 'Germany is not shrinking', Deutsche Welle, viewed 18 March 2022, <<https://www.dw.com/en/germany-is-not-shrinking/a-37415327>>
- Gaunders, A 2017, 'National security and foreign policy', in Japanese Politics and Government, pp 149-162, Routledge (Taylor and Francis Group).
- Goldenberg, R 2021, 'Germany's birth rate drops, confirming dramatic predictions for the whole world, Deutsche Welle, viewed 17 March 2022, <<https://www.dw.com/en/demography-german-birthrate-down-in-coronavirus-pandemic/a-54395345>>.
- Grau, A 2003, 'Neue Ostpolitik', Lebendiges Museum Online, Foundation House of the History of the Federal Republic of Germany, viewed 20 March 2022, <<http://www.hdg.de/lemo/kapitel/geteiltes-deutschland-modernisierung/neue-ostpolitik.html>>.
- Holodny 2018, 'Why people in Japan are being paid to have babies', World Economic Forum, viewed 14 March 2022, <<https://www.weforum.org/agenda/2018/01/why-people-in-japan-are-being-paid-to-have-babies/>>.
- Keita, S, Dempster H 2020, 'Five Years Later, One Million Refugees Are Thriving in Germany', Center For Global Development, viewed 11 March 2022, <<https://www.cgdev.org/blog/five-years-later-one-million-refugees-are-thriving-germany>>.

- KROTZ, U 2014, 'Three eras and possible futures: a long-term view on the Franco-German relationship a century after the First World War', *International Affairs* (Royal Institute of International Affairs 1944-), vol. 90, no. 2, pp. 337–350.
- Nippon 2021, 'Japan Accepts 47 Refugees in 2020 as Applicants Fall by 60% Due to Pandemic 2021', viewed 18 March 2022, <<https://www.nippon.com/en/japan-data/h00991/>>.
- Schuster, K 2021, 'Retirement pay: The most controversial German election issue', *Deutsche Welle*, viewed 18 March 2022, <<https://www.dw.com/en/retirement-pay-the-most-controversial-german-election-issue/a-57856668>>.
- Seibel, K 2020, 'Konjunkturpaket: Den 300-Euro-Kinderbonus gibt's auch für Ungeborene', *DIE WELT*, viewed 16 March 2022, <<https://www.welt.de/wirtschaft/article209464549/Konjunkturpaket-Den-300-Euro-Kinderbonus-gibt-s-auch-fuer-Ungeborene.html>>.
- Strausz, M 2022, 'Immigration and Democracy in Japan', in RJ Pekkanen & SM Pekkanen (eds), *The Oxford Handbook of Japanese Politics*, Oxford University Press, pp. 470–489.
- Sze-Yunn, P, Arivalagan, Y 2020, 'These countries are most ready to deal with ageing populations', *World Economic Forum*, viewed 20 March 2022, <<https://www.weforum.org/agenda/2020/02/what-are-japan-and-singapore-doing-about-ageing-population/>>.
- Tsuruoka, M 2018, *The Donald J. Trump Administration as Seen from Tokyo: Will the US-Japan Alliance Remain Unique?*, *Istituto Affari Internazionali (IAI)*, viewed 20 March 2022, <<https://www.jstor.org/stable/resrep17536>>.
- Von der Burchard, H, Sague, M 2022, 'Germany's Scholz rejects calls to ban Russian oil and gas', *Politico*, viewed 20 March 2022, <<https://www.politico.eu/article/germany-rejects-calls-for-banning-russian-oil-and-gas/>>.
- Walia, S 2019., 'How Does Japan's Aging Society Affect Its Economy?', *The Diplomat*, viewed 17 March 2022, <<https://thediplomat.com/2019/11/how-does-japans-aging-society-affect-its-economy/>>.

- Wan, M 2022, 'Japan-China Relations: Politics of Great Powers and Great Power Politics', in RJ Pekkanen & SM Pekkanen (eds), *The Oxford Handbook of Japanese Politics*, Oxford University Press, pp. 831–846.
- Wettengel, J 2022, 'Germany and the EU remain heavily dependent on imported fossil fuels', *Clean Energy Wire*, viewed 15 March 2022, <<https://www.cleanenergywire.org/factsheets/germanys-dependence-imported-fossil-fuels>>.

# **Bounded Neofunctionalism**

## **Assessing European Integration in the Context of the European Court of Justice**

*Ben Huntsman*

### **I. INTRODUCTION**

This essay aims to assess the evolution of the composition and powers of the European Court of Justice (ECJ) to determine which mainstream theory of integration (liberal intergovernmentalism or neofunctionalism) holds the most explanatory power. With respect to the evolution of powers, this essay focuses on evolution which has occurred through the Court itself, rather than that which has occurred by explicit treaty modification. This is for two reasons: Firstly, as an institution charged with oversight, not policy creation, the ECJ generally gains power in an area as an inseparable by-product of another institution gaining policy power. A discussion of the Court's gaining of power in this way would thus be a discussion of the evolution of another institution. Secondly, by far the most significant evolutions in the ECJ's power have come through court judgements, and thus, any attempt to claim that a given theory has strong explanatory power considering the ECJ must necessarily heavily focus on this aspect.

### **II. THEORY**

#### **A. Composition**

The primary way the ECJ's composition evolves is in the changing of its membership. An intergovernmentalist prediction of this process

would allow states significant power in determining those who sit on the court and for that power to be exercised to promote national interests. This promotion would manifest in the appointment of judges that hold views on integration aligned with what is most favourable to key interest groups in the appointing polity – following Moravcsik’s (1993) contention that such groups are the primary driver of state policy on integration.

By contrast, neofunctionalism would predict an evolution of ECJ membership that is increasingly shaped by the institution itself. Here, Haas’ (1968) theorisation of spillover by technocratic automaticity would be in operation, driving the court itself to establish mechanisms – formal or informal – by which it controls its composition.

ECJ composition also evolves through the jurisprudence of the judges themselves. Although neofunctionalism’s notion of a transfer of allegiance is typically applied to broad social groups or elite circles, an argument could be made that the ECJ itself represents a community of individuals where it might also occur. The theory suggests that as supranational actors operate they generate support from members of society who believe that a supranational solution serves their interests better than a national one (Haas 1968). In the ECJ, this would be manifest in a shift towards increasingly ‘pro-European’ jurisprudence.

By contrast, although intergovernmentalism does not explicitly contend that the transfer in loyalties does not occur, it would likely expect that judges on the ECJ would continue to privilege the sovereignty of the state in their decision-making, and thus resist notions that further integration is inherently desirable.

## **B. Powers**

The powers of the ECJ are delineated not only by the explicit power granted in the Treaties but by the court itself. As an apex court, the ECJ is capable of extending its power through the rulings that it promulgates.

An intergovernmentalist view might immediately take issue with an extension of authority by a supranational institution without express state consent, however, intergovernmentalist theory acknowledges that states may entrust institutions with such power to solve issues of incomplete contracting (Garrett 1992). States may fear that in certain areas of integration, there is the potential for novel circumstances to arise that would undermine their goals. Consequently, they empower courts to adapt the integration framework in service of the protection of these interests.

Intergovernmentalists would not, however, expect states to create institutions that can fundamentally alter the nature of the integration. This kind of alteration is anathema to the notion that states only engage in integration when they are assured it is in their interests. Should this occur, it would suggest strong explanatory power is held by neofunctionalism.

In short, the core factors in evaluating the explanatory power of the theories regarding the powers of the ECJ are twofold: whether states have intentionally created an institution that poses a substantial risk of acting in such a way as to threaten domestic objectives, and whether states can effectively control cases of ‘runaway institutions’ through the exercise of their power as national governments..

### **III. ANALYSIS**

#### **A. Which theory is most explanatory of evolution in the ECJ’s composition?**

As mentioned, the primary factor driving evolution in the composition of the ECJ is its actual membership. Each EU member state (MS) nominates one judge to the court, and that nominee is then subject to approval by the other MS (Hix 2005). Notably, none of the other

supranational EU bodies plays a role in determining the direct composition of the Court.

Furthermore, there is little institutional input into the process by which MS make their nominations – although the relevant treaty establishes that an advisory committee will provide an opinion on each nominee, only one of 7 members is a direct appointment of the European Parliament.<sup>1</sup> It thus seems clear that how the ECJ's direct composition (its judges) evolves is virtually entirely driven by the preferences of states, and thus, deeply in line with an intergovernmentalist narrative of the evolution of supranational institutions.

However, the ECJ itself does wield some influence over its procedural composition, that is, which judges rule on a given case. The Court has, over time, developed a system of smaller chambers to which individual cases may be assigned. Indeed, since the mid-1990s, less than 20% of all cases were decided by the full Court (Malecki 2012). The allocation of a given case to a particular chamber, according to Malecki (2012), has the potential to influence the outcome of that case, as certain views may be more prevalent in each combination of judges compared to another. The suggestion here, from a neofunctionalist perspective, is that the practices adopted by the Court can organise it in a way which might impact upon how integration proceeds, and thus there is some sort of technocratic automaticity occurring as the Court informally modifies itself to be more (or less) pro-integration than intended by its member states. The counterpoint in this instance is that the Court is restricted to 'playing with the hand it is dealt' by the member states – it may choose to set itself up in a way in which the most pro-integration judges deal with matters of a particular area, but those judges have still been appointed by the earlier-discussed highly intergovernmental appointment process.

---

<sup>1</sup> "Treaty on the Functioning of the European Union," signed March 25, 1957, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT>.

A further way in which the Court's composition evolves is in the individual jurisprudence of its constituent judges. As explained when discussing the relevant theory, neofunctionalists would hope to see a gradual transition of national loyalties by judges towards a pro-European stance. Broadly, there is evidence to support this dynamic being present. Larsson and Naurin (2016) have found in an analysis of MS positions submitted to the ECJ in argument, and the ECJ judgements themselves, that the Court consistently takes a more 'pro-integration' view than that of the member states. Furthermore, Maleki (2012) finds that the ECJ has sided with the Commission in about 75% of matters. These findings suggest that at a broad level, the ECJ as an institution serves to advance supranationalism at a greater rate than that would be expected if it merely served as a vassal for MS. This would support a neofunctionalist characterisation of the evolution of the ECJ, where judges, handpicked by MS, grow loyal towards the furtherance of the institution they are a part of.

There is some evidence that judges continue to retain a loyalty to their nominating nation's interests, however. Frankenreiter (2017) finds that ECJ judges tend to refer more often to decisions from their home legal system than others and that this may indicate a preference for promoting interpretations which are closely aligned with their national legal arrangements. However, this preference for national cases may be simply a by-product of the judges being most familiar with cases from their nominating state. If this is accurate, then this weighs against a possible intergovernmentalist counterpoint that ECJ judges resist a neofunctionalist transfer in domestic allegiances.

In summary, then, an analysis of the explanatory power of neofunctionalism and liberal intergovernmentalism suggests that while at the most immediate level, states retain significant control over the evolution of ECJ composition, there are several indirect ways in which the institution itself may shape its composition. These self-shaping mechanisms seem to have the effect (at least to some extent), of limiting the practical application of formal control over the evolution of the



Court's composition that MS wield. Therefore, while intergovernmentalism cannot be rebutted comprehensively, there is clear cause to suggest that the ECJ is indicative of several neofunctionalist elements' presence.

## **B. Which theory is most explanatory of the ECJ's powers?**

The most significant changes in the ECJ's powers have come because of actions taken by the ECJ itself. As explained in the earlier discussion of theory, this itself does not suggest one theory offers more explanatory power in this area. To determine which does, an analysis of the character of such evolutions in power needs to be undertaken.

Two seminal cases stand out in the history of the ECJ. The first of these, *Van Gend en Loos*, concerns the principle of direct effect (*Van Gend en Loos v Nederlandse Administratie der Belastingen* 1963). The Court's judgment in *Van Gend en Loos* recognised for the first time that an individual within the EEC may bring enforce a right conferred by Community law in a domestic court. Prior to this point, only states could avail themselves of the rights afforded by EEC law, and as such, the decision widened enormously the exposure of national governments to enforcement actions under European law. This decision is extremely troubling from an intergovernmentalist perspective, as the ECJ has acted without prompting from national governments to cause a "genuine revolution in European law", in a manner that was "unexpected by the key observers". (Rasmussen 2014). This is clearly at odds with the intergovernmentalist view that states will avoid endowing an institution with power beyond that which is explicitly necessary to achieve a domestic policy goal. Put simply, intergovernmentalism would not predict states would create an ECJ that had the capability to 'change the deal they signed up to'. And yet, the *Van Gend en Loos* case shows they did exactly that.

The issues for intergovernmentalism continue when considering the case of *Costa*. *Costa* saw the ECJ recognise that in the case there was a divergence between national and European law, European law would prevail (Flaminio Costa v ENEL 1964). With respect to the position of a state vis-à-vis an institution, this is highly significant; without primacy, a national government might have expected (as the Italian government did in *Costa*) that any aspect of European law could be ignored with the passage of a domestic law to the contrary. As such, the *Costa* judgment fundamentally reshaped the relationship between the EEC and the MS.

*Costa* and *Van Gend en Loos* are thus highly characteristic of how neofunctionalism would expect institutions to behave. The institution, over time, uses its power not only to protect integration, but to unilaterally effect it. Liberal intergovernmentalism struggles to explain why MS would willingly enter an arrangement where this would occur – the core tenet of the theory is that states remain in control of the course of integration, and yet, the two cases demonstrate that they are not. This strongly indicates that the evolution of the powers of the ECJ is best explained by neofunctionalism.

However, so far only the official evolution of the ECJ's power has been considered. It might be possible that, in a *de facto* sense, states retain considerable control over how the ECJ's power and competencies evolve. Carrubba, Gabel and Hankla (2008) have noted that threats of noncompliance and override from MS "restrict the Court's ability to push an agenda contrary to the preferences of the member-state governments". Larsson and Naurin (2016) go further, illustrating how in issue areas in which an override is easier to achieve through intergovernmental mechanisms, the Court is statistically more likely to align with the preferences of member states. These findings weigh against a neofunctionalist characterisation of the evolution of ECJ power, suggesting that MS retain substantial influence over how the Court furthers integration – as much is acknowledged by Larsson and Naurin (2016) in their findings.

Reassessing *Costa v ENEL* and the following German case of *Solange I* provides an interesting illustration of the dynamics at play when states attempt to fight back against ECJ extensions of its own power. Following the aforementioned *Costa* decision, which substantially expanded the extent to which MS were compelled to act by European law, the German Constitutional Court (FCC) held that it would not enforce European law so long as the European legal framework lacked a comprehensive human rights protection system (*Internationale Handelsgesellschaft mbH v Einfuhr- und Vorratsstelle für Getreide und Futtermittel* 1970). Here, the FCC, a national institution, is pushing back against the ECJ's expansion of its authority by attempting to impose a condition on the extension of integration that the ECJ promulgated with *Costa*. This attempt was somewhat successful – in subsequent ECJ cases, the Court increasingly incorporated elements of the European Convention on Human Rights (ECHR) into the European legal framework, and in the case of *Rutili*, ruled based on an ECHR provision (Davies 2012).

The *Solange* saga thus demonstrates that there are practical examples in which national courts have checked the growth of power promoted by their supranational peer, the ECJ. The German FCC seems to have prompted the ECJ to make substantial changes to the legal order as a precondition to the acceptance of EU law primacy, and in doing so, exercised the type of control that intergovernmentalists would expect MS to wield. Neofunctionalists might respond to this however, by pointing out that during the *Solange* saga, the German government was actually more aligned with the ECJ position, perhaps evidencing a transition of national loyalties as having occurred in Germany, wherein key interest groups begin to place their faith in supranational institutions over national equivalents (Davies 2012).

This discussion of the evolution of the powers of the ECJ has thus yielded two findings. Firstly, the ECJ wields a significant amount of *de jure* power to shape the development of its own powers and role, and from this neofunctionalist theory draws strong support. Secondly

however, *de facto* implementation and recognition of the use of this power is at least to some extent checked by national institutions, suggesting that MS retain substantial control over their destiny as a member of a supranational institution. On a continuum between neofunctionalism and intergovernmentalism, this second observation shifts the ECJ's evolution of powers towards the latter. However, it is impossible to ignore the enormous power wielded by the ECJ to reshape its power as an institution, even if it sometimes must make concessions to do so (as in *Solange*). An analysis of the evolution of the ECJ's powers thus, on balance, lends more support to a neofunctionalist framing than an intergovernmental one.

#### IV. CONCLUSION

This essay has seen two inverted narratives emerge: the composition of the ECJ is primarily intergovernmental, however, is challenged by some neofunctionalist mechanisms in its operational sense, with the opposite dynamic at play concerning the evolution of powers. But this notion of two separate threads is a construct; the composition and the powers of the institution are tightly linked. The way the ECJ has independently advanced the level of European legal integration is inseparable from the Europhile jurisprudence that its composition has generally espoused. An appropriate conclusion, therefore, fuses the aspects of composition and powers.

The ECJ best fits with the notion of 'bounded neofunctionalism'. This notion of binding refers to the intergovernmental mechanisms existing at both ends of the 'pipeline' that produces further integration. At the earliest stage, MS shape the composition of the court through the appointment process, and at the latest stage (the implementation of ECJ rulings), MS can resist and push back. But the core driver of the evolution of the ECJ is the institution itself. It shapes its jurisprudence, and crucially, promulgates judgements that fundamentally reshape its role within the EU system. The reality is that member states play a

largely reactive role in the evolution of the composition and powers of the ECJ, and thus at its core, this reality is a neofunctionalist one.

## References

- Carrubba, Clifford J, Matthew Gabel, and Charles Hankla. 2008. "Judicial Behavior under Political Constraints: Evidence from the European Court of Justice." *American Political Science Review* 435-452.
- Davies, Bill. 2012. "Pushing Back: What Happens When MS Resist the European Court of Justice? A Multi-Modal Approach to the History of European Law." *Contemporary European History* 417-435.
- Flaminio Costa v ENEL. 1964. 6/64 (European Court of Justice, 15 July ).
- Frankenreiter, Jens. 2017. "The Politics of Citations at the ECJ—Policy Preferences of E.U. MS Governments and the Citation Behavior of Judges at the European Court of Justice." *Journal of Empirical Legal Studies* 813-857.
- Garrett, Geoffrey. 1992. "International Cooperation and Institutional Choice: The European Community's Internal Market." *International Organization* 533-560.
- Haas, Ernst B. 1968. *The uniting of Europe : political, social, and economical forces, 1950-1957*. Stanford, CA: Stanford Univeristy Press.
- Hix, Simon. 2005. *The Political System of the European Union*. New York: Palgrave Macmillan.
- Internationale Handelsgesellschaft mbH v Einfuhr- und Vorratsstelle für Getreide und Futtermittel. 1970. 11/70 (German Constitutional Court, 17 December).
- Larsson, Olof, and Daniel Naurin. 2016. "Judicial Independence and Political Uncertainty: How the Risk of Override Affects the Court of Justice of the EU." *International Organization* 377-408.

- Malecki, Michael. 2012. "Do ECJ judges all speak with the same voice? Evidence of divergent preferences from the judgments of chambers." *Journal of European Public Policy* 59-75.
- Moravcsik, Andrew. 1993. "Preferences and Power in the European Community: A Liberal Intergovernmentalist Approach." *Journal of Common Market Studies* 473-524.
- Rasmussen, Morten. 2014. "Revolutionizing European law: A history of the Van Gend en Loos judgment." *International Journal of Constitutional Law* 136-163.
- Roland Rutili v. Minister of the Interior. 1975. 36/75 (European Court of Justice, 28 October).
- "Treaty on the Functioning of the European Union." signed March 25, 1957. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT>.
- Van Gend en Loos v Nederlandse Administratie der Belastingen. 1963. 26/62 (European Court of Justice, 5 February).

# Crackdown on Counterfeits

## China's Product Quality Law (1993)

*Chloe Woodburn*

To support the unprecedented growth that China has undergone throughout recent decades and continue the expansion of the Chinese economy, the nation has undergone a series of policy reforms since 1979. This process has included the introduction of new regulations such as the Product Quality Law (PQL), first enforced in 1993 and amended in 2000. This essay will explore why the PQL was introduced, explain some of its key characteristics, discuss how the law is enforced, and consider the consequences of the PQL both on the broader economy and specifically for Western businesses.

## I. CATALYSTS OF THE IMPLEMENTATION OF THE PRODUCT QUALITY LAW

### A. The rise of the Chinese consumer

Today, China represents one of the largest consumer markets in the world, with household spending second only to the United States' and surpassing USD\$5610 billion in 2020 (The World Bank 2020). These numbers are notable not only because they position China as one of the world's most influential economies, but also because they represent a significant change from the state of China's economy mere decades previously. This section will discuss the emerging concept of consumerism in China and how this growth prompted regulations such as the PQL.

Prior to the 1990s, China languished in a relative “state of scarcity” which created a market where demand outstripped supply and market conditions were established by producers and sellers (He & Liu 2000, pp.1-2). Consumers therefore lacked the opportunity of choice when purchasing products, so the quality of the goods they could acquire was not a priority (Ip & Marshall 2014, pp.37-38). Rather, the market for lower quality goods thrived in the early years of Chinese economic development. As economic activity in China grew and the average level of disposable income saw a rise of 350% in rural areas and 900% in urban areas between 1978 and 1993 (National Bureau of Statistics 2018, p.59), this exponential rate of economic growth was matched only by an equally notable rise in the number of product quality complaints to consumer associations across the nation (Ip & Marshall 2014, p.40).

Prior to the implementation of the PQL, these complaints were addressed in a variety of manners, though often not particularly cohesively. Initially, some provinces established local associations designed to safeguard the interests of consumers within their own communities (ibid pp.38-39). Then, in 1984, the State Council facilitated the establishment of the China Consumers’ Association (ibid. p.39), though the protections this body sought to provide lacked a legal basis, limiting its effectiveness. The closest to established consumer protections within the legal system was thus contained within the Civil Law, which was not targeted towards consumers or market functions (Thomas 2014, p.757) and thus was largely insufficient.

Ultimately, these factors combined to foster a Chinese market in which low-quality products were prevalent, where consumers lacked the ability to ensure their products would function as expected, and in which pathways for recourse were typically not very accessible if a product was defective. To rectify these concerns, the Chinese Government moved to provide a range of consumer protections, including the PQL.



## **B. China and the global market**

Whilst the PQL indeed addresses consumer concerns in practice, it is often suggested that these benefits were secondary to the goals of encouraging foreign firms to conduct business activities with China. As such, to consider the reasons behind the enactment of the PQL, it is prudent to consider foreign pressures to strengthen the legal system in China as well as China's growing position in the global economy.

Historically, the Chinese legal system has typically been underutilised, and it had to be largely rebuilt following the Cultural Revolution (Ambler et al. p.112). As a result of this relative lack of established legal structures, the Chinese Government was concerned that foreign institutions may avoid conducting business activities in China due to a perceived high level of risk, which was detrimental to China's goals of increasing export volumes and increasing the country's economic growth (Ip & Marshall 2014, pp.40-42). If foreign businesses chose to manufacture products in China, there was no guarantee the inputs to their production would be of good quality, and if they were indeed defective, pathways for seeking redress were limited. The suite of laws that the Government introduced in 1993 thus addressed consumer concerns, but perhaps more importantly, provided a framework for dispute resolution to offset any fears foreign firms may have about the lack of guarantees in place to protect business transactions more generally.

## **II. KEY ATTRIBUTES OF THE PRODUCT QUALITY LAW**

### **A. Initial regulations (1993)**

As outlined in Article 1 of the PQL (中华人民共和国产品质量法 [Law of the People's Republic of China on Product Quality] 1993), the law seeks to "strengthen supervision and control" of and "define the

liability for” product quality and thus considers two categories of products: those that are actively being produced and finished defective goods that are circulating in the market. Chapter II of the PQL, which outlines the “supervision over product quality”, details how firms operating in China may be subject to “random checking” by either Local People’s Governments or State bodies under the State Council’s Department for Supervision over Product Quality (ibid. 1993). Chapter III of the PQL then discusses the “liability and obligation of producers and sellers in respect of product quality”, outlining the quality requirements for goods sold in China, and the penalties that can be applied in the case these requirements are not met (ibid. 1993). Importantly, the PQL does not only protect consumers but all parties involved in manufacturing processes, including companies that may purchase secondary goods as inputs. As such, the PQL considers product quality not from the perspective of consumers, but from that of “producers, sellers, and enablers” (Friedmann 2018, p.188).

In considering the scope of the PQL, one must consider the definition of a ‘product’. Article 2 asserts that a product is a good that is manufactured or processed to be sold, further specifying that this term does not apply to construction projects. As such, the PQL uses a stricter definition of a product than similar legislation in other countries such as the United States (He & Liu 2002, p.2). The law further doesn’t cover the provision of services, further restricting the range of breaches that may fall under the jurisdiction of the PQL (Ip & Marshall 2014, p.45).

## **B. Amendments (2000)**

Leading up to the year 2000, China was focused on its aspiration of joining the World Trade Organisation (WTO), but the country remained hindered by the rampant production of counterfeit goods within the economy (Evans 2003). Therefore, to once again assure the international business community that Chinese products were not all cheap knockoffs, as well as to reduce any further financial losses due to

the production of counterfeit goods (Ip & Marshall 2014, pp.42-43), the State Council amended the PQL.

These amendments were comprehensive, resulting in two-thirds of the original 51 Articles being modified, with a further 23 Articles added (中华人民共和国产品质量法 [Law of the People's Republic of China on Product Quality] 1993). Importantly, the amendments largely focused on resolving issues associated with the enforcement of the PQL (Filei 2000). These include an emphasis on the legal responsibility held by any officials involved in the reporting process to address corruption and an explanation of the mechanisms available to officials for use in conducting investigations into product quality. Further, in Article 40 the entire production chain was to be made potentially liable for any defects, rather than just the producer and the seller.

### III. ENFORCEMENT

The largest weakness of the PQL is arguably its relative inability to be enforced, due to overlapping legislation, an unwillingness of Chinese consumers to engage in the legal system, and incentives for officials to turn a blind eye to product quality issues. These factors reduce the effectiveness of the implementation of the PQL, facilitating the product quality issues that remain prevalent in the Chinese economy to this day and directly impeding the ability of individuals and firms to seek redress if they are impacted by defective products.

China's regulatory process is well-described by Deng Xiaoping's philosophy of 'crossing the river by feeling the stones' (Raskovic 2018, pp.36-42). Most of the laws introduced towards the end of the 20<sup>th</sup> century were components contributing to an overall process, rather than ambitious pieces of legislation (Thomas 2014, p.772). As such, the scope of the PQL is not particularly broad, and must often be viewed alongside other regulations. Though this can be advantageous in allowing the creation of adaptable laws, it has also created the problem

whereby it can be difficult to decide when the PQL should be applied and when other legislation may be more appropriate (Sheng et al. 2015; Lovenworth & Dittrich 1996). Furthermore, this approach leaves gaps in the law, such as how foreign-related products should be held liable (Ding 2009) and how to address mental and psychological damages (Ip & Marshall 2014, p.41-42) under the PQL. This creates difficulties in the appropriate applications and thus enforcement of the PQL.

Furthermore, the shortcomings associated with the existing deficiencies throughout the Chinese judicial system affect the ability of the PQL to be enforced. These include a perceived lack of objectivity given the ties between the legal system and the State, a high potential for corruption, as well as low efficiency (Binding & Eisenberg 2014, pp.30-33). Further, Chinese people typically prefer to settle matters through mediation rather than formal legal proceedings (Ambler et al. pp.112-113) and many lack the confidence to stand up against a company in this manner (Wang 1998, p.155), so the PQL is likely underutilised. Finally, as these laws are relatively untested, there remain many aspects of the legal system that require further exploration (王 [Wang] 2021).

Finally, it is rarely in a local official's best interest to report any behaviour which breaks the PQL due to "local protectionism". This refers to the way officials will often choose to allow goods to be produced in breach of the PQL where industry brings economic benefit to the region (Kerns 2016, pp. 588-589; Wang 1998, pp. 155-156). This is particularly the case in the counterfeit goods industry, which is seen as crucial for the economic survival of cities such as Yiwu, as it provides thousands of jobs, satisfies consumer demands, and remains a significant source of income (Ip & Marshall, pp.42-43; Kerns 2016, pp.586-590). Although the amendments to the PQL in 2000 sought to reduce this behaviour (Ip & Marshall 2014, pp.42-43), these problems continue to permeate the Chinese economy today, particularly in the consumption of luxury products (Li et al. 2020).

## IV. CONSEQUENCES OF THE PRODUCT QUALITY LAW

### A. The domestic economy

Considering the broader economy, although the PQL has many loopholes and weaknesses in its enforcement, the legislation has positively influenced the Chinese economy in many ways. For instance, though Chinese goods have historically been perceived by Chinese consumers to be low quality, this perception is now shifting, particularly amongst young consumers (Jin et al. 2018). This has positive implications for China's future economic growth. Further, the PQL has the unintended consequence of promoting corporate social responsibility in China, which should have positive implications for the quality of Chinese business society (Ying 2011). Finally, as the price of labour continues to rise in China, many economists believe that the country has to an extent approached its Lewis turning point, whereby the country is losing the comparative advantage it has held in manufacturing since its industrialisation, and thus needs to pivot towards the production of higher-value products to maintain sustainable economic growth (Raskovic 2018, pp.109-110). Indeed, the low quality of many Chinese exports has been perceived as a barrier to growth in export volumes (Zhang & Jin 2015, p.132), so the PQL has helped reduce these concerns. These subsequent increases in product quality have also been shown to improve the quality of life for all members of society (Xu & Liu 2020, p.4).

Indeed, the nature of product quality improvements and their relationship to economic growth is not linear, but circular; economic growth itself promotes increases in product quality as supply chains are condensed, firms are able to import more kinds of intermediate goods, and more of these intermediate goods can be imported from high-income countries (Zhou et al. 2021). Therefore, the existence of the PQL has allowed the general quality of products in China to improve

indirectly through facilitating trade and thus spurring economic growth, putting further upwards pressure on product quality.

## **B. Foreign business**

Foreign firms stood largely to gain from the introduction of the PQL in China. The standards outlined in the legislation, despite being relatively novel in the Chinese context, are heavily influenced by existing product quality standards throughout the rest of the world, particularly in Europe and the United States (Raposo & Morbey 2015; Chen & Tam 2010, pp.16-17; He & Liu 2002). As a result, it is unlikely that a foreign company will be in breach of the PQL based on not complying with national or international standards, and typically domestic firms suffered more from safety or quality issues (Williams 2000, pp.269-270). Thus, the PQL was largely welcomed by foreign businesses wishing to operate in China.

Nonetheless, Western firms which engage with the Chinese market do face a range of risks as a direct consequence of the PQL and should carefully consider their relationships with other firms in China. For instance, a foreign business may become a target for action under these regulations, particularly in cases of “speculative litigation” where consumers act against wealthy foreign firms in the hopes of receiving a high payout (Williams 2000, pp.265-270). This is particularly prudent given that Article 43 of the PQL allows the recipient of a defective product to pursue either the seller or the producer for compensation, with no duty for the plaintiff to correctly identify which party is liable for the defects (中华人民共和国产品质量法 [Law of the People’s Republic of China on Product Quality] 1993). That is, opportunistic plaintiffs may take legal action against the party they perceive to have the strongest financial status, irrespective of actual legal liability, opening large multinationals to the risk of having to make a payout due to the errors of another party (Zhao 2002). Although in such a case, by Article 40, the company would have the right to recover the settlement from the party which is liable (中华人民共和国产品质量法 [Law of

the People's Republic of China on Product Quality] 1993), this can be a complicated process with no guarantee of fee recovery.

Similarly, although not explicitly stated within the PQL, it has been held that a company that labels a product with its name, trademark, or other distinguishable markings could also qualify as a manufacturer in a product liability case, even if that company is not otherwise involved in the productive process (Chen & Tam 2010, p.17). As such, brand owners need to be aware of who they subcontract to manufacture their branded products. As the Chinese consumer becomes more aware of their rights and the obligations of companies, the risk of negative media fallout and the possible associated loss of face increases (Zhao 2002, p.595; Wang 1998, p.155). Essentially, this means that foreign companies need to carefully consider the reputation of other businesses they operate with to reduce their risk exposure. To protect foreign businesses that operate in China, it is often recommended that they take out appropriate product liability insurance in both China and their home country (Chen & Tam 2010, p.17).

## V. CONCLUSION

Ultimately, China's PQL, first introduced in 1993 and amended in 2000, provides producers, sellers, and consumers with the assurance that any party involved in a business transaction can seek recourse if they are sold a defective product. This benefits these parties directly and promotes a safer business environment with the hopes of attracting foreign businesses. However, whilst there have been improvements in product quality across the economy generally, foreign companies have benefitted from these reassurances, and consumer perceptions around product quality in China may be beginning to shift for the better, the PQL remain ineffectively enforced and thus has limited influence. Going forward, further strengthening the supervision of the PQL would allow the aims of these regulations to be more successfully achieved.

## References

- Ambler, T, Witzel, M & Xi, C (2017) 'Business and the Law', in *Doing Business in China*, (Routledge) 103-126.
- Binding, J & Eisenberg, C (2014) 'Product Liability in the People's Republic of China', *Business Law International*, 15.1: 19-34.
- Chen, Y & Tam, M (2010) 'Keeping an Eye on Product Liability', *China Law and Practice*, 9: 16-19.
- Ding, LM (2009) 'Legislative Perfection of the Application of Law System for Foreign-Related Products Liability in China', *과학기술법연구* [Science and Technology Law Research], 14.2: 184-207.
- Evans, A (2003) 'Taming the Counterfeit Dragon: The WTO, TRIPS and Chinese Amendments to Intellectual Property Laws', *Georgia Journal of International & Comparative Law*, 31.3: 587-618.
- Filei, L (2000) 'China Updates its Products Quality Law', *CMS Law Now*, [https://www.cms-lawnow.com/ealerts/2000/10/china-updates-its-products-quality-law?cc\\_lang=en](https://www.cms-lawnow.com/ealerts/2000/10/china-updates-its-products-quality-law?cc_lang=en) [accessed 19 April 2022]
- Friedmann, D (2018) 'Protecting the Integrity of Consumer Information and the Supply Chain of Wine in China', *Consumer Protection in China: Current Challenges. And Future Prospects*, 14.2: 184-207.
- He, Z & Liu, H (2002) 'A Comparative Study of Product Liability of the United States and China', <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.19.2925&rep=rep1&type=pdf> [accessed 19 April 2022]
- Ip, M & Marshall, B (2014) 'Evolution of Chinese Consumer Protection: Through the Lens of Product Quality Laws', *Bond Law Review*, 26.2: 35-52.
- Jin, T, Shao, W, Griffin, D & Ross, M (2018) 'How Young Chinese Consumers View Chinese Brands', *Young Consumers*, 19.1: 55-69.
- Kerns, RW (2016) 'The Counterfeit Good Crisis in China: A Systemic Problem and Possible Solutions', *North Carolina Journal of International Law*, 41.3: 573-594.



- Li, J, Ghaffari, M & Su, L (2020) Counterfeit Luxury Consumption Strategies in a Collectivistic Culture: the Case of China, *Journal of Brand Management*, 27.1: 546-560.
- Lovenworth, SJ & Dittrich, KP (1996) 'Protection of Well Known Trademarks in China', *Journal of the Patent and Trademark Office Society*, 78.3: 181-187.
- National Bureau of Statistics (2018), *China Statistical Abstract*, (China Statistics Press)
- Raposo, VL & Morbey, WW (2015) 'Product Liability in Europe and China', *China Legal Science*, 3.4: 60-83.
- Raskovic, M (2018) 'China's Strategy for Development: From "crossing the river by feeling the stones" to "revving up the consumer"', in *Understanding a Changing China: Key Issues for Business*, (Routledge) 33-51.
- Sheng, J, Ma, Y, Hu, Y & Liu, L (2015) 'Analysis of the Current Situation of Local Government Food Safety Supervision in China', *Journal on Innovation and Sustainability*, 6.2: 124-129.
- Thomas, K (2014) 'The Product Liability System in China: Recent Changes and Prospects', *International and Comparative Law Quarterly*, 63.1: 755-775.
- Wang, KH (1998) 'Celebrations Turn into Sorrow: Where is China's Consumer Protection Law?', *Canberra Law Review*, 4.1: 151-156.
- 王世才[Wang Shicai] (2021) '对产品质量法的经济学分析 [Economic Analysis of Product Quality Law]', *经济管理研究 [Economic Management Research]*, 4.1: 66-67.
- Williams, M (2000) 'Foreign Business and Consumer Rights: A Survey of Consumer Protection Law in China', *UCLA Pacific Basin Law Journal* 18.2: 252-272.
- World Bank, The (2020), 'Households and NPISHs Final consumption expenditure (current US\$)', *World Bank national accounts data, and OECD National Accounts data files*, <https://data.worldbank.org/indicator/NE.CON.PRVT.CD> [accessed 19 April 2022]

- Xu, Q & Liu, X (2020) 'Innovation of Product Quality Supervision – From the Perspective of Standardisation', *Journal of Physics: Conference Series*, 1533.4 1-5.
- Ying, C (2011) 'Corporate Social Responsibility from the Chinese Perspective', *Indiana International & Comparative Law Review*, 21.3: 419-434.
- Zhang, Z & Jin, C (2015) 'Effects of Market Orientation and Breakthrough Innovation on Organisational Performance of International Enterprises', *Acta Oeconomica*, 65.2: 131-144.
- Zhao, G (2002) 'Chinese Product Liability Law: Can China Build Another Great Wall to Protect its Consumers', *Washington University Global Studies Law Review*, 1: 581-602.
- 中华人民共和国产品质量法 [Law of the People's Republic of China on Product Quality] (1993)
- Zhou, D, Liu, Y, Ren, X, Yan, C & Shi, Y (2021) 'Economic Agglomeration and Product Quality Upgrading: Evidence from China', *Journal of Chinese Economic and Business Studies*, 20.1: 1-19.

# Legal Technology

## Upholder or destroyer of traditional professional values?

*James Boyd-Clark*

### I. INTRODUCTION

In an ever more complex world where innovation in legal technology is increasing at an exponential rate;<sup>2</sup> and where time and budget constraints increase pressure on legal professionals to unsustainable levels, some legal professionals have turned to legal technology to perform tasks to ease the load.<sup>3</sup> From basic search engines to chatbots to sophisticated AI algorithms, it is clear that legal technology is here to stay, but human oversight is essential to ensuring that the use of legal technology remains consistent with upholding professional values, and not destroying them.

In this essay, I evaluate how lawyers can exploit emerging legal technologies to best serve professional values and not detract from them. Section II discusses the current and potential benefits of legal technology in the practice of law today and into the near future, while Section III deals with the associated detriments. Section IV explores how those impacts of legal technology may affect the 'values of the professional project'.<sup>4</sup> Finally, Section V examines how legal

---

<sup>2</sup> Sterling Miller, 'Artificial Intelligence and its Impact on Legal Technology', *Thompson Reuters Legal* (Article) <<https://legal.thomsonreuters.com/en/insights/articles/ai-and-its-impact-on-legal-technology>>.

<sup>3</sup> Jeff Ward, 'When and How Should We Invite Artificial Intelligence Tools to Assist with the Administration of Law?' (2019) 93(3) *Australian Law Journal* 176 ('Artificial Intelligence Tools').

<sup>4</sup> Webley et al, 'The Profession(s)' Engagement with LawTech: Narratives and Archetypes of Future Law' (2019) 1(1) *Law, Technology and Humans* 6, 18 ('Engagement: Narratives and Archetypes').

professionals can best adapt to change by maximising the utility of processes involving legal technology while upholding the 'values of the professional project'.<sup>5</sup>

## I. POTENTIAL BENEFITS OF LEGAL TECHNOLOGY

As legal technology develops, it is used either as a time-saving measure (to do work that humans consider menial and do not want to do), where it does a better job than a human at a particular task, or both.<sup>6</sup> These tasks include assistance with legal research, analysis and prediction, determining which documents are necessary for discovery (eDiscovery), contract analysis and automated time billing software.<sup>7</sup> The use of legal technology in these fields offers the potential to complete these tasks far quicker and to a higher standard of accuracy and precision than a human would.<sup>8</sup> There is also a corollary benefit of freeing up humans to do work that they find more fulfilling and challenging, leading to improved career satisfaction and well-being.<sup>9</sup> Critically, the use of these tools has the potential to dramatically improve access to justice. The use of technology rather than people offers the tantalising possibility of a substantial reduction in the cost of legal services, which improves access for those of limited financial means. This is particularly important in the context of an underfunded and overburdened system of Legal Aid, where 14 per cent of the population live under the poverty line, but Legal Aid is only available to 8 per cent of Australians.<sup>10</sup> The context of an increasing number of

---

5 Ibid.

6 Ibid.

7 Stephanie Quine, 'The Case for Legal Technology', (online, 20 February 2012) *LawyersWeekly* <<https://www.lawyersweekly.com.au/partner-features/173-the-case-for-legal-technology>>; Artificial Intelligence Tools (n 2); Engagement: Narratives and Archetypes (n 3).

8 Artificial Intelligence Tools (n 2).

9 Engagement: Narratives and Archetypes (n 3).

10 *The Justice Project: Overarching Themes* (Final Report, August 2018) 10 ('Justice Project').

self-represented litigants is also an important factor here.<sup>11</sup> Further, legal technology may be able to transcend location barriers to allow remote communities, among others, far easier access to the justice system.

In short, the primary attraction of legal technology is its promise of a legal system that is more equitable, more efficient and easier to access, as well as improving the lives of those who work within it. However, this attraction is predicated upon a belief that technology will deliver on the things that it promises, an issue that is far from settled.

## II. POTENTIAL DETRIMENTS OF LEGAL TECHNOLOGY

Detractors argue that legal technologies have the potential to drastically reduce the quality of justice by perpetuating biases, failing to do tasks to the same standard a human would and failing to take into account nuances that a human would in the provision of data or solutions.<sup>12</sup> Questions have also been posed about the extent to which a lawyer remains valuable and useful when their job is being taken over by legal technology.<sup>13</sup> The process by which advanced technologies such as AI operate is often hard to interrogate and analyse, leading to problems of accountability when errors are made.<sup>14</sup> This is shown in *Loomis v Wisconsin*,<sup>15</sup> a case involving the use of an AI risk-assessment tool which assessed Loomis as at a high risk of reoffending. The algorithm behind the AI was proprietary and protected as a trade secret, which meant that the process by which it derived its assessment could not be challenged. Concerns were raised about the defendant's right to

---

<sup>11</sup> *Ibid* 21.

<sup>12</sup> Artificial Intelligence Tools (n 2).

<sup>13</sup> Engagement: Narratives and Archetypes (n 3).

<sup>14</sup> Artificial Intelligence Tools (n 2).

<sup>15</sup> *Loomis v Wisconsin*, 881 NW 2d 749 (Wis, 2016).

individualised sentencing and due process, but these concerns were not upheld by the appellate court.<sup>16</sup> It has been suggested that the relevant AI algorithm, among others, utilises racial profiling as a contributing factor to its assessments.<sup>17</sup> The key problem here is one of accountability, in that it is exceedingly difficult or impossible to definitively say whether analysis based on stereotypes has occurred.<sup>18</sup> Trusting the judgements of technologies like this runs the risk of entrenching existing biases and diminishing the right to interrogate them.

Beyond the problems of destructive social norms, some argue that legal technology is ill-equipped to deal with the complexity of even the routine tasks it is required to do.<sup>19</sup> Although determining which documents are necessary for discovery may be considered menial and uninteresting, doubt has been expressed as to whether an algorithm can outperform a human with knowledge of the context of the case and a fuller understanding of the process to be undertaken.<sup>20</sup> If a technology misses a critical document because it does not contain any of the keywords or synonyms included in the search, who will be to blame? The effect of such a seemingly small error has the potential to be hugely detrimental to the trial process with the possible result of perpetuating injustice. A risk that threatens the integrity of the justice system, as this one does, cannot be taken lightly.

Both positive and negative effects will inevitably occur as a result of the use of legal technology, so the legal profession must concern itself with maximising the positive effects (efficiency, access, fairness and

---

<sup>16</sup> Ibid.

<sup>17</sup> Michael Bidwell, 'Legal technology: AI: The homophobic hurdle' (2018) 38(8) *The Proctor* 28; Milan Gandhi, 'Legal technology: Hype, heuristics and humanity' (2017) 37(11) *The Proctor* 32; Artificial Intelligence Tools (n 2).

<sup>18</sup> Artificial Intelligence Tools (n 2).

<sup>19</sup> See Andrew Mellett, 'Why Legal Tech Fails', *LawyersWeekly* (online, 5 September 2018) <<https://www.lawyersweekly.com.au/partner-features/21817-why-legal-tech-fails-the-top-8-mistakes-gcs-make/>> ('Technology Failure').

<sup>20</sup> Ibid.

satisfaction) and minimising the detrimental ones (injustice, unfairness, unsatisfactory outcomes).

### III. IMPACT ON PROFESSIONAL VALUES

We must first define the ‘values of the professional project’.<sup>21</sup> Webley argues that they are ‘ethical conduct, access to justice and the rule of law’.<sup>22</sup> Access to justice means having an understanding of the law and being able to find help with legal problems<sup>23</sup> and is primarily a legal education issue for the general public that is minimally impacted by technology in the legal sphere. Ethical conduct means acting in a way consistent with recognised legal ethics and professionalism. Holmes describes professionalism as encompassing a primary duty to the Court and a secondary duty to serve the best interests of the client.<sup>24</sup> More specifically, these duties include the provision of specialised skills, task variety competence, autonomy, self-regulation, collegiality and public service orientation.<sup>25</sup>

Specialised skill and task variety competence are basic requirements of a legal professional which ensure that they are providing a genuine service for the client, rather than hiding the reality of performing a simple task for a layperson behind a veil of information imbalance. These values mean that merely feeding information into technology and relaying its output does not constitute the use of specialised skills and would be inconsistent with professional values. A professional must add value to the process in some way rather than charging a client for their mere use of technology. This may include examining the output to ensure that it makes sense and is fit for its intended purpose or making alterations where necessary. Task variety competence involves being

---

21 Engagement: Narratives and Archetypes (n 3), 18.

22 Ibid 19.

23 Justice Project (n 9), 2.

24 Holmes et al., ‘Practising Professionalism: Observations from an Empirical Study of New Australian Lawyers’ (2015) 15(1) *Legal Ethics* 29, 30.

25 Ibid.

able to adapt and apply one's core legal training and skills to a broad range of different issues.<sup>26</sup> Although advanced legal technologies may provide guidance as to which approach may be the best one to take in a given situation, the final judgement must lie in the hands of the professional, who must be able to understand the attributes of the methods recommended to them, and independently make a decision as to which approach is most consistent with their professional duties.

Autonomy exists in two distinct yet linked facets, the ability to use one's judgement in choosing methods to approach a legal problem, within constraints, and the recognition that one is not merely the agent of the client and has a higher duty to the Court.<sup>27</sup> In a legal technology context, the first of these facets may involve choosing the most suited of different available technologies for a given task, or opting not to use technology and instead use themselves or a colleague to resolve a problem. The second facet applies in that a legal professional may need to modify the output of a technology which suggests the best possible course of action for a client in a given situation to take into consideration the primacy of their duty to the Court. A technology may suggest methods that infringe rules or principles for the advantage of the client, and a professional must have the capability, knowledge, and will to override that output.

Collegiality is the maintenance of effective working relationships with other members of the profession and involves the mentoring of more junior members by more senior members of the profession.<sup>28</sup> No legal technology will take over social interaction between members of the legal profession in the near future, but professionals must nonetheless remain cautious not to forget this duty, even when automation reduces the prevalence of scenarios where mentoring would once have been essential.

---

<sup>26</sup> Ibid 32.

<sup>27</sup> Ibid 31-32.

<sup>28</sup> Ibid 32.



Pound defined a profession as ‘a group ... pursuing a learned art ... in the spirit of public service’,<sup>29</sup> placing public service orientation at the heart of what it means to be a profession. Legal technology is likely to be designed around creating optimised outcomes for the user (i.e. the lawyer and law firm) and by proxy, the client whom the law firm is representing. It is unlikely to take into account the duty to the Court or the duty to serve society at large. This is where legal professionals must be empowered to avoid strictly following the instructions of technologies to the detriment of society by, for example, unnecessarily prolonging the resolution of a specific issue in the hope of extracting a greater fee.

## IV. OPTIMISATION OF LEGAL TECHNOLOGY USE

Having considered the potential impacts of the integration of legal technology into the profession, the question of how the profession can proactively ensure that it upholds professional values in its use of legal technology arises. From the evidence above, I argue that the answer lies in a careful consideration of the possible implications of the adoption of a new piece of technology, both intended and unintended, and a weigh-up of the advantages and disadvantages of these consequences. The legal profession cannot abdicate its fundamental professional responsibilities for the sake of efficiency or ease and must carefully consider the use of new legal technology.<sup>30</sup> In many cases, professional responsibilities and obligations may be satisfied by the simple mechanism of human oversight and understanding of the function and methodologies of machines.<sup>31</sup> For every contract that is drawn up by an AI algorithm, there must be a qualified professional to examine the

---

<sup>29</sup> Roscoe Pound, *The Lawyer from Antiquity to Modern Times* (West, 1953) 5.

<sup>30</sup> Artificial Intelligence Tools (n 2).

<sup>31</sup> Alan Arnott, Shi Ying Yong and Shekha Raviraj, ‘Legal Tech and the Modern Lawyer: Embracing Technology as an Enabler Rather than as a Replacement’ (2020) 22(9) *Internet Law Bulletin* (‘Technology Enabler’).

output, note deficiencies and uncertainties, and rectify them, fulfilling duties to both the Court and the client.<sup>32</sup>

Many argue that the technology of today is unable to self-correct in the way that is necessary for the proper operation and quality of the justice system and law.<sup>33</sup> Even if it were able to perform, for example, eDiscovery to the same standard as a professional would, there remain unresolved problems of accountability when such processes fail.<sup>34</sup> Our justice system requires that someone be held to account in situations where professionals fail to meet the standards that they are required to, and until that problem is satisfactorily resolved, machines must remain assisted by humans to ensure competent legal practice and service.

However, this does not diminish the potential benefits that increased innovation in legal technology promises. The increasing availability of a wide range of predictive and analytical legal technologies offers the possibility of a shift in the role of human legal professionals when confronted with technical work.<sup>35</sup> Instead of having to spend labour-intensive, tedious hours seeking data, researching cases and writing documents, professionals may have an opportunity to move from creator at first instance to critical reviewer and editor of machine labour.<sup>36</sup> This shift has saved and will continue to save countless hours of human activity, which in turn reduces costs and improves access to justice. If we can trust professionals to act in good faith and not neglect their obligations to review and edit technologically-created output with an understanding of key rules and disciplinary systems, then there is large scope to continue to scale up these processes, maximising the benefits of technology. Widespread awareness of the dangers

---

<sup>32</sup> *Ibid.*

<sup>33</sup> See *Technology Failure* (n 18).

<sup>34</sup> *Artificial Intelligence Tools* (n 2).

<sup>35</sup> *Technology Enabler* (n 30).

<sup>36</sup> *Ibid.*

demonstrated in the *Loomis* case and a desire to uphold the integrity of the justice system by avoiding them is necessary.

Professional obligations dictate that the legal profession, typically so reticent to adopt change,<sup>37</sup> must consider their options and adopt the useful ones. Adapting to legal technology means in the first instance a willingness to be open-minded, and take a neutral objective standpoint in assessing whether the adoption of a given legal technology will be consistent with professional values. Once that assessment has been carried out, legal professionals must commit to implementing technology for its intended purpose, as well as collegially educating other professionals as to its purpose and appropriate use. If the legal profession can successfully achieve these goals, then legal technology can only uphold professional values.

## V. CONCLUSION

Proponents of legal technology assert that it offers the promise of a wholesale revamp of our justice system with better outcomes for all involved, while detractors claim that legal technology could bring about the demise of fundamental principles of justice.<sup>38</sup> Both of these claims are true to some extent. The legal profession must carefully consider the consequences of new technologies before deciding to adopt them and adapt to them. However, the potential dangers of legal technology are no reason to avoid them, only to exercise caution with them; the use of legal technology in ways consistent with the values of the professional project cannot be allowed to be hindered by appeals to tradition and fears that lack basis in reality. Professionals must use their expertise to recognise the necessity of adapting to change in these circumstances.

---

<sup>37</sup> See Artificial Intelligence Tools (n 2).

<sup>38</sup> Engagement: Narratives and Archetypes (n 3).

## References

### A. Articles/Books/Reports

- Arnott, Alan, ‘Legal Tech and the Modern Lawyer: Embracing Technology as an Enabler Rather than as a Replacement’ (2020) 22(9) *Internet Law Bulletin*
- Bidwell, Michael, ‘Legal technology: AI: The homophobic hurdle’ (2018) 38(8) *The Proctor* 28
- Gandhi, Milan, ‘Legal technology: Hype, heuristics and humanity’ (2017) 37(11) *The Proctor* 32–33
- Holmes, Vivien ‘Practising Professionalism: Observations from an Empirical Study of New Australian Lawyers’ (2015) 15(1) *Legal Ethics* 29
- Law Council of Australia, *The Justice Project: Overarching Themes* (Final Report, August 2018)
- Mellett, Andrew, ‘Why Legal Tech Fails’, *LawyersWeekly* (online, 5 September 2018 ) <<https://www.lawyersweekly.com.au/partner-features/21817-why-legal-tech-fails-the-top-8-mistakes-gcs-make>>
- Miller, Sterling, ‘Artificial Intelligence and its Impact on Legal Technology’, *Thompson Reuters Legal* (Article) <<https://legal.thomsonreuters.com/en/insights/articles/ai-and-its-impact-on-legal-technology>>
- Pound, Roscoe, *The Lawyer from Antiquity to Modern Times* (West, 1953) 5
- Quine, Stephanie, ‘The Case for Legal Technology’, *LawyersWeekly* (online, 20 February 2012) <<https://www.lawyersweekly.com.au/partner-features/173-the-case-for-legal-technology>>
- Ward, Jeff, ‘When and How Should We Invite Artificial Intelligence Tools to Assist with the Administration of Law?’ (2019) 93(3) *Australian Law Journal* 176
- Wbley, Lisa, ‘The Profession(s)’ Engagement with LawTech: Narratives and Archetypes of Future Law’ (2019) 1(1) *Law, Technology and Humans* 6

## **B. Cases**

*Loomis v Wisconsin*, 881 NW 2d 749 (Wis, 2016).

# How Lawyers Can Assist Aboriginal and Torres Strait Islander Peoples to ‘Heal Country’

*Matthew Box*

In Australia, lawyers have a duty, first and foremost, to the court and the law.<sup>39</sup> However, lawyers also have a role to play in Australian society and one of the ways they can fulfil this role is through assisting Aboriginal and Torres Strait Islander Peoples to ‘Heal Country’. To ‘Heal Country’ calls for all Australians to “seek greater protection for our lands, our waters, our sacred sites and our cultural heritage from exploitation, desecration, and destruction”.<sup>40</sup> The two clearest ways for Indigenous Peoples to ‘Heal Country’ are through ownership and stewardship of traditional lands, which is achieved through native title and lands rights claims, as well as the implementation of Indigenous land care and management strategies. Lawyers are in a unique position to assist in these areas due to their role as advocates in court, their chance to influence the evolution of case law and their over-representation in legislative bodies, particularly the Federal Parliament.<sup>41</sup> Through their efforts, lawyers can increase the number of native title and land rights cases which are brought to court and can assist in the implementation of Indigenous environmental management strategies in place of the western strategies which, in past years, have been ineffective in Australia. Lawyers have a role to assist Aboriginal

---

<sup>39</sup> Justice Emilios Kyrou, ‘A Lawyer’s Duty’ (2015) 89(½) 34 *Law Institute Journal*.

<sup>40</sup> National NAIDOC Secretariat, ‘2021 Theme Heal Country’ (2021).

<sup>41</sup> Kirrily Schwarz, ‘Do lawyers make good politicians?’ (2019) *Law Society Journal Online*.

and Torres Strait Islander Peoples to ‘Heal Country’ through advocacy in native title and land rights claims and by influencing legislators to consider Indigenous environmental care and management strategies.

## I. SUPPORTING INDIGENOUS LAND RIGHTS

Native title is legal recognition of the rights of Aboriginal and Torres Strait Islander Peoples over their traditional lands, through involvement in these cases lawyers can assist Indigenous Peoples to ‘Heal Country’. With the *Mabo* ruling in 1992<sup>42</sup> and the subsequent Native Title Act<sup>43</sup>, native title has been recognised over approximately 32% of land in Australia.<sup>44</sup> Native title rights to an area allow Indigenous Peoples to inhabit the area, use the area for traditional cultural practices, protect important sites in the area, hunt, fish and gather food and traditional resources and teach law and custom on their country.<sup>45</sup>

Native title over an area has the chance to improve Indigenous Australians’ ability to ‘Heal Country’, however, their options may remain limited. Under s35(1)(a) of the Native Title Act,<sup>46</sup> for the Commonwealth to take certain future acts on native title land (which include leases, renewals, and the conferral of some mining rights) there is a minimum ‘good-faith’ negotiation period of 6 months between native title parties and the Commonwealth or grantee parties before which the decision can go to the National Native Title Tribunal (NNTT). The involvement of lawyers in this process, advising and assisting native title parties would be valuable for the success of the negotiations and the outcomes which Indigenous Australians see. While this can allow for Indigenous Peoples to have some say over the use of their native title land and thus, the environmental protection of this land,

---

<sup>42</sup> *Mabo v Queensland (No 2)* (1992) 175 CLR 1.

<sup>43</sup> 1993 (Cth)

<sup>44</sup> Australia Trade and Investment Commission, ‘Native Title’.

<sup>45</sup> *Ibid.*

<sup>46</sup> 1993 (Cth).

there is a clear advantage given to the other negotiating parties. Determinations made by the NNTT cannot impose financial conditions based on the value of (in the case of a mining lease) goods extracted and to date, the NNTT has not denied a mining lease application, nor has it tended to impose “onerous conditions” on mining companies.<sup>47</sup> Due to this history, there is more pressure on native title parties to reach an agreement than exists for Commonwealth and grantee parties. The opportunity for negotiated agreements Australia-wide is limited, however, the Northern Territory may provide a better avenue for Indigenous Peoples to ‘Heal Country’. Under the Aboriginal Land Rights (Northern Territory Act) Act 1996 applicants for mining leases on reserve lands must seek the consent of Aboriginal Trustees, if this consent is not given it can be overridden by the Territory Administrator, however, all applications to date have been negotiated.<sup>48</sup> It is a lawyer’s role as an officer of the court to uphold the law, through involvement in these negotiation processes, lawyers can assist Indigenous Peoples to ‘Heal Country’, doing this work pro bono may also be an option as Indigenous communities and groups are obviously at a resource disadvantage compared to the Commonwealth Government and large mining companies.

As native title can confer rights for the use of land for traditional cultural practices and to teach traditional customs and laws on country, there is a clear connection between the native title and the cultural side of ‘Heal Country’.<sup>49</sup> This is an element of ‘Heal Country’ which may not be apparent at first, however, for Indigenous Peoples whose culture is tied to country and the land, the protection of traditional culture and traditional lands are inseparable.<sup>50</sup> Thus, through assisting Aboriginal

---

<sup>47</sup> Ciaran O’Faircheallaigh & Tony Corbett, ‘Indigenous participation in environmental management of mining projects: The role of negotiated agreements’ (2005) 14(5) *Environmental Politics* 629-647.

<sup>48</sup> Ibid.

<sup>49</sup> Australia Trade and Investment Commission, ‘Native Title’; National NAIDOC Secretariat, ‘2021 Theme Heal Country’ (2021).

<sup>50</sup> National NAIDOC Secretariat, ‘2021 Theme Heal Country’ (2021).



and Torres Strait Islander Peoples to win native title rights to an area, lawyers can assist Indigenous Peoples to ‘Heal Country’.

Additionally, the right to visit and protect important cultural sites, which can be granted as part of a native title determination, is imperative to reducing the “exploitation, desecration, and destruction” of country.<sup>51</sup> Native title and ‘Heal Country’ are intertwined through the rights which the former grants and the responsibilities which the latter imposes on Aboriginal and Torres Strait Islander Peoples.

Lawyers have a role to assist Aboriginal and Torres Strait Islander Peoples to ‘Heal Country’ by both supporting and advocating for native title claims and by supporting Indigenous communities and groups in negotiations over the use of native title land. Through these actions, lawyers can help to ensure the protection of country, both in terms of the environment, and cultural value for Indigenous Peoples.

## II. LAWYERS’ INFLUENCE ON THE EVOLUTION OF CASE LAW AND LEGISLATION

Lawyers, as officers of the courts, have a role to play in the evolution of case law. Additionally, as members of society with connections to, and which are overrepresented in, legislative bodies, they have a role to influence the legislative policies of the government of the day to create positive change.

Paul H. Rubin and Martin J. Bailey suggest that judges and litigants are both able to impact the evolution of case law through, respectively, their conscious and unconscious preferences and the cases which they bring to court.<sup>52</sup> However, they argue that it is attorneys who have more of an

---

<sup>51</sup> Australia Trade and Investment Commission, ‘Native Title’; National NAIDOC Secretariat, ‘2021 Theme Heal Country’ (2021).

<sup>52</sup> Paul H. Rubin and Martin J. Bailey, ‘The Role of Lawyers in Changing the Law’ (1994) 23(2) *The Journal of Legal Studies* 807-831.

impact on case law, according to their research the law tends to move in a direction which favours the interests of lawyers.<sup>53</sup> While this research was conducted in the United States which has a different court system than in Australia, it seems unlikely that this difference would make a particular impact on lawyers' influence on the evolution of case law. The larger issue with relying on this article is that it was researched and written in the context of torts cases and examined how the law tended towards favouring lawyers' economic interests rather than the moral or ethical leanings of lawyers.<sup>54</sup> However, these are all the interests of the lawyer involved, if a lawyer is genuinely interested in furthering the cases of Aboriginal and Torres Strait Islander Peoples either in native title or environmental protection cases, even when there is no obvious economic benefit to the lawyers, then it seems likely that a lawyer could positively impact case law in this area.

Additionally, according to the Law Society Journal,<sup>55</sup> eleven of Australia's thirty Prime Ministers have had legal backgrounds, and in the 43rd Parliament (2013) more than 25% of Labor and 20% of Coalition parliamentarians were law graduates, with 13% having pursued legal careers.<sup>56</sup> The New South Wales Law Society reports that in 2018 there were 76,303 practising solicitors in Australia.<sup>57</sup> Taking barristers into account as well, it can be said that lawyers account for less than 1% of the Australian population. This represents a significant overrepresentation in Federal Parliament, so we see that lawyers are both better connected to legislators and are more likely to become legislators than the average person. Through these connections and opportunities, lawyers have an important role in influencing legislation to assist Aboriginal and Torres Strait Islander Peoples to 'Heal Country'. One way they could do this is to influence legislation to

---

<sup>53</sup> Ibid.

<sup>54</sup> Ibid.

<sup>55</sup> Kirrily Schwarz, 'Do lawyers make good politicians?' (2019) *Law Society Journal Online*.

<sup>56</sup> Ibid, citing Politics and Public Administration Section, Department of Parliamentary Services (Cth), 'The 43<sup>rd</sup> Parliament: Traits and Trends', Research Paper (2013) 6, 7.

<sup>57</sup> Urbis, '2018 National Profile of Solicitors Final' (2018) Law Society of New South Wales.

increase the adoption of Indigenous environmental care and management strategies.

While these areas of influence provide significant chances for lawyers to assist Indigenous Peoples to 'Heal Country', the chances themselves may be idealistic. Then-District Court Judge Jack Goldring suggested in 2004 that in the past 30 years the role of lawyers has changed in many areas and that lawyers no longer find it as easy to influence social and political change.<sup>58</sup> While this may be true, it is nonetheless the role of Australian lawyers to work to influence social, legal and political change to help Aboriginal and Torres Strait Islander Peoples to 'Heal Country'.

### III. INDIGENOUS ENVIRONMENTAL MANAGEMENT STRATEGIES

Aboriginal and Torres Strait Islander Peoples have environmental management strategies that differ greatly from the western strategies in wide usage throughout Australia. Indigenous land management approaches are "place-specific and holistic",<sup>59</sup> this means that the methods used are specific to the area being managed and cannot be used outside of this area. Cultural burning is the use of fire to prepare an area for bushfire season, the traditional knowledge which comes from Indigenous elders ensures that all flora and fauna in the area are safe while the burning takes place.<sup>60</sup> The implementation of cultural burning aims to 'Heal Country' "for environmental and cultural sustainability" by improving preparedness for bushfires.<sup>61</sup> Through this

---

<sup>58</sup> Jack Goldring, 'Australian Lawyers and Social Change – 30 Years Later' (Conference Paper, Australian National University Australian Lawyers and Social Change Conference, 22-24 September 2004).

<sup>59</sup> University of Melbourne Cultural Burning Research Group, 'Submission to the Inquiry into the 2019-2020 Victorian Bush Fire Season' (2020), 2.

<sup>60</sup> Ibid.

<sup>61</sup> Ibid, 7.

implementation, Aboriginal and Torres Strait Islander Peoples would be able to achieve the goals of 'Heal Country' by protecting traditional lands and culture from "destruction and desecration".<sup>62</sup>

According to Alan Chenoweth, Jon Womersley and Helen Ross, Indigenous Peoples have considerable knowledge of the "adaptive systems which make up the environment" and this includes the management of resources for human populations, risks and the variations in Australia's seasons.<sup>63</sup> The use of this knowledge would work towards the goals of 'Heal Country' and lawyers in Australia have a part to play in the implementation of Indigenous approaches.

Additionally, the involvement of Indigenous Peoples in water management is an emerging field. Between 2013 and 2017 New South Wales had an Aboriginal Water Initiative which aimed to include Indigenous Australians in the management of water throughout the state.<sup>64</sup> While this group faced challenges and was eventually disbanded, Bradley J. Moggridge, Lyndal Betteridge and Ross M. Thompson suggest that the experience of the group can provide strategies for further attempts to integrate Indigenous cultural practices into water management.<sup>65</sup>

---

<sup>62</sup> National NAIDOC Secretariat, '2021 Theme Heal Country' (2021).

<sup>63</sup> Alan Chenoweth, Jon Womersley & Helen Ross, 'Environmental practice and Indigenous Peoples: we can't do it without them!' (2021) 28(3) *Australasian Journal of Environmental Management*, 215-219.

<sup>64</sup> Bradley J. Moggridge, Lyndal Betteridge & Ross M. Thompson, 'Integrating Aboriginal cultural values into water planning: a case study from New South Wales, Australia' (2019) 26(3) *Australasian Journal of Environmental Management*, 273-286.

<sup>65</sup> *Ibid.*

#### IV. LAWYERS AS ADVOCATES FOR INDIGENOUS ENVIRONMENTAL MANAGEMENT STRATEGIES

While Indigenous environmental management strategies would be effective in achieving the goals of ‘Heal Country’, currently, there is limited implementation of them within state and federal environmental management policies.<sup>66</sup> It is the role and responsibility of lawyers to work towards the implementation of Indigenous environmental management approaches, primarily through representations and submissions to enquiries and influencing legislation to include Indigenous methods. Following the 2019-2020 bushfire season, the Australian Government established the Royal Commission into National Natural Disaster Arrangements to examine the impact of climate change on natural disasters and consider whether changes are needed to land management.<sup>67</sup> The Report made 2 recommendations (18.1 and 18.2) regarding the investigation and use of Indigenous land management methods by Australian, state and territory governments.<sup>68</sup> Through representations and written submissions, lawyers can influence the findings and recommendations of inquiries such as the Royal Commission which then go on to inform legislative decisions. Additionally, lawyers can leverage their connections to legislative bodies to help implement Indigenous environmental management strategies into government policies. Lawyers within and without the legislative process can assist in this by lobbying for consultation with Indigenous communities and experts on land management strategies by governments.

---

<sup>66</sup> Alan Chenoweth, Jon Womersley & Helen Ross, ‘Environmental practice and Indigenous Peoples: we can’t do it without them!’ (2021) 28(3) *Australasian Journal of Environmental Management*, 215-219.

<sup>67</sup> Mike Foley, ‘Scott Morrison announces royal commission into bushfires’, *Sydney Morning Herald* (Sydney, 20 February 2020).

<sup>68</sup> *Royal Commission into National Natural Disaster Arrangements* (Report, October 2020), 43.

Furthermore, through their work as advocates in court lawyers can assist Aboriginal and Torres Strait Islander groups and communities to bring actions against companies infringing on environmental protection laws and hold companies operating on native title land to the conditions of their leases.

Through their influence on the evolution of case law and legislation, lawyers can assist Aboriginal and Torres Strait Islander Peoples to 'Heal Country'.

## V. CONCLUSION

The role of lawyers in Australian society extends far beyond their position as officers of the court, they also have a role to ensure we live in a just society and this includes assisting Aboriginal and Torres Strait Islander Peoples to 'Heal Country'. This essay has looked at several ways in which Aboriginal and Torres Strait Islander Peoples can achieve the goals of 'Heal Country',<sup>69</sup> and how lawyers can be involved in these processes. Through the acquisition of native title, Indigenous Australians can maintain cultural practices and the teaching of customs and laws on country. Lawyers need to be involved in native title claims to increase the community's understanding of the issues and chances of a successful claim. Additionally, native title grants Indigenous Australians the right to negotiate the use of traditional lands, while this is a limited right, the involvement of lawyers in the process would give Indigenous Australians more guidance on how agreements would impact land usage, assisting them to 'Heal Country'. Turning to the direct influence lawyers have on case law and legislation, it is the role of lawyers to effectively advocate on the behalf of Indigenous Peoples for the adoption of Indigenous environmental management strategies which have been used for thousands of years to care for the Australian

---

<sup>69</sup> National NAIDOC Secretariat, '2021 Theme Heal Country' (2021).

environment.<sup>70</sup> In researching and writing this essay, it became clear that there is limited academic research into the specific issues relevant, most writing on the connection between lawyers and Indigenous Australians focuses on access to justice for Indigenous Peoples and the lack of legal resources for Indigenous Peoples generally. This essay focused on joining the areas of native title, Indigenous environmental management and the role and influence of lawyers, however further research into the role of lawyers in this area would be beneficial to Australian lawyers wanting to work with Indigenous Peoples to 'Heal Country' through the protection of the environment and continuance of Indigenous culture. Lawyers in Australia have a role to assist Aboriginal and Torres Strait Islander Peoples to 'Heal Country' by representing them in native title claims, assisting in native title land use negotiations and working to help implement Indigenous environmental management strategies throughout the country.

## References

### A. Articles/Reports

- Chenoweth, Alan, Jon Womersley and Helen Ross, 'Environmental practice and Indigenous Peoples: we can't do it without them!' (2021) 28(3) *Australasian Journal of Environmental Management*, 215-219
- Foley, Mike, 'Scott Morrison announces royal commission into bushfires', *Sydney Morning Herald* (Sydney, 20 February 2020)
- Hunt, J., "'Caring for country': a review of Aboriginal engagement in environmental management in New South Wales' (2012) 19(4) *Australasian Journal of Environmental Management*, 213-226

---

<sup>70</sup>

Alan Chenoweth, Jon Womersley & Helen Ross, 'Environmental practice and Indigenous Peoples: we can't do it without them!' (2021) 28(3) *Australasian Journal of Environmental Management*, 215-219.

- Justice Emilios Kyrou, 'A Lawyer's Duty' (2015) 89(½) 34 *Law Institute Journal* <<https://www.liv.asn.au/LIV-Home/Practice-Resources/Law-Institute-Journal/Archived-Issues/LIJ-Jan-Feb-2015/A-Lawyer-s-Duty>>
- Moggridge, Bradley J., Lyndal Betteridge & Ross M. Thompson, 'Integrating Aboriginal cultural values into water planning: a case study from New South Wales, Australia' (2019) 26(3) *Australasian Journal of Environmental Management*, 273-286
- O'Faircheallaigh, Ciaran and Tony Corbett, 'Indigenous participation in environmental management of mining projects: The role of negotiated agreements' (2005) 14(5) *Environmental Politics* 629-647
- Politics and Public Administration Section, Department of Parliamentary Services (Cth), 'The 43<sup>rd</sup> Parliament: Traits and Trends', Research Paper (2013)
- Royal Commission into National Natural Disaster Arrangements* (Report, October 2020)
- Rubin, Paul H. and Martin J. Bailey, 'The Role of Lawyers in Changing the Law' (1994) 23(2) *The Journal of Legal Studies* 807-831
- Schwarz, Kirrily, 'Do lawyers make good politicians?' (2019) *Law Society Journal Online* <<https://lsj.com.au/articles/do-lawyers-make-good-politicians/>>
- University of Melbourne Cultural Buring Research Group, 'Submission to the Inquiry into the 2019-2020 Victorian Bush Fire Season' (2020)
- Urbis, '2018 National Profile of Solicitors Final' (2018) Law Society of New South Wales
- Young, Elspeth A., 'Aboriginal land rights in Australia: expectations, achievements and implications' (1992) 12 *Applied Geography*, 146-161

## B. Cases

Mabo v Queensland (No 2) (1992) 175 CLR 1



## C. Legislation

Native Title Act (1993) (Cth)

## D. Other

Australia Trade and Investment Commission, 'Native Title'  
<<https://www.austrade.gov.au/land-tenure/native-title/native-title>>  
Goldring, Jack, 'Australian Lawyers and Social Change – 30 Years  
Later' (Conference Paper, Australian National University Australian  
Lawyers and Social Change Conference, 22-24 September 2004)  
National NAIDOC Secretariat, '2021 Theme Heal Country' (2021)  
<<https://www.naidoc.org.au/get-involved/2021-theme>>

# In the Context of Australia, is it Now Time to Remove Statues of Captain Cook?

*Phoebe Barnes*

The statue debate must ultimately end with the removal of colonial figures from public spaces in Australia. Across the world, this debate about what is to be done with statues that reflect ‘dark’ histories is one characterised by extremes. On one side, the demand for the complete removal of statues and other racist or colonial iconography, and on the other side aiming to preserve these monuments of controversial historical figures. Statues of ‘colonial invaders’ promote an Australian national identity and memory that omits the violent acts committed by these figures and rather constructs a false image of heroism. It has been argued by preservationists that these statues should remain for a combination of aesthetic, educational and historical reasons – however, the preservation of this heritage only preserves a fraction of Australia’s overall history. This debate is after all not about the statues themselves, instead, these statues become symbolic of broader social, cultural, and economic issues that reflect the lasting effects of these figures that still permeate society today. In an Australian context, it is time to remove these statues of ‘colonial invaders’, including James Cook.

These statues present an image of heroism within the colonial narrative without recognising the colonial violence that these men promoted and committed. Broadly, the statues of colonial leaders in an Australian context are “a foil to help erase colonial violence and replace it with tales of virtue and heroism” (Maddison 2020). The creation of “a foil” (Maddison 2020) is evident in the example of the Captain Cook ‘Discovery’ statue in Sydney. The statue’s inscription reads

‘Discovered this territory 1770’ – completely omitting over sixty-five thousand years of Indigenous history on the Australian continent. Similarly, the statue of Lachlan Macquarie in Hyde Park, Sydney is inscribed with the words ‘He was a perfect, gentleman, a Christian and supreme legislator of the human heart’. This inscription completely ignores Macquarie’s “role in advancing the invasion of Dharawal and Gundungurra territories to the west of what is now Sydney” (Maddison 2020) which “led to the Appin Massacre, in which Indigenous people were either shot or driven over the edge of a gorge to their deaths” (Maddison 2020).

Leaving these statues in public places constructs colonial invasion in Australian heritage as largely heroic and places these figures on a pedestal rather than critiquing and carefully considering the role they played in the darker parts of Australia’s history. Ndletyana and Webb note that memorialisation “is primarily about legitimising the present, not recalling the past” (Ndletyana and Webb 2016: 100), thus, these statues function to defend colonialism and its continued effects in the present. Further, the landscape of public memorials including statues “provides no opportunity for historical context” (Perkins 2017), and it is not the appropriate domain to start and continue meaningful discourses surrounding Australia’s colonial past and its continued effects in the present. Also, attempts to alter the inscriptions on these statues such as the statue of John Batman at the Victoria Market where “an additional 2004 plaque... apologises to Indigenous people” (Perkins 2017) do not solve the root issue. Altering these statues does not solve the colonial histories that are perpetuated through these acts of heritage. In fact, by reconsidering the image that these statues construct it is seen as necessary to “consider new directions, a revision, a criticism” (Knudsen and Andersen 2018: 16) of the ways these figures function within the heritage of modern Australia. Therefore, in the context of Australia, it is necessary to deconstruct these images of colonialism through the removal of these statues.

The main arguments against the removal of colonial statues – including of Cook – are based on aesthetic, educational and historic reasons. In terms of aesthetics, “those wishing to preserve [these statues] may argue that they are great works of art that have a great deal of aesthetic value” (Timmerman 2020: 4). However, the counterargument to this is that the social and political consequences both within and outside the heritage sphere of celebrating these ‘colonial invaders’ overwhelm any aesthetic value that bronze statues of these men hold. Another argument has been put forward for the education quality of these statues. Many have claimed that these statues are “part of our history” (quoted in Maddison 2020) in which there is “much to be proud of” (quoted in Maddison 2020), but it must be considered which parts of Australian history are being celebrated. Former Secretary of State of the United States Condoleezza Rice noted statues are necessary to “be able to remind people” (quoted in Timmerman 2020: 5) of ‘dark’ histories. However, this begs the question as to whether public spaces are the place to explore complex and emotionally fraught events.

In terms of value, it has been argued that these statues are integral to Australian heritage; it must be questioned whose heritage these statues purport. Perkins highlights that “[o]f the 250-odd memorials, statues and memorials... only a dozen were not ‘dead, white, men’” (Perkins 2017). Further, even though Australia has over sixty-five thousand years of Indigenous history, “Indigenous people are not present” (Perkins 2017) in our national tangible heritage. Those who are against the removal of the statues on heritage grounds “say that doing so is erasing history” (Lowery 2019: 29), but it must be asked: “whose history?” (Lowery 2019: 29) and “what processes should we use to agree on which history we remember?” (Lowery 2019: 29). The current tangible heritage in Australia only seems to remember nearly exclusively those of these ‘colonial invaders’. The first statue of an Aboriginal person was only erected in 2006 which is “a life-size bronze likeness of Sir Douglas Nicholls, a Yorta Yorta campaigner... and his wife Lady Gladys Nicholls” (Perkins 2017), therefore the statues that occupy Australia’s public spaces only reflect a small fraction of the

nation's history in its tangible heritage. Thus, the arguments put forward by preservationists for statues to remain on the grounds of aesthetics, educations and historic reasons fail to consider the converse effects of these monuments, and the minute fraction of Australia's history that is recognised and reflected in these monuments.

Finally, the statue debate is not necessarily about the physical statues themselves. Instead, these figures are symbols of the lasting social, cultural, and economic effects that these colonial figures have had on Australian society. When considering the statue debate in an Australian context, it is helpful to look at similar situations in both the United Kingdom and other former colonies including South Africa. In a comparison between the statue debates in the UK and South Africa Knudsen and Andersen note that it is not possible to “fight structural racism without challenging visible symbols; however, on the other hand, and importantly, that gesture is far from enough” (Knudsen and Andersen 2018: 26). Meaning, that to confront the broader social, political, and economic issues faced by First Nations people as a result of the colonial invasion of Australia, the symbols and figureheads of colonialism must be confronted. Knudsen and Andersen continue to express that “demythologizing whiteness is considered a part of a bigger decolonial struggle” (Knudsen and Andersen 2018: 10) and the first step in this is to physically remove ‘colonial invaders’ from their pedestals and to take down the statues. The act of memorialisation “is always linked to the needs of the present, personal and especially mediated collective memories” (Marschall 2019: 1094), and in the present, these statues have become symbols of the injustice and the lasting effects of colonialism. In an English context, the call for statues of colonial figures to be removed including the controversial statue of Cecil Rhodes at Oriel College at Oxford University aided a call for the broader decolonisation of other aspects of the university. In addition to calling for the “removing [of] colonial iconography in Oxford” (Knudsen and Andersen 2018: 22), students called for the removal of “the intangible heritage of Rhodes” (Knudsen and Andersen 2018: 22) in the form of trusts and scholarships, and “the need to improve black

and ethnic minority representation in academic staff” (Knudsen and Andersen 2018: 22) and the further inclusion of “more non-Western and non-male authors” (Knudsen and Andersen 2018: 22). Therefore, in the English context, the statue debate provided a vehicle for the broader decolonisation of Oxford University to be brought to the table. Ultimately, the statue debate is not only about the statues themselves, rather, these ‘colonial invaders’ serve as constant reminders of the lasting effects of colonialism and the British invasion of Australia.

In conclusion, the statue debate undeniably should call for the removal of colonial iconography including statues from public spaces, in an Australian context. These statues construct historically inaccurate ‘heroic’ figures while failing to recognise the violence committed by these ‘colonial invaders’. Those calling for the statues to remain on the grounds of aesthetics, educational or historical reasons fail to recognise that colonial iconography only represents two hundred out of more than sixty-five thousand years of Australian history, while it makes up the vast majority of Australia’s tangible heritage. Ultimately, this debate is not necessarily about the physical statues, but rather how these statues have become symbolic of the lasting legacy of colonial rule across Australia. The statues, including those of James Cook, must fall.

## References

- Heathcote, C., 2017. Gone with the Wind? America's Struggle with Confederate Statues.
- Knudsen, B. and Andersen, C., 2018. Affective politics and colonial heritage, Rhodes Must Fall at UCT and Oxford. *International Journal of Heritage Studies*, 25(3), pp.239-258.
- Lowery, M., 2019. The Original Southerners: American Indians, the Civil War, and Confederate Memory. *Southern Cultures*, 25(4), pp.16-35.

- Maddison, S., 2020. Why the statues must fall. The Sydney Morning Herald, [online] Available at: <<https://www.smh.com.au/national/why-the-statues-must-fall-20200612-p5521s.html>> [Accessed 19 September 2021].
- Marschall, S., 2019. The long shadow of apartheid: a critical assessment of heritage transformation in South Africa 25 years on. *International Journal of Heritage Studies*, 25(10), pp.1088-1102.
- Ndletyana, M. and Webb, D., 2017. Social divisions carved in stone or cenotaphs to a new identity? Policy for memorials, monuments and statues in a democratic South Africa. *International Journal of Heritage Studies*, 23(2), pp.97-110.
- Perkins, M., 2017. Historic Statues: Where Indigenous people and women go missing. The Age, [online] Available at: <<https://www.theage.com.au/national/victoria/historic-statues-where-women-and-indigenous-people-go-missing-20170831-gy8ev2.html>> [Accessed 17 September 2021].
- Timmerman, T., 2020. A Case for Removing Confederate Monuments. Oxford University Press's *Ethics Left and Right: The Moral Issues that Divide Us*, [online] Available at: <<https://philpapers.org/archive/TIMACF.pdf>> [Accessed 17 September 2021].

# How Can Building Memorial Museums Help Divided Societies Secure a Lasting Peace in the Aftermath of Genocide?

*Anjali Jackson*

In recent decades states have rushed to commemorate genocides through museums and memorials, with the expectation that this will bring healing and reconciliation. However, the extent to which genocide museums actually contribute to lasting peace is uncertain. In this essay I discuss how genocide museums attempt to bring reconciliation through remembrance, education and empathy, however, I argue that they often fail in the absence of constructive state narratives and policy.

Firstly, I provide an overview of how genocide museums promote peace, and introduce two case studies, including the Tuol Sleng museum in Cambodia and the National Museum of the Holodomor Genocide in Ukraine. Then, I discuss how the Tuol Sleng and Holodomor museums contribute to reconciliation in three domains, including political reconciliation and nation-building, personal reconciliation and education, and judicial reconciliation and international recognition. Finally, I consider the general limitations of genocide museums in creating lasting peace.

Museums can promote reconciliation in societies divided by genocide. Bockers et al. (2011, p. 81) suggest that successful reconciliation after



conflict is characterised by strong community bonds, social justice, and nonviolence. Genocide museums can support this through facilitating empathy and education (Jinks, 2014, p. 425). They provide a place of memorialisation, where affected individuals and communities can reconcile with their pasts and remember those that were lost. Additionally, they encourage visitors to empathise with victims and understand of the causes of genocide, therefore aiming to create lasting peace through education (Jinks, 2014, p. 426). However, museums can also “obstruct” reconciliation through their politicised and selective versions of history (Clark, 2013, p. 119). Museums can therefore positively or negatively contribute to three forms of reconciliation including political reconciliation, psychological reconciliation, and judicial reconciliation.

This essay will focus on the museums of Tuol Sleng in Cambodia and the National Museum of the Holodomor Genocide in Ukraine. Firstly, the Tuol Sleng genocide museum is located at the site of Security Prison 21, a former school in Phnom Penh that the Khmer Rouge used to torture and kill political prisoners. The museum opened in 1980, only months after the end of the genocide, and was left largely untouched by Vietnamese curator Mai Lam (Hughes, 2008, p. 321). Jinks (2016, p. 57) asserts that Tuol Sleng and its sister memorial site, Cheong Ek, are the “basis of remembrance and education by the Cambodian people” and are crucial in ongoing memorialisation of the genocide. Secondly, the National Museum of the Holodomor Museum opened in Kyiv to memorialise the Ukrainian famine of 1932-1933. The Holodomor, which occurred as a result of Soviet collectivisation policies, is a highly contested case of genocide. Although Stalin’s policies caused the deaths of millions of Ukrainians, many question whether there was intent to destroy the Ukrainians as an ethnic group, as is required by the UN’s definition of genocide (Andriewsky, 2015, p. 36). However, a large number of scholars today support the Holodomor’s status as a genocide and the genocide narrative is firmly entrenched in Ukraine’s past and present (Andriewsky, 2015, p. 35). President Yushchenko opened the Holodomor Museum on its 75th

anniversary (Jarosz, 2021b, p. 232). The museum and law were part of Yushchenko's larger program to remove all Soviet influence from Ukraine, following the fall of the Soviet Union and deteriorating relations with Russia (Jarosz, 2021a, p. 3). The museum is particularly divisive given the lack of consensus on the genocide itself.

These two museums provide an interesting comparison, as both commemorate vastly different types of genocides, approach genocide memorialisation in varying ways, exist in distinct cultural contexts, and yet have had similar outcomes on reconciliation. Reconciliation has been unsuccessful in both countries, with Cambodia still experiencing political, social, and economic instability as a result of the genocide, and Ukraine and Russia at war with relations at an all-time low. Analysing how these different museums have contributed to this failed reconciliation will create an understanding of the limitations of genocide museums more generally.

## **I. POLITICAL RECONCILIATION AND NATION-BUILDING**

Both Tuol Sleng and the National Museum of the Holodomor Genocide have played an important role in nation-building after conflict, contributing to reconciliation and solidarity among national groups. In Cambodia, the museum has particularly been important in legitimising the post-conflict government to promote peace and stability in the country. The Vietnamese memorialised Tuol Sleng immediately after their invasion of Cambodia to demonstrate the Khmer Rouge's brutality. By doing so, Vietnamese interference in Cambodia and the resulting government were seen as legitimate (Brown & Millington, 2015, p. 32). Similarly, in Ukraine, the museum assisted in legitimising Ukraine as its own nation, separate from the Soviet Union. The museum was part of a broader effort to remove Soviet-influenced architecture and symbols from Ukraine in order to allow their development as an independent country (Jarosz, 2021a, p. 3). Additionally, the museum

helped construct a cultural trauma that promoted solidarity among Ukrainians (Zhukova, 2022, p. 2). Through legitimising post-conflict governments and promoting shared national identities, Tuol Sleng and the Holodomor Museum contributed somewhat to stability in Cambodia and Ukraine after conflict.

However, the governments' use of Tuol Sleng and the Holodomor Museum to promote their national narratives has more often led to fracturing relations and prevented reconciliation between political groups. Evidence of genocide at Tuol Sleng and the Holodomor Museum is politicised, decontextualised, and integrated into state rhetoric (Jarosz, 2021b, p. 241; Münyas, 2008, p. 430). As a result, Edkins (2003, p. 172) argues that these museums perpetuate the ideals "upon which the genocides... were themselves based," and are used as an excuse for further violence. For example, the narratives of both museums have been described as divisive, dehumanising, and demonising (Dreyer, 2018, p. 546; Münyas, 2008, p. 433). Both museums have therefore been used to mobilise the populace against people associated with the perpetrator group. In Cambodia, the museum's narrative was initially used to "invigorate popular support" in the war on the Khmer Rouge, and has continued to foster hatred since their defeat (Lischer, 2019, p. 814). Similarly, by equating Soviets and Russians, the narrative of the Holodomor Museum is a "unifying force" against Russia (Zhukova, 2022, p. 19). Additionally, they impede reconciliation by preventing the development of shared truths. In Cambodia, the single narrative results in social ostracism of those who contradict it, and fosters resentment by distorting the memory of individuals (Chandler, 2008, p. 358). The consequences in Ukraine are even larger, causing significant division both nationally and internationally. The genocide narrative has "split Ukraine" by exacerbating interethnic and political tensions among their diverse population (Motyl, 2010, p. 28; Richter, 2020, p. 482). Furthermore, arguments over the genocide definition have contributed to Russia-Ukraine tensions (Zhukova, 2022, p. 9). Kharkhun (2021, p. 151) argues that "instead of fostering justice and reconciliation," the

contradicting narratives in Ukraine have contributed to memory wars that prevent peace from being achieved. Tuol Sleng and the Holodomor Museum have been co-opted by the Cambodia and Ukrainian government to promote their national narratives and foster resentment, preventing reconciliation from occurring.

Additionally, the narratives perpetuated at Tuol Sleng and the Holodomor Museum have obscured current national issues and the guilt of leaders, perpetuating the suffering caused by the genocides and preventing reconciliation. Firstly, memorialisation hides the fact that the government of Cambodia includes many former Khmer Rouge members (Hannum & Rhodes, 2018, p. 341). Tyner et al. (2012, p. 856) suggest that Tuol Sleng is simply a means of absolving guilt of government officials, and Lischer (2019, p. 841) describes it as a “shield for current leaders.” Secondly, the memorials restrict discussions of atrocities to only the period of the genocides, obscuring ongoing issues. In Cambodia, Tuol Sleng temporally limits discussion to the Khmer Rouge years, preventing examination of broader geopolitical issues and government corruption prior to and following the genocide (Tyner et al., 2012, p. 862). Similarly, in Ukraine, Holodomor memorialisation is closely tied to Holocaust denial. The national narrative of genocide hides Ukrainian participation in the Holocaust, and has been used to obscure the effects of Holocaust in Ukraine and beyond (Coulson, 2021, p. 7). Moreover, the Holodomor has been used to justify anti-Semitism, and Ukraine continues to glorify Holocaust perpetrators (Dreyer, 2018, p. 561; Katz, 2016, p. 207). Neo-Nazi paramilitary insignia badges continue to be sold at vendors near the museum (Dyck, 2022, p. 39). In both Cambodia and Ukraine, the genocide museums are used by governments to hide their own guilt and distract from broader national issues of corruption and atrocity, therefore preventing healing.

## II. PERSONAL RECONCILIATION AND EDUCATION

Museums play a significant role in encouraging reconciliation in individuals, and promoting peace in the larger community through education. Firstly, Tuol Sleng and the National Museum of the Holodomor Genocide have assisted individuals to reconcile with their pasts and the perpetrators of violence through providing a space of mourning. At Tuol Sleng, the photos of inmates in particular have provided closure to family members of the victims (Brown & Millington, 2015, p. 33). Additionally, the Holodomor Museum has become a place of “personal mourning that brings understanding and acceptance” of the past, and assists Ukrainians in overcoming survivors guilt (Kudela-Świątek, 2020, p. 58). Secondly, the museums have attempted to promote long-term peace and reconciliation through education, empathy, and experience (Bickford & Sodaro, 2010, pp. 78-80). For example, the authenticity of Tuol Sleng is used to combat genocide denial in second-generation victims, and images of the victims promote empathy in visitors (Gill, 2020, p. 66). Similarly, the memorialisation of victims at the Holodomor Museum promotes sympathy and “new forms of social inclusion” (Klymenko, 2016, p. 344). Finally, both museums attempt to call attention to genocide prevention in order to uphold the promise of ‘never again.’ Frayne (2021, p. 839) argues that Tuol Sleng warns of how genocide can emerge in regular society by expressing the normality of genocide. For example, the museum juxtaposes the familiarity of school corridors and classrooms with barbed wire and metal bedframes. Similarly, the Holodomor Museum focuses on the need to protect future generations through genocide prevention. For example, the museum’s Bitter Memory of Childhood statue, which has become an international symbol of the Holodomor, reads “to the dead, the living, and to those yet unborn” as a warning to future generations about the devastation of genocide (Kudela-Świątek, 2020, p. 63). Both museums have helped survivors reconcile with the past and have attempted to promoted long-term peace through education.

However, the education provided by the museums aligns with exclusive state narratives as discussed, erasing the historical complexity of the genocides and discouraging meaningful analysis of the events and causes. For example, Tuol Sleng makes no attempts to engage with the fact that many of its victims were former Khmer Rouge perpetrators, providing a reductionist version of history (Rouch, 2018, p. 49). Similarly, the Holodomor Museum omits the fact that many Ukrainians were perpetrators, facilitating “truth creation” rather than “truth seeking” (Kharkhun, 2021, p. 150). In many cases, analysis of the nuances of the Holodomor is seen as disrespectful to the victims (Coulson, 2021, p. 10). Furthermore, both museums limit atrocities to a single area, excluding the experiences of many affected people. In Cambodia, the Tuol Sleng and associated Cheong Ek memorials are largely portrayed as the extent of Khmer Rouge violence, erasing victims who were killed elsewhere and limiting the atrocities to a single geographic area (Tyner et al., 2012, p. 862). Hannum and Rhodes (2018, p. 343) argue that this geographic exclusion obscures the fact that “all Cambodians live within landscapes of violence” today, preventing proper education and concealing ongoing issues. Similarly, the Holodomor Museum perpetuates Ukraine’s exclusionary narrative that they were the only population affected by the Soviets collectivisation policies. Neighbouring countries such as Kazakhstan also experienced significant losses as a result of Soviet-driven famine, however, are overlooked by Ukraine’s memorials and thus not included in the reconciliation process (Richter, 2020, p. 481). Neither museum facilitates meaningful education and engagement with the complexities of genocide, therefore limiting the extent that people can learn from the past to prevent future violence.

Additionally, there are several other limitations to the education provided by the museums that limit their ability to bring reconciliation. Firstly, neither museum presents sufficient factual information on the genocides. Tuol Sleng prioritises authentic experience over education and is therefore primarily image-based, leaving visitors confused due to the lack of contextual information (Hughes, 2008, p. 325). Similarly,

Jarosz (2021b, p. 236) describes the Holodomor Museum as commemorative rather than informative. Secondly, Tuol Sleng in particular has been criticised for its focus on the outcome rather than causes of the genocide, ignoring the intent and structures that led to the Khmer Rouge's crimes (Jinks, 2016, p. 57). Tyner et al. (2012, p. 856) state that Tuol Sleng presents the past itself, but "not the processes through which the past is produced." As a result, the museum fails to consider why ordinary people commit violence and therefore does not educate about how to prevent future violence (Williams, 2021, p. 16). Finally, Tuol Sleng is criticised for poorly targeting local populations. Locals perceive the museum as a tourist destination, and therefore do not use the site as a place of education (Hannum & Rhodes, 2018, pp. 342-343). Additionally, a large portion of Cambodia's population is rural, and do not have the means to visit the memorial (Kidron, 2020, p. 318). While both Tuol Sleng and the Holodomor Museum promote some learning about the past, this education is poorly communicated and insufficiently targeted to the prevention of future atrocities.

### III. JUDICIAL RECONCILIATION AND INTERNATIONAL RECOGNITION

Museums can provide concrete evidence that a genocide occurred and therefore contribute to justice and increase international awareness. Tuol Sleng played a direct role in the legal processes of justice and reconciliation in Cambodia, as it contained "undeniable evidence" of the genocide (Jinks, 2016, p. 57). This evidence helped link individual perpetrators to their crimes, as seen in the indictment of Comrade Duch, the leader of the S-21 prison (Brown & Millington, 2015, p. 35). In contrast, the Holodomor Museum was created long after the genocide itself and therefore lacks direct evidence. However, alongside domestic laws, the Holodomor Museum has been used to spread the Ukrainian narrative to international audiences to some extent (Klymenko, 2016, p. 352). Both museums encourage comparison to the Holocaust and other European genocide sites to better connect with and educate

international audiences (Brown & Millington, 2015, p. 36; Klymenko, 2016, p. 346). The evidence provided by the genocide museums contributes directly to justice through legal mechanisms and increases international awareness of the genocides.

Unfortunately, this effort to pursue reconciliation and recognition internationally has created a barrier to reconciliation domestically, particularly in Cambodia. The Tuol Sleng museum is primarily targeted towards international visitors and is therefore culturally insensitive, often deliberately excluding the needs of locals (Hannum & Rhodes, 2018, pp. 342-343). Tuol Sleng encourages a Western form of remembrance that is “incommensurable with local conceptions of loss and mourning” (Kidron, 2021, p. 304). Khmer Buddhists, for example, believe that focusing on the evils of the past is detrimental to the emotional and spiritual wellbeing of both the living and the dead (Kidron, 2020, p. 313). Similarly, the continued display of human remains is directly against Buddhist practices of cremation and was described by Prince Sihanouk as “like hanging people twice” (Brown & Millington, 2015, p. 33). Lischer (2019, p. 826) notes that the Western framing of such museums “may unintentionally support a post-conflict power structure that disregards reconciliation.” Such an approach threatens the resurgence of violence in communities (Kidron, 2021, p. 293). The Holodomor Museum, on the other hand, is not internationally targeted to the same extent. Memorialisation at the Holodomor Museum is therefore compatible with local understandings of remembrance, and caters appropriately to Ukrainian nationals (Jarosz, 2021a, p. 5). In cases where genocide museums are internationally targeted, such as Tuol Sleng, they risk losing cultural applicability and preventing local reconciliation.

Additionally, the increasing international focus on both museums has led to a prioritisation of business, commodification, and trivialisation over reconciliation and true justice. Tuol Sleng has become a key tourist location in Cambodia, and as a result the museum is now run more for financial gain than national reconciliation purposes (Sripokangkul,



2017, p. 537). Kidron (2020, p. 321) argues that this business sustains the hierarchical patronage system in Cambodia, and widens the gap between elite and non-elite Khmer. While the Holodomor Museum is less of a financially driven tourist location, increasing international attention to the museum has affected the reconciliation process. Notably, the use of social media to share people's experiences of the museum has resulted in a trivialisation of the genocide, concealing productive discourse and complex understanding of Ukraine's history (Zhukova, 2022, p. 14). As a result of their international exposure, both museums have become a "symbolic replacement of a real justice" (Shuhalyova & Moldavskii, 2019, p. 135). Leaders have used the memorials as an example of their pursuit of reconciliation and justice, without having to make meaningful progress in other areas (Williams, 2004, p. 249). International recognition of the museums has decreased the importance of reconciliation and justice, leading instead to commodification and trivialisation of the genocides.

#### **IV. THE LIMITATIONS OF GENOCIDE MUSEUMS**

The Tuol Sleng and Holodomor genocide museums demonstrate the general limitations of genocide memorialisation in promoting reconciliation. Both museums contribute to limited reconciliation and in many cases prove to be a source of further conflict and instability. This failure can be attributed to two problems with the museums themselves. Firstly, the use of genocide museums to perpetuate national narratives is adverse to reconciliation. Hannum and Rhodes (2018, p. 336) argue that governments should not create the narratives of genocide museums but instead be "facilitators through truly public space." Secondly, genocide museums must consider the most appropriate ways of remembering genocide. Western influences often "compel states with difficult pasts to adhere to the prescribed standards of memory," which may be detrimental to local healing (David, 2017, p. 309). Bockers et al. (2011, p. 73) suggest that resistance to forgetting

may impede forgiveness, and therefore there need to be alternate ways of remembering the past that allow reconciliation to occur.

Finally, it must be noted that genocide museums cannot themselves ensure reconciliation. The outcomes of reconciliation in a country depend on much larger structural, political, and sociocultural factors. Reconciliation requires reciprocity, and is significantly hindered by poverty, corruption, and instability (Bockers et al., 2011, p. 80). Genocide museums only promote reconciliation under the appropriate political conditions and with the presence of constructive public discourse (Williams, 2004, p. 249). Therefore, the failures of memorial museums often simply reflect the broader failures of the country. In Cambodia, a lack of education about the genocide more generally means the Tuol Sleng museum has little impact on broader society, and nothing is likely to change under a corrupt government uninterested in reconciliation (Münyas, 2008, p. 423). Similarly, the Holodomor Museum means little in the face of larger animosities and strategic concerns between Russia and Ukraine, and is therefore unlikely to bring peace. Genocide museums can be powerful tools of reconciliation if constructed carefully, however are unlikely to create lasting peace in societies in which national narratives and goals do not support reconciliation more broadly.

Overall, the effectiveness of genocide museums in creating lasting peace is limited. While genocide museums can promote reconciliation through education and empathy, their message often lacks cultural sensitivity and is co-opted by divisive state narratives that prevent reconciliation. Both Tuol Sleng and the National Museum of the Holodomor Genocide demonstrate this, with their failures to promote political inclusion, education, and justice. However, although this failure can be attributed to the genocide museums to some extent, it is also characteristic of larger sociopolitical issues in Ukraine and Cambodia that prevent reconciliation from occurring. The two cases demonstrate that genocide museums mean little in the absence of meaningful government action to uphold the promise of “never again.”

## References

- Andriewsky, O. (2015). Towards a Decentred History: The Study of the Holodomor and Ukrainian Historiography. *East/West: Journal of Ukrainian Studies*, 2(1), 18-52.
- Bickford, L., & Sodaro, A. (2010). Remembering Yesterday to Protect Tomorrow: The Internationalization of a New Commemorative Paradigm. In Y. Gutman, A. Brown, & A. Sodaro (Eds.), *Memory and the Future: Transnational Politics, Ethics and Society* (pp. 66-88). Palgrave Macmillan.
- Bockers, E., Stammel, N., & Knaevelsrud, C. (2011). Reconciliation in Cambodia: thirty years after the terror of the Khmer Rouge regime. *Torture*, 21(2), 71-83.
- Brown, C., & Millington, C. (2015). The Memory of the Cambodian Genocide: the Tuol Sleng Genocide Museum. *History Compass*, 13(2), 31-39.
- Chandler, D. (2008). Cambodia Deals with its Past: Collective Memory, Demonisation and Induced Amnesia. *Totalitarian Movements and Political Religions*, 9(2-3), 355-369.
- Clark, J. N. (2013). Reconciliation through Remembrance? War Memorials and the Victims of Vukovar. *International Journal of Transitional Justice*, 7(1), 116-135.
- Coulson, J. (2021). The Holodomor in Collective Memory: Constructing Ukraine as a Post-Genocide Nation [published electronically]. *The General Assembly Review*, 2(1), 1-15.
- David, L. (2017). Against Standardization of Memory. *Human Rights Quarterly*, 39(2), 296-318.
- Dreyer, N. (2018). Genocide, Holodomor and Holocaust Discourse as Echo of Historical Injury and as Rhetorical Radicalization in the Russian-Ukrainian Conflict of 2013–18. *Journal of Genocide Research*, 20(4), 545-564.
- Dyck, K. (2022). Holodomor and Holocaust Memory in Competition and Cooperation. In J. Cox, A. Khoury, & S. Minslow (Eds.), *Denial: The Final Stage of Genocide* (pp. 29-44). Routledge.

- Edkins, J. (2003). *Trauma and the Memory of Politics*. Cambridge University Press.
- Frayne, N. F. (2021). To see others in ourselves: justice and architectural ambiguity in the Tuol Sleng Genocide Museum. *The Journal of Architecture*, 26(6), 836-860.
- Gill, F. (2020). Human remains, materiality and memorialisation: Cambodia's bones. *Human Remains and Violence*, 6(2), 61-80.
- Hannum, K. L., & Rhodes, M. A. (2018). Public art as public pedagogy: memorial landscapes of the Cambodian genocide. *Journal of Cultural Geography*, 35(3), 334-361.
- Hughes, R. (2008). Dutiful tourism: Encountering the Cambodian genocide. *Asia Pacific Viewpoint*, 49(3), 318-330.
- Jarosz, K. (2021a). Captioning the occupation: The role of textual elements in the process of building national narratives in historical museums [published electronically]. *QScience Connect*, 2021(3), 1-11.
- Jarosz, K. (2021b). National narratives of 'occupation' in historical museums of the post-Soviet landscape. In J. E. Taylor (Ed.), *Visual Histories of Occupation: A Transcultural Dialogue* (pp. 229-246). Bloomsbury Academic.
- Jinks, R. (2014). Thinking comparatively about genocide memorialization. *Journal of Genocide Research*, 16(4), 423-440.
- Jinks, R. (2016). *Representing Genocide: The Holocaust as a Paradigm?* Bloomsbury Academic.
- Katz, D. (2016). Is Eastern European 'Double Genocide' Revisionism Reaching Museums? *Dapim: Studies on the Holocaust*, 30(3), 191-220.
- Kharkhun, V. (2021). Reconstructing the past: narratives of Soviet occupation in Ukrainian museums. *Canadian Slavonic Papers*, 63(1-2), 148-167.
- Kidron, C. A. (2020). The "Perfect Failure" of Communal Genocide Commemoration in Cambodia Productive Friction or "Bone Business"? *Current Anthropology*, 61(3), 304-334.

- Kidron, C. A. (2021). 'Rebirthing' the Violent Past: Friction Between Post-Conflict Axioms of Remembrance and Cambodian Buddhist Forgetting. *Anthropological Forum*, 31(3), 291-311.
- Klymenko, L. (2016). The Holodomor law and national trauma construction in Ukraine. *Canadian Slavonic Papers*, 58(4), 341-361.
- Kudela-Świątek, W. (2020). The *Lieux de Mémoire* of the Holodomor in the Cultural Landscape of Modern Ukraine. In A. Wylegala & M. Glowacka-Grajper (Eds.), *The Burden of the Past: History, Memory, and Identity in Contemporary Ukraine* (pp. 49-74). Indiana University Press.
- Lischer, S. K. (2019). Narrating atrocity: Genocide memorials, dark tourism, and the politics of memory. *Review of International Studies*, 45(5), 805-827.
- Motyl, A. J. (2010). Deleting the Holodomor: Ukraine Unmakes Itself. *World Affairs*, 173(3), 25-33.
- Münyas, B. (2008). Genocide in the minds of Cambodian youth: transmitting (hi)stories of genocide to second and third generations in Cambodia. *Journal of Genocide Research*, 10(3), 413-439.
- Richter, J. (2020). Famine, Memory, and Politics in the Post-Soviet Space: Contrasting Echoes of Collectivization in Ukraine and Kazakhstan. *Nationalities Papers*, 48(3), 476-491.
- Rouch, A. F. (2018). We need to talk about genocide: Rwanda, Cambodia and Germany have all dealt with past genocides differently, but the healthiest nations are those which discuss it openly. *Index on Censorship*, 47(4), 48-50.
- Shuhalyova, I. M., & Moldavskii, R. L. (2019). National Memory vs Official Policy of Memory in Ukraine (in the case of Holodomor tragedy commemoration 1932-1933). *Zaporizhzhia Historical Review*, 1(53), 133-139.
- Sripokangkul, S. (2017). The commodification of death: Working of the genocide museum and the killing fields in the reconciliation process in Cambodia. *Kasetsart Journal of Social Sciences*, 38(2), 537-548.
- Tyner, J. A., Alvarez, G. B., & Colucci, A. R. (2012). Memory and the everyday landscape of violence in post-genocide Cambodia. *Social & Cultural Geography*, 13(8), 853-871.

- Williams, P. (2004). Witnessing Genocide: Vigilance and Remembrance at Tuol Sleng and Choeung Ek. *Holocaust and Genocide Studies*, 18(2), 234-254.
- Williams, T. (2021). Remembering and silencing complexity in post-genocide memorialisation: Cambodia's Tuol Sleng Genocide Museum. *Memory Studies*, 15(1), 3-19.
- Zhukova, E. (2022). How Cultural Traumas Occur on Social Media: the Case of the Ukrainian Famine, 1932–1933. *International Journal of Politics, Culture, and Society*, 35(1), 1-25.

# Exploring Processes of Radicalisation in Jihadist Terrorist Organisations

Investigating different factors that enable the cross-border radicalisation and recruitment of 'home-grown' terrorists.

*Emily Horbach*

## I. INTRODUCTION

In September 2001, American President George W. Bush announced the beginning of the United States' "War on Terror" (Gregg 2018) in response to the devastating attacks of 9/11. This 'war' began with US aerial bombings of Afghan cities before becoming a much greater global phenomenon, with countries around the world declaring war on a tactic – terrorism – rather than a designated target. Fears of terrorism have spread globally since the early 2000s, with terrorist organisations operating in over 163 countries, the effects of which are felt most strongly in the Middle East and Africa ('Global Terrorism Index' 2020). Academic literature on the phenomena of terrorism has paralleled this rise, with scholars positing various explanations for acts of political violence and suggesting counter-terrorism strategies to combat this threat. Since the attack on the World Trade Centre in 2001, both academics and the media have loosely addressed the concept of 'radicalisation', yet little scholarly work explores the intricacies of this process. Thus, this review endeavours to explore processes of radicalisation regarding 'home-grown' terrorists operating as part of

Jihadist terrorist organisations, exploring factors that contribute to the recruitment and radicalisation of individuals across borders.

Preparatory for discussing the process of radicalisation, it is important to first establish a definition for terrorism itself. Despite the wide use of the term, the concept does not have an agreed-upon definition (Prabha 2000). Due to the varied conditions in which terrorists operate across both the developed and developing world, as well as grand differences in their methodology, ranging from suicide bombers to mass kidnappings, it can be difficult to establish a concrete definition for such a fluid act. For this review, terrorism will be defined, per the United States department of defence, as “the unlawful use of violence or threat of violence, often motivated by religious, political or other ideological beliefs, to instil fear and coerce individuals, governments or societies in pursuit of terrorist goals” (“Terrorism” 2021).

In extension to this, it is important to explore the definition of ‘home-grown’ terrorism, the type of terrorism that will be the focus of this review. Defining this term raises some difficulties as it incorporates elements of both domestic and international terrorism, and is defined differently depending on individual nations’ perceptions. Whilst most scholars agree that ‘home-grown’ terrorists undergo radicalisation within Western nations, and their acts are against the population or infrastructure of the same nation, there is some disconnect over whether ‘home-grown’ terrorists have affiliations with an external terrorist organisation (Zekulin 2016). Both the United States and European Union neglect to specify whether ‘home-grown’ terrorism involves a connection with a terrorist organisation, whilst Canada’s definition states an explicit connection to Al-Qaeda and Australia is yet to provide one altogether (Zekulin 2016). According to Michael Zekulin, a Canadian security research affiliate, this form of terrorism is continually evolving, with the current wave driven by the global jihadist narrative under the Islamist ideology attributed to Al-Qaeda (Zekulin 2016). As this review seeks to explore cross-border radicalisation strategies, the term ‘home-grown’ terrorism will be used to represent



acts of terror committed against Western nations by individuals who are affiliated with an external jihadist group yet undergo radicalisation within the nation in which their attack(s) is/are intended.

To a similar effect, the concept of radicalisation also lacks an agreed-upon definition. However, in alignment with most complex concepts in the social sciences, a consensus has emerged regarding key features of the process in place of a clear definition. This consensus believes that in defining radicalisation “what individuals believe is less important than how they come to believe it” (Kriner 2018: 20). Jason Leigh Streighter of the Australian Graduate School of Policing and Security conducted an in-depth examination of the ‘definitional dilemma’ associated with concepts related to violent extremism. In conflating the findings of his work, radicalisation can be defined as “a process by which a person adopts belief systems which justify the use of violence to effect social change and comes to actively support as well as employ violent means for political purposes” (Striegher 2015: 77). Moreover, scholarly pursuits have failed to find direct causal explanations for radicalisation, with alternative approaches reaching the consensus that many different factors can coalesce into the necessary conditions for radicalisation (Kriner 2018). To explore this concept, this review will begin by contrasting two key models of radicalisation, as proposed by Bruce Hoffman and Marc Sageman, before exploring a variety of factors that contribute to the process amongst ‘home-grown’ terrorists.

## II. SEMINAL THEORIES ON PROCESSES OF RADICALISATION

This section of the review will explore two contradictory seminal theories on processes of radicalisation. These theories, colloquially named the ‘top-down’ and ‘bottom-up’ models, were initially proposed by Bruce Hoffman and Marc Sageman concerning Jihadist terrorism.

Hoffman and Sageman are two prominent scholars in the field of terrorism and their models have been a topic of wide debate amongst academics and counter-terrorist strategists.

Bruce Hoffman's 'top-down' model of radicalisation was developed in conjunction with his research on the notorious terrorist organisation Al-Qaeda. His model posits that radicalisation and recruitment to terrorist organisations are driven by designated 'staff', with hierarchical structures serving an important role in the process. To Hoffman, radicalisation is perceived as a 'top-down' process with formally organised groups playing a critical role in the recruitment and radicalisation of new members (Hoffman 2017).

Contrastingly, Sageman argues that radicalisation is a 'bottom-up' process which occurs between a small group of individuals. Through examining the histories of two terrorist cells (those involved in the unsuccessful bombing of the Los Angeles airport and the Hamburg cell responsible for the 9/11 attacks) Sageman emphasises the striking absence of 'top-down' recruitment and 'brainwashing', two themes of conventional explanations for jihadist terrorism (Sageman 2004). In conducting his examination, he noted that in both cases relationships were solidified first, preceding any formal induction to a terrorist organisation. From this research he developed his 'bunch of guys' theory, which suggests that individuals radicalise in groups, by social-psychological processes of mutual reinforcement and without any connection to a formal organisation or movement (Maskaliunaite 2015: 9). Only after radicalisation do these groups seek links to larger ones, making radicalisation a bottom-up process.

The debate over whether radicalisation is a 'top-down' or 'bottom-up' process is ongoing, with a breadth of researchers building upon these theories or stipulating variations of the process. Clark McCauley and Sophia Moskalenko, of the Bryn Mawr College, made the case that the 'top-down' and 'bottom-up' distinction holds little relevance to the current workings of Jihadist radicalisation (McCauley and Moskalenko

2008). Their chapter, on *Individual and Group Mechanisms for Radicalisation*, provides a poignant example of the difficulties that exist in isolating these two models. If a group of friends move towards radicalisation “after watching videos of Muslim victimization on a jihadi web site” (McCauley and Moskalenko 2008), is this considered ‘top-down’ or ‘bottom-up’ radicalisation? According to McCauley and Moskalenko, it is ‘bottom-up’ in the sense that the friends have not been contacted personally by members of an existing radical group yet ‘top-down’ as the jihadist group has broadcast the footage on the internet (McCauley and Moskalenko 2008). In the digital era of the twenty-first century, the internet, news and media platforms of radical jihadist groups are their recruiting programs (McCauley and Moskalenko 2008). The above example illustrates that it is difficult to even distinguish between these two processes let alone decide upon a more accurate model. Rather than attempting to reconcile the differences between these two models, a more promising approach exists in identifying coalescent factors. Thus, the importance of this research lies not in the exact methods of how the process occurs but instead in reviewing the many factors that increase the likelihood of ‘home-grown’ Jihadist radicalisation and enable it to occur across borders.

### III. CONTRIBUTING FACTORS

#### A. Fundamentalist Belief

Islamic belief is one of the most widely identified motivators for radicalisation within popular media, yet recent literature conveys the often-overlooked intricacies and varied interpretations of Islam which divide the Muslim world. Whilst research has emerged concerning the role that religion, more generally, holds in radicalisation, these articles have been specifically omitted as this review focuses solely on Jihadist radicalisation. Similarly, exploring ‘Islam’ as a factor in itself would be irrelevant to this review, as it lies at the core of jihadist organisations and, by extension, jihadist radicalisation. However, this review will

explore the role that *fundamentalism* holds in radicalisation, a factor that operates in extension to Islam through facilitating greater engagement with threats originating from outside religions (Segady 2006).

Religious Fundamentalism is often associated with negative connotations, an association that is largely the result of media portrayal and misconception. Religious Fundamentalism is defined as “the belief that there is one set of religious teachings that contains the fundamental, basic, intrinsic, essential, inerrant truth about humanity and deity; that this essential truth is fundamentally opposed by forces of evil which must be vigorously fought; that this truth must be followed today according to the fundamental, unchangeable practices of the past; and that those who believe and follow these fundamental teachings have a special relationship with the deity” (Altemeyer and Hunsberger 1992: 157). This definition addresses some key assumptions that, firstly, not all religious believers are fundamentalists and, secondly, that advocating for a belief system is distinctly different from fundamentalist movements, movements which usually consist of political violence (Wright 2016: 20). Under this definition, fundamentalism can be expressed non-violently if done through politically acceptable means (Wright 2016: 20). Thus, to what extent does fundamentalism contribute to radicalisation?

While some scholars argue that religious factors are not the predominant cause of radicalisation (Wright 2016: 20), evidence suggests that Islam is more easily connected to violent fundamentalist movements, and by extension terrorism, than other religious groups (Wright 2016). Joshua Wright’s article ‘*Why is Contemporary Religious Terrorism Predominantly Linked to Islam?*’, promotes existing data to illustrate that, statistically, Muslim people score highest upon measures of religious fundamentalism compared to members of other world religions (Altemeyer and Hunsberger 1992). According to Pech and Slade, this evidence may suggest that Muslims are more susceptible to the ‘terrorist meme’, an ideal that expresses selective violent

interpretation of the Qur'an and is spread throughout the Islamic world (Pech and Slade 2006). The 'terrorist meme' contributes to radicalisation as it has the potential to provoke feelings of religious inadequacy, furthering the extremist agenda through increasing participation in Jihadist groups.

Intrinsically related to the idea of religious fundamentalism are the concepts of religious involvement and commitment. Religious involvement incorporates a wide variety of activities related to religion, including the attendance of services, engagement with prayer and the reading of scripture. Similarly, religious commitment refers to the extent to which one's own religious beliefs underlie their behaviour daily (Wright 2016: 25). Research by Ginges et al. can aid in understanding the role that these factors hold in radicalisation. Their research suggests that collective action stemming from involvement with group activities leads to increased support for violence against out-groups. Additionally, their empirical findings indicate that the frequency of mosque attendance may increase the predictive likelihood of individuals' support of suicide attacks (Ginges et al. 2009). This is due to what is termed *parochial altruism*, the human inclination toward out-group hostility and in-group sacrifice (Yamagishi and Mifune 2016). Interestingly, and in contradiction to this hypothesis, data collated by Wright suggests that Muslim people do not report higher levels of religious involvement than other religious groups (Wright 2016) and thus, frequency of involvement is not positively correlated with increased levels of radicalisation in Islamic populations. The evident discrepancy between high levels of religious fundamentalism and lower levels of religious involvement creates a problematic assumption. This assumption, made by Wright, is that those with fundamentalist Islamic beliefs may not have the exposure to Islamic education necessary to understand the "nuances, complexity, and context of religious teaching" (Wright 2016: 24). This leaves a large number of Muslim people dependent on religious power holders for teaching and interpretation which, if led by fundamentalist groups that

push an extremist agenda, could make a significant contribution to radicalisation.

Despite this, there exist several flaws in the argument that fundamentalism is the predominant contributing factor involved in radicalisation. The primary concern with this research revolves around what is known as the ‘specificity problem’. The specificity problem exists at the core of all analyses of radicalisation, especially in evaluating the relationship between Islamic fundamentalism and terrorism. (Dawson 2019) As explained by Dawson, this problem revolves around questioning why only a small minority of fundamentalists turn to violence whilst the large majority, who hold the same belief system, exercise their religious commitment peacefully (Dawson 2019). By the fundamentalist view that “forces of evil must be vigorously fought” (Altemeyer and Hunsberger 1992), millions of Islamic people believe that they earn sublime rewards in the afterlife if they decide to engage in terrorism, especially suicidal terrorism. Despite this, only a very small percentage of fundamentalists turn to violence and even fewer commit acts of suicide terrorism. Mohammad promises paradise to all who fall during the holy war; yet, as observed by philosopher Gaetano Mosca:

If every believer were to guide his conduct by that assurance in the Koran, every time a Mohammedan army found itself faced by unbelievers it ought to either conquer or to fall to the last man. It cannot be denied that a certain number of individuals do live up to the letter of the Prophet’s word, but as between defeat and death followed by eternal bliss, the majority of Mohammedans normally elect defeat. (Mosca and Livingston 1939: 181-82)

This observation illustrates the significance the ‘specificity problem’ has held throughout history and how it can be applied when considering the most sacrificial form of terrorism: suicidal terrorism. In adopting the view that fundamentalism is a major contributing factor to radicalisation, one overlooks the fact that almost all who hold such

strong views have already been successfully deterred. Terrorists are the outliers. Thus, it is important to explore other factors that contribute to the process of Jihadist radicalisation. The following factors have been selected for review due to their specific relevance to cross-border radicalisation, a key feature of 'home-grown' terrorism.

## **B. Social Identity Theory**

Another factor that is believed to be involved in the radicalisation process is a type of collective ideology formed through group membership. According to May, collective ideologies provide individuals with a sense of identity by encouraging loyalty to communal groups, endorsing a set of moral values and giving clarity regarding existential issues (May 1991). Through drawing on social identity theory, Harris et al. explain how "intra-group relationships can lead to extreme behaviour and resistance to counter efforts" (Harris et al. 2014).

Social Identity Theory was first conceptualised by Henri Tajfel and John Turner in 1979 to explain group membership. Their theory posits that an individual's sense of identity is developed based on group membership and shared with other members of the group (Tajfel and Turner 1979). It suggests that group membership occurs as a result of self-categorisation, social comparison and the "construction of the self in terms of in-group defining properties" (Harris et al. 2014: 21). Individuals tend to define themselves in terms of the 'in-groups' they identify with, grouping people that share similar characteristics or experiences, while those who differ in characteristics central to the collective identity of the 'in-group' are categorised as the 'out-group'. This forms an 'us' and 'them' mentality that "may lead to negative attitudes and animosity towards the 'other' [group]" (Harris et al. 2014: 22). Whilst self-categorisation is important in identity formation, it can lead to ethnocentric attitudes and dehumanisation of 'other' groups, which are key cognitive thought patterns that have the potential to contribute to radicalisation.

Research conducted by Hogg, et al. extends this idea by exploring the relationship between uncertainty in identity and radicalism (Hogg et al. 2010). This relationship is of particular importance when studying the radicalisation of ‘home-grown’ terrorists, as a clash in nationality can lead to high levels of uncertainty regarding identity. Hogg et al.’s uncertainty-identity theory, which posits that feelings of self-uncertainty motivate people to associate with groups to gain clarity in their identity, is based upon the principles of Social Identity Theory. In gathering empirical data to support this theory, they conducted an experiment that manipulated university students’ sense of ‘self-uncertainty’ and provided exposure to moderate or radical advocacy groups. The findings of this study conveyed that participants initially identified more strongly with the moderate group, however, “the preference to identify with a moderate over a radical group disappeared under uncertainty” (Hogg et al. 2010: 1061). Groups which are particularly alluring in times of uncertainty are highly entitative, meaning they have a clearly articulated identity, affiliated belief system and requirements for behaviour (Hogg and Adelman 2013), all features which are expressed by radical Jihadist groups. Moreover, Hogg et al. found that group identification and out-group discrimination were strongest when uncertainty was shifted toward the ‘social self’, underpinning an individual’s social world and perception of their place within it. This idea further supports the notion that uncertainty-identity theory, in extension to Social Identity Theory, is a key factor involved in the radicalisation of ‘home-grown’ terrorists, who often experience a conflict in their nationalistic identity.

### C. Shame

Mathew Kriner’s article *Tackling Terrorism’s Taboo: Shame* provides a conceptual framework to explain how terrorist organisations capitalise on an individual’s capacity to experience shame for recruitment and radicalisation. Kriner argues that shame is a greatly understudied emotion, yet one that has a powerful influence on the self (Kriner 2018). Interestingly, McCauley and Moskalenko also examine



a variety of concepts related to shame in their mechanisms-based approach to defining radicalisation (McCauley and Moskalenko 2008). While their work explored many concepts relating to shame including anger, hatred, humiliation and personal struggle, they failed to address shame directly (McCauley and Moskalenko 2008). The orientation of their work illustrates two key points. Firstly, that harnessing an individual's emotions is a critical mechanism utilised in the radicalisation process and, secondly, that shame is routinely overlooked or mislabelled by scholars in this field. According to Kriner, radicalisation narratives are conventionally understood to be a tool of motivation, such that negatively oriented emotions like shame are not "immediately and logically connected to radicalisation studies" (Kriner 2018: 21).

As an emotion, shame holds significant power in "its ability to deeply challenge the core self with or without public exposure" (Tangney et al. 2007). This separates it from other self-conscious emotions, such as humiliation and guilt, which stem from social reactions to experiences of wrongdoing or failure. This differentiation is important in understanding the role that shame holds in 'home-grown' terrorism, as it provides an avenue for radicalisation without individuals having public exposure to the terrorist group they are affiliating with or the injustices they are acting against. Jihadist terrorist organisations routinely engage in the use of emotion-based narratives in their cross-border recruitment strategies, in the hope to unlock feelings of shame and doubt within individuals. In 2010 an online statement was released by Al-Qaeda's notorious radicaliser, Anwar al-Awlaki, who posted the following question to Muslims in the United States:

"With the American invasion of Iraq and continued U.S. aggression against Muslims, I could not reconcile between living in the U.S. and being a Muslim, and I eventually came to the conclusion that jihad against America is binding upon myself just as it is binding on every other Muslim... To the Muslims in America, I have this to say: How can your conscience allow you to live in peaceful coexistence with a nation

that is responsible for the tyranny and crimes committed against your own brothers and sisters?” (Kriner 2018: 21)

Statements like these juxtapose a jihadist worldview against the perceived immorality of the host nation. This call to action is an attempt by jihadist terrorist organisations to shame listeners into relinquishing their attachment to the American identity and instead rectifying their host nation’s wrongdoings, whether they have been personally impacted or not. To better connect with potential recruits, al-Awlaki shares that he faced a similar conflict in identity to the one they may be experiencing, concluding that he could not support both Muslim and American values in his total self. Radicalisation narratives attract individuals that are already sympathetic to a terrorist cause, yet they also aim to divide populations into two groups: sympathisers (who are considered potential recruits) and apostates (those who reject the moral identity of Jihadist radicals). The identification of apostates serves the radicalisation agenda, as they provide an entity to which a negative image can be attached, creating an ‘enemy’ of the sympathisers. The ‘radicalised jihadist’ framing of conflict, whereby anyone who does not act in the protection of the Muslim identity against aggressors is considered inferior and labelled as a potential apostate (Kriner 2018), is a particularly powerful use of shame that creates concern over external opinions of the self, promoting radicalisation as the ‘norm’. Thus, shame presents itself as a powerful tool for societal division, with radicalisation narratives becoming an increasingly effective strategy when used in conjunction with the principles of Social Identity Theory.

#### **D. Rational Choice Theory**

The act of terrorism is popularly conveyed by mass media as an irrational act, and by extension, radicalisation is dramatised as a process filled with brainwashing and coercion (Caplan 2006). Whilst Kriner argued that shame, an emotion, is an important factor in the radicalisation process, Bryan Caplan, an American professor of economics, opposes this view in arguing that the decision to radicalise

is based on logic and eventuates from cost-benefit analyses. His work takes an economic approach to the study of terrorism, an approach that has the potential to limit bias by adopting a more statistically-based objective viewpoint than those held in other social science disciplines. Concerning the aforementioned literature of Mosca, rational choice models must hold significance to the radicalisation process as, without this form of logical decision-making, terrorism would be the norm, not the exception. In addressing the ‘specificity-problem’ previously raised by Dawson, Caplan distinguishes between three groups of people (terrorist sympathizers, active terrorists and suicide bombers) to analyse varying degrees of association with terrorist organisations and investigate disparities between those that commit acts of terror and those that do not. Critical to rational choice theory is an individual’s responsiveness to incentives. Accordingly, if the cost of participation in acts of terror fall and the risk of death or imprisonment decline, the likelihood of radicalisation increases exponentially (Behr et al. 2013). However, there is still a proportion of individuals who engage despite the risk. This is because terrorists do not engage in high-risk activities for their own benefit; they, instead, use these tactics because they are highly effective. Often terrorist organisations are too militarily inferior to win a conventional war (Fortna 2015), meaning they take a more targeted approach to achieve political aims and gain greater recognition. The relevance of rational choice theory to radicalisation becomes more evident when considering religious ties, in the form of divine recognition, to the cost-benefit analysis.

This idea is further supported by Daniel Pisiou, who posits that individuals choose to follow a ‘career in terrorism’, in the same manner in which they choose any other pathway, evaluating its downsides in comparison to the “reward, standing and recognition” (Pisiou 2012) gained from the act. His research focuses on behaviour, rather than emotion, and considers similar trends to Caplan. Benefits gained from terrorist acts depend upon perceived support and approval from the referent community or social surroundings that are given to the perpetrated actions. However, this idea is limited in its application when

considering the radicalisation of ‘home-grown’ terrorists, as they often act amongst a population with different political or religious views. This creates barriers to receiving recognition and standing, as the group that one is affiliated with operates from across the globe. However, in approaching this idea from a religious rather than social angle, it is clearer why an individual may potentially choose a ‘career in terrorism’. In accordance with fundamentalist Islamic views, it may provide them with reward and recognition in the afterlife.

### **E. Internet**

In the digital era of the 21<sup>st</sup> century, the internet has become a crucial platform for the conduct of terrorist operations and recruitment programs. Its widespread use by Jihadist organisations has shifted the focus of counter-terrorist strategies, with research into its role in radicalisation becoming a major priority. In 2013, the RAND corporation identified a gap in the literature on internet radicalisation, with many scholars focusing on online content while neglecting to identify the link between this content and the radicalisation of individuals. This gap stemmed from difficulties in gaining empirical evidence, as members of terrorist organisations, whether convicted or not, are often inaccessible. This corporation used primary data drawn from a variety of sources to study fifteen individual cases of radicalisation.

These researchers first conducted a literature review on the topic, establishing five primary hypotheses following these emergent findings. These hypotheses and the synthesised conclusions of the RAND corporation's investigation can be found in figure 1.

Literature hypotheses	Does the primary data support the hypotheses?
1. The internet creates more opportunities to become radicalised.	Yes in all of these cases
2. The internet acts as an 'echo chamber'.	Yes in the majority of these cases
3. The internet accelerates the process of radicalisation.	While there is no agreed length of time or template for radicalisation, it is not clear that the internet would have accelerated this process in the majority of our cases: in these cases the internet appears to enable rather than necessarily accelerate radicalisation
4. The internet allows radicalisation to occur without physical contact.	Not in the majority of these cases: most cases involve offline activity that could have played a role in the individual's radicalisation
5. The internet increases opportunities for self-radicalisation.	Not in the majority of these cases: most cases of so-called 'online self-radicalisation' involve virtual communication and interaction with others

Figure 1: RAND Corporation's Findings

In all fifteen cases, it was evident that the internet created more opportunities for radicalisation as it provided individuals with the capability to “connect, collaborate and convince” (Behr et al. 2013: 24). This is largely a result of the internet's widespread usage and the increasing availability of online extremist content. From these cases, it appears the internet facilitates radicalisation as it is an important source of information, a means of communication and a platform for propaganda. Within the fifteen studied cases, two individuals used the internet to learn how to make bombs, one sought information on how to build a suicide vest, and others searched for information relating to public demonstrations and the joining of radical groups (Behr et al. 2013). The internet also provides greater reach for those seeking to radicalise a broader group of people, making it a favourable medium in the radicalisation of ‘home-grown’ terrorists. One of the participants was contacted by a member of a terrorist group in Pakistan to discuss

military training while three of the participants spread the word of an Al-Qaeda cell across the internet in the UK (Behr et al. 2013).

Secondly, the internet acts as an echo chamber, normalising behaviours and attitudes which carry a risk of being considered unacceptable in the physical world. This platform enables individuals to seek out material that confirms their beliefs and reject information that contradicts their worldviews (Behr et al. 2013). Six of the individuals studied actively contributed to forums that promoted the discussion of extremist topics, emphasising the convenience of the internet to source information and localise like-minded people (Behr et al. 2013). Moreover, the study supported Weimann's research into the importance of online anonymity, emphasising the benefits this has for individuals wanting to radicalise (Weimann 2006). Participant's from the RAND study confirmed this view, with one stating that the internet "allows those that would otherwise be scared of being seen with the wrong people to get engaged, and one which makes the whole process more invisible to the authorities" (Behr et al. 2013: 26).

While it is a commonly held view in the academic community that the internet accelerates radicalisation, the findings of this study were inconclusive, as the participants underwent radicalisation at different rates. It has been suggested, by researchers including Weimann, that the internet acts instead as a platform to facilitate radicalisation, allowing individuals to engage in the process subjectively (Weimann 2006). Moreover, despite claims that radicalisation can occur without physical contact, findings of this study suggest that both online and offline factors play an interconnected role in the process, with some cases illustrating that offline factors were more influential in the individual's radicalisation process. RAND corporation's research further highlighted the importance of connection in radicalisation: in cases where online factors were more influential, there was still a social element to radicalisation in the form of virtual communication and interaction with others. This opposes the view that the internet increases opportunities for self-radicalisation held by other scholars in the field.

The convenience of the internet presents fewer hurdles to interaction than physical meetings, with ‘online’ activities often viewed as simply an extension of ‘offline’ lives. This extension applies when exploring radicalisation, potentially invalidating the notion of ‘self-radicalisation’ altogether. Therefore, despite contradictions to some of these hypotheses, the internet holds a significant role in the radicalisation of ‘home-grown’ terrorists.

#### IV. CONCLUSION

This review illustrates the complexities that exist in the radicalisation of ‘home-grown’ terrorists, conveying different techniques used by Jihadist organisations to radicalise and recruit individuals across borders. Through first contrasting Hoffman’s ‘top-down’ and Sageman’s ‘bottom-up’ processes of radicalisation, this paper illustrates the need for scholarly literature to shift its focus away from conventional ‘models’ of radicalisation and toward factors that coalesce in radicalisation. While the factors explored in this review are not exhaustive, they were selected based on their relevance to ‘home-grown’ terrorism, an area of the field that has yet to be critically examined as the line between international and domestic terrorism becomes increasingly blurred. Further research should continue to clarify factors, other than religion, involved in ‘home-grown’ radicalisation to challenge the misrepresentation of this process within the media. This research is important in understanding the psychological mechanisms used by Jihadist organisations in radicalisation and recruitment fundamental in the development of adequate counter-terrorist strategies amid a dynamically evolving threat.

## References

- Altemeyer, Bob, and Bruce Hunsberger. 1992. 'Authoritarianism, Religious Fundamentalism, Quest, and Prejudice', *The International Journal for the Psychology of Religion*, 2: 113-33. 10.1207/s15327582ijpr0202\_5.
- Behr, Ines von, Anais Reding, Charlie Edwards, and Luke Gribbon. 2013. "Radicalisation in the digital era: The use of the internet in 15 cases of terrorism and extremism: Summary." In.: RAND Corporation.
- Caplan, Bryan. 2006. 'Terrorism: The Relevance of the Rational Choice Model', *Public Choice*, 128: 91-107.
- Dawson, Lorne. 2019. 'Lorne Dawson: Clarifying the Explanatory Context for Developing Theories of Radicalization: Five Basic Considerations', Nr. 18, Spring 2019.
- Fortna, Virginia Page. 2015. 'Do Terrorists Win? Rebels' Use of Terrorism and Civil War Outcomes', *International Organization*, 69: 519-56.
- Ginges, J., I. Hansen, and A. Norenzayan. 2009. 'Religion and support for suicide attacks', *Psychol Sci*, 20: 224-30. 10.1111/j.1467-9280.2009.02270.x.
- 'Global Terrorism Index'. 2020. Vision of Humanity, Accessed October 10. <https://www.visionofhumanity.org/maps/global-terrorism-index/#/>.
- Gregg, Gary. 2018. 'George W. Bush: Foreign Affairs', The University of Virginia, Accessed August 19. <https://millercenter.org/president/gwbush/foreign-affairs>.
- Harris, Kira, Eyal Gringart, and Deirdre Drake. 2014. 'Understanding the role of social groups in radicalisation', *Research Online*. 10.4225/75/57a83235c833d.
- Hoffman, Bruce. 2017. *Inside terrorism* (Columbia University Press: New York).
- Hogg, Michael A., Christie Meehan, and Jayne Farquharson. 2010. 'The solace of radicalism: Self-uncertainty and group identification in the



- face of threat', *Journal of Experimental Social Psychology*, 46: 1061-66. <https://doi.org/10.1016/j.jesp.2010.05.005>.
- Hogg, Michael, and Janice Adelman. 2013. 'Uncertainty–Identity Theory: Extreme Groups, Radical Behavior, and Authoritarian Leadership', *Journal of Social Issues*, 69. 10.1111/josi.12023.
- Kriner, Matthew. 2018. 'Tackling Terrorism's Taboo: Shame', *Perspectives on Terrorism*, 12: 19-31.
- Maskaliunaite, Asta. 2015. 'Exploring the Theories of Radicalization', *International Studies. Interdisciplinary Political and Cultural Journal*, 17. 10.1515/ipcj-2015-0002.
- May, Rollo. 1991. *The cry for myth* (Norton and Co: New York).
- McCauley, Clark, and Sophia Moskalenko. 2008. 'Mechanisms of Political Radicalization: Pathways Toward Terrorism', *Terrorism and Political Violence*, 20: 415-33. 10.1080/09546550802073367.
- Mosca, Gaetano, and Arthur Livingston. 1939. *The ruling class* (Mcgraw-hill: New York).
- Pech, Richard J., and Bret W. Slade. 2006. 'Religious fundamentalism and terrorism: why do they do it and what do they want?', *Foresight*, 8: 8-20. 10.1108/14636680610647129.
- Pisoiu, Daniela. 2012. *Islamist Radicalisation in Europe: An Occupational Change Process* (Routledge: Florence).
- Prabha, Kshitij. 2000. 'Defining terrorism', *Strategic Analysis*, 24: 125-35. 10.1080/09700160008455199.
- Sageman, Marc. 2004. *Understanding Terror Networks* (University of Pennsylvania Press: Philadelphia, UNITED STATES).
- Segady, Thomas W. 2006. 'Traditional religion, fundamentalism, and institutional transition in the 20th century', *The Social Science Journal*, 43: 197-209. 10.1016/j.soscij.2006.02.001.
- Strieger, Jason-Leigh. 2015. *VIOLENT-EXTREMISM: AN EXAMINATION OF A DEFINITIONAL DILEMMA*.
- Tajfel, Henri, and John Turner. 1979. 'An integrative theory of intergroup conflict', *The social psychology of intergroup relations*: 33-37.

- Tangney, J. P., J. Stuewig, and D. J. Mashek. 2007. 'Moral emotions and moral behavior', *Annu Rev Psychol*, 58: 345-72. 10.1146/annurev.psych.56.091103.070145.
- "Terrorism." In. 2021. Department of Defense Dictionary of Military and Associated Terms, edited by Department of Defense. Washington DC: Office of the Chairman of the Joint Chiefs of Staff.
- Weimann, Gabriel. 2006. 'Terror on the Internet: The New Arena, The New Challenges'.
- Wright, Joshua D. 2016. 'Why is Contemporary Religious Terrorism Predominantly Linked to Islam? Four Possible Psychosocial Factors', *Perspectives on Terrorism*, 10: 19-31.
- Yamagishi, Toshio, and Nobuhiro Mifune. 2016. 'Parochial altruism: does it explain modern human group psychology?', *Current Opinion in Psychology*, 7: 39-43. <https://doi.org/10.1016/j.copsyc.2015.07.015>.
- Zekulin, Michael. 2016. 'Endgames: Improving Our Understanding of Homegrown Terrorism', *Studies in Conflict & Terrorism*, 39: 46-66. 10.1080/1057610X.2015.1084161.

# Since 1945, in Asia, have Alliances Formed and Functioned as Expected by Alliance Theory?

*Anjali Jackson*

Alliances formed during the Cold War were pivotal in shaping the security landscape in Asia and continue to affect dynamics in the region today. Alliance theorists have proposed several models to explain the formation and function of alliances post-1945, however, the validity of each is continuously debated. In this essay, I will consider whether alliances in Asia have formed and functioned under alliance theory. More specifically, I explore the applicability of the Balance of Threat theory to the alliances between the US, Japan, and the Republic of Korea (ROK). I argue that alliances between these three states developed as expected by the Balance of Threat theory in some cases. However, notable diversions from the theory suggest that alliances could be more accurately explained by theories that account for factors beyond only threat perception. I will first outline the Balance of Threat theory and its significance in alliance literature. I will then explore the applicability of the theory to the formation and function of US-Japan, US-ROK, and Japan-ROK relations during the Cold War. Next, I will consider whether these alliances developed as expected by the theory in the changing post-Cold War environment. Finally, I will highlight three other alliance theories that utilise abandonment fears and patron commitment to better explain the formation and function of alliances in Asia after World War II.

There is no universally agreed-upon theory of alliance formation and function; however, the Balance of Threat theory is one of the most widespread approaches and underlies more recent theories. The theory was first proposed by Stephen M. Walt, who argues that states form alliances to externally balance against perceived threats.<sup>71</sup> He defines external balancing as an alignment against a threatening state “to deter it from attacking or to defeat it if it does.”<sup>72</sup> Walt’s Balance of Threat theory expands upon Kenneth Waltz’s Balance of Power theory, proposing that states balance not only against military power but against other factors such as “geographic proximity, offensive capabilities, and perceived intentions.”<sup>73</sup> This theory predicts that alliances will form when there is a “congruence of strategic interests” between states, and will function to balance their shared threats.<sup>74</sup> Therefore, it also predicts that the alliance will end when the shared threat subsides.<sup>75</sup> In considering how the Balance of Threat theory can explain alliances in Asia, I have chosen to focus on the US’ primary security partners, Japan and the ROK. The alliances formed with these states during the Cold War continue to determine the Asian security landscape today. During the Cold War, Japan and the ROK provided the foundation for the US “forward-deployed presence” in the region, and remain crucial in maintaining US control in Asia.<sup>76</sup>

The US-Japan and US-ROK alliances during the Cold War formed in response to Soviet expansion in Asia and functioned to balance this

---

71 Stephen M. Walt, “Alliance Formation and the Balance of World Power,” *International Security* 9 (1985): 3-43; Joseph M. Parent and Sebastian Rosato, “Balancing in Neorealism,” *International Security* 40 (2015): 57.

72 Stephen M. Walt, “Testing Theories of Alliance Formation: The Case of Southwest Asia,” *International Organisation* 42 (1988): 278.

73 *Ibid.*, 281.

74 Zeev Maoz et al., “What is the Enemy of My Enemy? Causes and Consequences of Imbalanced International Relations, 1816-2001,” *The Journal of Politics* 69 (2007): 102.

75 Skyler J. Crammer, Bruce A. Desmarais, and Justin H. Kirkland, “Toward a Network Theory of Alliance Formation,” *International Interactions* 38 (2012): 300.

76 Victor D. Cha, “Abandonment, Entrapment, and Neoclassical Realism in Asia: The United States, Japan, and Korea,” *International Studies Quarterly* 44 (2000): 263.

threat, as expected by the Balance of Threat theory. Within the Cold War bipolar system, the US formed alliances with non-communist states in order to balance the USSR and prevent a communist takeover of Asia. In particular, the US wanted to prevent Soviet control of Japan due to its geostrategic significance to the US.<sup>77</sup> Additionally, while the ROK was of less direct significance, the US believed that the loss of the state to the Soviets would result in the fall of the entire region to communism.<sup>78</sup> Similarly, the regional threat of communist expansion in Asia, most notably from North Korea and Communist China, was salient in both Japan and the ROK. Although the US was a stronger power militarily, its “relatively benign intentions” and geographical isolation led Japan and the ROK to perceive regional communist states as a greater threat to their security.<sup>79</sup> Thus they formed alliances to balance this perceived threat, resulting in a bilateral alliance between the US and Japan in 1951, and between the US and the ROK in 1953.<sup>80</sup> These alliances were a “manifestation” of states’ balancing behaviour.<sup>81</sup> As noted by Victor Cha, they functioned to provide a “bulwark against communism” in Asia.<sup>82</sup> Particularly, they served to maintain stability along the Korean Peninsula by providing a deterrent to North Korean aggression and the capacity for the US to respond quickly if such an event did occur.<sup>83</sup> Critics of the Balance of Threat theory argue that

---

77 Yasuhiro Izumikawa, “Network Connections and the Emergence of the Hub-and-Spokes Alliance System in East Asia,” *International Security* 45 (2020): 13.

78 Victor D. Cha, “Powerplay: Origins of the U.S. Alliance System in Asia,” *International Security* 34 (2009): 188.

79 Jack S. Levy and William R. Thompson, “Balancing on Land and at Sea: Do States Ally against the Leading Global Power?” *International Security* 35 (2010): 10-11; Walt, “Testing Theories of Alliance Formation,” 311.

80 Izumikawa, “Network Connections,” 7.

81 David C. Kang, “Getting Asia Wrong: The Need for New Analytical Frameworks,” *International Security* 27 (2003): 71; Michael Mastanduno, “Incomplete Hegemon: The United States and Security Order in Asia,” in *Asian Security Order*, ed. Muthiah Alagappa (Redwood City, CA: Stanford University Press, 2003), 143.

82 Cha, “Powerplay,” 185.

83 Yasuyo Sakata, “Korea and the Japan-U.S. Alliance: A Japanese Perspective,” in *The U.S.-Japan Security Alliance: Regional Multilateralism*, eds. John Ikenberry, Takashi Inoguchi, and Yoichiro Sato (London: Palgrave Macmillan, 2011), 92.

Japan's contribution to its alliance with the US was not consistent with external balancing behaviour. Japan did not seek to contribute militarily to the alliance nor directly support the US against communist states in Asia.<sup>84</sup> However, Walt's explanation of "buck-passing" as an alternative to balancing can explain Japan's behaviour as consistent with his Balance of Threat theory.<sup>85</sup> Japan's weakness following World War II meant it had to rely heavily on defence from allied partners.<sup>86</sup> Additionally, Japan's strategic significance to the US almost guaranteed US support.<sup>87</sup> These two factors led to Japan "buck-passing" its defence to the US as opposed to actively balancing the Soviet threat, as is consistent with Walt's theory.<sup>88</sup> The US-Japan and US-ROK alliances during the Cold War formed in response to the perceived threat of communism in Asia, and functioned to maintain stability in the region via balancing or buck-passing, as expected by the Balance of Threat theory.

However, the lack of alliance formation between Japan and the ROK during the Cold War is not consistent with the Balance of Threat theory. Japan and the ROK had shared allies, enemies, and perceived threats, and their respective alliances with the US served essentially the same function.<sup>89</sup> Additionally, neither state had any other significant alliance partners in the region.<sup>90</sup> Therefore, based on Walt's model, Japan and the ROK should have formed an alliance during the Cold War. Balance of Threat could explain the ROK's initial aversion to an alliance by highlighting their fears of Japanese military resurgence and neo-

---

84 Jennifer M. Lind, "Pacifism or Passing the Buck: Testing Theories of Japanese Security Policy," *International Security* 29 (2004): 101-102; Kang, "Getting Asia Wrong," 73-74; Sakata, "Korea and the Japan-U.S. Alliance," 93.

85 Stephen M. Walt, *The Origins of Alliance* (Ithaca, NY: Cornell University Press, 1987), 33.

86 Lind, "Pacifism or Passing the Buck," 103.

87 Walt, *The Origins of Alliance*, 33.

88 *Ibid.*

89 Cha, "Powerplay," 185

90 Cha, "Abandonment, Entrapment, and Neoclassical Realism," 263.

colonialism.<sup>91</sup> However, Cha argues that, despite their initial antagonism, an alliance should have been established as the threat of Japanese dominance subsided.<sup>92</sup> The Balance of Threat theory suggests that the alliance structure in Asia should have adapted as conditions changed and the perceived threat of communism increased.<sup>93</sup> Cha proposes that the level of alignment between the two states at different levels of threat can be used to test the Balance of Threat theory.<sup>94</sup> Contrary to the theory, he finds that changes in perceived levels of threat were not correlated with periods of closer alignment.<sup>95</sup> Such diversions from the Balance of Threat theory demonstrate that “alignment choices are not a direct function of external threat” but the result of a number of domestic and external factors.<sup>96</sup> It is likely that Japan and the ROK also considered historical antagonisms, colonial fears, political constraints, and domestic military strength in forming alliances.<sup>97</sup> Overall, alliances in Asia during the Cold War formed and functioned as expected by the Balance of Threat theory to some extent, however, there are significant cases of deviation.

After the end of the Cold War and the fall of the Soviet Union, alliances in Asia adapted according to changes in perceived threats, as expected by the Balance of Threat theory. From the theory’s realist perspective, alliances are rare and “collapse when the threats against which they

---

<sup>91</sup> Arthur A. Stein, “Recalcitrance and Initiative: US Hegemony and Regional Powers in Asia and Europe After World War II,” *International Relations of the Asia-Pacific* 14 (2014): 167.

<sup>92</sup> Cha, “Abandonment, Entrapment, and Neoclassical Realism,” 263.

<sup>93</sup> *Ibid.*, 262-263.

<sup>94</sup> *Ibid.*

<sup>95</sup> *Ibid.*

<sup>96</sup> *Ibid.*

<sup>97</sup> Alyson J. K. Bailes, Bradley A. Thayer, and Baldur Thorhallsson, “Alliance Theory and Alliance ‘Shelter’: The Complexities of Small State Alliance Behaviour,” *Third World Thematics: A TWQ Journal* 1 (2016): 13; James D. Morrow, “Arms Versus Allies: Trade-Offs in the Search for Security,” *International Organisation* 47 (1993): 208; Lind, “Pacifism or Passing the Buck,” 101.

were built disappear.”<sup>98</sup> When the Soviet Union disappeared as a significant threat, Balance of Threat theorists predicted that the US’ alliances in Northeast Asia would instead function to balance North Korea and rising China.<sup>99</sup> Therefore, the Cold War alliances were not expected to disappear, but rather “adjust... to the changing global strategic environment.”<sup>100</sup> Firstly, this can be seen in the increasing alliance commitment from Japan in the 1990s in response to North Korea’s missile program.<sup>101</sup> In May 1993, North Korea conducted a missile test in the Sea of Japan.<sup>102</sup> Japan’s increasing fears of the North Korean threat were noted the following year in the Defence White Paper, where they stated that North Korean missiles would create an “extremely dangerous situation” for Japan.<sup>103</sup> This increase in threat perception resulted in a Joint Declaration on Security in 1996 to reaffirm the US-Japan alliance commitment and a revision of the 1978 Guidelines for Japan-US Defence Cooperation to include a Korea Contingency.<sup>104</sup> Yasuyo Sakata argues that the North Korean threat was the “catalyst for closer Japan-US defence cooperation,” and that the alliance had “adapted well” to the changing security environment of the 1990s.<sup>105</sup> Secondly, the US-ROK alliance was affected by changing levels of perceived threat. With the fall of the Soviet Union and increasing economic issues within North Korea, the threat of communism spreading to the South had significantly decreased. A conventional attack by North Korean forces was no longer a viable

---

98 Ji-Young Lee, “Contested American Hegemony and Regional Order in Postwar Asia: The Case of Southeast Asia Treaty Organisation,” *International Relations of the Asia Pacific* 19 (2019): 243.

99 Fred Charles Iklé and Terumasa Nakanishi, “Japan’s Grand Strategy,” *Foreign Affairs* 69 (1990): 84-85.

100 *Ibid.*, 81.

101 Sakata, “Korea and the Japan-U.S. Alliance,” 34.

102 David Fouse, “Japan’s Post-Cold War North Korea Policy: Hedging Toward Autonomy?” *Asian Affairs: An American Review* 31 (2004): 1.

103 Sakata, “Korea and the Japan-U.S. Alliance,” 94.

104 Fouse, “Hedging Toward Autonomy?” 108; Sakata, “Korea and the Japan-U.S. Alliance,” 93.

105 Sakata, “Korea and the Japan-U.S. Alliance,” 93.



option, and thus the threat they posed to the ROK decreased relative to the Cold War.<sup>106</sup> This lower level of perceived threat resulted in a stagnation of the US-ROK alliance, consistent with the Balance of Threat theory.<sup>107</sup> Thirdly, more recently, Japan has used the US-Japan alliance to balance China.<sup>108</sup> Nori Katagiri argues that Japan currently perceives China's military modernisation as the greatest threat to their security and that they have primarily relied on their alliance with the US to externally balance this threat.<sup>109</sup> Japan has pursued external balancing against China by increasing diplomatic relations with the US, as seen through Prime Minister Shinzo Abe's address to the US Congress in 2015.<sup>110</sup> Additionally, Japan has supported the US' pivot to Asia and cooperated with the US to improve Japan's cyber security.<sup>111</sup> Overall, US alliances in Northeast Asia did adapt to changes in perceived threats in the post-Cold War security environment, as expected by the Balance of Threat theory.

However, US alliances in Asia since the end of the Cold War and the conditions in which they have existed have been dynamic and inconsistent, thus there are many different perspectives on the role of perceived threat in these alliances. Firstly, some scholars suggest that North Korea and China did not constitute an immediate replacement for the Soviet threat and that the fall of the Soviet Union "objectively

---

<sup>106</sup> Cha, "Abandonment, Entrapment, and Neoclassical Realism," 282.

<sup>107</sup> Chae-Sung Chun, "Theoretical Approaches to Alliance: Implications on the R.O.K.-U.S. Alliance," *Journal of International and Area Studies* 7 (2000): 75.

<sup>108</sup> Nobuhiko Tamaki, "Japan's Quest for a Rules-Based International Order: The Japan-US Alliance and the Decline of US Liberal Hegemony," *Contemporary Politics* 26 (2020): 397.

<sup>109</sup> Nori Katagiri, "Between Structural Realism and Liberalism: Japan's Threat Perception and Response," *International Studies Perspectives* 19 (2018): 330-331.

<sup>110</sup> Tongfi Kim, *The Supply Side of Security: A Market Theory of Military Alliances* (Redwood City, CA: Stanford University Press, 2016), 2.

<sup>111</sup> Katagiri, "Between Structural Realism and Liberalism," 328, 335, 338.

reduced” the need for US security alliances in Asia.<sup>112</sup> US interests no longer aligned with those of Japan and the ROK, which should have been accompanied by a decrease in alliance commitment between 1990 and 1993.<sup>113</sup> Despite this, Japan significantly increased their military commitment to the alliance during this period.<sup>114</sup> Similarly, the ROK government publicly affirmed their commitment to the US alliance amid a declining North Korean threat and stated that they would support the continuation of the alliance even after Korean reunification.<sup>115</sup> Secondly, despite a decrease in the level of shared threats between the ROK and Japan immediately after the fall of the Soviet Union, these two states increased their security cooperation.<sup>116</sup> In 1992, they released a joint statement of their intentions for closer relations, and since then they have formalised bilateral security dialogue channels and made agreements on aerial collision and maritime cooperation.<sup>117</sup> As was the case during the Cold War, Cha argues that this is inconsistent with the Balance of Threat alliance theory.<sup>118</sup> Finally, Kang and Tamaki question the extent to which the US-Japan and US-ROK alliances have functioned to balance China.<sup>119</sup> They argue that neither Japan nor the ROK has pursued aggressive external balancing strategies as the Balance of Threat theory would predict but have instead shown “considerable deference to China” and reluctance in supporting the US militarily.<sup>120</sup> While the alliances have adapted as expected by the

---

112 Cha, “Abandonment, Entrapment, and Neoclassical Realism,” 273; Elena Atanassova-Cornelis and Yoichiro Sato, “The US-Japan Alliance Dilemma in the Asia-Pacific: Changing Rationales and Scope,” *The International Spectator* 54 (2019): 78; Kim, *The Supply Side of Security*, 2.

113 Atanassova-Cornelis and Sato, “The US-Japan Alliance Dilemma,” 78; Kim, *The Supply Side of Security*, 2.

114 Kim, *The Supply Side of Security*, 2.

115 Cha, “Abandonment, Entrapment, and Neoclassical Realism,” 273.

116 *Ibid.*, 282.

117 *Ibid.*

118 Cha, “Abandonment, Entrapment, and Neoclassical Realism,” 283-284.

119 Kang, “Getting Asia Wrong,” 79-80; Tamaki, “Japan’s Quest,” 397.

120 *Ibid.*

Balance of Threat theory in some cases, many inconsistencies suggest more complex factors are at play.

While alliances during the Cold War sometimes formed and functioned in accordance with the Balance of Threat theory, inconsistencies suggest that they could be better explained by alternate theories of alliance formation that consider a wider variety of factors. In particular, Balance of Threat overlooks the importance of abandonment fears and patron commitment in dictating alliance dynamics. Alliances in Asia after 1945 formed and functioned with closer adherence to alliance theories that consider the interplay of these factors. Three interrelated theories, the Quasi-Alliance model, the Social Exchange Network theory, and hedging, apply abandonment fears to the US' alliances in Asia.

Firstly, Cha's Quasi-Alliance theory uses abandonment fears and patron commitment to explain Japan-ROK relations during the Cold War.<sup>121</sup> He asserts that because Japan and the ROK were heavily dependent on the US, alliance patterns between the two states were determined not by external threats but by the level of US commitment.<sup>122</sup> The US' commitment to the region was relatively high throughout the Cold War, therefore Japan and the ROK had already attained sufficient security guarantees from their alliances with the US, and neither state needed the other as an additional ally.<sup>123</sup> Changes in Japan-ROK relations throughout the Cold War were also consistent with this model. For example, periods of weak US commitment to the two bilateral alliances resulted in high abandonment fears from Japan and the ROK.<sup>124</sup> These fears led the states to seek improved relations amongst themselves, regardless of the level of perceived threats.<sup>125</sup>

---

121 Cha, "Abandonment, Entrapment, and Neoclassical Realism," 269.

122 Ibid, 263.

123 Ibid, 273.

124 Ibid.

125 Ibid.

Secondly, Yasuhiro Izumikawa uses the Social Exchange Network approach to explain alliance formation in Asia. This model highlights the wide variety of interactions and exchanges between all states in the alliance system, accounting for abandonment fears.<sup>126</sup> Specifically, he uses the inter-spoke negative connection hypothesis to explain US-Japan-ROK dynamics.<sup>127</sup> Similar to the Quasi-Alliance model, this hypothesis suggests that the willingness of Japan and the ROK to strengthen their bilateral security ties is negatively related to the strength of their alliance with the US.<sup>128</sup> In particular, Izumikawa uses the model to explain the bilateral nature of alliances in Asia. He argues that the ROK and Japan had no need to expand their alliances to be multilateral as their security was already “boosted” by the US’ network of bilateral alliances in Asia.<sup>129</sup>

Finally, Elena Atanassova-Cornelis and Yoichiro Sato use theories of abandonment and hedging to explain Japan’s diversion from a balancing strategy in the post-Cold War environment.<sup>130</sup> They explain that fears of US abandonment have led Japan to pursue a hedging strategy that includes reinforcement of their alliance with the US to prevent abandonment, and the simultaneous pursuit of “alignment with other US allies” in case the US does withdraw.<sup>131</sup> This strategy explains Japan’s lack of decisive balancing against China and their improvement of relations with the ROK after the fall of the Soviet Union. Furthermore, the hedging strategy aligns with Cha’s hypothesis that when a state fears abandonment, it will increase its contribution to the alliance to encourage the ally to maintain their commitment.<sup>132</sup> This hypothesis, therefore, explains Japan and the ROK’s commitment to

---

<sup>126</sup> Izumikawa, “Network Connections,” 14-15.

<sup>127</sup> *Ibid.*, 17.

<sup>128</sup> *Ibid.*

<sup>129</sup> *Ibid.*, 46.

<sup>130</sup> Atanassova-Cornelis and Sato, “The US-Japan Alliance Dilemma,” 80.

<sup>131</sup> *Ibid.*

<sup>132</sup> Cha, “Abandonment, Entrapment, and Neoclassical Realism,” 266-267.

their respective alliances immediately following the fall of the Soviet Union, when they believed that the US would decrease its involvement in Asia.<sup>133</sup> By incorporating abandonment fears and patron commitment into alliance theory, these models more accurately explain alliance dynamics between the US, Japan, and the ROK after 1945.

Overall, alliances in Asia did not form and function as expected by any single alliance theory. The traditional Balance of Threat theory is able to somewhat explain US-Japan and US-ROK alliances during the Cold War, which formed in response to, and functioned to balance against, the threat of communism in Asia. Additionally, these alliances adapted to the changing security environment at the end of the Cold War in adherence to the theory. The US-Japan alliance adapted to balance the threat of North Korea in the 1990s, and more recently to balance a rising China. Conversely, commitment to the ROK alliance declined as the level of perceived threats to the ROK decreased. However, there did exist alliance dynamics different from those expected by the Balance of Threat theory, such as the lack of a Japan-ROK alliance and unexpected variations in alliance commitment after the Cold War. More recent alliance theories that consider abandonment fears and patron commitment can account for these shortfalls in traditional theory, including Cha's Quasi-Alliance theory, Izumikawa's Social Exchange Network approach, and Atanassova-Cornelis and Sato's application of the hedging strategy. As of yet, no alliance theory has been able to completely encompass the dynamic nature of alliances in Asia since 1945. Theories are often too restrictive to account for the wide variety of factors that contribute to alliance formation and function, or too broad to be of significant value to the field. Further exploration into the region is needed to completely understand the dynamics of alliances in Asia, and how the formation of these alliances after World War II continue to affect the global security environment today.

---

133 Atanassova-Cornelis and Sato, "The US-Japan Alliance Dilemma," 83.

## References

- Atanassova-Cornelis, Elena, and Yoichiro Sato. "The US-Japan Alliance Dilemma in the Asia-Pacific: Changing Rationales and Scope." *The International Spectator* 54 (2019): 78-93.
- Bailes, Alyson J. K., Bradley A. Thayer, and Baldur Thorhallsson. "Alliance Theory and Alliance 'Shelter': The Complexities of Small State Alliance Behaviour." *Third World Thematics: A TWQ Journal* 1 (2016): 9-26.
- Cha, Victor D. "Abandonment, Entrapment, and Neoclassical Realism in Asia: The United States, Japan, and Korea." *International Studies Quarterly* 44 (2000): 261-291.
- Cha, Victor D. "Powerplay: Origins of the U.S. Alliance System in Asia." *International Security* 34 (2009): 158-196.
- Chun, Chae-Sung. "Theoretical Approaches to Alliance: Implications on the R.O.K.-U.S. Alliance." *Journal of International and Area Studies* 7 (2000): 71-88.
- Crammer, Skyler J., Bruce A. Desmarais, and Justin H. Kirkland. "Toward a Network Theory of Alliance Formation." *International Interactions* 38 (2012): 295-324.
- Fouse, David. "Japan's Post-Cold War North Korea Policy: Hedging Toward Autonomy?" *Asian Affairs: An American Review* 31 (2004): 102-120.
- He, Kai, and Huiyun Feng. "'Why is There No NATO in Asia?' Revisited: Prospect Theory, Balance of Threat, and US Alliance Strategies." *European Journal of International Relations* 18 (2012): 227-250.
- Iklé, Fred Charles, and Terumasa Nakanishi. "Japan's Grand Strategy." *Foreign Affairs* 69 (1990): 81-95.
- Izumikawa, Yasuhiro. "Network Connections and the Emergence of the Hub-and-Spokes Alliance System in East Asia." *International Security* 45 (2020): 7-50.

- Kang, David C. "Getting Asia Wrong: The Need for New Analytical Frameworks." *International Security* 27 (2003): 57-85.
- Katagiri, Nori. "Between Structural Realism and Liberalism: Japan's Threat Perception and Response." *International Studies Perspectives* 19 (2018): 325-343.
- Kim, Tongfi. *The Supply Side of Security: A Market Theory of Military Alliances*. Redwood City, CA: Stanford University Press, 2016.
- Lee, Ji-Young. "Contested American Hegemony and Regional Order in Postwar Asia: The Case of Southeast Asia Treaty Organisation." *International Relations of the Asia Pacific* 19 (2019): 237-267.
- Levy, Jack S., and William R. Thompson. "Balancing on Land and at Sea: Do States Ally against the Leading Global Power?" *International Security* 35 (2010): 7-43.
- Lind, Jennifer M. "Pacifism or Passing the Buck: Testing Theories of Japanese Security Policy." *International Security* 29 (2004): 92-121.
- Maoz, Zeev, Lesley G. Terris, Ranan D Kuperman, and Ilan Talmud. "What is the Enemy of My Enemy? Causes and Consequences of Imbalanced International Relations, 1816-2001." *The Journal of Politics* 69 (2007): 100-115.
- Mastanduno, Michael. "Incomplete Hegemon: The United States and Security Order in Asia." In *Asian Security Order*, edited by Muthiah Alagappa, 141-170. Redwood City, CA: Stanford University Press, 2003.
- Morrow, James D. "Arms Versus Allies: Trade-Offs in the Search for Security." *International Organisation* 47 (1993): 207-233.
- Parent, Joseph M., and Sebastian Rosato. "Balancing in Neorealism." *International Security* 40 (2015): 51-86.
- Sakata, Yasuyo. "Korea and the Japan-U.S. Alliance: A Japanese Perspective." In *The U.S.-Japan*

- Security Alliance: Regional Multilateralism*, edited by John Ikenberry, Takashi Inoguchi, and Yoichiro Sato, 91-118. London: Palgrave Macmillan, 2011.
- Stein, Arthur A. "Recalcitrance and Initiative: US Hegemony and Regional Powers in Asia and Europe After World War II." *International Relations of the Asia-Pacific* 14 (2014): 147-177.
- Tamaki, Nobuhiko. "Japan's Quest for a Rules-Based International Order: The Japan-US Alliance and the Decline of US Liberal Hegemony." *Contemporary Politics* 26 (2020): 384-401.
- Walt, Stephen M. "Alliance Formation and the Balance of World Power." *International Security* 9 (1985): 3-43.
- Walt, Stephen M. "Testing Theories of Alliance Formation: The Case of Southwest Asia." *International Organisation* 42 (1988): 275-316.
- Walt, Stephen M. *The Origins of Alliance*. Ithaca, NY: Cornell University Press, 1987.



# Das Brandenburger Tor: Spiegel der deutschen Geschichte

Eine historische Untersuchung der Bedeutung  
und Rolle des Brandenburger Tors im Lauf der  
deutschen Geschichte

*Cian Münster*

## **Abstract**

*This paper investigates the meaning and symbolism behind the Brandenburg Gate, one of the most well-known monuments in Germany. Two key historical periods and the presence of the gate in these periods; Napoleons occupation of Prussia in 1806 and his defeat in 1814 as well as the period between 1961 and 2000, are examined through their ability to reflect their respective views of German unity and national identity.*

Das Brandenburger Tor ist ein berühmtes Denkmal in Berlin. Die Bedeutung des Tores hat sich im Laufe der Geschichte Berlins verändert. Diese verschiedenen Bedeutungen spiegeln den politischen und kulturellen Zustand von Deutschlands in der jeweiligen Zeit wider. In dieser Arbeit werde ich mich auf zwei den größten Ereignissen vom Brandenburger Tor zwischen den Jahren 1806-1814 und 1961-2000 fokussieren und untersuchen wie sich die Bedeutung und Darstellung des Tors im Lauf der Zeit geändert hat. Ich werde argumentieren, dass diese zwei Perioden entscheidende Rollen des Brandenburger Tors spielten und, dass sie ihre Bedeutung, Symbolismus und Wichtigkeit erschaffen haben. Die Ereignisse zwischen 1806 und 1814 spiegelte die Einigkeit und Nationalismus Deutschlands wider und die Periode zwischen dem Ende des zweiten Weltkriegs und Jahr 2000 war ein wichtiges Symbol für die Erschaffung eine neue deutsche Identität und die Bedeutung vom Deutschsein.

Die Wichtigkeit von der 1814 Restaurierung hat ihren Ursprung in der französischen Besetzung von Berlin im Jahr 1806 und ist der Grund für die heutige Bekanntheit von dem Tor. Im Jahr 1806 wurden die von Preußen geführten deutschen Staaten gegen Napoleon und seine französische Armee niedergeschlagen und nicht weiter in der Lage, Widerstand zu leisten (Seibt 2001). Napoleons Eroberung vom Preußen und damit Berlin eliminierte den letzten deutschen Widerstand gegen Frankreich. Um ihren Sieg gegen Deutschland zu zeigen hat Napoleon Berlin besetzt und eine große Parade vor dem Brandenburger Tor gehalten, in der die Quadriga des Tores entfernt wurde. Obwohl diese Entfernung für Empörung in der preußischen Bevölkerung sorgte, da die Quadriga die römische Göttin von Frieden

Eirene enthielt, die die Einwohner von Berlin und Preußen beschützen sollte, waren die Bürger Berlins und Preußen machtlos, diese Entfernung zu verhindern (Seibt 2001). Vor der Entfernung von der Quadriga im Jahr 1806 war der Symbolismus davon früher ausschließlich preußisch und bezog sich eher auf einen durch

militärische Ehre erreichten Frieden. Napoleon hat durch ihre Besetzung von Preußen diese Idealen abgebaut.

Ich denke, dass die Ereignisse vom 1806 in diesem Sinne zu einer Vereinigung von Deutschland unter französische Besetzung, die wesentlich für die spätere 1871 Vereinigung war, geführt haben. Vor 1806 war Preußen von der französischen Besetzung verschont geblieben und damit vom Schicksal der anderen deutschen

Staaten getrennt. Durch die Niederlage vom 1806 wurde das Schicksal Preußens mit dem allen anderen deutschen Staaten verbunden, wodurch Deutschland gewissermaßen unter französischer Besetzung geeint wurde. Auch erwähnenswert ist, dass es bevor den deutschen Eroberungen von Napoleon hunderte verschiedene deutsche Staaten gab. Durch die Zentralisierungspolitik von Napoleon wurde die Anzahl davon stark reduziert (Schmitt 1983). Die weiter überlebenden deutschen Staaten waren im Allgemein größer und vereinigt als nie zuvor.

Die im Jahr 1814 stattgefundenene Restaurierung handelte sich um die Erschaffung einer neuen deutschen Identität und der Anfang eines von Preußen geführten Deutschlands. Die Quadriga wurde nach der Niederlage von Napoleon nach Berlin gebracht und wieder auf das Tor positioniert und diese Wiederherstellung spiegelte die Einheit von Deutschland wider. Als Mimik von Napoleon wurde eine Parade von dem preußischen König Friedrich Wilhelm III vor dem Brandenburger Tor gehalten in der die Quadriga zur ursprünglichen Position restauriert ist (Seibt 2001). Ich argumentiere, dass durch diese Aktionen von Napoleon und später vom preußischen König Friedrich Wilhelm III, dass das Tor zum Deutschland definierenden Denkmal geworden ist. Hätte Napoleon die Parade nicht gehalten und die Quadriga nicht entfernt, wäre das Tor heute nicht bekannt. Als das Tor 1791 gebaut wurde, hieß das Denkmal Friedenstor und war hauptsächlich für die Erhebung von Steuerern und Zollgebühren (Pogoga & Traxler 2019). Napoleons Parade und damit gebundene Entfernung von der Quadriga

erweckte diese zum Siegesymbol für Frankreich und Demütigungssymbol von Preußen und damit alle deutschen Staaten. Die Behauptungen von Pogoda und Traxler (2019), dass das Tor nur als Kulisse wichtig sei ergänzen diese Ansicht. Napoleons Parade vor dem Brandenburger Tor und Entfernung von der Quadriga inszenierte eine Idee von französischer Überlegenheit gegenüber deutschen Staaten und der Rückkehr von der Quadriga war zum Symbol deutscher Nationalismus geworden. Ohne diese zwei Ereignisse wäre das Tor nur in seiner ursprünglichen Rolle bekannt geworden.

Der erfolgreiche Kampf gegen Napoleon und Frankreich wurde als Befreiungskrieg angesehen und hat alle deutschen Staaten wie zum Beispiel Preußen, Österreich, Sachsen und Bayern in Gegnerschaft zu Frankreich vereinigt und zur Gründung des deutschen Bundes im Jahr 1815 geführt. Die Friedensgöttin Eirene auf der Quadriga wurde mit der Siegesgöttin Viktoria ersetzt zur Erstellung eines neuen militärischen Geistes von Deutschland. Dieser Militarismus definierte die spätere Vereinigung von Deutschland im Jahr 1871, in der die sogenannten Befreiungskriege als Entstehungsgeschichte für eine kollektive deutsche Identität dargestellt wurde (Seibt 2001). Auch wichtig für die Erschaffung dieser Identität war, dass das eiserne Kreuz zur Quadriga hinzugefügt wurde. Das eiserne Kreuz war als militärische Auszeichnung für die Bevölkerung bekannt und repräsentierte dadurch einen egalitären Militarismus.

Seibt (2001, S.71) argumentierte, dass diese Darstellung auch autokratische Elemente enthält, da die geschätzte deutsche Freiheit als kollektive staatliche Selbstbestimmung ohne feindliche Besetzung angesehen wurde und damit keinen Anhang mit zivilen Freiheiten hatten. Meiner Ansicht nach war der durch Brandenburger Tor dargestellte Militarismus für ganz Deutschland und nicht nur für Preußen verteilt. Der vorherige preußen-exklusive und friedensbasierte Symbolismus von der Quadriga wurde entfernt und durch die Restaurierung mit einem deutschlandweiten autokratischen nationalistischen Symbol ersetzt. Die Bedeutung und Symbolismus des

Brandenburger Tor änderte sich beständig durch die Entstehung der Berliner Mauer und die Periode bis zur Restaurierung im Jahr 2000. Das Tor befand sich während der Teilung Deutschlands an der östlichen Seite von Berlin nah an der Grenze zum westlichen Sektor und war während des Zweiten Weltkrieges im Ganzen unbeschadet (Seibt 2001).

Das Überleben des Tors und ihre vorherige Symbolik als einheitliches und nationalistisches Zeichen repräsentierte zwei unterschiedliche Ideale, die meiner Meinung nach sich die jeweilige und gegenwärtige Idee von Deutschland ergänzten. Die erste war ein Rückblick zum vorher vereinigten, autokratischen und militärischen Deutschland, das nach Ende des Zweiten Weltkrieges abgebaut wurde. Die zweite war als Hoffnungssymbol für ein zukünftiges Vereinigtes von den Gebieten beider deutschen Staaten bestehendes Deutschland anzusehen.

Ich denke, dieses zweite Ideal ist zum Teil mit einer Szene in dem Roman „Der Mauerspringer“ verbunden, in dem der Erzähler, die Bedeutung von Deutschland und das Deutschsein nicht mit einem Land oder einem Staat verbindet, sondern mit der deutschen Sprache (Schneider 1982). Meiner Meinung nach trifft diese Beschreibung von Deutschland und deutscher Identität mit dem Brandenburger Tor relativ genau, da die BRD und DDR deutsche Staaten waren aber keinen exklusiven Anspruch über eine Kollektive deutsche Identität hatten. Die Tatsache, dass sich das Brandenburger Tor in einer Position zwischen den beiden Sektoren Berlins befand, stellt auch eine unklare Bedeutung dar, was Deutschland war und was genau es bedeutete, deutsch zu sein.

Gleichzeitig ist das jeweilige Einheitshoffnung während des Kalten Krieges unterschiedlich im Vergleich zum deutschen Nationalismus während des neunzehnten Jahrhunderts, in dem andere deutschsprachige Länder eingeschlossen waren. In diesem Sinne zeigen die Überschneidungen dieser beiden Ideen durch das Brandenburger Tor, wie sich die deutsche Identität im Kalten Krieg im Vergleich zu

den früheren eher nationalistischen Ideen verändert hat und die Rolle der Teilung Deutschlands als Wendepunkt in diesem Prozess. Ich denke, dass es auch wichtig ist, anzuerkennen, dass obwohl die heutige deutsche Identität sich stark von der deutschen Nationalidentität vor dem zweiten Weltkrieg unterscheidet, dass es weiter viele Überbleibsel gibt und, dass dies durch die noch bestehende Quadriga mit dem eisernen Kreuz und Siegesgöttin Viktoria sichtbar ist.

Durch die Restaurierung im Jahr 2000 entwickelte sich das Brandenburger Tor zum heutigen deutschen Einheitssymbol. Als die Berliner Mauer 1989 fiel war das Brandenburger Tor noch intakt, aber in schlechtem strukturellem Zustand und brauchte eine 11 Jahre dauernde Restaurierung, um wieder geöffnet zu werden (Seibt 2001). Dieser Prozess könnte mit dem Etablierungsprozess vom neuen vereinigten Deutschland korreliert werden. Obwohl Deutschland und damit Berlin 1990 offiziell wiedervereignet wurde gab es viele zu lösende Nachwirkungen von der Teilung Deutschlands und deswegen die Herausforderung zwei deutsche Staaten mit unterschiedlichen politischen Systemen und Gesellschaften zu integrieren, ein Prozess, der bis zu Gegenwart andauert (Harris 1991). Ich bin der Meinung, dass das Brandenburger Tor sowohl während der Renovierung als auch danach diesen Prozess repräsentiert, weil das Land sich ihre Identität nach der Wiedervereinigung erneut definieren musste.

Die Ereignisse zwischen 1806 und 1814 und zwischen 1961 und 2000 waren entscheidend für die Bedeutung und Rolle des Brandenburger Tors als deutsches Einheitssymbol. Durch die Eroberungen von Napoleon und ihre spätere Niederlage wurde das Tor ewig mit der deutschen Einheit und Identität verbunden und. Dies ermöglichte, dass der Lauf der deutschen Geschichte und die jeweilige deutsche Identität durch das Tor widerspiegelt wurde. Gleichzeitig bleibt das Tor als Zeichen des wiedervereinigten Deutschlands, der Versuch ihre moderne Identität zu definieren und die noch laufende Integration des ehemaligen geteilten Deutschlands.

[English Version]

# The Brandenburg Gate: Mirror of German History

A historical investigation of the meaning and role  
of the Brandenburg Gate throughout German  
history

*Cian Münster*

The Brandenburg Gate is a famous monument in Berlin. The meaning of the gate has changed over the course of Berlin's history. These different meanings reflect the political and cultural state of Germany in the respective time. In this paper, I focus on two of the largest events regarding the Brandenburg Gate between the years 1806-1814 and 1961-2000 and examine how the meaning and representation of the gate has changed over time. I will argue that these two periods played crucial roles in the role of the Brandenburg Gate and that they created its meaning, symbolism, and importance. The events between 1806 and 1814 reflected the unification of Germany through the development of German nationalism while the period between the end of World War II and the year 2000 was an important symbol for the creation of a new German identity and a redefined idea of what it meant to be German.

The importance of the 1814 restoration has its roots in the French occupation of Berlin in 1806 and is the reason why the gate is well known today. In 1806, the Prussian-led German states were defeated by Napoleon and unable to continue resistance (Seibt 2001). Napoleon's

conquest of Prussia and therefore Berlin eliminated the last German resistance against France. To demonstrate victory against Prussia, a grand parade was held in front of the Brandenburg Gate, in which the quadriga on top of the gate was removed. The removal caused outrage in the Prussian population due to the quadriga being a representation of Greek goddess of peace Eirene who was to protect the inhabitants of Berlin and Prussia. Nevertheless, the citizens of Berlin and Prussia were powerless to prevent this removal (Seibt 2001). Before the removal of the quadriga in 1806, the symbolism of it was exclusively Prussian and related to a peace achieved through military honor. Napoleon dismantled these ideas through his occupation of Prussia.

I argue that the events of 1806 led in this sense to a unification of Germany under French occupation, which was essential for the later unification of Germany in 1871. Before 1806 Prussia was spared from French occupation and thus disconnected from the fate of the other German states. The defeat of 1806 changed the fate of Prussia and forever connected it with all other German states, meaning Germany was unified under French occupation. Also worth mentioning is that before Napoleon's German conquests there were hundreds of different German states. Napoleon's policy of centralization reduced this number greatly (Schmitt 1983). The surviving German states were generally larger and more united than ever before.

The restoration of the quadriga to the Brandenburg gate that took place in 1814 was about the creation of a new German identity and the beginning of a Germany led by Prussia. The quadriga was returned to Berlin after the defeat of Napoleon and repositioned on the gate, mirroring the restoration of the unity of Germany. As a mimic of Napoleon, a parade was held in front of the Brandenburg Gate by the Prussian King Friedrich Wilhelm III which restored the quadriga to its original position (Seibt 2001).

I argue that through these actions by Napoleon and later by the Prussian King Friedrich Wilhelm III that the Brandenburg gate became a



defining monument for Germany. Had Napoleon not held the parade and not removed the quadriga, the gate would not be well known today. When the gate was built in 1791, the monument was called *Friedenstor* (Peace Gate) and was mainly for the collection of taxes and customs duties (Pogoda & Traxler 2019). Napoleons Parade and the removal of the quadriga changed the gate into a symbol of victory for France as well as the humiliation for Prussia and all German states

Pogoda and Traxler's (2019) claims that the gate is only a backdrop complement this view. Napoleon's parade in front of the Brandenburg Gate and removal of the quadriga presented an idea of French superiority over German states and therefore the return of the quadriga had become a symbol of German nationalism. Without these two events the gate would only have been known in its original role.

The successful fight against Napoleon and France was called a war of liberation in which all German states such as Prussia, Austria, Saxony and Bavaria united in opposition to France and founded the German Confederation in 1815. The goddess of peace *Eirene* on the quadriga was replaced with the goddess of victory *Victoria* to create a new German militaristic spirit. This militarism defined the eventual unification of Germany in 1871, in the so-called wars of liberation through the emergence of a collective German identity (Seibt 2001). Also important for the creation of this identity was that of the Iron Cross which was added to the quadriga. The Iron Cross was a military medal known to the population and awarded to soldiers of all societal status and thereby represented a sort of egalitarian militarism.

Seibt (2001, p.71) argues that this representation is also autocratic because it defines German freedom as a right of self-determination and freedom from foreign occupation rather than a freedom consisting of individual rights and civil liberties. In my opinion, the Brandenburg Gate depicted militarism for all of Germany and not just for Prussia. The previous Prussia-exclusive and peace-based symbolism from the

quadriga was removed and replaced by a German-wide autocratic nationalist symbol.

The meaning and symbolism of the Brandenburg Gate has constantly changed through the rise of the Berlin Wall and the period leading up to the gate's renovation and restoration in the year 2000. The gate was located on the eastern side of the Berlin wall but close to the western sector and was largely undamaged during the Second World War (Seibt 2001). The survival of the gate and its previous symbolism as a unified and nationalist symbol represented two decisive ideals that complemented each other. The first was a glimpse back in time to the previously unified, autocratic, and militaristic Germany, which was dismantled after the end of World War II. The second was as a symbol of hope for a future reunified Germany. I argue that this second ideal is related in part to a scene in the novel *Die Mauerspringer* in which the narrator does not connect the importance of Germany and being German with a country or a state, but with the German language (Schneider 1982). In my opinion, this describes the situation of Germany and German identity through the Brandenburg Gate accurately, because the FRG (West Germany) and GDR (East Germany) were German states but did not have an exclusive claim to a collective German identity. The fact that the Brandenburg Gate stood in a position between the two sectors in a divided Berlin also presents the unclear meaning of what Germany was and what exactly it meant to be German.

At the same time, the respective hope of German unification during the Cold War was different from German nationalism during the nineteenth century, in which other German-speaking countries were included. In this sense, the overlaps of these two ideas are revealed through the Brandenburg Gate as the German national identity during the Cold War changed and diverged from more nationalistic ideas. Additionally, the role of the division of Germany as a turning point in this process is emphasized. I contend that it is important to recognize that although today's German identity differs greatly from the German national

identity before the second world war, that remains of the former German identity still exist such as through the still existing quadriga containing the iron cross and goddess of victory Victoria.

As a result of the restoration in 2000, the Brandenburg Gate developed into the German unity symbol it is today. When the Berlin Wall fell in 1989, the Brandenburg Gate was still intact but in poor structural condition and needed an 11-year restoration to reopen (Seibt 2001). This process correlates with the establishment of the new unified Germany that exists today. Although Germany and thus Berlin officially reunited in 1990, there were many challenges to resolve as a result of the division of Germany namely the merging of two different political systems and societies. This process of reunification and integration continues to the present (Harris 1991). I argue that the Brandenburg Gate represented German reunification both during and after the renovation process because the country had to again redefine its national identity.

The events between 1806 and 1814 and between 1961 and 2000 were crucial to the importance and role of the Brandenburg Gate as symbol of German unity. Through Napoleon's conquests and his subsequent defeat, the gate was forever associated with German unity and identity. This helped set the course of German history in motion and the respective German identity was reflected through the gate. At the same time, the gate remains a sign of the reunited Germany, the attempt of the country to define its modern identity and the ongoing integration of the formerly divided Germany.

## References

- Harris, Chauncy D. 1991. Unification of Germany in 1990. *Geographical Review* 81, 2, 170–182. <https://www.jstor.org/stable/215981> [Viewed 12 June 2022].
- Pogoda, Sarah u. a. 2019. Branding the New Germany: The Brandenburg Gate and a New Kind of German Historical Amnesia. In *Cultural Topographies of the New Berlin*. Berghahn Books, 155–180. <https://www.jstor.org/stable/j.ctvw04c4q.10> [Viewed 12 June 2022].
- Schmitt, Hans A. 1983. Germany without Prussia: A Closer Look at the Confederation of the Rhine. *German Studies Review* 6, 1, 9–39. <https://www.jstor.org/stable/1429433> [Viewed 6 June 2022].
- Schneider, Peter. (1982). „Der Mauerspringer“, 103-135 Seibt, Gustav/Francois, Etienne & Schulze, Hagen (Hg.) (2001): *Deutsche Erinnerungsorte II*. München: C.H Beck

# Die mittlere Schicht, Der moralische Grundstein der Gesellschaft

Ein Vergleich von den Darstellungen von Klassenunterschieden in „Fabian Geschichte eines Moralisten“ und „Babylon Berlin“

*Cian Münster*

## **Abstract**

*This paper investigates the representation of class differences in Weimar-era Berlin through the novel Fabian Geschichte Eines Moranlisten and the TV series Babylon Berlin with a particular focus on the middle class. It argues that both works emphasize the importance of the middle class to maintain morality in society.*

Die Darstellung von Klassenunterschieden in Berlin in den ersten Jahrzehnten des 20. Jahrhunderts in dem Text *Fabian: Geschichte eines Moralisten* und in der Serie *Babylon Berlin* haben bestimmte Ähnlichkeiten und Unterschiede. In *Fabian Geschichte eines Moralisten* wird die Moralität der mittleren Klasse gegenüber der oberen Klasse deutlich betont. *Babylon Berlin* fokussiert sich auf unmoralische Taten machtvoller Personen und die Machtlosigkeit von ärmeren Menschen. In dieser Arbeit werde ich argumentieren, dass sich beide Kunstwerke ergänzen, die Bedeutung der mittleren Schicht für Moralität in der Gesellschaft zu betonen.

In *Fabian Geschichte eines Moralisten* ist die nicht-Angehörigkeit zu der oberen Schicht nicht direkt mit der Armut verbunden. Fabian arbeitet als Reklamefachmann, mietet eine Wohnung in Berlin und ist in der Lage, sich selbst durch ihre Arbeit zu unterstützen. Er trinkt Kaffee, besucht eine Bordel, aber hat keinen besonderen Reichtum. Diese Darstellung ist bemerkenswert, weil das Buch erst im Jahr 1931 geschrieben wurde, kurz vor der Machtergreifung der Nationalsozialisten. Durch die im Jahr 1929 angefangene große wirtschaftliche Depression, verschwand die Mehrheit der Mittelklasse bzw. Bourgeois (Jones 1972). Im Jahr 1925 gehörte 48% der Bevölkerung Deutschlands zum undefinierten gesellschaftlichen Status zwischen der Arbeiterklasse und dem obersten Großbürgertum (Jones 1972). Am Ende der 1920er Jahren, waren die Mehrheit dieser Menschen von der Arbeiterklasse wegen wirtschaftlichen Problemen kaum zu unterscheiden (Jones 1972). In diesem Sinne repräsentiert der im Jahr 1931 lebende Fabian eine aussterbende und kaum existierende Schicht von Menschen.

Diese Repräsentation hat bestimmte Parallele zur Charakterbeschreibung vom Autor Erich Kästner, dass Fabian fast allein gegen den moralistischen Rückgang der letzten Jahre der Weimarer Republik stoßt (Kästner 1950 9-10). Fabian repräsentiert aussterbende moralische Ideen und eine aussterbende Schicht in dem Klassensystem.

In einer Szene im zweiten Kapitel des Buchs (Kästner 1950 21-24) trifft sich Fabian Herr Moll. Fabian wollte sich mit Frau Moll verlieben, aber er würde dadurch einen männlichen Harem werden, da sie verheiratet ist und Herr Moll mit Untreue in ihrer Ehe einverstanden ist, solange er sich den anderen Männern vorher trifft. Herr Moll macht Sorgen, dass seine Frau „außer sich geraten“ wird, falls Fabian ihr Haus verlassen und die Vereinbarung nicht akzeptieren soll. Fabian lehnt diesen Vertrag ab, da er gegen traditionelle Werte von Monogamie und männlicher Herrschaft stößt. Als Moralist kann Fabian den Bruch mit traditionellen Werten nicht akzeptieren. Dadurch ist die mittlere Bourgeois Schicht durch Fabian als traditionell und moralisch dargestellt, während die obere Schicht, traditionelle Werte bricht. Die Botschaft des Textes in Bezug auf Klassenunterschiede ist, dass traditionelle und moralische Werte direkt mit der mittleren Schicht verbunden sind und, dass diese Werte ohne die mittlere Schicht aussterben.

Das Aussterben der mittleren Schicht hatte auch politische Konsequenzen. Wegen des Wohlstandsverlusts brach die Unterstützung von nicht-extrem politischen Parteien in den letzten Jahren vor der Machtergreifung der Nazis zusammen (Jones 1972). Ehemalige Bourgeois wurden ärmer geworden und unterstützten die kommunistische oder Nazi Partei, während der kaum noch existierende Bourgeois die knapp überlebende Gemäßigte Politik vertrat, um ihre noch bleibender Existenzmittel und Gesellschaft zu beschützen (Jones 1972). Der Autor Kästner behauptete im Jahr 1950, dass sein Buch eine Warnung vor dem Abgrund war, „dem sich Deutschland und damit Europa näherten“ (Kästner 1950 10). Er stellte einen Vergleich zwischen Linksextreme und Rechtsextreme Politik her, dass sie als Behandlungsmittel eines Patienten (die Gesellschaft) zwischen entweder Vergiftung oder Enthauptung entschieden (Genschmer 1947). Obwohl genaue politische Ausrichtungen im Text kaum erwähnt werden, behaupte ich, dass Kästner die angespannte Lage in Weimarer Deutschland mit dem Untergang der Mittleren Schicht verbindet.

Dadurch wurde die mittlere Schicht als moralischer Grundstein der Gesellschaft dargestellt.

In *Babylon Berlin* ist die Unmoralität der oberen Schicht ähnlich zu beobachten. Menschen mit Reichtum oder höheren gesellschaftlichem Status handeln in ihrem eigenen Interesse, ohne Rücksicht auf die Folgen. Ein Beispiel davon ist der Filmregisseur, der fördert, dass die Polizei den Tod von einer Sängerin in ihrem Studio eilig als Unfall klassifiziert, da er im Fall eines Unfalls eine Versicherungsauszahlung bekommt. Ihm ist es unwichtig, dass die Fakten des Todes herausgefunden werden, sondern, dass die Tatsachen des Mordes für finanzielles Gewinn manipuliert werden können.

Menschen der oberen Schicht in *Babylon Berlin* erfahren die Konsequenzen ihrer unmoralischen Aktionen dazu nicht. In der zweiten Staffel entdecken die Hauptcharaktere einen Putschversuch von der „Schwarzen Reichswehr“ gegen die deutsche Regierung. Die „Schwarze Reichswehr“ war eine von höheren Generalen geführte illegale paramilitärische Gruppe mit Unterstützung von oberen Figuren in der Weimarer Gesellschaft (Stegmann 2021). Obwohl der Putschversuch von den Hauptcharakteren aufgehalten wurde, wurden alle Teilnehmer des Putschversuchs wegen des Status und höchstwahrscheinlich Antikommunismus der führenden Figuren befreit (Stegmann 2021).

Im Gegensatz sind Menschen der oberen Schicht, die sich moralisch verhalten dazu nicht erfolgreich und treffen fatale Konsequenzen. Ein Beispiel davon ist der Regierungsrat der Polizei August Benda. Er ist ein großzügiger Arbeitgeber und Chef, der die verarmte Greta einstellt und dient ehrlich in seinem Dienst, um die Weimarer Republik vor der schwarzen Reichswehr zu schützen. Trotz seiner Großzügigkeit und ehrlichen Diensts, ist er erfolglos, die führenden Figuren des Putschs zu verfolgen und er wurde von ihrer Mitarbeiterin Greta ermordet. Ich denke, diese Ereignisse vermitteln eine moralische Botschaft, dass Menschen der oberen Schicht in Weimarer Berlin die Moralität



verweigern müssen, um erfolgreich zu sein. Andernfalls werden sie scheitern oder sterben.

Mittlerweile tun sich die Menschen der Arbeiterklasse in *Babylon Berlin* schwer. Zum Beispiel muss sich eine der Hauptcharakteren Charlotte Ritter neben ihren Beruf sexuell verkaufen nur um für sich selbst und ihre Familie zu versorgen. Raum für Fehler oder Verweigerung gibt es nicht. Ärmere Menschen wurden auch dazu manipuliert, gegen ihr eigenes Interesse die finsternen Ziele von oberen Figuren durchzuführen. Greta wurde von geheimen Mitgliedern der Nazi Partei irreführt, Regierungsrat Benda zu ermorden, damit Untersuchungen gegen die „Schwarze Reichswehr“ enden und einen Vorwand für die Fortsetzung von weiteren Aktivitäten im Interesse der rechten Seite der Politik zu haben ist. Dadurch verliert Greta ihren Arbeitgeber und später ihr Leben. Ich würde behaupten, dass ärmere Menschen deswegen als machtlos und manipulierbar dargestellt werden. Das Gefühl von Kontrolle über ihr Leben ist eine Fassade, da sie in der Realität jederzeit von der oberen Schicht kontrollierbar sind.

In *Fabian Geschichte eines Moralisten* und in *Babylon Berlin* werden klare Klassenunterschiede in Berlin dargestellt, die Bedeutung der mittleren Schicht betonten. Die starke Botschaft, die sich beide Kunstwerke ergänzen ist, dass die mittlere Schicht wesentlich für eine moralische Gesellschaft zuständig ist. Ohne diese Klasse, werden Menschen mit Reichtum immer mehr Kontrolle bekommen während ärmere Menschen bewusst oder unbewusst möglicherweise auf Kosten ihrer Leben in den Taten der oberen Schicht beteiligt werden müssen.

[English Version]

# The Middle Class, The Moral Cornerstone of Society in Weimar Germany

A comparison of the representations of class differences in “*Fabian Geschichte eines Moralisten*“ and “*Babylon Berlin*“

*Cian Münster*

In *Fabian Geschichte eines Moralisten*, not belonging to the upper class is not directly related to poverty. Fabian, the main character, works as an advertisement expert, rents an apartment in Berlin and is able to support herself through his work. He drinks coffee, frequents a brothel, but does not possess extraordinary wealth. This account is remarkable because the book was only written in 1931, shortly before the Nazis seized power. With the great economic depression that began in 1929, the majority of the middle class or bourgeois disappeared (Jones 1972). In 1925, 48% of the population of Germany belonged to the undefined social status between the working class and the upper bourgeoisie (Jones 1972). By the late 1920s, the majority of these people were almost indistinguishable from the working class because of economic problems (Jones 1972). In this sense, Fabian, living in 1931, represents a dying and barely existing class of people.

This representation has certain parallels with the character description by the author Erich Kästner that Fabian almost alone opposes the moral

decline of the last years of the Weimar Republic (Kästner 1950 9-10). Fabian represents dying moral ideas and a dying class in Weimar German society.

In a scene in the second chapter of the book (Kästner 1950 21-24) Fabian meets Mr. Moll. Fabian wanted to make love with Mrs. Moll, but this would have made him a male harem since she is married, and Mr. Moll accepts infidelity in her marriage as long as he meets the other men first. Mr. Moll worries that his wife will "be upset" if Fabian does not accept the agreement. Fabian rejects this contract as it goes against traditional values of monogamy and male domination. As a moralist, Fabian cannot accept a break with traditional values. In this way, Fabian portrays the middle bourgeois class as traditional and moral, while the upper class breaks with traditional values. The message of the text regarding class differences is that traditional and moral values are directly linked to the middle class and that without the middle class these values die out.

The extinction of the middle class also had political consequences. Because of the loss of prosperity, support for non-extreme political parties collapsed in the final years before the Nazis came to power (Jones 1972). Former bourgeois became poorer and supported the communist or Nazi party, while the barely existent bourgeois espoused the barely surviving moderate politics to protect their remaining livelihoods and society (Jones 1972). The author Kästner claimed in 1950 that his book was a warning of the abyss "that Germany, and with it Europe, was approaching" (Kästner 1950 10). He made a comparison between left-wing extremists and right-wing extremists that the difference was as if deciding between either poisoning or decapitation as a means of treating a patient (society) (Genschmer 1947). Although precise political orientations are hardly mentioned in the text, I contend that Kästner connects the tense situation in Weimar Germany with the decline of the middle class. This is portrayed by the middle class being the moral cornerstone of society.

In *Babylon Berlin* the immorality of the upper class can be observed in a similar way. People of wealth or higher social status act in their own interest, regardless of the consequences. An example of this is a film director who encourages the police to hastily classify the death of a singer in her studio as an accident, since he would get an insurance payout in the event of an accident. It is not important to him that the facts of death be found out, but that the facts of the murder can be manipulated for financial gain.

Upper class people in *Babylon Berlin* do not experience the consequences of their immoral actions. In the second season, the main characters discover a coup attempt by the "Black Reichswehr" against the German government. The "Black Reichswehr" was an illegal paramilitary group led by higher generals with the support of upper figures in Weimar society (Stegmann 2021). Although the coup attempt was stopped by the main characters, all participants in the coup attempt were freed because of the status and most likely the anti-communism of the leading figures (Stegmann 2021).

In contrast, upper-class people who behave morally are unsuccessful and meet fatal consequences. An example of this is the government councilor of the police in August Benda. A generous employer and boss, he hires the impoverished Greta and honestly serves in his post to protect the Weimar Republic from the "Black Reichswehr". Despite his generosity and honest service, he is unsuccessful in prosecuting the coup's leading figures and was assassinated by the same Greta he hired. I contend that these events convey a moral message that upper class people in Weimar Berlin had to forsake morality in order to be successful. Otherwise, they would fail or die.

Meanwhile, the people of the working class in *Babylon Berlin* live difficult lives. For example, one of the main characters, Charlotte Ritter, has to sell herself sexually in addition to her job just to support herself and her family. There is no room for error or failure. Poorer people were also manipulated into carrying out the sinister aims of upper figures

against their own best interests. Greta was misled by secret members of the Nazi party into assassinating government councilor Benda in order to end investigations into the "Black Reichswehr" and have an excuse to continue further activities in the interest of right-wing politics. As a result, Greta loses her employer and later her life. I would argue that because of this, poorer people are portrayed as powerless and vulnerable to manipulation. The feeling of being in control of their lives is a facade, since in reality they are controllable at all times by the upper class.

In *Fabian Geschichte eines Moralisten* and in *Babylon Berlin*, clear class differences in Berlin are presented, emphasizing the importance of the middle class. The strong message through which both works complement each other is that the middle class is essentially responsible for a moral society. Without this class, the wealthy will gain more and more control while the poorer, consciously or unconsciously, may have to be involved in the doings of the upper class at the cost of their lives.

## References

- Genschmer, Fred 1947. The Ordeal of Erich Kästner. Monatshefte 39, 6, 389–402. <https://www.jstor.org/stable/30160605> [Viewed March 24 2022].
- Jones, Larry Eugene 1972. „The Dying Middle“: Weimar Germany and the Fragmentation of Bourgeois Politics. Central European History 5, 1, 23–54. <https://www.jstor.org/stable/4545621> [Viewed March 24 2022].
- Kästner, Erich (1950) „Fabian, Geschichte eines Moralisten“, 1-51.
- Stegmann, Vera 2021. Kracauer, Brecht, and Babylon Berlin: The Weimar Republic in Crime Fiction and in Neo-Noir TV Series. In V. Stegmann u. a., hg. The Brecht Yearbook / Das Brecht-Jahrbuch 46. Boydell & Brewer, 78–95. <https://www.jstor.org/stable/j.ctv1hbf25s.9> [Viewed 29 March 2022].

# Non-Financial Performance Measures in Executive Compensation

*Sofia Memed*

Arguably, the use of non-financial performance measures in executive compensation is effective and beneficial to the firm when done properly. The firm may be motivated to implement such a practice from both internal and external sources. If the change is made to executive compensation measures, there are many benefits it may provide to the firm as well as drawbacks. The firm may be disinclined from such a method of determining executive pay if they will not gain the desired benefits if a clear plan is not in place or if there is stakeholder pressure to not make the changes. These drawbacks and limitations may be avoided with time and resources being invested into the design of the framework for executive pay.

## I. MOTIVATORS

### A. Long-term performance

Firms who engage in activities to improve their environmental and social impacts will also experience better long-term performance in all aspects including market and financial performance (Eccles et al. 2014)

By incorporating non-financial performance measures into executive compensation, the actions of managers are better aligned with improving long-term firm value (Gan et al. 2020) – it is best when

combined with equity-based compensation. This is because in terms of long-term financial performance, nonfinancial measures are better indicators than financial measures (Banker et al. 2000). Therefore, managers are provided with different motivations that refocus their actions to better the long-term value of the firm.

Additionally, employees will naturally feel prouder to work for a firm that engages in activities that improve their environmental and social impacts. As a result, employee morale will be boosted. Employees who have higher morale are likely to be more productive and are likely to be more willing to stay in their jobs. Improved productivity and employee retention naturally will result in profit improvements. This effect would be a motivating factor to firms.

## **B. Competitive Advantage**

Firms may feel motivated to integrate non-financial measures into the executive compensation and disclose such performance to gain a competitive advantage, especially when they are stagnant and must gain an edge in their market to stay afloat.

Linking executive pay to non-financial performance measures will encourage the firm to engage in activities to improve these measures. By engaging in such activities such as improving customer experience, social impact and reducing environmental impact, the status and reputation of the firm will naturally increase. The goodwill of the firm will increase along with this. Improvements to their goodwill, increases their level of intangible assets. It was found that firms that have higher levels of intangible assets will gain a competitive advantage in its market (Zabihollah and Tuo 2017). However, it should be noted that these improvements to goodwill can only be recognised in the books when the firm is acquired or merged (Milost 2013).

Competitive advantage can be additionally improved with voluntary disclosure of non-financial performance. According to the voluntary

disclosure theory, the reporting and disclosure of non-financial performance measures, the firm can become distinguished from its competitors who are failing to engage in such activities (Lys et al. 2015).

### **C. Earnings Management**

By integrating non-financial measures into executive compensation, managers will have less of an incentive to engage in earnings management activities.

It was found that using both non-financial and financial performance measures to determine executive pay caused a reduction in earnings management activities (Ibrahim & Lloyd 2011). To improve the quality and reliability of reports, and to avoid unfavorable consequences of earnings management, the implementation of non-financial performance measures into compensation would be beneficial.

### **D. Pressure from External Stakeholders**

An increasing number of firms are including non-financial performance measures in their reports and executive pay due to pressures from external stakeholders (Beyoud 2022).

Activists, investors, and other external stakeholders are increasingly analysing and criticizing such measures and how they are being used in the firm. In fact, a quarter of US companies tied some form of ESG (environmental, social or governance) metric in determining executive pay (Beyoud 2022) including, Royal Dutch Shell, Unilever, Alcoa, Intel Corporation, BP and PepsiCo (Aquila et al. 2020). There are two main motivators that arise because of this. Firstly, firms will want to remain favourable in the eyes of their investors, customers and other external stakeholders and may choose to do so due to these pressures. This pressure would be especially strong from activists in terms of the firms environmental and social behaviour. Secondly, firms would want to



stay ahead of the curve and partake in the trend before it becomes the norm.

This will allow the firm to gain a competitive edge within their market as they are doing something to contrast them with their competitors.

## **II. IMPLICATIONS**

All the areas discussed above of what motivates a firm to implement non-financial performance measures into their executive compensation are also implications of doing so, apart from the pressures from external stakeholders.

### **A. Indication of future financial performance**

Evidence has suggested that non-financial performance measures provide far better indicators of future financial performance than financial measures (Ittner and Larcker 1998).

To determine executive pay based off non-financial performance indicators, the firm would analyse and record these indicators. This information can then be collected and used by the firm not only in determining executive pay, but also to predict the future financial performance of the business. This information would be incredibly valuable to the firm and its internal stakeholders to make well-informed decisions and to establish realistic goals. Additionally, this information would also be valuable to external stakeholders and especially analysts and

potential investors. If the indicators predict a prosperous future financial performance, the firm will likely attract more investors and in turn, more capital.

## **B. Indication of intangible assets**

Given that intangible assets are non-financial in nature, it follows that the reporting and disclosure of non-financial performance will help the firm to value their intangible assets (Mehta and Madhani 2008).

When the firm collects this information to determine executive pay, they can re-use this pool of information to value their intangible assets. For example, measurements of employee turnover, employee training and employee satisfaction would be useful in determining 'Human Capital' as an intangible asset.

The collection of the non-financial information will be useful in many more ways than just determining executive pay.

## **C. Links to long-term organisational strategies**

The valuation of non-financial performance is an effective method to align employee and executive action with the long-term strategic plan of the business (Kaplan and Norton 1996).

Measurement of executive performance that is at least somewhat based off the non-financial performance of the business will link the short-term actions of executives to the long-term organisational strategies. Due to the nature of financial goals, to achieve these goals only, the firm would only focus on the short-term. This creates a deficiency - the firm would only be achieving short-term goals and not take steps to achieve their longer-term organisational objectives (Kaplan and Norton 1996). Therefore, including non-financial measures in the determination of executive pay would assist in the achievement of the firm's long term financial goals.

## **D. Compromise broader corporate strategies**

It is important that non-financial goals do not conflict with the broader corporate strategy as to not compromise the longevity of the firm and the achievement of goals (Beyoud 2022). A potential unfavorable implication of the implementation of non-financial performance measures into executive pay is that these measures are improved at the expense of financial indicators and the broader goals and strategies. Therefore, a balance in the design of compensation must be found so that executives can meet their goals for non-financial performance indicators whilst also maintaining the attainability of and not compromising the broader corporate strategies.

## **III. LIMITATIONS**

### **A. Over-saturation**

The use of non-financial indicators in executive pay would lose a lot of its impact and benefits if its disclosure becomes mandatory and everyone starts doing it, especially in terms of competitive advantage (Jackson et al. 2020). If firms are required to disclose their non-financial performance indicators, most firms will naturally make effort to improve these to be viewed as more favourable to potential investors and other stakeholders. Therefore, due to less differentiation, for those firms that are improving non-financial indicators through tying them to executive pay, the goodwill gained will not be as valuable.

### **B. Lack of guidance**

On the flip side, there is currently no strict regulations, standards, or legal requirements for non-financial report (Julvez 2022). Therefore, the burden is on the firm to decide how they report their non-financial performance, how often and especially, what indicators they choose to report on. There are existing guidelines such as GRI (Global Reporting

Initiative 2021) and ESG (Envizi 2021.) that could provide the firm with a direction in how to report their non-financial performance and how often to do so.

The most complicated decision to make would be deciding on which measures to choose and the framework to measure them. Many firms do not take the time to choose the indicators that best fit the firm and would best aid them in achieving their goals. In fact, many firms just adopt frameworks such as the Kaplan and the Balanced Scorecard (Ittner and Larcker 2003). The problem with these external designed frameworks is that they may not be catered to the firm's industry and the specific goals, strategies, and projects within the firm. This may result in the indicators being unreliable. These unreliable results may cause executives to be underpaid or overpaid compared to the amount they deserve. In favor of these externally designed frameworks, they are more difficult to manipulate (Tahir et al. 2019) because they are not influenced by executives and are collected and compiled by external sources (Ibrahim and Lloyd 2011).

Alternatively, the firm could choose the indicators internally and design a framework for measuring performance internally. The time required for such a process would be time consuming and likely costly to the firm. The firm would however be able to choose indicators and design the framework to exactly fit the firm's industry and its specific needs and goals. Most firms do fail to identify the right non-financial measures (Ittner and Larcker 2003). It is vital that the firm takes the time and resources to choose the correct measures for the information produced to be useful and for the firm to stay competitive.

### **C. Shareholder opposition**

Shareholders may be opposed to the changes in determining executive pay.

These shareholders are highly likely to be more familiar with financial measures and therefore may prefer them (Cardinaels 2010). Additionally, shareholders may view non-financial information performance indicators as too amorphous and easily manipulated, therefore lending to earnings management. It is vital that decision-makers take the time to establish and design clear goals and strategies, then decide which indicators best link to these. They can then present this along with the benefits of the changes in executive pay to the shareholders. This can reassure shareholders of the changes, so they don't pull out and the firm doesn't lose funding.

#### IV. CONCLUSION

The firm must invest time and money into the change in determining executive pay for it to be effective and beneficial. It can provide many benefits to firm including improvements to information quality and availability of information, firm reputation, market stance and broader achievement of long-term goals. The firm will be both motivated to make the change by the perceived benefits of it and will experience the benefits if done properly. Overall, it is highly effective and beneficial to various aspect of the firm, however many resources including time, money, research and effective planning and decision making must be invested into the change for the firm to experience these benefits. Spending these resources into the change will minimize the likelihood of the firm experiencing the drawbacks. Therefore, if the firm has such resources available it would be recommended to make the change. If not, it is simply not worth it.

## References

- Eccles RG, Ioannou I, Serafeim G (2014) 'The Impact of Corporate Sustainability on Organizational Processes and Performance', *Management Science* 60(11). (Harvard Business School),
- Gan H, Park MS, Suh SH (2020) 'Non-financial performance measures, CEO compensation, and firms' future value', *Journal of Business Research* 110: 213-227, doi.org/10.1016/j.jbusres.2020.01.002
- Banker RD, Gordon P and Srinivasan D (2000) 'An empirical investigation of an incentive plan that includes nonfinancial performance measures', *The Accounting Review* 75(1): 65-92. (ProQuest).
- Zabihollah R, Tuo L (2017) 'Voluntary disclosure of non-financial information and its association with sustainability performance', *Advances in Accounting* 39: 47-59, doi.org/10.1016/j.adiac.2017.08.001.
- Milost F (2013) 'Information Power of Non-Financial Performance Measures', *Int.J.Buss.Mgt.Eco.Res*, 4(6): 823-828 (University of Primorska).
- Lys T, Naughton JP, Wang C (2015) 'Signaling through corporate accountability reporting', *Journal of Accounting and Economics*, 60(1): 56-72, doi.org/10.1016/j.jacceco.2015.03.001.
- Ibrahim S, Lloyd C (2011) 'The association between non-financial performance measures in executive compensation contracts and earnings management', *Journal of Accounting and Public Policy*, 30(3): 256-274, doi.org/10.1016/j.jaccpubpol.2010.10.003.
- Beyoud L (14 March 2020) 'Executive pay tied to ESG goals grows as investors demand action', *Bloomberg Law*, accessed 26 March 2022. <https://news.bloomberglaw.com/esg/executive-pay-tied-to-esg-goals-grows-as-investors-demand-action>.
- Aquila F, Sawyer M, Friestedt M, Bander J and Drayton T (2020) 'The rise of ESG metrics in executive compensation', *The Corporate Governance Advisor*, 28(3): 30-33. (ProQuest).
- Ittner CD, Larcker DF (1998) 'Are Nonfinancial Measures Leading Indicators of Financial Performance? An Analysis of Customer

- Satisfaction', *Journal of Accounting Research*, 36: 1- 35, doi.org/10.2307/2491304.
- Mehta DA, Madhani PM (2008) 'Intangible Assets An Introduction', *The Accounting World*, 8(9): 11-19. (SSRN).
- Kaplan RS, Norton DP (1996) 'Using the Balanced Scorecard as a Strategic Management System', *Harvard Business Review*, (January/February): 75-85. (OnPoint Article).
- Jackson G, Bartosch J, Avetisyan E, Kinderman D, Knudsen JS (2020) 'Mandatory Non financial Disclosure and Its Influence on CSR: An International Comparison', *Journal of Business Ethics*, 162(2): 323-342, doi.org/10.1007/s10551-019-04200-0.
- Julvez IO (1 January 2022) 'Most Read of 2021: Mandatory Reporting for Environmental Social Governance Metrics', *Australian Institute of International Affairs*, accessed 5 May 2022. <https://www.internationalaffairs.org.au/australianoutlook/mandatory-reporting-for-environmental-social-governance-metrics/>.
- Global Reporting Initiative (2021) *The GRI Standards: the global standards for sustainability reporting*, accessed 10 May 2022. [https://www.globalreporting.org/standards/media/2458/gri\\_standards\\_brochure.pdf](https://www.globalreporting.org/standards/media/2458/gri_standards_brochure.pdf)
- Envizi (2021) *Guide to ESG Reporting Frameworks*, accessed 10 May 2022. <https://envizi.com/a-guide-to-esg-reporting-frameworks/>
- Ittner CD, Larcker DF (2003) 'Coming Up Short on Nonfinancial Performance Measurement', *Harvard Business Review*, 81(11): 88-95, 139. (ResearchGate).
- Tahir M, Ibrahim S, Nurullah M (2019) 'Getting compensation right : the choice of performance measures in CEO bonus contracts and earnings management. The British Accounting Review', 51(2): 148-169, doi.org/10.1016/j.bar.2018.09.004.
- Cardinaels E, Van Veen-Dirks PMG (2010) 'Financial versus non-financial information: The impact of information organization and presentation in a Balanced Scorecard', *Accounting, Organisations and Society*, 35(6): 565-578, doi.org/10.1016/j.aos.2010.05.003.

# Continued Fraction Factorisation Algorithm

*Jean-Paul Hii*

## Abstract

In mathematics, especially number theory, continued fractions allow us to represent a real number by successive divisions of integers. Applications of continued fractions include constructing rational approximations to irrational numbers and helping to solve the Diophantine and Pell's equations. In particular, the continued fraction algorithm (CFRAC) is a powerful integer factorisation algorithm. It was described by D. H. Lehmer and R. E. Powers in 1931, whose theoretical basis will be explored today. It has been described as a general-purpose algorithm, meaning that it is suitable for factoring any integer  $n$ , independent of the number's properties. The CFRAC, in its operation, also helps us find congruences of the form  $x^2 \equiv y^2 \pmod{n}$ . I will introduce some statements about continued fractions to motivate the purpose of this report. This will be followed with an introduction of  $n$ -th complete quotients and how they produce the integers needed for the CFRAC. The CFRAC can be carried out via two methods which I will call the "A method" and "P method", whose strengths and weaknesses will be discussed. Lastly, a faster algorithm, described by Michael A. Morrison and John Brillhart, which computerised the A method, will also be examined.

## I. BASIC FACTS ABOUT CONTINUED FRACTIONS

I will present some basic facts about continued fractions here.



**Definition 1.1.** A continued fraction is of the form

$$x = q_0 + \frac{1}{q_1 + \frac{1}{q_2 + \frac{1}{q_3 \dots}}} \quad (1)$$

We can also identify continued fractions in sequence form as  $x = [q_0; q_1, q_2, \dots]$ ,  $q_i \in \mathbb{Z}$ .

The above is an example of an infinite continued fraction; a finite continued fraction in sequence form is  $x = [q_0; q_1, q_2, \dots, q_n]$ ,  $n \in \mathbb{N}$ .

**Theorem 1.2.** Every  $x \in \mathbb{Q}$  can be represented as a finite continued fraction.

**Example 1.3.** In order to represent  $\frac{62}{23}$  as a finite continued fraction, we can apply the Euclidean algorithm to 62 and 23 to obtain:

$$\frac{62}{23} = 2 + \frac{1}{1 + \frac{1}{2 + \frac{1}{3 + \frac{1}{2}}}} = [2; 1, 2, 3, 2] \quad (2)$$

**Definition 1.4.** If  $[q_0, \dots, q_n]$  is a finite continued fraction, its  $k$ -th convergent is  $[q_0, \dots, q_k]$  where  $k \leq n$ . More generally, if  $[q_0, q_1, \dots]$  is an infinite continued fraction, then its  $k$ -th convergent is  $[q_0, \dots, q_k]$  for some  $k$ .

**Definition 1.5.**  $[q_0, q_1, \dots] = \lim_{k \rightarrow \infty} [q_0, \dots, q_k]$ .

**Theorem 1.6.** Let  $q_0, q_1, \dots$  be a sequence such that  $q_i > 0$  whenever  $i > 0$ . Define  $A_0 = q_0$ ,  $B_0 = 1$ ,  $A_1 = q_0 q_1 + 1$ ,  $B_1 = q_1$  and the following recurrence relations for  $i > 1$ :

$$A_i = q_i A_{i-1} + A_{i-2}. \quad (3)$$

$$B_i = q_i B_{i-1} + B_{i-2}. \quad (4)$$

Then, the  $k$ -th convergent is  $[q_0; q_1, \dots, q_k] = \frac{A_k}{B_k}$ .

Intuitively, if one considers  $\frac{A_k}{B_k} = \frac{q_k A_{k-1} + A_{k-2}}{q_k B_{k-1} + B_{k-2}}$ , then they can substitute all previous recurrence relations into the equation to get the continued fraction. We will prove this by induction on  $k$ , however.

*Proof of Theorem 1.6.* We prove this by induction on  $k$ .

Base case  $k = 0$ :  $\frac{A_0}{B_0} = a_0 = [a_0]$ .

Induction hypothesis: Suppose the theorem holds for some  $k = n$ .

Induction step: We want to show that  $[q_0; q_1, \dots, q_k, q_{k+1}] = \frac{A_{k+1}}{B_{k+1}}$ . Since

$[q_0; q_1, \dots, q_k, q_{k+1}] = \left[ q_0; q_1, \dots, q_k + \frac{1}{q_{k+1}} \right]$ , we have:

$$\begin{aligned} \left[ q_0; q_1, \dots, q_k + \frac{1}{q_{k+1}} \right] &= \frac{\left( q_k + \frac{1}{q_{k+1}} \right) A_{k-1} + A_{k-2}}{\left( q_k + \frac{1}{q_{k+1}} \right) B_{k-1} + B_{k-2}} \\ &= \frac{q_k A_{k-1} + A_{k-2} + \frac{A_{k-1}}{q_{k+1}}}{q_k B_{k-1} + B_{k-2} + \frac{B_{k-1}}{q_{k+1}}} \\ &= \frac{q_{k+1} A_k + A_{k-1}}{q_{k+1} B_k + B_{k-1}} \\ &= \frac{A_{k+1}}{B_{k+1}} \end{aligned}$$

□

## II. PERIODIC CONTINUED FRACTIONS

When is an infinite continued fraction periodic? That is, if  $x$  is irrational, when is  $x = [q_0; q_1, \dots, q_j, \overline{q_{j+1}, \dots, q_{j+p}}]$ ? Here,  $p$  denotes the periodicity of the terms repeated.

**Definition 2.1.** An element  $a \in \mathbb{R}$  is a quadratic surd if it is irrational and there exists a quadratic polynomial  $f(x) \in \mathbb{Z}[x]$  such that  $f(a) = 0$ .

**Theorem 2.2.** Let  $x \in \mathbb{R}$ , then the continued fraction for  $x$  is infinite and periodic if and only if  $x$  is a quadratic surd.

**Example 2.3.** The golden ratio  $\phi = \frac{1+\sqrt{5}}{2}$  is a solution to the quadratic equation  $x^2 - x - 1 = 0$  and its continued fraction is  $[1; 1, 1, \dots]$ .

In the case of  $x = \sqrt{N}$ , where  $N$  is a square free positive integer, we get an interesting result.

**Theorem 2.4.** Let  $N$  be a square free positive integer, then the period starts after the first term in the continued fraction for  $\sqrt{N}$ , i.e.  $\sqrt{N} = [q_0; \overline{q_1, q_2, \dots, q_{p-1}, 2q_0}]$ . Moreover, the sequence  $q_1, q_2, \dots, q_{p-1}$  has the property that  $q_{p-i} = q_i$  for  $1 \leq i \leq p - 1$ .

**Example 2.5.**  $\sqrt{7} = [2; \overline{1, 1, 1, 4}]$ .

We now move on to the main part of this report. There is a simple algorithm which computes the  $q_i$ 's in the continued fraction of  $\sqrt{N}$  using only integer arithmetic. However, the downside is that several other integers will also be computed, which add extra calculations when attempting to factor an integer using CFRAC. These integers are shown in Equations (6) and (7).

**Definition 2.6.** The  $n$ -th complete quotient of  $x_n$ , where  $x_n$  is the  $n$ -th convergent of  $\sqrt{N}$  is defined as

$$x_n = \begin{cases} \sqrt{N}, & \text{if } n = 0 \\ \frac{1}{x_{i-1} - q_{i-1}}, & \text{if } n \geq 1 \end{cases} \quad (5)$$

The work done until now implies that if we want to factor an integer  $N$ , we should consider the continued fraction expansion of  $\sqrt{N}$ , which the CFRAC does. The trouble is that we need the presence of perfect squares among the denominators of our complete quotients. However,

the product of two or more distinct denominators is often a square, which will lead to the A and P methods.

We will now rewrite our complete quotients into something which will be useful down the road. With enough algebraic manipulation, one can check that  $x_n = \frac{P_n + \sqrt{N}}{Q_n}$  for  $n \geq 0$ , where:

$$P_n = \begin{cases} 0 & \text{if } n = 0 \\ q_0 & \text{if } n = 1 \\ q_{n-1}Q_{n-1} - P_{n-1} & \text{if } n \geq 2, \end{cases} \quad (6)$$

and

$$Q_n = \begin{cases} 1 & \text{if } n = 0 \\ N - q_0^2 & \text{if } n = 1 \\ Q_{n-2} + (P_{n-1} - P_n)q_{n-1} & \text{if } n \geq 2. \end{cases} \quad (7)$$

Finally, the  $q_n$ 's can be computed by

$$q_n = \lfloor x_n \rfloor = \begin{cases} \lfloor \sqrt{N} \rfloor, & \text{if } n = 0 \\ \left\lfloor \frac{\sqrt{N} + P_n}{Q_n} \right\rfloor, & \text{if } n \geq 1 \end{cases} \quad (8)$$

With  $A_n$  and  $B_n$  defined as in Theorem 1.6, we have the following two equalities:

$$(-1)^n Q_n = A_{n-1}^2 - B_{n-1}^2 N, \quad (9)$$

and

$$N = P_n^2 + Q_n Q_{n-1}. \quad (10)$$

Equations (9) and (10) will be the key drivers in the A and P method respectively; the  $Q_n$ 's are particularly significant in both methods.

**Definition 2.7.** Let  $(-1)^n Q_n = Q_n^*$ . Two  $Q_n^*$ 's are equivalent if their product is a square, that is,  $Q_i^*$  is equivalent to  $Q_j^*$  if  $x^2 Q_i^* = y^2 Q_j^*$  for  $x, y \in \mathbb{Z}$ .

### III. LEHMER AND POWERS

#### A. The A method

Let  $\frac{A_n}{B_n}$  be the  $n$ -th convergent of the continued fraction expansion of  $\sqrt{N}$ . Then Equation (9) gives us

$$(-1)^n Q_n \equiv A_{n-1}^2 \pmod{N}. \quad (11)$$

Thus, if  $Q_i^*$  is equivalent to  $Q_j^*$ , then

$$(xA_{i-1})^2 \equiv (yA_{j-1})^2 \pmod{N}.$$

This relates to the general strategy we will try to use to factor  $N$ :

**Theorem 3.1.** If  $N$  is a composite integer,  $x, y \in \mathbb{Z}$ , and  $x^2 \equiv y^2 \pmod{N}$ , but  $x \not\equiv \pm y \pmod{N}$ , then  $\gcd(x - y, N)$  and  $\gcd(x + y, N)$  are proper factors of  $N$ .

*Proof of Theorem 3.1.* The assumption implies that  $N$  divides  $x^2 - y^2 = (x + y)(x - y)$ , but  $N$  does not divide either of the factors. Since  $N$  is composite, at least one of its prime factors does not divide  $x + y$ , so those prime factors must divide  $x - y$  instead, and the same argument goes for  $x - y$ . Thus  $\gcd(x - y, N)$  and  $\gcd(x + y, N)$  are both greater than 1 and less than  $N$ .

Therefore, unless  $N$  divides either  $xA_{i-1} \pm yA_{j-1}$ , it is possible to obtain a factorisation of  $N$ .

The A method allows for multiple  $Q_n$ 's to be used, that is, if  $x^2 Q_i^* Q_j^*$  is equivalent to  $y^2 Q_k^*$ , then

$$(xA_{i-1}A_{j-1})^2 \equiv (yA_{k-1})^2 \pmod{N} \quad (12)$$

which is an instance of Theorem 3.1.

□

One may wonder what is the chance of choosing  $x$  and  $y$  such that they satisfy Definition 2.7. It turns out the probability is better than 50-50.

**Theorem 3.2.** If  $N$  is an odd composite integer with at least two different prime factors and  $x, y \in \mathbb{Z}$  are randomly chosen subject to  $x^2 \equiv y^2 \pmod{N}$ , then  $\gcd(x-y, N)$  is a proper factor of  $N$  with probability greater than or equal to  $\frac{1}{2}$ .

*Proof of Theorem 3.2.* Suppose  $N$  is odd and has more than two different prime factors. Let  $x, y \in \mathbb{Z}$  be such that  $x^2 \equiv y^2 \pmod{N}$ . By the Chinese Remainder Theorem,  $x^2 \equiv y^2 \pmod{p^k}$  for a prime factor  $p$  of  $N$  and  $k \in \mathbb{N}$ .  $y^2$  is then a quadratic residue mod  $p$ , and so the congruence  $x^2 \equiv y^2 \pmod{p^k}$  has two solutions  $x = \pm y$ . Hence, there are  $2^k$  solutions to  $x^2 \equiv y^2 \pmod{N}$ . Therefore, if we choose  $x$  and  $y$  randomly, the probability that  $x^2 \not\equiv y^2 \pmod{N}$  would be  $\frac{2^k - 2}{2^k} = 1 - 2^{k-1}$ . Thus, the probability that  $x^2 \equiv y^2 \pmod{N}$  is greater than or equal to  $\frac{1}{2}$ .

□

## B. The P method

From Equation (10), we have

$$-Q_n Q_{n-1} \equiv P_n^2 \pmod{N}. \tag{12}$$

Let's substitute in different  $n \in \mathbb{N}$  to see how Equation (13) behaves. If  $n = 1$ , we get

$$-Q_1 \equiv P_1^2 \pmod{N}.$$

If  $n = 2$ , we get

$$Q_2 P_1^2 \equiv P_2^2 \pmod{N}.$$

If  $n = 3$ , we get

$$-Q_3 P_2^2 \equiv (P_3 P_1)^2 \pmod{N}.$$

Proposition 3.3.

$$(-1)^k Q_k (P_{k-1} P_{k-3} \dots P_1)^2 \equiv (P_k P_{k-2} \dots P_s)^2 \pmod{N},$$

where  $r = 1$  and  $s = 2$  when  $k$  is even and  $r = 2$  and  $s = 1$  when  $k$  is odd.

*Proof of Proposition 3.3.* We prove this by induction on  $k$ .

Base case  $k = 1$ : already shown above.

Induction hypothesis: suppose the statement is true for  $k = n - 1$ . That is,

$$(-1)^{n-1} Q_{n-1} (P_{n-2} P_{n-4} \dots P_s)^2 \equiv (P_{n-1} P_{n-3} \dots P_r)^2 \pmod{N}. \quad (13)$$

Observe that  $r$  and  $s$  swapped positions because the parity of  $k$  changed.

Induction step: multiply both sides of Equation (13) by  $(P_{n-2} P_{n-4} \dots P_s)^2 \cdot (P_{n-1} P_{n-3} \dots P_r)^2$ . Then, divide the LHS by the LHS from Equation (14) and divide the RHS by the RHS from Equation (14). If done right, this should look like:

$$(-1)^n Q_n (P_{n-1} P_{n-3} \dots P_r)^2 \equiv (P_n P_{n-2} \dots P_s)^2 \pmod{N}$$

which finishes the proof.

□

**Remark 3.4.** Recalling what it takes for two  $Q_k^*$ 's to be equivalent, we want to try and find instances where  $i$  and  $j$  are of the same parity so that

$$(x P_{i+1} P_{i+3} \dots P_{j-1})^2 \equiv (y P_{i+2} P_{i+4} \dots P_j)^2 \pmod{N} \quad (15)$$

which is an instance of Theorem 3.1. Then, as with the A method, unless  $N$  divides either  $x P_{i+1} P_{i+3} \dots P_{j-1} \pm y P_{i+2} P_{i+4} \dots P_j$ , it is possible to obtain a factorisation of  $N$ .

## IV. COMPARISON OF A METHOD AND P METHOD

It is now appropriate to do an example. I will use the integer  $N = 13290059$ . This was the number used in the resources, but several  $n$

values were missed out, I will fill them in to provide a better view on how each  $q_n, P_n, Q_n^*$  and  $A_{n-1} \pmod N$  are calculated.

Since  $\lceil \sqrt{13290059} \rceil = 3645, q_0 = 3645$ . We then use Equations (6), (7), (8) and (11) to calculate all desired values. Observe that the  $Q_n^*$ 's are factored, and the ones that are not imply that those  $Q_n$ 's are prime, this observation will become significant later on.

According to Remark 3.4, we want to find instances where two indices are of the same parity for the P method. Looking at Table 1, observe that  $Q_{25} = Q_{29}$  and both 25 and 29 are odd. Therefore, Equation (14) tells us that

$$(P_{26}P_{28})^2 \equiv (P_{27}P_{29})^2 \pmod N.$$

In this case,  $x$  and  $y$  have cancelled each other out, because they equal  $5 \cdot 571$ . We see  $P_{26}P_{28} \not\equiv P_{27}P_{29} \pmod N$ . Therefore, by Theorem 3.1, we conclude that  $\gcd(P_{26}P_{28} - P_{27}P_{29}, N) = 3119$  is a proper factor of  $N$ .

To use more than two  $Q_n^*$ 's, we look at the  $Q_n^*$  column and choose the values whose product gives a square. For example, we can choose  $Q_5^*, Q_{22}^*$  and  $Q_{23}^*$ , because their product gives  $(2 \cdot 5 \cdot 41 \cdot 113)^2$ . By Proposition 3.3, we have the following congruences:

$$(-1)^5 Q_5(P_4P_2)^2 \equiv (P_5P_3P_1)^2 \pmod N, \tag{16}$$

$$(-1)^{22} Q_{22}(P_{21}P_{19} \dots P_1)^2 \equiv (P_{22}P_{20} \dots P_2)^2 \pmod N, \tag{17}$$

and

$$(-1)^{23} Q_{23}(P_{22}P_{20} \dots P_2)^2 \equiv (P_{23}P_{21} \dots P_1)^2 \pmod N. \tag{18}$$

By switching the LHS and RHS of Equations (17) and (18), multiplying all three equations together and cancelling out appropriately, we have

$$(5P_2P_4P_{23})^2 \equiv (113P_1P_3P_5)^2 \pmod N,$$

implying that  $\gcd(5P_2P_4P_{23} - 113P_1P_3P_5, N) = 3119$  is a proper factor of  $N$ .

$n$	$q_n$	$P_n$	$Q_n^*$	$A_{n-1} \pmod N$
0	3645	0	1	1
1	1	3645	-2·2017	3645



2	1	389	3257	3646
3	4	2868	-5·311	7291
4	5	3352	1321	32810
5	3	3253	-2·5 <sup>2</sup> ·41	171341
6	2	2897	2389	546833
7	1	1881	-2·13·157	1265007
8	2	2201	2069	1811840
9	1	1937	-2·5·461	4888687
10	4	2673	31·43	6700527
11	1	2659	-2·2333	5110677
12	2	2007	5·397	11811204
13	1	1963	-2·2377	2152967
14	5	2791	13·89	674112
15	1	2994	-3739	5523527
16	1	745	2·13·131	6197639
17	3	2661	-1823	11721166
18	2	2808	5·593	1490960
19	5	3122	-5·239	1413027
20	1	2853	2·5·431	8556095
21	1	1457	-2591	9969122
22	1	1134	41·113	5235158
23	31	3499	-2·113	1914221
24	1	3507	5·877	11415773
25	1	878	-5·571	39935
26	1	1977	2·31·53	11455708
27	1	1309	-13·271	11495643
28	2	2214	2381	9661292
29	2	2548	-5·571	4238109
30	5	3162	1153	4847451
31	1	2603	-2·5 <sup>2</sup> ·113	1895246
32	9	3047	709	6742697
33	2	3334	-3067	9419283
34	3	2800	1777	12291204
35	1	2531	-2·13·149	6422718
36	1	1343	5·593	5423863
37	1	1622	-5·719	11846581
38	2	1973	2·1307	2463469
39	6	3255	-1031	5899447
40	1	2931	2·43·53	3213960

Table 1: Continued fraction for  $\sqrt{13290059}$ .

Since we took the time to calculate  $A_{n-1} \pmod{N}$ , we can also use the A method to greatly simplify our work above. If we take  $Q_5^*$ ,  $Q_{22}^*$  and

$Q_{23}^*$  again, this time we look at the  $A_{n-1} \pmod{N}$  and pick out  $A_4, A_{21}$  and  $A_{22}$  as the values to Equation (12), doing so implies

$$(5A_{21}A_{22})^2 \equiv (113A_4)^2 \pmod{N}$$

and thus  $\gcd(5A_{21}A_{22} - 113A_4, N) = 3119$  is a proper factor of  $N$ .

From Table 1, we can see that it really only depends on the ease of application. For the P method, if we see two equivalent  $Q_n^*$ 's whose  $n$  are close to each other ("close" is up to the reader's discretion), it will be efficient; we can also use the P method for more than two  $Q_n^*$ 's, it will just take a longer calculation, which is where the A method becomes more beneficial, since it requires simpler calculations. However, to calculate the values needed for the A method is arguably harder than calculating the values needed for the P method because Equation (11) is a quadratic equation.

## V. MORRISON AND BRILLHART

Morrison and Brillhart reprised the A method of the CFRAC discovered by Lehmer and Powers and improved it by using Gaussian elimination on vectors of exponents modulo 2. Before exploring how they used Gaussian elimination, we introduce the concept of smoothness of numbers:

**Definition 5.1.** A positive integer is  $B$ -smooth if there exists  $B \in \mathbb{N}$  such that the integer's prime factors are all less than or equal to  $B$ .

These were the steps Morrison and Brillhart took in order use vectors:

1. Recall that some of the  $Q_n$ s were composite. Pick an upper bound  $B \in \mathbb{N}$ .
2. Keep the  $Q_n^*$ s whose  $Q_n$ s factored into primes less than or equal to  $B$ . In other words, we want to find the  $Q_n$ s that are  $B$ -smooth.
3. Those primes form a set called the factor base. For convenience, we add -1 as a "prime" into the factor base because we want to square the  $Q_n^*$ s.

4. When  $Q_n$  is  $B$ -smooth, define the vector  $\vec{v}_n$  whose entries are made up of the multiplicity modulo 2 of those prime factors. That is, if the prime factors of  $Q_n$  are ordered and the  $i$ -th prime has an even or odd power, then the  $i$ -th entry of  $\vec{v}_n$  is 0 or 1 respectively.
5. Form a matrix whose rows are the  $\vec{v}_n$ s for which  $Q_n$  is  $B$ -smooth.
6. Since  $\{0,1\} \in \mathbb{Z}_2$ , these are the only possible coefficients for our linear combinations.
7. Let  $S$  be the set of  $i$  for which  $\vec{v}_i$  is in dependency. Then  $\prod_{i \in S} Q_n^* = y^2$  for some  $y \in Z$ .
8. Let  $x = \prod_{i \in S} A_{n-1} \pmod{N}$ , then we get  $x^2 \equiv y^2 \pmod{N}$ , which by Equation (15) leads to an instance of Theorem 3.1.

Let's use this algorithm on  $N = 13290059$ . Again, I will replicate the work done in the resources provided but give more details. Choose our upper bound  $B = 113$  and find all primes less than or equal to 113 (there are 30 in total). Choose our factor base to be the set  $\{-1, 2, 5, 31, 43, 53, 113\}$ . Observe that we could've added other primes in such as 3 or 7 but notice that those primes never occurred in Table 1, implying that they rarely or never occur in the factorisations of the  $Q_n$ s. Thus, using them is redundant.

We now want to choose  $n$  such that the factorisation of  $Q_n$  gives us prime factors in the factor base. For example, we do not want to choose  $Q_2$  because 2017 is not in our factor base; had 41 been in the factor base, we could've chosen  $Q_5$ .

Let's choose  $Q_{10}$ ,  $Q_{23}$ ,  $Q_{26}$ ,  $Q_{31}$  and  $Q_{40}$ , referring back to Table 1 for their factorisations. We can choose more, but keep in mind that we want more rows than columns in our matrix.

$n/\text{factor base}$	-1	2	5	31	43	53	113	
10	0	0	0	1	1	0	0	$= \vec{v}_{10}$

23	1	1	0	0	0	0	1	$= \vec{v}_{23}$
26	0	1	0	1	0	1	0	$= \vec{v}_{26}$
31	1	1	0	0	0	0	1	$= \vec{v}_{31}$
40	0	1	0	0	1	1	0	$= \vec{v}_{40}$

Table 2: Factor base and the  $\vec{v}_n$ s

We now construct the  $5 \times 7$  matrix whose rows are made up of the  $\vec{v}_n$ s:

$$\begin{bmatrix} 0 & 0 & 0 & 1 & 1 & 0 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 1 & 0 & 1 & 0 \\ 1 & 1 & 0 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 1 & 1 & 0 \end{bmatrix}$$

Here, we see that the first, third and fifth rows are linearly dependent and the second and fourth rows are linearly dependent. The first dependency gives

$$(6700527 \cdot 11455708 \cdot 3213960)^2 \equiv (2 \cdot 31 \cdot 43 \cdot 53)^2 \pmod{N},$$

but neither

$$\gcd((6700527 \cdot 11455708 \cdot 3213960)^2 - (2 \cdot 31 \cdot 43 \cdot 53)^2, N)$$

nor

$$\gcd((6700527 \cdot 11455708 \cdot 3213960)^2 + (2 \cdot 31 \cdot 43 \cdot 53)^2, N)$$

factor  $N$ . The second dependency gives

$$(1914221 \cdot 1895246)^2 \equiv (2 \cdot 5 \cdot 113)^2 \pmod{N}.$$

We, then, have

$$\gcd((1914221 \cdot 1895246)^2 - (2 \cdot 5 \cdot 113)^2, N) = 4261$$

and

$$\gcd((1914221 \cdot 1895246)^2 + (2 \cdot 5 \cdot 113)^2, N) = 3119.$$

These are the proper factors of  $N$ .

We now present the algorithm:

---

Algorithm 1 CFRAC

---

- 1: procedure
- 2:   **input:** a composite integer  $N$
- 3:   Choose your factor base and an upper bound  $B$ .
- 4:    $p_0 \leftarrow 0$ .
- 5:    $R \leftarrow 0$ .
- 6:    $i \leftarrow 0$ .

```

7:   while  $R < K + 10$  do
8:     Compute  $P_i, Q_i^*, q_i$  and  $A_{i-1} \pmod{N}$ .
9:     if  $Q_i^*$  is factored using primes in the factor base then
10:      Save  $i, Q_i^*$  and  $A_{i-1} \pmod{N}$  in a file
11:       $R \leftarrow R + 1$ .
12:       $i \leftarrow i + 1$ .
13:   Form the matrix whose rows are the vectors  $\vec{v}_i$ .
14:   Find linear dependencies among the  $\vec{v}_i$ 's.
15:   Let  $S = \{i \in \mathbb{N}: Q_i \text{ factors into primes in the factor base, } \prod_{i \in S} \vec{v}_i =$ 
16:   for each dependency  $\prod_{i \in S} \vec{v}_i = \mathbf{0}$  do
17:      $y^2 = \prod_{i \in S} Q_i^*$  and  $x = \prod_{i \in S} A_{i-1} \pmod{N}$ .
18:     if  $\gcd(x - y, N)$  is a proper factor of  $N$  then
19:       break
20:   Output: a factor of  $N$ .

```

## VI. FINAL REMARKS

The time complexity on the algorithm presented by Morrison and Brillhart is  $O\left(e^{\sqrt{2 \log n \cdot \log(\log n)}}\right)^{134}$ . Even though this is exponential time, the  $\log n$  prevents the running time from growing too big in proportion to the size of  $n$ . Recall that the A method and P method are the foundations to the CFRAC; indeed, they are related by the following theorem:

**Theorem 6.1.** The A method successfully yields a factor of  $N$  if and only if the P method successfully yields a factor of  $N$ .

To prove this, we need a lemma:

**Lemma 6.2.** For  $k \geq 2$ , we have

---

<sup>134</sup> Pomerance, Carl (December 1996). "A Tale of Two Sieves" (PDF). *Notices of the AMS*. **43** (12). pp. 1473-1485

$$P_k + (-1)^k A_{k-1} A_{k-2} \equiv 0 \pmod{N}.$$

*Proof. Of Lemma 6.2.* We prove this by induction on  $k$ .

Base case  $k = 2$ :

$$\begin{aligned} P_2 + A_1 A_0 &= (q_1 Q_1 - P_1) + (q_0 q_1 + 1) q_0 \\ &= q_1 (N - q_0^2) - q_0 + (q_0 q_1 + 1) q_0 \\ &\equiv 0 \pmod{N}. \end{aligned}$$

Induction hypothesis: Suppose the lemma is true for  $n - 1$ . So

$$P_{n-1} + (-1)^{n-1} A_{n-2} A_{n-3} \equiv 0 \pmod{N}.$$

Induction step: Since  $P_n = q_{n-1} Q_{n-1} - P_{n-1}$ , we have

$$\begin{aligned} 0 &\equiv P_{n-1} - Q_{n-1} q_{n-1} + (-1)^{n-1} A_{n-2} A_{n-3} + Q_{n-1} q_{n-1} \\ &\equiv -P_n + (-1)^{n-1} A_{n-2} (A_{n-3} + A_{n-2} q_{n-1}) \\ &\equiv -P_n + (-1)^{n-1} A_{n-1} A_{n-2} \pmod{N}. \end{aligned}$$

□

*Proof of Theorem 6.1.* Assume the contrapositive: that the P method fails. Then,  $N$  divides either  $xP_{i+1}P_{i+3} \dots P_{j-1} \pm yP_{i+2}P_{i+4} \dots P_j$ . Substituting the equation from Lemma 6.2 into the  $P_i$ 's appropriately and simplifying imply that  $N$  divides either  $xA_{i-1} \pm yA_{j-1}$ , which means the A method fails. The converse is true by reversing the above argument.

# Supramolecular Self-Assembly and Investigation of an Anthracene-linked [Pd<sub>2</sub>L<sub>4</sub>]<sup>4+</sup> Cage.

Jacob Gome

## Abstract

*Metallosupramolecular architectures are a relatively recent class of structures which have garnered focus for a wide variety of uses. One of these uses is to bind “guests” of interest within the structure. In order to achieve this binding, cages require cavities of the correct character and shape to bind the guest molecule. This report details the synthesis of a novel ditopic ligand, L1 with pyridyl donors and an anthracene core. This ligand was subsequently used to form a [Pd<sub>2</sub>L<sub>4</sub>]<sup>4+</sup> cage which was characterised by <sup>1</sup>H NMR spectroscopy and mass spectrometry. The host-guest properties of this cage were then investigated, demonstrating a lack of affinity for binding hydrophobic guests. Preliminary computational modelling provided a possible rationale for this lack of binding ability, suggesting that π-π interactions between anthracene linkers on the ligands resulted in a flattening of the cage structure and the lack of a well-defined cavity. This modelling was supported by <sup>1</sup>H NMR spectroscopy which showed an upfield shift in the anthracene protons upon the formation of the cage which can be attributed to the aforementioned π-π interactions.*

## I. INTRODUCTION

As the name might suggest, supramolecular self-assembly is the process during which the contents of a chemical system assemble under the influence of supramolecular interactions into a thermodynamic product. For the self-assembly process to have real use, it is desirable that the product in question is formed with high fidelity, such that allowing the reaction to proceed for a reasonable amount of time forms only a single, specific product in high yields. To achieve this, systemic conditions are designed such that the desired product is thermodynamically favourable, allowing for the high fidelity and yield.

This gives a potential advantage over more traditional synthesis techniques in constructing supramolecular architectures (Fig. 1).

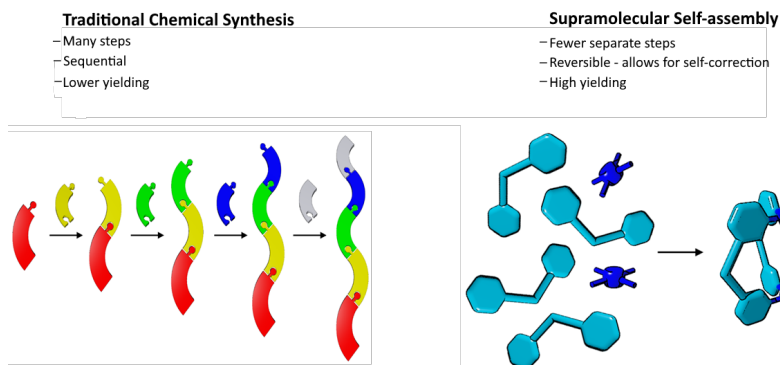


Figure 2: An image showing some of the differences between traditional chemical synthesis and supramolecular self-assembly.<sup>135</sup>

The selectiveness of these self-assembly processes is achieved by harnessing intermolecular interactions such as hydrogen or anion bonding,  $\pi$ - $\pi$  stacking, ion/dipole interactions and coordination bonds between a metal and a donor atom. These interactions are weaker than a typical covalent bond and are hence more reversible. This allows these

<sup>135</sup> These images were created in POV-Ray by Dr Dan Preston.



“bonds” to be broken and reformed continuously until the favoured (and desired) product is synthesised and thermodynamic equilibrium is reached, in essence allowing for errors in the assembly process to be corrected.

The formation of these assemblies is governed by thermodynamics, more specifically, the push-pull of entropic and enthalpic effects. Entropically, the smallest possible cyclic product is favoured, while the enthalpic contribution favours products that minimise strain within the molecule as well as maximising the number of active coordination sites. Thus, strategies are designed to preferentially form the discrete, thermodynamic product instead of polymeric, kinetic products.

This self-assembly is of particular use to synthesise discrete metallocupramolecular architectures. An early example of these within the literature is the archetypal Fujita Square[1] (Fig. 2a), containing four ethylenediamine, cis-capped palladium metal ions, linked by biphenyl units. Since then, a large variety of structures have been accessed, ranging from simple polyhedra to complex molecular knots.

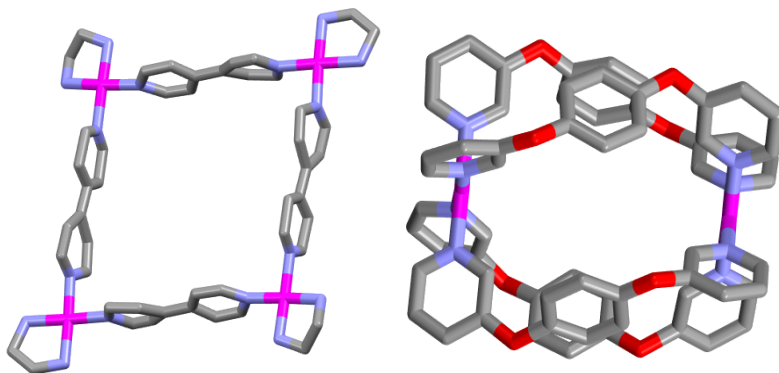


Figure 3: Depictions of X-Ray crystal structures of discrete metallocupramolecular architectures. From left to right: the first of these kinds of structures, the Fujita Square[1]; the first example of an  $[M_2L_4]_{n+}$  architecture[2]. Colours: carbon grey, nitrogen blue, palladium pink, oxygen red. Hydrogen atoms and counterions excluded for clarity.

Of particular interest to this report is a subgroup of architectures, aptly named molecular cages or containers (Fig 2b.)<sup>[2]</sup>. The molecular cage is a structure where polytopic ligands coordinate with multiple metal ions, forming an enclosed prism-like structure with a cavity, allowing the cage to encapsulate smaller molecules within it, giving the potential for host-guest chemistry.

This affinity for host-guest chemistry has been demonstrated in a variety of different applications. For instance, cages have been used to selectively sequester certain molecules such as polycyclic aromatic hydrocarbons (PAHs), a form of environmental pollutant<sup>[3]</sup>. For this specific purpose, a self-assembling molecular container was designed by Peinador and co-workers such that it contained electron-poor aromatic arms (Fig. 3a). These aromatics can interact with the PAHs, utilising  $\pi$ -stacking to achieve host-guest properties that trap these pollutants, but not others, removing them from the environment. This demonstrates how cavities within such assemblies can be rationally designed to provide selectivity and specificity of host-guest interactions.

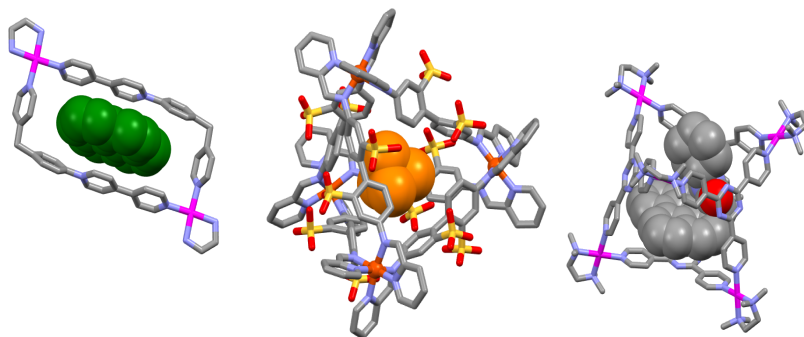


Figure 4: Depictions of X-Ray crystal structures of a variety of molecular containers. From left to right:  $[\text{pyrene} \subset \text{Pd}_2(\text{en})_2(\text{L})_2]^{6+}$ ;  $[\text{P}_4 \subset \text{Fe}_4(\text{L})_6]^{4+}$ ;  $[\text{Adduct} \subset \text{Pd}_6(\text{en})_6(\text{L})_4]^{12+}$ . Colours: carbon grey, nitrogen blue, palladium pink, oxygen red, sulphur yellow, iron orange. Hydrogen atoms and counterions excluded for clarity.

In a similar vein, molecular cages can be designed to bind otherwise unstable compounds, acting as a molecular container. White phosphorus ( $P_4$ ) is renowned for being a pyrophoric compound, igniting in air and thus must be stored in water. However, white phosphorus can be made air-stable by encapsulating it within a molecular cage<sup>[4]</sup> reported by Nitschke and co-workers (Fig. 3b). In the example described above, the cage is hypothesised to entrap the molecule within a cavity small enough so that dioxygen cannot enter the cavity to react, demonstrating the importance of cavity size in host-guest interactions.

Metallosupramolecular cages can also be used as a novel form of a molecular reaction vessel, allowing many reactions that have previously been inaccessible to be performed with relatively high yields. A  $Pd(II)_6(en)_6(L)_4$  cage in  $D_2O$  was used by Fujita and co-workers to catalyse the [2+4] cycloaddition of maleic anhydride and an arene<sup>[5]</sup> to give the endo product, a reaction that did not occur in the absence of the cage. It is hypothesised that the hydrophobicity of the substrates is the driving force for their encapsulation. Within the cavity, their spatial proximity and orientation resulted in the formation of the specific product.

## A. Aims of this project

This project looks to synthesise a family of these molecular cages, in order to investigate their properties, structure and potential for host-guest chemistry. Specifically, this work seeks to synthesise ligands with pyridine donors with bis-ethynyl aryl linkers (Fig. 4). Solubilising ethylene glycol chains will also be appended. These ligands differ in the central aromatic spacer, either a phenyl or an anthracene ring. The two ligands will then be combined with palladium ions, to form  $[Pd_2L_4]^{4+}$  cages, which will differ in their host-guest properties due to the different spacer groups.

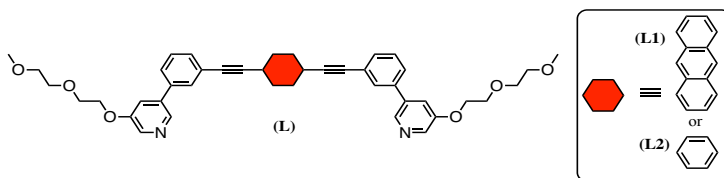


Figure 5: The ligands used in this work where the red ring can either be an anthracene ring (L1) or a phenyl ring (L2).

The host-guest properties of these cages will then be investigated, using a variety of guests. The cavity is predicted to be extremely hydrophobic for the L1 ligand, courtesy of the large aromatic surfaces within the ligand. Thus, hydrophobic guests, such as alkanes are expected to bind well within the cage. The  $[\text{Pd}_2\text{L1}_4]^{4+}$  and  $[\text{Pd}_2\text{L2}_4]^{4+}$  cages are expected to differ in their cavity character, including the size of the portals into the cavity, with the larger anthracene panels providing a more closed cavity.

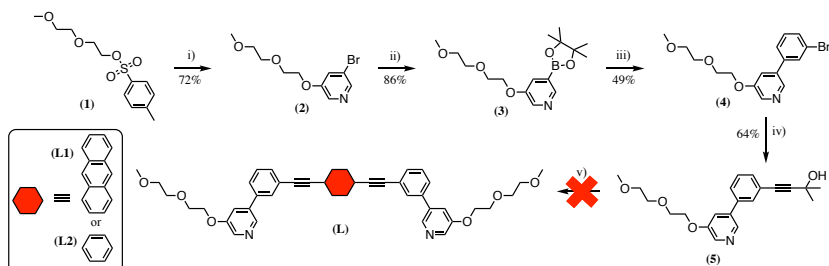
## II. RESULTS AND DISCUSSION

### A. Ligand Synthesis:

Initially, this work sought to synthesise a pair of ligands, L1 and L2. These ligands would differ only in the central aromatic system, displayed in red below (Scheme 1), which would consist of either a phenyl or anthracene ring. This would provide two similar cages whose host-guest properties could be investigated and compared. To this end, a synthesis plan was devised to allow for late-stage diversification, whereby the spacer group, designated by a red hexagon below could be altered at the final step to produce the two ligands (Scheme 1). Compound 2 was obtained from a Williamson ether synthesis between a tosylate ether and a pyridyl ether. 2 then underwent a Miyaura borylation to form 3 which allowed for a Suzuki coupling to afford novel compound 4. 4 was then reacted with 2-methyl-3-butyn-2-ol in a Sonogashira coupling producing 5, which forms the arm of the target

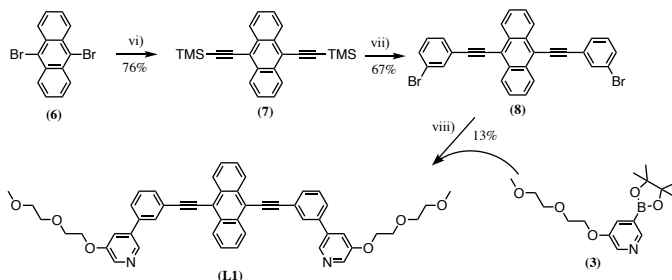
ligand. All these compounds were synthesised using well-established methods, affording the products in reasonable yields.

However, the final reaction, a deprotection followed by a double Sonogashira failed to proceed. No product was detected for L2, for L1, purification and separation from by-products in the reaction was unsuccessful.



Scheme 1: i) 5-bromopyridin-3-ol (0.67 eq.),  $K_2CO_3$  (1 eq.), DMF, 90 °C, O/N; ii) KOAc (2.5 eq.) bis(pinacolato)diborane (1.1 eq.),  $[Pd(CH_3CN)Cl_2]$  (0.05 eq.), Dppf (0.05 eq.), DMF, 90 °C, O/N; iii)  $Na_2CO_3$  (8 eq.), 3-bromiodobenzene (2 eq.),  $[Pd_2(dba)_3]$  (0.05 eq.),  $[HP(t-Bu)_3]BF_4$  (0.2 eq.), DMF, 50 °C, O/N; iv) 2-methyl-3-butyn-2-ol (2 eq.), CuI (0.1 eq.),  $[Pd(PPh_3)Cl_2]$  (0.05 eq.), DMF, TEA, 90 °C, O/N; v) 1. KOH (6 eq.), Toluene, 120 °C, 1 hr; 2. 1,4-diiodobenzene OR 9,10-dibromoanthracene (0.48 eq.),  $[Pd_2(dba)_3]$  (0.05 eq.),  $PPh_3$  (0.2 eq.), CuI (0.1 eq.), THF/TEA (1:1), r.t., O/N

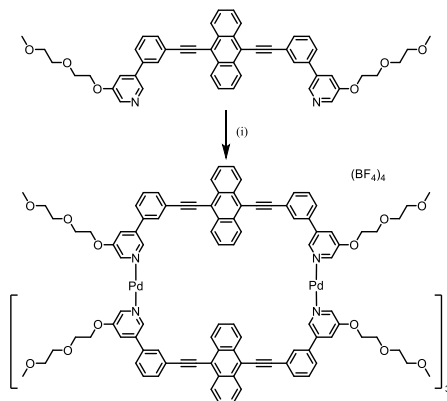
An alternate route was therefore explored, building up from the anthracene core (Scheme 2). This had the advantage of following the literature method for the double Sonogashira reaction, allowing this step to be completed first. For this method, 9,10-dibromoanthracene was initially reacted with TMS-acetylene via a Sonogashira coupling in a sealed tube to form 6. Then, 6 was deprotected *in situ*, before undergoing a Sonogashira coupling with 3-bromiodobenzene, reacting selectively with the iodo- position, affording 7. 7 was then coupled with 3 in a second Suzuki reaction, affording the target ligand L1. Due to time constraints, L2 was unable to be synthesised with this method.



Scheme 2: vi) TMS-acetylene (2.5 eq.), CuI (0.1 eq.), [Pd(PPh<sub>3</sub>)Cl<sub>2</sub>] (0.05 eq.), TEA, 90°C, O/N; vii) DBU (12 eq.), 3-bromiodobenzene (2.5 eq.), CuI (0.1 eq.), [Pd(PPh<sub>3</sub>)Cl<sub>2</sub>] (0.05 eq.), H<sub>2</sub>O (0.4 eq.), toluene, r.t., O/N; viii) (3) (2.5 eq.), NaCO<sub>3</sub> (8 eq.), [Pd<sub>2</sub>(dba)<sub>3</sub>] (0.05 eq.), [HP(t-Bu)<sub>3</sub>]BF<sub>4</sub> (0.2 eq.), DMF, 50°C, O/N

## B. Cage Formation:

To synthesise the cage, four equivalents of L1 were combined with two equivalents of [Pd<sub>2</sub>(CH<sub>3</sub>CN)](BF<sub>4</sub>)<sub>2</sub> to afford the [Pd<sub>2</sub>L<sub>4</sub>](BF<sub>4</sub>)<sub>4</sub> architecture (Scheme 3), in [D<sub>6</sub>]DMSO solution. A <sup>1</sup>H NMR spectrum of the solution (Fig. 6) was taken. The spectrum revealed a new set of resonances that can be associated with the cage, whilst also showing the absence of any free ligand.



Scheme 3: i) [Pd(CH<sub>3</sub>CN)<sub>4</sub>](BF<sub>4</sub>)<sub>2</sub> (2 eq.), L1 (4 eq.), [D<sub>6</sub>]DMSO (500 μL), r.t, 15 min.

Evidence for the cage's synthesis can be found in the comparison of the spectra of the ligand and complex (Fig. 6). Certain  $^1\text{H}$  environments in the ligand (top) experience a large change in chemical shift when combined with  $\text{Pd}^{2+}$  ions (bottom). This fits with expectations of a  $[\text{Pd}_2\text{L}_4]^{4+}$  architecture having formed. Particularly noticeable are the large upfield shifts of the anthracene m and n protons. Upon the formation of the cage, the bulky aromatic panels of anthracene are expected to interact via  $\pi$ - $\pi$  stacking, an interaction that would not be present within the free ligand solution. This  $\pi$ - $\pi$  stacking gives a shielding effect, causing the observed shifts.

Additionally, it is interesting to note large downfield shifts of the pyridyl protons f and h. This arises from complexation of the  $\text{Pd}^{2+}$  metal ions, resulting in a withdrawal of electron density from the pyridyl ring. This in turn de-shields these protons, leading to the observed shifts.

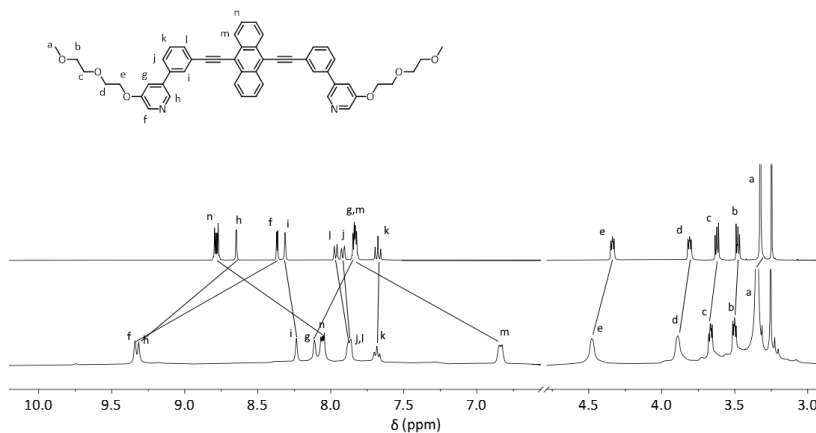


Figure 6: Partial stacked  $^1\text{H}$  NMR spectra ( $[\text{D}_6]\text{DMSO}$ , 400 MHz, 298 K) of L1 (top) and the  $[\text{Pd}_2(\text{L}1)_4]^{4+}$  cage (bottom).

In addition to  $^1\text{H}$  NMR, high-resolution ESI mass spectrometry was used to confirm the presence of the cage (Fig. 7). Distinct peaks were observed for various cage/counterion combinations, for example, the peak at  $m/z = 821.7776$  corresponds to a simulated peak for the

$[\text{Pd}_2\text{L}_4]^{4+}$  species. The enlarged regions shown below show the simulated (blue) and experimental (black) data for each peak with their similarity unequivocally confirming the presence of the desired  $[\text{Pd}_2\text{L}_4]^{4+}$  cage.

### C. Host-Guest Studies

A number of hydrophobic guests were screened by  $^1\text{H}$  NMR spectroscopy to investigate whether they would bind within the cage. Initially, perfluorinated guests were chosen due to their extremely hydrophobic nature. These guests all showed little affinity for the DMSO solvent and thus it was hoped they would favourably bind within the cage's hydrophobic cavity. However, the  $^1\text{H}$  NMR spectra showed no shifts in the cage peaks, indicating no binding had occurred. The screening process was then repeated with an alkyl and a phenyl tosylate salt. These guests were much more soluble in DMSO but again showed no binding within the cage.

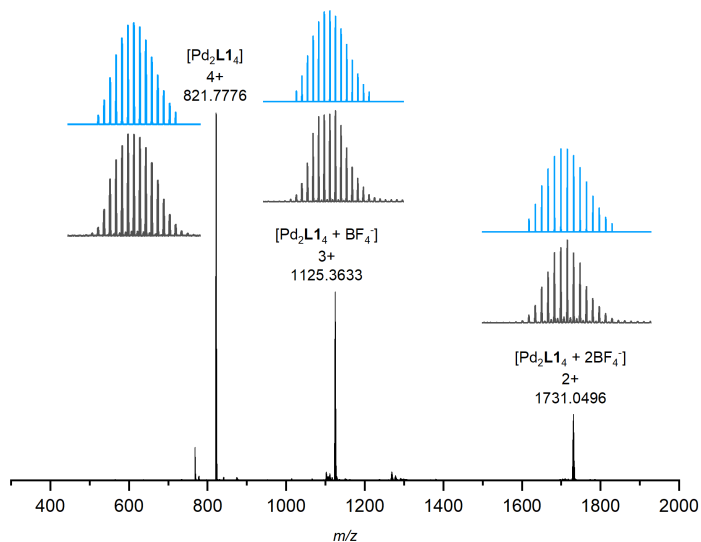


Figure 7: HR-ESI mass spectrum ( $[\text{D}_6]$ DMSO/acetonitrile) of  $[\text{Pd}_2\text{L}_4]^{(4-n)+}(\text{BF}_4)_n$ . The enlarged regions show the simulated (blue) and experimental (black) data of each peak.



## D. Computational Modelling

In an attempt to explain this lack of host-guest activity, the cage's conformation in solution, the system was modelled computationally in a preliminary fashion.<sup>136</sup> A short (200 ps) molecular dynamic (MD) calculation was run, with optimisation done at the GFN2-xtb level of theory using the XTB program<sup>[6]</sup>. Standard settings were used, with a DMSO implicit solvent field at 298 K.

Inspection of the conformation of the cage (and its cavity) during the simulation indicated that the preferred structure in solution seemed to contain no well-defined cavity (Fig. 8). Instead, the adopted conformation contains strong  $\pi$ - $\pi$  stacking interactions between two pairs of anthracene rings. This model is supported by the stacked <sup>1</sup>H NMR data (Fig. 6), in which the anthracene protons experience a large upfield shift. This can be attributed to the large amounts of shielding present from the aromatic stacking. These interactions flatten out the cage and appear to suggest that the cage has no clearly defined cavity.

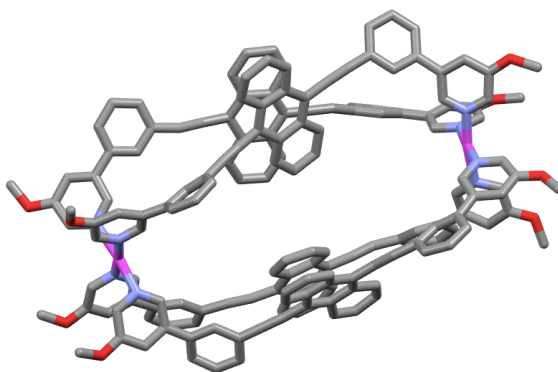


Figure 8: A representative image from the simulation of molecular dynamics. Note that the glycol ether chains were replaced with methoxy groups for computational simplicity. Colours: carbon grey, nitrogen blue, palladium pink, oxygen red. Hydrogen atoms and counterions are excluded for clarity.

---

<sup>136</sup> These computations were run by Dr Dan Preston.

### III. CONCLUSIONS AND FUTURE WORK

In conclusion, a novel ligand L1 was synthesised and characterised. This ligand was used to form a [Pd2L14]<sup>4+</sup> metallosupramolecular architecture. While this structure was initially designed as a host cavity for hydrophobic guests, screenings of a variety of these yielded no results. The lack of host-guest activity was rationalised by molecular dynamics calculations, which seem to indicate that in solution, the structure has no well-defined cavity.

Future work would seek to synthesise the phenyl analogue L2 in order to create a [Pd2L24]<sup>4+</sup> architecture. This would allow for comparison between the two metallosupramolecular structures, particularly with regard to their host-guest activity. The L2 cage would be expected to have a better-defined cavity, due to reduced  $\pi$ - $\pi$  stacking between the phenyl linkers. Thus, it may be more susceptible to encapsulating guest molecules.

Other linker groups could also be investigated, such as naphthyl or pyridinyl linkers. Again, these differing ligands would be expected to exhibit different host-guest properties. Additionally, heteroleptic architectures could also be investigated, allowing for a wider range of cavities to be created, potentially optimising guest-binding affinities.

### IV. EXPERIMENTAL SECTION

General experimental procedure, all spectra and compound labelling are contained within the supporting information document which was submitted with this report.

**(1)**<sup>[8]</sup>

2-(2-methoxyethoxy)ethyl 4-methylbenzenesulfonate<sup>[7]</sup> (1.67 g, 6.09 mmol), 5-bromo-pyridin-3-ol (0.708 g, 40.7 mmol) and K<sub>2</sub>CO<sub>3</sub> (0.842 g, 6.09 mmol) were combined in a round bottom flask. DMF was added

as a solvent (10 mL) and the mixture was heated at 90 °C overnight. DCM (~30 mL) was added, and the organic layer was washed with water (5 x 100 mL). The solvent was removed under vacuum, leaving a dark reddish-brown oil containing (**2**). The product was then purified by column chromatography on silica (DCM to 1:5 acetone/DCM) yielding 0.778 g (69%) of pale yellow oil.

$^1\text{H NMR}$  (400 MHz,  $\text{CDCl}_3$ , 298 K)  $\delta$ : 8.32 (d,  $J = 1.7$  Hz, 1H,  $\text{H}_h$ ), 8.30 (d,  $J = 2.5$  Hz, 1H,  $\text{H}_f$ ), 7.61 (dd,  $J = 2.1, 2.1$  Hz, 1H,  $\text{H}_g$ ), 4.23 (m, 2H,  $\text{H}_e$ ), 3.87 (m, 2H,  $\text{H}_d$ ), 3.69 (m, 2H,  $\text{H}_c$ ), 3.56 (m, 2H,  $\text{H}_b$ ), 3.38 (s, 3H,  $\text{H}_a$ ). HR ESI-MS (DCM/MeOH)  $m/z = 276.0240, 278.0220$  [ $\text{MH}$ ] $^+$  (calc. for  $\text{C}_{10}\text{H}_{15}\text{BrNO}_3$ , 276.0235, 278.0216).

(**2**) (0.778 g, 2.82 mmol), KOAc (0.694 g, 7.07 mmol), bis(pinacolato)diborane (0.790 g, 3.11 mmol),  $[\text{Pd}(\text{CH}_3\text{CN})_2]\text{Cl}_2$  (36.7 mg, 0.014 mmol) and DPPF (78.4 mg, 0.014 mmol) were combined in a round bottom flask. DMF was added as a solvent (5 mL) and the mixture was heated at 90 °C overnight under nitrogen. DCM (~50 mL) was added, and the organic layer was washed with water (5 x 200 mL). The solvent was removed under vacuum, leaving a black sludge containing (**3**). The product was used in subsequent steps without further purification. This was characterised by  $^1\text{H NMR}$  spectroscopy and from the integration of peaks, the yield was found to be 0.819 g (86%).

$^1\text{H NMR}$  (400 MHz,  $\text{CDCl}_3$ , 298 K)  $\delta$ : 8.57 (s, 1H,  $\text{H}_h$ ), 8.40 (s, 1H,  $\text{H}_f$ ), 7.73 (s, 1H,  $\text{H}_g$ ), 4.24 (m, 2H,  $\text{H}_e$ ), 3.88 (m, 2H,  $\text{H}_d$ ), 3.70 (m, 2H,  $\text{H}_c$ ), 3.58 (m, 2H,  $\text{H}_b$ ), 3.39 (s, 3H,  $\text{H}_a$ ), 1.35 (s, 12H,  $\text{H}_i$ ).

Mass spectral analysis was unsuccessful for this compound.

(**3**) (1.87 g, 5.78 mmol),  $\text{Na}_2\text{CO}_3$  (4.90 g, 46.2 mmol), 1-bromo-3-iodobenzene (3.27 g, 11.6 mmol),  $[\text{Pd}_2(\text{dba})_3]$  (0.264, 0.290 mmol) and  $[\text{HP}(\text{t-bu})_3]\text{BF}_4$  (0.335 g, 1.16 mmol) were combined in a round bottom flask. DMF was added as a solvent (5 mL) and the mixture was heated at 50 °C overnight under nitrogen. DCM (~50 mL) was added, and the

organic layer was washed with water (5 x 150 mL). The solvent was removed under vacuum, leaving a dark brown oil containing **(4)**. The product was purified by column chromatography on silica (DCM to 1:5 acetone/DCM) yielding 1.00 g (49%).

$^1\text{H}$  NMR (400 MHz,  $[\text{D}_6]\text{DMSO}$ , 298 K)  $\delta$ : 8.49 (s, 1H,  $\text{H}_f$ ), 8.31 (s, 1H,  $\text{H}_h$ ), 7.98 (m, 1H,  $\text{H}_g$ ), 7.76 (m, 1H,  $\text{H}_i$ ), 7.70 (m, 1H,  $\text{H}_i$ ), 7.61 (m, 1H,  $\text{H}_j$ ), 7.45 (t,  $J = 7.89$  Hz,  $\text{H}_k$ ), 4.29 (m, 2H,  $\text{H}_c$ ), 3.78 (m, 2H,  $\text{H}_d$ ), 3.60 (m, 2H,  $\text{H}_c$ ), 3.46 (m, 2H,  $\text{H}_b$ ), 3.24 (s, 1H,  $\text{H}_a$ ).  $^{13}\text{C}$  NMR (100 MHz,  $[\text{D}_6]\text{DMSO}$ , 298K)  $\delta$ : 154.9, 139.9, 139.3, 137.7, 134.8, 131.1, 131.0, 129.7, 126.2, 122.5, 119.0, 71.3, 69.7, 68.9, 67.7, 58.1. HR ESI-MS (DCM/MeOH)  $m/z = 354.0529$   $[\text{MH}]^+$  (calc. for  $\text{C}_{16}\text{H}_{19}\text{BrNO}_3$ , 354.0529).

**(4)** (1.00 g, 2.84 mmol), 2-methyl-3-butyn-2-ol (0.480 g, 5.68 mmol), copper(I) iodide (0.0542, 0.283 mmol),  $[\text{Pd}_2(\text{PPh}_3)_2\text{Cl}_2]$  (0.0997, 0.142 mmol) and triethylamine (~5 mL) were combined in a round bottom flask. DMF was added as a solvent (5 mL) and the mixture was heated at 90 °C overnight under nitrogen. EDTA  $\text{NH}_4/\text{OH}$  (0.1 M ~20 mL) was added (~25 mL), then DCM (~30 mL) was added and the mixture stirred vigorously for 30 minutes. The organic layer was washed with water (5 x 150 mL). The solvent was removed under vacuum, leaving **(5)**. The product was purified by column chromatography on silica (DCM to 1:2 acetone/DCM) yielding 0.651 g (64%).

$^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ , 298 K)  $\delta$ : 8.37 (s, 1H,  $\text{H}_h$ ), 8.25 (s, 1H,  $\text{H}_f$ ), 7.53 (s, 1H,  $\text{H}_i$ ), 7.42 (m, 1H,  $\text{H}_j$ ), 7.37 (m, 1H,  $\text{H}_i$ ), 7.33 (m, 1H,  $\text{H}_k$ ), 7.31 (m,  $\text{H}_g$ ), 4.18 (m, 2H,  $\text{H}_c$ ), 3.83 (m, 2H,  $\text{H}_d$ ), 3.66 (m, 2H,  $\text{H}_c$ ), 3.51 (m, 2H,  $\text{H}_b$ ), 3.32 (s, 3H,  $\text{H}_a$ ), 1.57 (s, 6H,  $\text{H}_m$ ).  $^{13}\text{C}$  NMR (100 MHz,  $[\text{D}_6]\text{DMSO}$ , 298 K)  $\delta$ : 155.0, 139.8, 137.4, 137.4, 135.5, 131.0, 129.6, 129.4, 127.1, 123.4, 118.9, 96.6, 80.2, 71.3, 69.7, 68.9, 67.7, 63.7, 58.1, 31.6. Mass spectral analysis was unsuccessful for this compound.

**(5)**<sup>[10]</sup>

9,10-dibromoanthracene (100 mg, 0.298 mmol), TMS-acetylene (0.0731 g, 0.744 mmol), copper(I) iodide (0.00567 g, 0.0298 mmol),

[Pd<sub>2</sub>(PPh)<sub>3</sub>Cl<sub>2</sub>] (0.0104 g, 0.0149 mmol) were combined in a degassed sealed tube. TEA was added as a solvent and the mixture was heated at 90 °C overnight under nitrogen. EDTA NH<sub>4</sub>/OH (0.1 M ~20 mL) was added (~25 mL), then DCM (~30 mL) was added and the mixture stirred vigorously for 30 minutes. using DCM as an organic layer. The organic layer was washed with water (3 x 150 mL). The solvent was removed under vacuum, leaving **(7)**. The product was purified by column chromatography on silica (PE to 10% DCM in PE) yielding (0.84 mg, 76%).

<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>, 298 K) δ: 8.57 (m, 4H, H<sub>n</sub>), 7.61 (m, 4H, H<sub>m</sub>), 0.42 (s, 18 H, H<sub>a</sub>). Mass spectral analysis was unsuccessful for this compound.

(6)

(84 mg, 0.23 mmol), m-bromiodobenzene (0.160 g, 0.567 mmol), DBU (0.414 g, 2.72 mmol), copper(I) iodide (0.00432 g, 0.0227 mmol), [Pd<sub>2</sub>(PPh)<sub>3</sub>Cl<sub>2</sub>] (0.00795 g, 0.0114 mmol) and H<sub>2</sub>O (0.00163, 0.0908 mmol) were combined in a round bottom flask. Toluene was added as a solvent (20 mL) and the mixture was stirred at r.t. under nitrogen. EDTA NH<sub>4</sub>/OH (0.1 M ~20 mL) was added (~25 mL), then DCM (~30 mL) was added and the mixture stirred vigorously for 30 minutes. using DCM as an organic layer. The organic layer was washed with water (3 x 150 mL). The solvent was removed under vacuum, leaving **(8)**, a red powder. The product was purified by column chromatography on silica (DCM) yielding (0.82 mg, 67%).

<sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>, 298 K) δ: 8.66 (m, 4H, H<sub>n</sub>), 7.93 (t, *J* = 1.6 Hz, 2H, H<sub>i</sub>), 7.71 (dm, *J* = 7.7 Hz, 2H, H<sub>i</sub>), 7.68 (m, 4H, H<sub>m</sub>), 7.57 (dm, *J* = 8.1 Hz, 2H, H<sub>j</sub>), 7.34 (t, *J* = 7.9 Hz, 2H, H<sub>k</sub>). <sup>13</sup>C NMR (100 MHz, CDCl<sub>3</sub>, 298K) δ: 134.3, 132.1, 131.9, 130.3, 130.0, 127.2, 127.1, 125.3, 122.4, 118.3, 100.8, 87.7. Mass spectral analysis was unsuccessful for this compound.

(7)

(82 mg, 0.15 mmol), **(2)** (0.124 g, 0.382 mmol), Na<sub>2</sub>CO<sub>3</sub> (0.130 g, 1.22 mmol), [Pd<sub>2</sub>(dba)<sub>3</sub>] (0.0070, 0.0076 mmol) and [HP(t-bu)<sub>3</sub>]BF<sub>4</sub> (0.0089 g, 0.031 mmol) were combined in a round bottom flask. DMF was added as a solvent (5 mL) and the mixture was heated at 50 °C overnight. DCM (~50 mL) was added, and the organic layer was washed with water (5 x 150 mL). The solvent was removed under vacuum. The product was purified by column chromatography on silica (DCM to 2:1 acetone/DCM) yielding a mixture of **(L1)** and **(3)**. Some of this mixture was suspended in methanol and centrifuged to give 6 mg (5%) of an orange powder (**L1**). Note that not all of the mixture was separated by centrifuge, if this had occurred, the actual yield would be 10-15 mg (8-13%).

<sup>1</sup>H NMR (400 MHz, [D<sub>6</sub>]DMSO, 298 K) δ: 8.78 (m, 4H, H<sub>n</sub>), 8.64 (d, *J* = 1.8 Hz, 2H, H<sub>h</sub>), 8.36 (d, *J* = 2.7 Hz, 2H, H<sub>f</sub>), 8.31 (t, *J* = 1.5 Hz, 2H, H<sub>i</sub>), 7.97 (dm, *J* = 7.9 Hz, 2H, H<sub>l</sub>), 7.91 (dm, *J* = 7.9 Hz, 2H, H<sub>j</sub>), 7.85 (m, 2H, H<sub>g</sub>), 7.83 (m, 4H, H<sub>m</sub>), 7.68 (m, 2H, H<sub>k</sub>), 4.34 (m, 4H, H<sub>c</sub>), 3.81 (m, 4H, H<sub>d</sub>), 3.62 (m, 4H, H<sub>c</sub>), 3.48 (m, 4H, H<sub>b</sub>), 3.25 (s, 6H, H<sub>a</sub>). <sup>13</sup>C NMR (100 MHz, [D<sub>6</sub>]DMSO, 298K) δ: 155.5, 140.6, 138.2, 137.8, 135.9, 132.0, 131.9, 130.6, 130.2, 128.6, 128.4, 127.5, 123.5, 119.8, 118.1, 103.1, 86.7, 71.8, 70.2, 69.4, 68.2, 58.6. HR ESI-MS (DCM/MeOH) *m/z* = 769.3285 [MH]<sup>+</sup> (calc. for C<sub>50</sub>H<sub>45</sub>N<sub>2</sub>O<sub>6</sub>, 769.3278).

(Cage 1)

**(L1)** (3.00 mg, 3.90 μmol) and [Pd(CH<sub>3</sub>CN)<sub>4</sub>](BF<sub>4</sub>)<sub>2</sub> (0.867 g, 1.95 μmol) were combined in sample vial. [D<sub>6</sub>]DMSO was added as a solvent (500 μL) and the mixture was briefly sonicated until all of the solid had dissolved.

<sup>1</sup>H NMR (400 MHz, [D<sub>6</sub>]DMSO, 298 K) δ: 9.34 (d, *J* = 2.2 Hz, 8H, H<sub>h</sub>), 9.31 (s, 8H, H<sub>f</sub>), 8.23 (s, 8H, H<sub>i</sub>), 8.11 (s, 8H, H<sub>g</sub>), 8.06 (m, 16H, H<sub>n</sub>), 7.88 (m, 8H, H<sub>l</sub>), 7.86 (m, 8H, H<sub>j</sub>), 7.68 (t, *J* = 7.6 Hz, 8H, H<sub>k</sub>), 6.83 (m, 16H, H<sub>m</sub>), 4.48 (m, 16H, H<sub>c</sub>), 3.89 (m, 16H, H<sub>d</sub>), 3.67 (m, 16H, H<sub>c</sub>),

3.50 (m, 16H, H<sub>b</sub>), 3.25 (s, 24H, H<sub>a</sub>). HR ESI-MS ([D<sub>6</sub>]DMSO/CH<sub>3</sub>CN)  $m/z = 821.7776$  [M]<sup>4+</sup> (calc. for C<sub>200</sub>H<sub>172</sub>N<sub>8</sub>O<sub>24</sub>Pd<sub>2</sub>, 822.00238); 1125.3633 [MBF<sub>4</sub>]<sup>3+</sup> (calc. for C<sub>200</sub>H<sub>173</sub>N<sub>8</sub>O<sub>24</sub>Pd<sub>2</sub>BF<sub>4</sub>, 1125.0330); 1731.0496 [MB<sub>2</sub>F<sub>8</sub>]<sup>2+</sup> (calc. for C<sub>200</sub>H<sub>174</sub>N<sub>8</sub>O<sub>24</sub>Pd<sub>2</sub>B<sub>2</sub>F<sub>8</sub>, 1730.5510).

## References

- [1] M. Fujita, O. Sasaki, T. Mitsuhashi, T. Fujita, J. Yazaki, K. Yamaguchi, K. Ogura, *Chem. Comm.* **1996**, 1535-1536.
- [2] D. A. McMorran, P. J. Steel, *Angew. Chem. Int. Ed.* **1998**, *37*, 3295-3297.
- [3] V. Blanco, M. D. García, A. Terenzi, E. Pía, A. Fernández-Mato, C. Peinador, J. M. Quintela, *Chem. – Eur. J.* **2010**, *16*, 12373-12380.
- [4] P. Mal, B. Breiner, K. Rissanen, J. R. Nitschke, *Science* **2009**, *324*, 1697-1699.
- [5] M. Yoshizawa, M. Tamura, M. Fujita, *Science* **2006**, *312*, 251-254.
- [6] C. Bannwarth, S. Ehlert, S. Grimme, *J. Chem. Theory Comput.* **2019**, *15*, 1652-1671.
- [7] R. Hooper, L. J. Lyons, M. K. Mapes, D. Schumacher, D. A. Moline, R. West, *Macromolecules* **2001**, *34*, 931-936.
- [8] D. Preston, A. Fox-Charles, W. K. C. Lo, J. D. Crowley, *Chem. Comm.* **2015**, *51*, 9042-9045.
- [9] T. Y. Kim, L. Digal, M. G. Gardiner, N. T. Lucas, J. D. Crowley, *Chem. – Eur. J.* **2017**, *23*, 15089-15097.
- [10] W. Fudickar, T. Linker, *J. Am. Chem. Soc.* **2012**, *134*, 15071-15082.

# Critical Analysis and Discussion of The Biological, Social and Environmental Determinants of Health

*Navod Senanayake*

## I. INTRODUCTION

The theory that “illness is just a matter of bad luck, bad judgement or bad genetics” appears to be a prejudiced statement, and this is true to an extent. However, it must also not be disregarded. Illness can, in fact, be due to bad genetics through the biological determinants of health, such as inherited genetic conditions. Similarly, illness can also be due to bad luck in the case of environmental determinants of health, such as dangerous weather conditions, or as the effect of religious beliefs, a social determinant of health. However, health cannot be easily restricted to bad luck, bad judgement or bad genetics. The factors that affect the health of individuals – the determinants of health – are highly variable. To understand what affects people’s health, it is essential to first identify what the social, biological and environmental determinants of health are.

Social determinants of health are “the non-medical factors that influence health outcomes” (World Health Organisation, 2019). They are the circumstances under which people are “born, grow, work, live, and age,” as well as the larger collection of forces and structures that form everyday life conditions (World Health Organisation, 2019).



Biological determinants are the biotic factors that influence health. Older people, for instance, are more biologically susceptible to sickness than younger people due to senescence. Environmental determinants of health, such as “access to clean water, hygienic sanitation services, air quality and work environment” (World Health Organisation, 2012), are natural factors that individuals live around that influence their health outcomes.

Ultimately, the determinants of health discredit the idea that “illness is just a matter of bad luck, bad judgement or bad genetics”.

## **II. SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH ON “ILLNESS IS JUST A MATTER OF BAD LUCK...” WITH LINKS TO “BAD JUDGEMENT”**

The claim that “illness is ... a matter of bad luck” has some merit, even if it is a relatively one-sided view. This is exemplified by religion, a key social component of bad luck. Avgoulas contends that aging, and the potential illnesses associated with it, are an unavoidable part of life. The Greek community, who Avgoulas documents, are generally religious. Consequently, they view their “state of health” as an aspect of “fate and/or luck” (Avgoulas & Fanany, 2013a, 2013b p.74). This aspect of religion, one shared by many communities, is a social determinant of health and supports the view that “illness is just a matter of bad luck”. Furthermore, it was found that the “variability within psychiatric syndromes” and the “difficulty to foresee individual trajectories” (Jacob, 2017 p. 334) complement societal perceptions about life's uncertainties. Cultures identify these societal perceptions, by using idioms and metaphors such as “luck, chance, karma or fate” (Jacob, 2017 p. 334), and so on.

An opposing view to this association is luck egalitarianism. This theory focuses on individual responsibility as a determinant of health rather than luck or fate. The branch of thought contends that health inequalities are beyond justification, and that it is wrong for people to have their access to health care diminished due to bad luck and circumstances out of one's control (Ekmekci & Arda, 2015). Luck egalitarianism suggests that "a person's lifestyle consists of the choices that the individual makes" and that individuals should "bear the benefits and burdens" that come from their choices (Ekmekci & Arda, 2015 p. 245). Further, "if an individual loses their health" (Ekmekci & Arda, 2015 p. 245) due to their decisions, they should be responsible for the consequences that ensue. As a result, society owes them no health care or assistance. Therefore, luck egalitarianism claims poor health is determined by bad judgement, suggesting, for example, that a chain smoker who develops lung cancer should be held responsible for its negative health outcomes. Conversely, a person's health can be jeopardised by bad luck. Luck egalitarianism thus proposes that if individuals are not truly responsible for their decisions, it is unreasonable to blame for it. Therefore, they are entitled to help from healthcare institutions.

Luck egalitarianism has been criticised for being morally irrelevant and ambiguous on the (apparent) prudent and imprudent moral distinctions (Björk, Helgesson, & Juth, 2020). According to the paper, real-world implementation of the luck egalitarian healthcare view is difficult due to the tensions within the theory affecting the view's consistent application (Björk et al., 2020). Furthermore, luck egalitarianism is partially disproven by the social determinants of health, which remove individual responsibility towards one's health (Fleck, 2012). It is impossible to substantiate the argument that people in vulnerable or deprived situations are responsible for their own poor health (Fleck, 2012). Additionally, the luck egalitarian view on healthcare distribution distracts from the critical task of rectifying social determinants on one's wellbeing, instead providing individualistic responses to collective issues (Albertsen, 2015).

Bad luck can also play a key role in the environmental determinants of health. Gibson (2018) states an estimated 15% of all deaths in the United States and 8.9% of all DALYs are attributable to the environmental determinants of health such as outdoor and indoor air pollution. Gibson (2018) focuses on smog in Pennsylvania and London, citing it as the reason for the large amount of outdoor air pollution. According to the paper, the smog contains particulate matter which “directly affects health”, (Gibson, 2018 p. 454) causing heart disease and respiratory tract infections. This is purely due to bad luck as it is a factor that an individual is not in direct control over.

### **III. ENVIRONMENTAL DETERMINANTS AND BIOLOGICAL DETERMINANTS OF HEALTH DISPROVING “BAD JUDGEMENT”**

While the quote “illness is just a matter of... bad judgement” implies that incorrect judgement is to blame for disease, the reverse is observed. Illness may cause bad judgement, or rather a total deficit of it, as seen with multiple sclerosis. Additionally, bad judgement may arise from a medical professional rather than individual choices.

The chronic inflammatory and neurodegenerative disease, Multiple Sclerosis (MS), is associated with behavioural dysfunction, with approximately 65% of patients affected by cognitive and behavioural performance issues (Ayache & Chalah, 2018). While an illness itself is not defined as a determinant of health, the nature of Multiple Sclerosis and its accompanying health outcomes have the potential to affect an individual’s ability to access healthcare. Moreover, many facets of life and activity are clearly affected by MS, as illustrated by the “relationships between illness intrusiveness” (Shawaryn, Schiaffino, Larocca, & Johnston, 2002 p. 310). Thus, a chronic progressive disease, to a certain extent, can be described as a biological determinant of health. Moral judgements are a "complex cognitive sphere" that include a person's ability to evaluate the behaviour of others and are based on

"numerous affective and cognitive processes." (Ayache & Chalah, 2018 p. 1). The paper continues to explicate the importance of moral cognition, essential for "healthy and adequate interpersonal relationships" (Ayache & Chalah, 2018 p. 1). A lack of moral cognition may lead to a reduced quality of life in patients suffering from MS. Furthermore, patients with Multiple Sclerosis endorsed harsher punishments for misdemeanours, and were also more likely to say that others' reactions would be similar to theirs (Patil, Young, Sinay, & Gleichgerrcht, 2017). Thus, bad judgement does not cause illness, but instead, suggests the article, illness causes bad judgment, particularly regarding morals.

Illness may also arise from the bad judgement of a medical professional rather than poor individual decision making. An article on a "conceptual framework of severity of illness and clinical judgement" recognises the intricacy of patient assessment and "diagnostic judgement" in illness (Coulter Smith, Smith, & Crow, 2014 p. 1). Perfect intellectual reasoning, meticulous error-checking, and perfect environmental protection would necessitate superhuman abilities in a medical professional (Redelmeier, Ferris, Tu, Hux, & Schull, 2001). However, these standards are unattainable, and thus clinical judgement errors are bound to occur. Moreover, approximately one out of every twenty patients who report to an emergency department with an acute myocardial infarction is sent home by mistake (Redelmeier et al., 2001). Conversely, illness can occur due to individual bad judgement. Gibson (2018) posits that indoor pollution was primarily caused by insufficient ventilation and "environmental tobacco smoke", with the paper finding that children who had parents who smoked were at "twice the risk of hospitalisation" for respiratory illnesses (p. 454). Indoor air pollution can thus be considered an example of bad judgement.

Bad judgement can also come in the form of taking medications when unnecessary or inappropriate. Fever is the most frequent signal of childhood illnesses and is often treated by paracetamol (Lagerlov, 2003). Given that it is an over-the-counter drug, it is easily accessible

to parents. Consequently, their attitudes towards its use will most likely be influenced by their knowledge about and views surrounding fever. According to studies, parents' knowledge of fever may be inaccurate, and their fears of it may be rooted in history and passed down through generations (Lagerlov, 2003). This incorrect knowledge may affect the treatment of the child's fever as the parents become more prone to making a bad judgement about what their child should have, rather than what they need. For instance, Lagerlov's (2003) paper highlights that a minority of parents were concerned with the side-effects associated with paracetamol use. From the results gathered in the study, parents aimed to help alleviate discomfort and help their children to sleep when they were ill (Lagerlov, 2003). Being able to help the child was reported to comfort parents, providing a "feeling of coping" (Lagerlov, 2003 p. 722).

#### **IV. BIOLOGICAL DETERMINANTS OF HEALTH AND LINKS TO "BAD GENETICS"**

The statement, "illness is just a matter of ... bad genetics", is the most credible part of the quote as it is supported by the biological determinants of health. As defined previously, these are the biotic factors that affect health, including genetics. As such, this argument will consist of explanations of a few genetic illnesses and their causes that support and reject the quote. The human genome (the totality of all genes in humans) contains many variations, with some of these changes firmly linked to specific disease phenotypes (Zehnbauer, 2005). There are a multitude of genes causing illness such as cystic fibrosis, Alzheimer's Disease and obesity.

In the paediatric population, cystic fibrosis is associated with a high rate of morbidity (Raman, Clary, Siegrist, Zehnbauer, & Chatila, 2002). An autosomal recessive disorder, it is promoted by impaired chloride transport across the apical membrane of cells (Woods, 2013) because of changes in the cystic fibrosis transmembrane conductance regulator

gene (CFTR) causing the disease (Zehnbauer, 2005). The symptoms of cystic fibrosis are chronic lung disease, elevated sweat sodium and chloride concentrations, nasal polyps, meconium ileus, pancreatic insufficiency, and sinusitis (Woods, 2013). According to Zehnbauer (2005), population genetics studies indicated 70% of European and 50% of Ashkenazi Jewish patients suffered from the condition.

Alzheimer's Disease is another inherited illness deemed a "genetically heterogeneous condition" (Ringman et al., 2014). Alzheimer's Disease is often thought of as a single clinicopathological entity marked by gradual memory loss and other cognitive and behavioural changes that impair self-care. After a certain age, genetic factors become more significant in the progression of the disease (Ringman et al., 2014). These genetic factors can be considered as bad genetics. The heritability of Alzheimer's Disease is estimated to range from 58-79%. According to a statistical model, males exhibited a 44% chance of developing Alzheimer's Disease in their remaining lifetime while females displayed a 61% chance of developing the disease in their life expectancy (Ringman et al., 2014). Therefore, the hereditary nature of Alzheimer's suggests that illness is, in fact a matter of bad genetics.

Furthermore, numerous classical genetics investigations have demonstrated that genes play an important role in obesity. Key symptoms of the disorder include early-onset and hyperphagia (Kleinendorst, van Haelst, & van den Akker, 2019). In some cases, hyperphagia presents itself as the main characteristic, often caused by disruptions of the leptin-melanocortin hormone pathway, the central pathway that regulates the body's satiety and energy balance (Kleinendorst et al., 2019). Additionally, obesity-related illnesses such as Bardet-Biedl and Prader-Willi syndromes are also caused by genetics (Srivastava, Srivastava, & Mittal, 2016). Obesity is now well cited as a complicated non-Mendelian trait that may be caused by a number of susceptibility loci. While several genes based on familial cases have been identified, the majority of individuals suffering from obesity occur randomly in the population (Srivastava et al., 2016). For

instance, evidence suggests that obesity is influenced by genes regulated by other genes. Such genes may be adjacent to, or distanced from, each other (Srivastava et al., 2016).

While this section of the quote holds some truth, “illness is just a matter of ... bad genetics” cannot be restricted to “just” bad genetics. Relating back to genetic obesity, it is argued that there are many other variables that contribute to the development of obesity in addition to those discussed previously (Mathes, Kelly, & Pomp, 2011). These variables include genetics and diet, the most common associations with obesity development, but also include “behaviour, environment and social structures” (Mathes et al., 2011 p. 1) essentially the environmental and social determinants of health. Individual differences in the development of obesity, as well as its treatment, are influenced by the “complex interactions” (Mathes et al., 2011 p. 1) among these variables.

## V. CONCLUSION

The statement, “illness is just a matter of bad luck, bad judgement and bad genetics” is somewhat factual, however, the determinants of health refute it. Religion states that illness can be a product of fate or “bad luck”, a social determinant of health, supporting the statement. Luck egalitarianism partially disproves the quote, stating that individuals are responsible for their own ill health and should endure the hardships or benefits of their own decisions. Luck egalitarianism further states that some ill health is not derived from poor decisions but is instead due to extrinsic factors deemed as bad luck and that healthcare is therefore justified. The social determinants of health partially disprove the luck egalitarian view on healthcare by removing individual responsibility. Since they are unable to be held accountable, it is impossible to prove that people in insecure or deprived circumstances (i.e., people with bad luck) are responsible for their own poor health. In the environmental determinants of health, bad luck and bad judgement can also play a role.

Examples of bad luck and bad judgement causing environmental determinants of health was found in outdoor and indoor air pollution. While the quotation suggests that poor judgement is to blame for disease, the opposite is true. Illness can lead to poor judgement, or even a complete lack of judgement as observed with patients suffering from Multiple Sclerosis who lack moral judgement. Illness may also result from a medical professional's bad judgement, such as being prescribed drugs that are inappropriate. Since it is backed by biological determinants of health, the argument "illness is just a matter of... bad genetics" is the most acceptable aspect of the quote. Cystic fibrosis, Alzheimer's Disease and obesity are all caused, to varying extents, by genetics. Although this part of the quote is truthful, "illness is just a matter of... bad genetics" cannot be limited to "just" bad genetics. The most common associations to genetic obesity link to the environmental and social determinants of health (Mathes et al., 2011). While the quote holds some truth, the social, environmental and biological determinants of health reject the quote and its limited focus on 'just' "bad luck, bad judgement and bad genetics".

## References

- Albertsen, A. (2015). Luck Egalitarianism, Social Determinants and Public Health Initiatives. *Public Health Ethics*, 8(1), 42–49. <https://doi.org/10.1093/phe/phu022>
- Avgoulas, M.-I., & Fanany, R. (2013). Illness in Old Age Is Part of an Individual's Fate and Must Be Approached with Acceptance. *The International Journal of Civic, Political, and Community Studies*, 10(3), 71–76. <https://doi.org/10.18848/2327-0047/cgp/v10i03/43520>



- Ayache, S., & Chalah, M. (2018). Moral Judgment: An Overlooked Deficient Domain in Multiple Sclerosis? *Behavioral Sciences*, 8(11), 105. <https://doi.org/10.3390/bs8110105>
- Björk, J., Helgesson, G., & Juth, N. (2020). Better in theory than in practise? Challenges when applying the luck egalitarian ethos in health care policy. *Medicine, Health Care and Philosophy*, 23(4), 735–742. <https://doi.org/10.1007/s11019-020-09962-3>
- Coulter Smith, M. A., Smith, P., & Crow, R. (2014). A critical review: A combined conceptual framework of severity of illness and clinical judgement for analysing diagnostic judgements in critical illness. *Journal of Clinical Nursing*, 23(5–6), 784–798. <https://doi.org/10.1111/jocn.12463>
- Ekmekci, P. E., & Arda, B. (2015). Luck Egalitarianism, Individual Responsibility and Health. *Balkan Medical Journal*, 32(3), 244–254. <https://doi.org/10.5152/balkanmedj.2015.150012>
- Fleck, L. (2012). Whoopie Pies, Supersized Fries—“Just” Snacking? “Just” Deserts? *Cambridge Quarterly of Healthcare Ethics*, 21(1).
- Gibson, J. M. (2018). Environmental Determinants of Health. In *Chronic Illness Care* (pp. 451–467). Springer International Publishing. [https://doi.org/10.1007/978-3-319-71812-5\\_37](https://doi.org/10.1007/978-3-319-71812-5_37)
- Jacob, K. S. (2017). Perspectives about mental health, illness, and recovery. *Current Opinion in Psychiatry*, 30(5), 334–338. <https://doi.org/10.1097/YCO.0000000000000346>

- Kleinendorst, L., van Haelst, M. M., & van den Akker, E. L. T. (2019). Genetics of Obesity. In P. Igaz & A. Patócs (Eds.), *Genetics of Endocrine Diseases and Syndromes* (pp. 419–441). Cham: Springer International Publishing.  
[https://doi.org/10.1007/978-3-030-25905-1\\_19](https://doi.org/10.1007/978-3-030-25905-1_19)
- Lagerlov, P. (2003). Childhood illnesses and the use of paracetamol (acetaminophen): A qualitative study of parents' management of common childhood illnesses. *Family Practice*, *20*(6), 717–723.  
<https://doi.org/10.1093/fampra/cm616>
- Mathes, W. F., Kelly, S. A., & Pomp, D. (2011). Advances in comparative genetics: Influence of genetics on obesity. *British Journal of Nutrition*, *106*(S1), S1–S10.  
<https://doi.org/10.1017/s0007114511001905>
- Patil, I., Young, L., Sinay, V., & Gleichgerrcht, E. (2017). Elevated moral condemnation of third-party violations in multiple sclerosis patients. *Social Neuroscience*, *12*(3), 308–329.  
<https://doi.org/10.1080/17470919.2016.1175380>
- Raman, V., Clary, R., Siegrist, K. L., Zehnbauer, B., & Chatila, T. A. (2002). Increased Prevalence of Mutations in the Cystic Fibrosis Transmembrane Conductance Regulator in Children With Chronic Rhinosinusitis. *PEDIATRICS*, *109*(1), e13–e13.  
<https://doi.org/10.1542/peds.109.1.e13>
- Redelmeier, D. A., Ferris, L. E., Tu, J. V., Hux, J. E., & Schull, M. J. (2001). Problems for clinical judgement: Introducing cognitive psychology as one more basic science. *Canadian Medical Association Journal*, *164*(3), 358.

Ringman, J. M., Goate, A., Masters, C. L., Cairns, N. J., Danek, A., Graff-Radford, N., ... Morris, J. C. (2014). Genetic Heterogeneity in Alzheimer Disease and Implications for Treatment Strategies. *Current Neurology and Neuroscience Reports*, *14*(11). <https://doi.org/10.1007/s11910-014-0499-8>

Shawaryn, M., Schiaffino, K., Larocca, N., & Johnston, M. (2002). Determinants of health-related quality of life in multiple sclerosis: The role of illness intrusiveness. *Multiple Sclerosis*, *8*(4), 310–318. <https://doi.org/10.1191/1352458502ms808oa>

Srivastava, A., Srivastava, N., & Mittal, B. (2016). Genetics of Obesity. *Indian Journal of Clinical Biochemistry*, *31*(4), 361–371. <https://doi.org/10.1007/s12291-015-0541-x>

Woods, S. (2013). Cystic fibrosis in adulthood—An evolving spectrum disorder. *N Z J Med Lab Sci*, *6*.

World Health Organisation (2012). Social and environmental determinants of health and health inequalities in Europe: fact sheet. *The European Health Report*, 1-2. Retrieved 8 April 2021, from [https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0006/185217/Social-and-environmental-determinants-Fact-Sheet.pdf](https://www.euro.who.int/__data/assets/pdf_file/0006/185217/Social-and-environmental-determinants-Fact-Sheet.pdf)

World Health Organisation (2019). Social determinants of health. Retrieved 8 April 2021, from [https://www.who.int/health-topics/social-determinants-of-health#tab=tab\\_1](https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1)

Zehnbauer, B. (2005). Population genetics in critical illness\*. *Critical Care Medicine*, 33(1). Retrieved from [https://journals.lww.com/ccmjournal/Fulltext/2005/01000/Population\\_genetics\\_in\\_critical\\_illness\\_.43.aspx](https://journals.lww.com/ccmjournal/Fulltext/2005/01000/Population_genetics_in_critical_illness_.43.aspx)

# Should We Allow the Use of Human Challenge Vaccine Trials for COVID-19?

*Jordan Tassone*

In response to the ongoing pandemic, scientists around the world acted to develop vaccines. The deployment of COVID-19 vaccines has significantly reduced the physical and economic health impacts of the SARS-CoV-2 virus. However, in the clinical trial stages of these vaccines, some researchers proposed using ‘human challenge trials’ where participants are deliberately infected with the virus in a laboratory. Although such studies have helped scientists create treatments/preventions for smallpox, cholera, and yellow fever (McPartlin et al., 2020), their use remains controversial regarding COVID-19. This essay will investigate four key factors to determine if such trials are ethical, and if they should be used in response to COVID-19.

Informed consent is a fundamental ethical consideration in any scientific research and is of significance in human challenge trials (HCT). Informed consent refers to a participant’s willingness to partake in the study, having knowledge of all details, including risks, of the research. Those opposed to conducting HCT for a COVID-19 vaccine suggest that since the virus is novel, it is impossible to obtain informed consent from participants (Bramble, 2020). While HCT have been conducted for other respiratory viruses like influenza and respiratory syncytial virus, these diseases are well understood (Weijer, 2020). Individuals favouring HCT for COVID-19 would have commenced

studies in early 2020, before the discovery that SARS-CoV-2 can cause strokes and myocarditis, including in young adults. Nevertheless, informed consent remains possible, researchers would simply advise volunteers of the possibility they may suffer unknown side-effects. If informed consent required awareness of all risks that could possibly result from a clinical trial, not even traditional vaccine trials could take place. Another argument against HCT for COVID-19 is that participants cannot give informed consent, since they lack knowledge of what it is like to experience severe illness (Bramble, 2020). HCT would only select young adults (18-30) with no pre-existing health conditions. It is hypothesised that even if participants were informed of the very-low risk of severe complications, volunteers could not truly consent to the trial as they have never experienced this risk first-hand. Nonetheless, the same can be said of any other clinical trial unrelated to COVID-19, where participants with no experience of severe illness can still provide consent. Exemplifying this reply is trials for new medications for the treatment of depression, anxiety, and insomnia. Therefore, informed consent should not act as a barrier in preventing the use of HCT in response to COVID-19.

Another ethical consideration in scientific research is voluntary participation: an individual's decision to join the trial without external influences. An issue with the use of HCT in developing a COVID-19 vaccine is it may lead to the exploitation of disadvantaged groups. Clinical trials occasionally offer financial incentives to participants (Sulmasy, 2021). This incentive is more persuasive to those enduring economic hardship, thereby exposing disadvantaged individuals to a greater risk of harm for society's benefit. To counter this, participants should only volunteer for purely altruistic reasons. Similarly, people in high-risk professions will be more inclined to participate in the trial since they are more likely to believe their infection to be inevitable. Again, this would further perpetuate the vulnerability of certain groups of society for the benefit of others. However, this could be avoided by conducting HCT in regions with zero/extremely controlled community spread. Such trials may also be carried out in areas with high

community spread, where everyone has a similar probability of infection irrespective of occupation. As voluntary participation is achievable in HCT, it should not prevent scientists from using such trials in developing a vaccine for SARS-CoV-2.

Awareness of the reasons individuals may volunteer for HCT is crucial in determining if such studies are ethical. Over 38,000 people agreed to participate in HCT for COVID-19 through the organisation 1Day Sooner, one of which was Lena Jewler. Jewler stated her choice to participate was to contribute to a greater good (Bloomberg Quicktake, 2021). This may be due to the lack of opportunities for people to contribute to a wider cause as a member of Western society (Bramble, 2020). Participation in challenge trials could be viewed as emblematic of the absence of opportunities people have to help others. Approving HCT is problematic, as some believe it inclines us towards pursuing an individualist culture, unwilling to change the underlying societal structures that provide one with greater chances of acting selflessly. Although Western societies are characterised by their individualistic nature, there are sufficient opportunities for one to act selflessly. Sperm donation, volunteer work and surrogacy commonly occur in Australian communities, and are of low medical risk. Moreover, HCT is analogous to live organ donation – a regular practice in Western societies. This act of medical altruism carries similar risks to that of COVID-19 HCT. The difference in fatality, hospitalisation, and long-term harm rates between COVID-19 and live organ donation is statistically insignificant (Jayaram et al., 2022). This subsequently indicates we should enable HCT, since society has already accepted the act of live organ donation. Those critical of HCT may reply that live organ donation is dissimilar to HCT; we cannot justify the use of HCT through such an analogy. Organ donors provide significant help to one person, while challenge trial volunteers eliminate a small risk of infection/fatality to a larger group. However, the kind of benefit in live organ donation and challenge trials are identical: a reduction in death and morbidity. As the presumption that Western societies do not provide adequate opportunities for altruism is false, approval of HCT in developing a

COVID-19 vaccine will not further perpetuate an ‘individualist culture’.

A favourable risk-benefit balance must be obtained for HCT. An important benefit of HCT is their elimination of confounding variables which typical Phase III vaccine trials cannot. These include different viral strains – which was of particular importance in this pandemic as it was known before 2020 that coronaviruses mutate frequently – and uncertain timing of exposure, which was also important regarding COVID-19 as scientists could use HCT to examine how vaccines affected the incubation period for SARS-CoV-2 (Rapeport et al., 2021). Furthermore, despite the global use of currently approved vaccines, HCT is necessary for future vaccine generations (Eyal et al., 2021). Due to the increasing and ongoing prevalence of COVID-19 in populations around the world, HCT is the only type of trial that can accurately test whether current/future vaccines prevent infection as well as the durability of natural and vaccine-induced immunity). This is exceptionally important due to the requirement of a cold chain to distribute approved mRNA vaccines and unaffordable pricing of vaccines for under-developed countries. The benefits of HCT indicate a favourable risk-benefit ratio for participants and the community. However, objections have been proposed in response. One reply is the long-term health risks of COVID-19 outweigh the benefit one gains by contributing to science. This is an inadequate reply, as the principal risk-mitigation strategy is participant selection. According to one UK study, selecting only 20–29-year-olds for HCT maintains a risk of death approximately 0.00031% per participant (Eyal et al., 2021). Another response is to question the results obtained through HCT, whether they are truly beneficial given they may not be generalisable to the wider population. However, immune-bridging studies in higher-risk groups are always conducted after HCT, irrespective of participant demographics. Although the issue of generalisability is not prevalent in traditional vaccine trials, HCT is still a more efficient process even accounting for such follow-up safety studies. A third common response is to examine whether it is really in one’s best interest to participate



in the study. Those opposed to HCT declare it is unethical to justify using participants from vulnerable communities and high-risk occupations on the basis that their infection is ‘inevitable’. It would be immoral for authorities to rely on assailable groups, who they let down by failing to protect them from transmission of SARS-CoV-2, to participate in HCT. Nevertheless, as referenced in the voluntary participation discussion, this could be addressed by only holding HCT for COVID-19 in populations with either high community transmission, or extremely low/zero community transmission of the virus. Additionally, critics of HCT overlook mental health in analysing the benefits of participation. The threat of catching COVID-19 and/or passing it on to loved ones was, and still is, a very real threat to many across the globe. This fear of COVID-19 infection/transmission is a recognised anxiety disorder (Taylor & Swan, 2022). HCT could treat this anxiety. Participants would receive a high standard of medical care in the unlikely event of complications, and they would no longer worry about transmitting the virus since they would isolate until they are no longer infectious. All this being considered, it is evident the benefits of HCT outweigh the risks.

Notwithstanding widespread ethical concerns regarding the use of HCT in developing a cure for SARS-CoV-2, the above analysis nullifies such fears. I believe human challenge trials should have been used to diversify the portfolio of potentially approved vaccines at the beginning of the pandemic, as well as supporting their ongoing use in the maintenance of an ongoing low fatality and hospitalisation rate.

## References

- Bloomberg Quicktake. (2021). Why Vaccine Challenge Trials Are So Controversial [Video].  
<https://www.youtube.com/watch?v=awLNVd4G1n8>
- Bramble, B. (2020). *Pandemic Ethics: 8 Big Questions of COVID-19*. Sydney: Bartleby Books.
- Eyal, N., Caplan, A., & Plotkin, S. (2021). Human challenge trials of covid-19 vaccines still have much to teach us - The BMJ.  
<https://blogs.bmj.com/bmj/2021/01/08/human-challenge-trials-of-covid-19-vaccines-still-have-much-to-teach-us/>
- Jayaram, A., Sparks, J., & Callies, D. (2022). Justifying the risks of COVID-19 challenge trials: The analogy with organ donation. *Bioethics*, 36(1), 100–106.  
<https://doi.org/10.1111/bioe.12889>
- McPartlin, S., Morrison, J., Rohrig, A., & Weijer, C. (2020). Covid-19 vaccines: Should we allow human challenge studies to infect healthy volunteers with SARS-CoV-2?. *BMJ*, m4258. doi: 10.1136/bmj.m4258
- Rapeport, G., Smith, E., Gilbert, A., Catchpole, A., McShane, H., & Chiu, C. (2021). SARS-CoV-2 Human Challenge Studies — Establishing the Model during an Evolving Pandemic. *New England Journal of Medicine*, 385(11), 961-964. doi: 10.1056/nejmp2106970
- Sulmasy, D. (2021). Are SARS-CoV-2 Human Challenge Trials Ethical?. *JAMA Internal Medicine*, 181(8), 1031. doi: 10.1001/jamainternmed.2021.2614
- Taylor, T., & Swan, N. (2022). The sub-variants just keep coming [Podcast]. <https://www.abc.net.au/radio/programs/coronacast/the-sub-variants-just-keep-coming/13855350>

# Should Australia Make Medically Recommended Vaccinations Mandatory?

*Saskia Newman*

In this essay, I argue that it is ethically permissible for the Australian Government to mandate medically recommended vaccinations under certain conditions. Whilst I am aware of other arguments, this essay will focus on the morality of mandatory vaccination for health reasons and will not consider points regarding the economic impact and arguments around the right to bodily autonomy. Penalties that restrict liberty should be applied conditional on vaccines having proven benefit(s), limited side effects, and there being a high risk of a disease outbreak that is vaccine-preventable, highly infectious, severe, and transmissible between humans. Inaction under these circumstances should be considered morally wrong because the Australian Government would be risking severe health consequences for its citizens.

The Australian Government should take action to protect the health of its citizens including from harm inflicted by one another. Kass (2001) presents a useful ethical framework that identifies public health as a 'societal approach to protecting and promoting health' and acknowledges the providers of interventions are often governments. Considering a stewardship model, 'governments have a responsibility to provide the conditions under which people can lead healthy lives', including the duty of 'protecting its citizens from harm caused by others' (Krebs, 2008). Krebs (2008) extends the responsibility of governments to protect public health to 'vulnerable groups such as children' and elderly people. The Australian Government is committed to public health approaches evident through the National Immunisation

Strategy which prioritises disease prevention over cure and attempts to equally distribute health burdens (Department of Health, 2018; Faden et al., 2022). Beauchamp (2019) demonstrates that all individuals have a moral duty to be beneficent and uphold non-maleficence, however, this duty is limited and depends on the individual's means. It cannot be said that all individuals will uphold moral duties and voluntarily participate in or consent to actions that protect health (Beauchamp, 2019). Therefore, it is ethically desirable for the Australian Government to implement public health interventions.

Medically recommended vaccinations have been shown to protect people's health against infectious diseases (Andre et al., 2008). Mandatory medically recommended vaccination is an example of a public health action 'exercising political power' to benefit existing Australian citizens (Faden et al., 2022). Medical research demonstrates that high immunisation rates with effective vaccines generate significantly greater good for all by reducing disease transmission, and lowering infection and hospitalisation rates, leading to decreased morbidity and death (Andre et al., 2008). A common good approach suggests that vaccinating a high proportion of a population is ethical (Jecker, 2021). This is because herd immunity allows all people including vulnerable people to avoid the risk of infectious disease and potential death that would otherwise prevent individuals from achieving goals valued by society (Jecker, 2021). Therefore, medically recommended vaccinations should be mandated by the Australian Government to protect the health of its citizens.

A significant argument against mandating medically recommended vaccinations is that vaccines can have negative side effects. Medical research has demonstrated that the risk of an adverse reaction to a vaccine is very small, however, with mass vaccination 'statistically, at some point side-effects will occur' (Giubilini and Savulescu, 2019). To address this concern, the Australian Government follows ethical guidelines when developing a vaccine which includes requirements for several stages of non-human and human clinical trials to ensure efficacy

and minimise side effects (Monrad, 2020). Furthermore, it is necessary for the Australian Government to provide full disclosure of the risks of side effects posed by vaccination, as this transparency reflects the principle of non-maleficence (Bowen, 2020). It would not be ethically permissible for the Australian Government to mandate a vaccine without disclosing potential side effects on individuals or completing appropriate clinical trials to ascertain vaccine efficacy.

However, the overall benefit of immunity gained for all people from mandating medically recommended vaccinations under specified conditions outweighs the small risk of side effects (Faden et al., 2022). Faden et al. (2022) illuminate that any public health approach taken by the Australian Government morally must ‘vigilantly monitor the health of systematically disadvantaged groups’ and assertively ‘intervene to reduce the inequalities’ identified. Whilst paternalistic approaches have been previously used, the ethical principles of beneficence and non-maleficence are useful to ethically justify mandatory vaccination which restricts individual liberty to prevent non-consensual harm to others (Saunders, 2016). These principles are justified as although some individuals may experience some side effects of vaccination, the risk of adverse health outcomes due to infectious disease is greater (Bowen, 2020). Furthermore, vulnerable individuals who have medical conditions or are too young or old are protected by very high rates of immunisation (Rodrigues and Plotkin, 2020). Therefore, the Australian Government should make medically recommended vaccinations mandatory as the benefit of herd immunity outweighs the risk of side effects.

Penalties that restrict choice for non-compliant citizens are ethically permissible under conditions where the vaccine has proven benefit(s), limited side effects and there is a high risk of a disease outbreak that is vaccine-preventable, highly infectious, severe and transmissible between humans (Savulescu, 2021). Measures on the Intervention Ladder (see Appendix A) underneath restricting choice including guiding ‘choice by disincentives or incentives’ for example, ‘pharmacy

coupons in exchange for getting vaccinated’, can support more restrictive choices in certain epidemiological conditions to compel individuals to consider their moral duty to the health of others (Faden et al., 2022). Increasingly less restrictive measures such as nudging or providing information on vaccination alone would fail to reduce harm to others and protect the health of citizens under the specified epidemiological conditions (Colgrove, 2019). Restrictive measures should ‘be ethically justified where the harm to others can be significantly reduced’, for example, restricted access to public institutions including schools and measures which eliminate choice including ‘compulsory isolation of patients with infectious diseases’ (Chantler, Karafillakis & Wilson, 2019; Krebs, 2008). Thus, penalties including measures of elimination and restriction should be applied to individuals who do not comply with mandatory medically recommended vaccinations to prevent harm to others.

In conclusion, this essay demonstrates that certain epidemiological conditions are required for the Australian Government to be ethically permitted to make medically recommended vaccinations mandatory and implement penalties restricting the choices of non-compliant individuals. Ultimately, the Australian Government should be ethically permitted to mandate this public health intervention given the significant benefits of vaccination to health outweigh the risks of side effects and potential harm to the health of all citizens.

# Appendix

## A. Intervention Ladder

The ladder of possible government actions is as follows:

*Eliminate choice.* Regulate in such a way as to entirely eliminate choice, for example through compulsory isolation of patients with infectious diseases.

*Restrict choice.* Regulate in such a way as to restrict the options available to people with the aim of protecting them, for example removing unhealthy ingredients from foods, or unhealthy foods from shops or restaurants.

*Guide choice through disincentives.* Fiscal and other disincentives can be put in place to influence people not to pursue certain activities, for example through taxes on cigarettes, or by discouraging the use of cars in inner cities through charging schemes or limitations of parking spaces.

*Guide choices through incentives.* Regulations can be offered that guide choices by fiscal and other incentives, for example offering tax-breaks for the purchase of bicycles that are used as a means of travelling to work.

*Guide choices through changing the default policy.* For example, in a restaurant, instead of providing chips as a standard side dish (with healthier options available), menus could be changed to provide a more healthy option as standard (with chips as an option available).

*Enable choice.* Enable individuals to change their behaviours, for example by offering participation in a NHS 'stop smoking' programme, building cycle lanes, or providing free fruit in schools.

*Provide information.* Inform and educate the public, for example as part of campaigns to encourage people to walk more or eat five portions of fruit and vegetables per day.

*Do nothing or simply monitor the current situation.*

Reprinted from *Public Health: Ethical Issues* (p. 42), by Nuffield Council on Bioethics, Policy Process and Practice, 2007, Nuffield Council on Bioethics.

## References

- Andre, F. E., Booy, R., Bock, H. L., Clemens, J., Datta, S. K., John, T. J., Lee, B. W., Lolekha, S., Peltola, H., Ruff, T. A., Santosham, M., & Schmitt, H. J. (2008). Vaccination greatly reduces disease, disability, death and inequity worldwide. *Bulletin of the World Health Organization*, 86(2), 140–146. <https://doi.org/10.2471/blt.07.040089>

- Beauchamp, T. (2019). The Principle of Beneficence in Applied Ethics (Spring 2019 Edition). The Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/archives/spr2019/entries/principle-beneficence/>
- Bowen, R. A. R. (2020). Ethical and organizational considerations for mandatory COVID-19 vaccination of health care workers: A clinical laboratorian's perspective. *International Journal of Clinical Chemistry*, 510(1), 421–422. <https://doi.org/10.1016/j.cca.2020.08.003>
- Chantler, T., Karafillakis, E., & Wilson, J. (2019). Vaccination: Is There a Place for Penalties for Non-compliance?. *Applied Health Economics and Health Policy*, 17(3), 265–271. <https://doi.org/10.1007/s40258-019-00460-z>
- Colgrove, J. (2019). Immunization and Ethics: Beneficence, Coercion, Public Health, and the State. *The Oxford Handbook of Public Health Ethics*, 434–447. <https://doi.org/10.1093/oxfordhb/9780190245191.013.38>
- Department of Health. (2018). National Immunisation Strategy for Australia 2019-2024 (12231). [https://www.health.gov.au/sites/default/files/national-immunisation-strategy-for-australia-2019-2024\\_0.pdf](https://www.health.gov.au/sites/default/files/national-immunisation-strategy-for-australia-2019-2024_0.pdf)
- Faden, R., Bernstein, J., & Shebaya, S. (2022). Public Health Ethics (Spring 2022 Edition). The Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/archives/spr2022/entries/publichealth-ethics/>
- Giubilini, A., & Savulescu, J. (2019). Vaccination, Risks, and Freedom: The Seat Belt Analogy. *Public Health Ethics*, 12(3), 237–249. <https://doi.org/10.1093/phe/phz014>
- Jecker, N. S., Wightman, A. G., & Diekema, D. S. (2021). Vaccine ethics: an ethical framework for global distribution of COVID-19 vaccines. *Journal of Medical Ethics*, 47(1), 308–317. <https://doi.org/10.1136/medethics-2020-107036>



- Kass, N. E. (2001). An Ethics Framework for Public Health. *American Journal of Public Health*, 91(11), 1776-1782. <https://doi.org/10.2105/ajph.91.11.1776>
- Krebs, J. (2008). The importance of public-health ethics. *Bulletin of the World Health Organisation*, 86(8), 579. <https://doi.org/10.2471/blt.08.052431>
- Monrad, J. T. (2020). Ethical considerations for epidemic vaccine trials. *Journal of Medical Ethics*, 46(7), 465-469. <https://doi.org/10.1136/medethics-2020-106235>
- Rodrigues, C. M. C., & Plotkin, S. A. (2020). Impact of Vaccines; Health, Economic and Social Perspectives. *Frontiers in Microbiology*, 11(1526), 1-15. <https://doi.org/10.3389/fmicb.2020.01526>
- Saunders, B. (2016). Reformulating Mill's Harm Principle, *Mind*, 125(500), 1005–1032, <https://doi.org/10.1093/mind/fzv171>
- Savulescu J. (2021). Good reasons to vaccinate: mandatory or payment for risk?. *Journal of Medical Ethics*, 47(2), 78–85. <https://doi.org/10.1136/medethics-2020-106821>

## Postface

Cross-Sections reflects the academic culture of Bruce Hall and serves as a critical evaluation or assessment of the attitudes, values, beliefs, and practices that define and shape our academic community. The variety and high calibre works produced across the cohort of Bruce Hall demonstrates a high level of engagement, creativity, critical thinking and provides important insights into their interests and quality of student learning and development at our institution. From first years to fifth years, the diversity of projects and assignments showcases the range of skills and knowledge that residents are acquiring throughout their academic journey.

The quality of work produced by the residents is remarkable, with projects demonstrating exceptional creativity, attention to detail, and depth of analysis. The residents' ability to apply their knowledge and skills in new and innovative ways is a testament to the effective teaching and learning taking place in the classroom and enrichment activities within the Hall.

The exemplar output and results of the students is, without a doubt, a reflection of the strong academic support networks within Bruce Hall such as the Academic Mentoring program, Senior Residents, Study Smash and the strong academic culture of the Hall. With residents constantly studying together in common rooms, study rooms and the computer lab, it is easy to understand how residents can encourage the best of each other, producing high calibre work. Aided by the guidance of Senior Residents, Community Coordinators and later year residents, residents have easy access to a range of relevant and recent information derived from lived experiences of other students.

In conclusion, the variety and calibre of work produced by all residents at Bruce Hall is a source of pride and a reflection of the high standards of resident learning and development. I know these residents will continue to make valuable contributions to the academic community.

Katrina Boyd

*Head of Residence, Bruce Hall*