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LETTTER FROM THE CO-EDITORS-IN CHIEF

Dear Readers,

We are delighted to present the fifth volume of the Arbor Journal of Undergraduate Research. Creating this journal has been a rewarding experience, made possible by the collaborative efforts of our dedicated team of sixteen editors. Their commitment to editing, selecting, and designing the journal has been instrumental in bringing this volume to fruition, and we are grateful for their time and efforts.

This edition highlights the exceptional work of students across the Humanities, Social Sciences, and Sciences, demonstrating the diversity and breadth within Arts and Science as well as the connections between these disciplines. We extend our thanks to our authors for their insightful contributions.

We are equally thankful to you, our readers, for your continued interest and support. We hope that you find this volume engaging and inspiring. Enjoy!

Sincerely,

Firdaus Sadid, Michelle Wong
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HUMANITIES

A Critical Analysis of Field's Spacetime Theory and His Nominalization Strategy

Kai Zhang, Fifth Year Physics & Philosophy Specialist

Field's book *Science Without Number* aims to undercut the indispensability argument for the existence of mathematical entities. In the book, Field devises a strategy to nominalize scientific theories, arguing that mathematical objects are, in principle, dispensable in science. This nominalization strategy consists of two essential steps: first, arguing for the conservativeness of mathematics, and second, providing a non-trivial nominalization of the Newtonian gravitational theory to fill in technical details and illustrate the viability of the strategy. In this paper, I will object to Field's project by examining his account of spacetime structure. Specifically, I will push back each of Field's four arguments for the use of Hilbert's formulation of Euclidean space, building on which I will highlight three main problems in Field's project: (1) the problem of adopting a substantivalist view of space-time points; (2) the reliance on un-nominalized mathematical tool; (3) the limited scope of applicability of Field''s nominalization strategy. Finally, I will conclude with a brief comment on the overall feasibility of Field's nominalization project.

Field's nominalization strategy relies heavily on his substantivalist theory of spacetime. Specifically, he adopts Hilbert's formulation of Euclidean geometry as the ontology of spacetime and replaces the four-dimensional real number space ontology with concrete space-time points. As Hilbert's formulation requires physical space to be uncountable, Field's ontology commits to uncountably many physical entities (Field 32). By doing so, Field avoids quantification over real numbers and manages to nominalistically recast the Newtonian gravitational theory in terms of comparative predicates. In order to defend his adoption of Hilbert's formulation of Euclidean space as nominalistic, Field puts forward four arguments in chapter four of the book. The first argument asserts that history shows the theory of real numbers was developed to deal with physical space and time, so it is "putting the cart before the horse to conclude … the physical structure of space

and time is really mathematical structure in disguise" (Field 34). The second argument suggests that space-time points are inherently distinct from real numbers because the structure of physical space and time is an empirical matter that is subject to revision by experience, unlike mathematics (Field 34). The third argument claims that it is nominalistically permissible to postulate uncountably many physical entities and physical entities that "obey structural assumptions analogous to the ones that platonists postulate for the real numbers" (Field 32) because the nominalistic objection to numbers is based on their abstractness, not their uncountability. Finally, the fourth argument claims that the postulation of space-time points adopts an ideology that is less rich than that with postulating real numbers in two ways: on the one hand, operations like addition are not directly defined in Hilbert's theory and, on the other hand, the (usual) theory of real numbers includes theories beyond first-order logic (Field 33). Next, I will challenge these claims, building up to my three objections to Field's project.

Field's first argument suggests that history shows that spacetime structure is primitive and, therefore, irreducible to mathematical structures, which are developed to account for space and time. While it is true that spacetime structure is primitive, in that we need to give an ontological account of it, this does not inherently entail that we cannot employ abstract entities in such an account. Moreover, it does not automatically support Field's substantial account with space-time points. Giving an account to spacetime structure is not "putting the cart before the horse". Moreover, it is important to distinguish between spacetime structure and Field'd substantivalism about space-time points. The former is the target of ontological inquiry (for physicists and philosophers), while the latter is just one of the possible accounts of spacetime structure.

Therefore, the mathematical and the substantivalist accounts of spacetime structure should be given equal consideration. Field's argument here seems compelling because it assumes that the structure of space and time must be physical. If we accept this assumption, then his substantivalist account is naturally favourable since it claims that the basic elements of *physical* spacetime (i.e., the space-time point) are also *physical*. However, once we recognize

that "spacetime structure" is a concept waiting for an ontological account, whether physical (substantivalist) or non-physical (relationalist, mathematical, etc.), Field's argument loses its strength. Additionally, the idea that space-time is physical is subject to doubt if we take a look at history, as Field suggests. I will elaborate on this later in my first criticism.

As for the second argument, I find it problematic to claim that space-time points are distinct from mathematics because the former is an empirical matter, subject to revision by experience. Though Field refers to them as concrete entities, space-time points are postulated without the support of empirical evidence, much like mathematical entities or theories. Taking a step back, suppose the concept of space-time points can, in principle, be revised by experience. I argue that mathematical concepts or theories can also be revised if they fail to accurately reflect our experiences of the physical world. For example, the development of non-Euclidean geometry was prompted by the realisation that our experience of the physical world did not conform to the axioms of Euclidean geometry. Some may object that what is shown by the example is not a "revision," but a shift from an old theory to a newer one. However, suppose we view the transformation in this sense. In that case, the shift from relationalism to substantivalism based on experience (if there is supporting empirical evidence) is also a shift rather than a revision. Therefore, I contend that both mathematics and space-time points can be modified by experience, and Field fails to claim that they are inherently distinct in this regard.

In response to Field's third argument, I acknowledge that nominalism's central criticism is directed at the abstractness of mathematical entities rather than their uncountability. However, I do not think the discussion of concreteness and countability can be entirely separated. Suppose we allow for actual infinities in the physical world, as Field does. In that case, we could be committed to the existence of an infinite collection of concrete objects without any empirical evidence. While some may object that some scientific theories rely on the postulation of an infinite number of physical entities, one should recognize that the adoption of infinity is merely a pragmatic choice rather than an accurate reflection of physical

reality. In addition, the concept of infinity is itself mathematical, and Field should provide a nominalistic reduction of this concept to justly accept an infinite collection of physical objects in his project. Regarding the fourth argument, I agree with Field that the substantivalist space-time account, which builds on Hilbert's formulation of Euclidean space, is structurally less rich than the postulation using real numbers, and through such, they are inherently different. While Field may be content that such a distinction is made, I want to push back on his use of the "complete logic of Goodmanian sums," (Field 38) which is not entirely nominalistically acceptable. This is because this logic quantifies over sets of space-time points, which are abstract entities. I will elaborate on this problem in my second criticism. Moreover, even if Field's adoption of Goodmainaian sums is non-problematic, for Field's project to succeed, his account must capture the real spacetime structure accurately. In my third criticism, I will challenge the accuracy and applicability of Euclidean geometry. In sum, while Field is correct that his account is less rich than an account using real numbers, I argue the merit of being simple does not entail being true, and the further support needed for Field's project is unpromising.

Having challenged Field's account of spacetime structure, I will now raise three main criticisms of his nominalist project. In my first criticism, I take issue with Field's substantivalist view of space-time points, which I argue are more like abstract entities than standard physical entities. If my argument is successful, then Field lacks good reasons to take substantivalism, and any reason to grant concreteness about space-time points can be applied to granting the concreteness of abstract entities like mathematical entities, which is unacceptable by Field. To support my argument, I examine the metaphysical casual power and the epistemological status of space-time points, standard physical entities, and abstract entities. Metaphysically speaking, space-time points are (*prima facie*) causally inert, and the only relation between them and standard physical entities is "being occupied," which is not a causal relation. In response, a substantivalist may take a counterfactual account of causation and argue that space-time points have causal power in the sense that if some region had not been occupied, it could have

led to a different causal consequence. Granting this, however, a Platonist could argue in a similar fashion that numbers also have causal power, which undermines the argument for the concreteness of space-time points. For example, the number of books in a given school bag has causal power since changes in the property "being the number of books in a given school bag" would result in different causal consequences. That is, the weight of the school bag would have changed. Therefore, one either grants causal power to space-time points and numbers or grants neither. Epistemically speaking, Field's space-time points lack observational verification, like abstract entities. If we look at history, as Field suggests, we will find that no observable phenomena led to the *discovery* of concrete space-time points as a constituent of the spacetime structure. Rather, we *postulate* concrete space-time points to make sense of the structure. Scientists do not design experiments to study the property of space-time points but the structure of spacetime.

Thus, space-time points cannot even stand on the same epistemological footing with subatomic particles, which are themselves controversial. As a result, I argue it is plausible to establish an analogy between postulating space-time points and postulating mathematical space, as they are both intended for organising physical entities and events within the spacetime structure. Drawing from metaphysical and epistemological comparisons, I conclude that space-time points resemble mathematical entities more than physical entities. This conclusion is problematic for Field's substantivalist view of space-time points. If he insists that space-time points are highly indirectly observable physical entities (more indirect than subatomic particles), we can allude to the similarity between space-time points and abstract entities and argue that mathematics that describes the spacetime structure could also be physical despite being unobservable. This conclusion is intuitively absurd, pressing Field to provide more evidence for substantivalism. Otherwise, he must either abandon substantivalism or accept the absurd conclusion that mathematical structure is physical, contradicting the foundation of his project.

My second criticism of Field concerns his reliance on concepts that are not nominalistically permissible. Firstly, Field's commitment to the region of space calls for an intuitive understanding based on sets, which is not nominalistically permissible. Specifically, a region of space is best understood as some set of space-time points. While Field tries to avoid this issue by adopting "the complete logic of Goodmanian sums" (i.e., impredicative, second-order mereology), he still faces the challenge of articulating the concept of regions of space in nominalistic language that involves no reference to sets or other abstract entities. Secondly, as Malament points out, Field's nominalization project can only reformulate scientific theories which give generic features of their models. Field's strategy cannot
reformulate propositions about specific models with special features or properties defined by more than one model because they require quantifications over models, which are abstract entities (Malament 528). Therefore, Field needs to nominalize the quantification over models in addition to nominalizing sets. Otherwise, his project fails to capture some essential contents of actual scientific activities, lacking the strength to dispense with mathematics.

My last criticism targets the limited scope of applicability of Field's nominalization strategy. Assuming that Field could successfully nominalize metalogic and resolve the above-mentioned issues regarding sets and models, his project is not complete. For Field's project to succeed, the Euclidean geometry he adopts must accurately describe the structure of spacetime. However, Euclidean geometry describes a flat space with zero curvature, failing to account for the curvature of spacetime proposed by general relativity. Additionally, the theory presupposes an absolute and independent notion of time, which conflicts with special relativity. Even if Euclidean geometry were accurate, Field's reformulation method would still have limitations. Firstly, his nominalization strategy assumes a reductionist view of physical properties or theories, which disregards macroscopic properties such as temperature and emergent phenomena in science. Secondly, Field's nominalization strategy, based on space-time points and the representation theorem, is restricted to Newtonian mechanics. It cannot be applied to

important theories like quantum mechanics and theories based on phase space—theories that do not have an explicit dependence on the theory of spacetime structure. Thus, Field must devise new nominalization strategies to achieve his objectives.

In conclusion, while Field's nominalization strategy provides an insightful approach against Platonism, it faces significant challenges to convincingly argue for the dispensability of mathematical entities in science.

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Authority, Equity and Progress in Voltaire's *Candide*

Brianne Gagnon, Second Year Art History Major

Who is power meant to serve? In his seminal 1759 satirical novella Candide, François Arouet de Voltaire poses this question, as the titular naïf wrestles with a growing awareness of how people are inevitably crushed by the greed and ambitions of their leaders, contrary to his mentor's insistence that they live in "the best of all possible worlds". As one of the foremost thinkers of the Enlightenment, which sought to bring forth a more secular, egalitarian society, Voltaire's diverse oeuvre contained many potent criticisms of the various authorities that saw their grip on power loosen as the world expanded through trade and scientific discovery, keeping their subjects in the dark to maintain their own status. In its satirical portrayals of a war-hungry, intellectually bereft Empire; punitive and superstitious state churches; and arbitrary, profit-minded colonial leadership, *Candide's* strongest reproofs are directed toward power structures that Voltaire sees as holding back the tide of progress in Europe and beyond.

Candide's story begins in Westphalia, a province in the Holy Roman Empire that bore a heavy political significance by the mid-18th century. The 1648 Peace of Westphalia, which Voltaire refers to in *Le Siecle de Louis XIV* as "the basis for all future treaties"[1], put an end to the Thirty Years' War and settled a constitution for the Holy Roman Empire. This would assuage fears of a universal Habsburg monarchy and acknowledge the self-sufficiency of the Empire's patchwork of states, who ideally would now resolve their conflicts through diplomacy[2]. It is significant, then, that immediately upon leaving the Baron's castle, Candide is confronted by a regiment of Bulgarian soldiers, who make him swear allegiance to their king and force him into service[3]. The Peace of Westphalia did not dissuade conflict between its nation states as much its authors may have hoped. The Holy Roman Empire's two largest kingdoms, Austria and Prussia, would increasingly see themselves as independent nations, and disputes between the two powers would rage across the continent

1 John H. Elliott, *Spain, Europe and the Wider World* (New Haven: Yale University Press, 2017), 92
2 ibid., 92
3 Voltaire, *Candide*, *ou l'optimisme* (New York: Boni & Liveright Inc., 1918), 6

in the hundred years between the Peace and *Candide's* publication in 1754[4]. That the Bulgars ultimately ransack the Baron's castle and (seemingly) murder its noble residents suggests that Voltaire saw through the hollow promises of the Peace of Westphalia – the greed and ego of kings will continue to guide Europe toward its own destruction.

Voltaire would have been very familiar with the Holy Roman Empire. The same year Candide was published, he was commissioned by Duchess Louise-Dorothée of Saxe-Gotha-Altenburg to write the Empire's history, published as *Annals of the Empire, from the Reign of Charlemagne*[5]. Though most of the text is built on the work of past historians, Voltaire makes his personal feelings on the Empire clear in *A Letter from Mr. de V— to Mr. de —, Professor of History*, an epigraph to a 1755 English translation of *Annals*:

> "I endeavoured to discover in what manner so many bad men conducted by worse Princes have notwithstanding at the long run established societies, in which arts and sciences and even the virtues have been cultivated…I attempted to find the paths of commerce that privately repairs the ruins in which savage conquerors leave behind them…I examined in what manner the arts revived and supported themselves in the midst of such desolation"[6]

Both *Annals* and *Candide* illustrate Voltaire's belief that the arts and sciences flourishing within the Empire happened in spite of a conflict-ridden body politic run by "worse Princes" and "savage conquerors". Nobles like the Baron Thunder-ten-Tronckh would patronize natural philosophers like Candide's tutor Pangloss – believed to be based on German natural scientist G.W. Leibniz[7] – whose belief that they lived in "the best of all possible worlds" flattered the nobility's view that their dominance was natural and ordained by God. Voltaire would have personally understood how the patronage of nobility limited what ideas could be expressed – these critiques do not appear in the

4 Peter H. Wilson, "The Empire, Austria, and Prussia". In *Blackwell Companions to European History*: *A Companion to Eighteenth-Century Europe* (Oxford, UK: Blackwell Publishing Ltd., 2007), 264

5 Gérard Laudin, "The Annals of the Empire since Charlemagne: Voltaire and the Changes in the Feudal System in the Holy Roman Empire", *Études Germaniques*, vol. 296, no. 4, 2019, 3

6 Voltaire. *Annals of the Empire from the Reign of Charlemagne. By the Author of The Age of Lewis XIV. In Two Volumes. ...* (London: Printed for A. Millar, in the Strand, 1755),

7 Agustín Echavarría, "Leibniz on Evil: God's justice in the best of all possible worlds", in *The Routledge Handbook on the Philosophy of Evil*, ed. Thomas Nys and Stephen de Wijze (New York: Routledge, 2019), 83

main text of the Duchess-commissioned *Annals*, but were published as an epigraph in England, a country Voltaire admired for its free press and more liberal regime[8]. Here he impugns the discoveries made under such conditions, calling them "a vast labyrinth of philosophical absurdities, which have been so long honoured with the name of science"[9]. When we first meet Candide, he blithely accepts the wastefulness of the Empire's constant conflicts and the empty flattery of its noble patronage, but Voltaire shines a light on the damage wrought by both.

After Candide flees the Bulgarian army, he finds himself in Holland, where "having heard everyone was rich in that country, and that they were Christians, he did not doubt that he should meet the same treatment as he had met with in the Baron's castle"[10]. He approaches a man who has preached about charity to ask for bread, but when Candide does not renounce the Pope, he is cast away without food and treated cruelly until James, an Anabaptist, feeds and clothes him[11]. Voltaire is sympathetic to people like James, who express their faith in ways that are community-focused and lack the hierarchies present in state churches across Europe. In Voltaire's 1733 *Letters on the English*, he recalls meeting with a Quaker who charms the author with his lack of deference, telling him "we 'thee' and 'thou' a king with the same freedom as we do a beggar, and salute no person; we owing nothing to mankind but charity, and to the laws respect and obedience".[12] James' kindness to Candide reflects a similar viewpoint to the Quaker – having no need to appease authority through rejection of a "heretic", his acts of charity more closely resemble the teachings of scripture. That James is juxtaposed with the Dutch Protestant church is notable – though Protestant theology once sought to dispense with the restrictions of canon law, Voltaire calls attention to how these churches enforce their faith in repressive ways once they become an arm of the state[13].

Voltaire also turns his eye to punitive forms of state-

8 Dennis C. Rasmussen, "Burning Laws and Strangling Kings? Voltaire and Diderot on the Perils of Rationalism in Politics.", *The Review of Politics* 73, no. 1 (2011), 93

9 Voltaire, *Annals of the Empire*, 5

10 Voltaire, *Candide*, 10

11 *ibid*., 12

12 Voltaire, *Letters Concerning the English Nation. By Mr. De Voltaire*. (London: Sold by J. and R. Tonson, D Midwinter, M. Cooper and J. Hodges., 1778), 3

13 John Witte, "Facts and Fictions About the History of Separation of Church and State." *A Journal of Church and State* 48, 1 (2006), 21

sponsored Catholicism when the protagonist is whipped during an *auto-da-fé* in Lisbon, where "it had been decided by the University of Coimbra, that the burning of a few people alive by a slow fire, and with great ceremony, is an infallible secret to hinder the earth from quaking"[14]. In many of his works, Voltaire rejects the more superstitious elements of religion that are often wielded as a form of social control, as in his 1764 *Philosophical Dictionary*:

> "The superstitious man is to the rogue what the slave is to the tyrant. Further, the superstitious man is governed by the fanatic and becomes fanatic… The Church always condemned magic, but she always believed in it: she did not excommunicate sorcerers as madmen who were mistaken, but as men who were really in communication with the devil."[15]

As the interests of nobility stymied artistic and scientific ideas that contradicted the validity of their rule, so too did state churches suppress more rational, humane forms of law and order that would diminish their hold on power. Voltaire viewed bigotry and conflict as inherent elements to compulsory faith[16], declaring in the *Philosophical Dictionary* that "my thought is subordinate to authority no more than is sickness or health."[17]

Candide flees Europe to seek sanctuary in South America, but he arrives to find structures that are just as restrictive as the ones he left behind. His valet, Cacambo, describes his home of Paraguay as "divided into thirty provinces; there the Fathers possess all, and the people nothing; it is a masterpiece of reason and justice"[18], as blissfully ignorant to the flaws in the system he lives under as Candide was in Westphalia. Though he admired the global flow of commerce and viewed it as a civilizing force[19], Voltaire was often critical of the ways in which colonial leaders reproduced Absolutist hierarchies that they could then rule over[20].

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14 Voltaire, *Candide*, 23

15 Voltaire, *Voltaire's Philosophical Dictionary* (New York: Carlton House 2006), 297

16 Robert Wokler, *Rousseau, the Age of Enlightenment, and Their Legacies* (Princeton: Princeton University Press, 2012), 84

17 Voltaire, *Voltaire's Philosophical Dictionary*, 103

18 Voltaire, *Candide*, 59

19 Ingvild Hagen Kjørholt, "Cosmopolitans, Slaves, and the Global Market in Voltaire's Candide, Ou L'optimisme." *Eighteenth-Century Fiction* 25, 1 (2012), 64

20 Brewer, "Voltaire: War Correspondent at Large", *PMLA* 124, no. 5 (2009), 1849

In *Fragments sur l'Inde*, he writes,

> "Everybody knows what a huge and happy empire the Kings of Spain acquired at the two ends of the earth, without going out of their palaces…Almost all these vast domains, these extravagant establishments, all these wars undertaken to maintain them, were the result of the love of ease in the towns and the greed of the merchants, even more than of the ambition of rulers"[21].

The promise of a global trading empire was that it allowed men to be rootless; the new cosmopolitan male was free to roam the Earth as he liked, without being bound to his family's land or anyone else's[22]. The idea that a hereditary monarch could hold dominion from a faraway seat while deputies force their systems on an unwilling population was anathema to an enlightened citizen of the world. One such deputy Candide interacts with is the Commandant, a Jesuit priest and colonel who is revealed to be the son of the murdered Baron Thunder-ten-Tronckh[23], further underlining the connections between empires on either side of the Atlantic. He denies Candide's request to marry his sister, affronted by his lack of "seventy-two quarterings"[24]. Candide, once so deferential to the Baron's family, rebukes this attempt to impose superiority-via-lineage by running his sword through the Commandant's gut. Candide then escapes in the Commandant's Jesuit guise, which leads a tribe of Oreillons to capture him for the purposes of exacting revenge on their colonial oppressor. He is freed when Cacambo tells them that "you believe that you are going to spit a Jesuit, and he is your defender"[25]. The Commandant's apparent death is then celebrated by both cosmopolitan and native; his authority is revealed to have no real legitimacy among the people he rules over.

After numerous tragedies and misadventures, Candide begins to truly reckon with what these events mean for Pangloss's theory that they live in the best of all possible worlds. After leaving the Oreillons, Candide and Cacambo encounter the hidden paradise known as El Dorado, described by a local as being "sheltered from

21 Voltaire, *Fragments Relating to the Late Revolutions in India, the Death of Count Lally, and the Prosecution of Count de Morangies. Translated from the French of M. de Voltaire*. (London: printed for J. Nourse, 1774), 2

22 Kjørholt,"Cosmopolitans, Slaves, and the Global Market", 62

23 Voltaire, *Candide*, 65

24 *ibid*. 66

25 *ibid.*, 72

the rapaciousness of European nations, who have an inconceivable passion for the pebbles and dirt of our land, for the sake of which they would murder us to the last man"[26]. Here Voltaire presents a utopian vision, a "country [that] was cultivated as much for pleasure as for necessity"[27] where money is worthless and palaces of science stand in the place of courts. In many ways, El Dorado aligns neatly with the ideal society of Enlightenment thought, rejecting the superstitious for the scientific and the legalistic for the libertine. Where it diverges is in its isolation – El Dorado has severed its connection with the outside world to protect itself from exploitation[28], putting it at odds with the interconnected global economy celebrated by Voltaire and many of his fellow *philosophes*. In his *Philosophical Dictionary*, Voltaire urges his reader to "Examine the position of all the peoples of the universe; they are established like this on a sequence of facts which appear to be connected with nothing and which are connected with everything…Everything is cog, pulley, cord, spring, in this vast machine."[29] The promise of adventure in the wider world is too great in the eyes of both author and protagonist, and as they leave El Dorado, laden with riches but unable to ever return, Candide and Cacambo encounter a Black slave who has been maimed by his Dutch master. This encounter illustrates the darkest implications of the world Candide has chosen and Voltaire has championed: however cosmopolitan and interconnected it becomes, it still requires that those who prosper within it do so at the expense of others. As the slave tells Candide, "I know not whether I have made their fortunes; this I know, that they have not made mine"[30].

What would it mean if the "best of all possible worlds" is one in which a person is both connected to their neighbours and free to do as they please? By placing Candide and his companions in such a place at his story's end, Voltaire suggests that it might be more dull and quotidian than one might choose for themselves – as Martin puts it, "man was born to live either in a state of distracting inquietude or of lethargic disgust"[31]. Candide disagrees with this statement as his author might, striving toward liberation within reason. An orderly

26 Voltaire, *Candide*, 81
27 *ibid.*, 76
28 Kjørholt, "Cosmopolitans, Slaves, and the Global Market", 79
29 Voltaire, *Voltaire's Philosophical Dictionary*, p. 81
30 Voltaire, *Candide*, p. 90
31 Voltaire, Candide, 163

and progressive society cannot reject all authority, but Voltaire posits that when authorities no longer serve a function, "the best of all possible worlds" may come into closer reach once they have been discarded. In the Philosophical Dictionary entry for "Fatherland", Voltaire writes,

> "Well now, is it better for your fatherland to be a monarchy or a republic? For four thousand years has this question been debated. Ask the rich for an answer, they all prefer aristocracy; question the people, they want democracy: only kings prefer royalty. How then is it that nearly the whole world is governed by monarchs? Ask the rats who proposed to hang a bell round the cat's neck. But in truth, the real reason is, as has been said, that men are very rarely worthy of governing themselves."[32]

32 Voltaire, *Encyclopédie philosophique, 132*

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Blurring Lines: Bartering Sex in the Holocaust

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Sexual and sexualized violence always go hand-in-hand with events of genocide, and the Holocaust is no exception. The question up for debate in Holocaust research and literature is whether the act of sexual barter fits into this category of violence, as upon considering the conditions victims were placed in, the definitions of choice, force, and agency become fluid and change with the circumstances they take place in. The reality of ghetto or camp life, like puppet strings, was a force that constantly loomed over the motivations behind victims' decisions. Better access to food, increased social standing, and improving the chances of one's survival are issues that in ordinary life, some would not give much thought to, but during the Holocaust, permeated their modes of thought so deeply it greatly influenced their choices and behaviours.

While they differ in medium and opinion, the research of Anna Hájková and Robert Sommer, Liana Millu's *Smoke Over Birkenau*, and Ka-Tzetnik's *House of Dolls* each illustrate this issue in a way that is unique to their lens, while also contributing to the history of sexual barter during the Holocaust. Hájková and Sommer are both Holocaust scholars who focus on sexuality in Nazi ghettos and concentration camps, respectively. Millu, a Jewish-Italian author who was sent to Auschwitz-Birkenau, narrates the experiences of six women whom she lived with in the camp, detailing their struggles with sexual barter, inmate-relations and competition, and prostitution. Writing under his pen name Ka-Tzetnik, Yehiel De-Nur was a Jewish man who wrote his novel based on a fictional Jewish girl named Daniella, who was forced into prostitution in Auschwitz. Despite being a work of fiction, it is inspired by his own experiences in Auschwitz. Together, they form a hazy mosaic of sexual barter in the Holocaust– boundaries of fact versus fiction and force versus choice conflict and blur and are thus difficult to locate. This central theme of blurring lines is what unites these seemingly different sources.

This essay will demonstrate how these sources come together around this central theme by asking them two questions. The first compares the sources on which they are based and the kind

of knowledge they contribute to this area of Holocaust studies. The second question compares the way in which each source depicts choice (or its lack thereof), and the reasoning or motivations behind such decisions and whether they thus constitute as choices, each presenting a their own vision of what it means to wield agency under Nazi rule.

A mix of research, fiction, and testimony, each source presents the same idea in a different way. In Hájková's *Sexual Barter in Times of Genocide: Negotiating the Sexual Economy of the Theresienstadt Ghetto* article, she bases her work on primary documents– testimonies, letters, and interviews. An example of this is her analysis of a satirical advertisement in a ghetto journal for women willing to serve as men's *kumbàl*–a woman who'd give a man sex in return for food or other goods.[1] Because as a researcher, she is unable to contact the creator of this ad, she has to deduce, or assume, the meaning from the source herself. This is also similar to Robert Sommer's work in his *Camp Brothels: Forced Sex Labour in Nazi Concentration* Camps article, in that the sources he bases his arguments on are from camp brothel administration, SS documents, medical documents, and testimonies. From gathering information on the racial or ethnic makeup of prostitutes and their visitors, he must infer what they might mean–the lack of Jewish prostitutes and male Slavic visitors, he argues, hints to the Nazis' stance on race laws and interracial sexual activities.[2] Both research articles are similar in that they run the risk of imposing subconscious opinions or arguments on the information they are trying to gather. They are also similar in their acknowledgment of a lack of first-person testimonies due to shame or stigma surrounding the topic of surviving through sex, specifically that of women's testimonies in ghettos.[3] Sommer cites this lack of testimony not just as a result of stigma, but also of fear of being accused of Nazi collaboration.[4] This hole in the research on this topic may be filled by works of imagination, as the ones from Ka-Tzetnik and Millu.

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[1] Anna Hájková, "Sexual Barter in Times of Genocide: Negotiating the Sexual Economy of the Theresienstadt Ghetto," *Signs* 38, no.3 (Spring 2013): 516, https://www.jstor.org/stable/10.1086/668607. [2] Robert Sommer, "Camp Brothels: Forced Sex Labour in Nazi Concentration Camps," in *Brutality and Desire: War and Sexuality in Europe's Twentieth Century*, ed. Dagmar Herzog (London: Palgrave MacMillan, 2009), 175-183.

Focusing on Ka-Tzetnik's book, Sommer has a direct conversation with him, claiming that Ka-Tzetnik "mixes fact with fiction," in that the book is based on the story of a Jewish girl that becomes a camp prostitute.[5] Per his research, there were no Jewish girls who worked as prostitutes in Auschwitz. He is also critical of Ka-Tzetnik's work in that to him, he portrays the issue in a pornographic and sensationalist manner.[6]

However, despite such inaccuracies that may cause some to render such a source as useless, imagination in Holocaust literature can produce knowledge that one may not be able to get through research. While Jewish women did not work in brothels, they still remained subject to sexualized violence in other forms. Through this mixing of fact and fiction, perhaps Ka Tzetnik's placing of a Jewish girl in a brothel can serve as a metaphor for the experiences faced by Jewish women, and the control Nazis had on their agency. In addition, the flexibility of one's imagination may allow the author to better contextualize and personalize their story in a way that they cannot in testimony, for example. The blurred boundaries between fact and fiction in historical-fiction novels may allow room for victims to tell their stories in a manner that off-sets the taboo surrounding the topic of sexuality, sexual barter, and prostitution. In fact, the issue of there being a lack of testimonial information due to stigma and shame is brought up in the works of Hájková and Sommer. While lacking in research articles, it is made up for in works of fiction, or part-fiction like Millu's. Although more fact than fiction compared to Ka-Tzetnik, Millu's work stands out from the rest in that it offers a perspective distanced from that of a man. Even though *House of Dolls* is about a girl, she has been made-up by a man, who attempts to understand and express the thoughts, desires, and feelings of a young teenage girl. Out of the four sources, *Smoke over Birkenau* is the only one that steps away from the male

[3] Hájková, "Sexual Barter", 507.
[4] Robert Sommer, "Forced Prostitution in National Socialist Concentration Camps–The Example of Auschwitz," in *Forced Prostitution in Times of War and Peace: Sexual Violence against Women and Girls*, ed. Barbara Drink and Chung-noh Gross (Berlin: Kleine Verlag, 2007), 128.
[5] Robert Sommer, "Pipels: Situational Homosexual Slavery of Young Adolescent Boys in Nazi Concentration Camps," in *Lessons and Legacies XI: Expanding Perspectives on the Holocaust in a Changing World*, ed. Hilary Earl and Karl A. Schleunes (Evanston, IL: Northwestern University Press, 2014), 89.
[6] Ibid., 95.

[7] Hájková, "Sexual Barter", 506.

gaze and allows insight into the real experiences of women and their encounters with sexuality in the concentration camp of Auschwitz. By immersing oneself completely in the gaze of the victim, rather than through that of the documents left behind by the Nazis can offer an insight that captures the daily reality of waking up in a concentration camp that research simply cannot. While there's vast difference in the sources these works are based on, the way some of them push the rigid boundaries set between truth and fiction in academia can offer a broader and fuller perspective in this area of Holocaust research.

One element that all four sources have in common is their explanations of the rationale (or lack thereof) behind making the decision to be part of the sexual barter economy, work in a brothel, or accept being someone's pipel. They all clearly hold to high importance that in order to investigate the degree to which these decisions were made out of choice, the reasons and conditions that may have swayed such decisions need to be understood. In Hájková's article, she strongly pushes the narrative that participation in the sexual bartering economy in and of itself suggests an element of agency. To barter, you must have some control over what you are offering and what you are receiving in return–just because one's choices were limited does not mean there was no choice at all.[7] Thus, she finds problematic what other Holocaust scholars have described them as "choiceless choices" because of the life-threatening conditions they were made under.[8] She coins the term "rational relationships" in describing these instances of sexual barter, and argues that they hold a degree of consent, in that people in ghettos engaged in them for not only commerce and the trading of essential goods, but for emotional comfort protection, and in boosting the social status of men as strong and able providers to beautiful women.[9]

Sommer's depiction of choice is both in agreement and disagreement with Hájková's. He mentions her idea of "rational relationships", describing them as well-used survival strategies and recognizes the agency women had in deciding whether they'd enter such a relationship.[10] However, his agreement with Hájková ends there, as he suggests that women who worked as prostitutes in camp brothel whether by choice or force, lacked the agency to make

them true choices. In selecting women for the brothels, they were either promised better food, working conditions, and being released within six months–which this last promise was never kept–or were picked out during morning roll-calls.[11] Women had to make a choice between working themselves to death or selling their bodies for better living conditions in the hope that they'd survive. Sommer also brings into discussion the issue of *pipels*, which were young, feminine looking boys who would be in sexual relationships with their *Kapos*—prisoners assigned supervisory and administrative tasks in the camps, a position that in and of itself arguably demonstrates the 'blurred lines' of agency—and in return receive less work, more food, and overall protection from the harshness of the camps from their partners.[12] These relationships were almost always violent and exploitive, considering the asymmetrical power balance between the two. Despite this, both *pipels* and prostitutes had to tolerate such treatment in "subordinating all actions to survival".[13] This broken will to even resist a forced relationship is a sign of the dehumanization process upon arrival in the concentration camps, Sommer argues.[14] Stripping one of their sphere of privacy, having their bodies shaved, and being forced to stand naked among strangers instilled a sense of inhumanness and worthlessness in inmates, creating a sense of general apathy or tolerance in the face of such force.[15] Yet at the same time, Sommer posits that the same situation could be seen as indeed holding agency, in that accepting such a relationship required some form of agency, in that it was an active decision to stay, rather than lose one's life, mirroring Hájková's insistence on the existence of agency.[16] Throughout Sommer's work, it's clear that he continually wrestles with the choice/agency debate, striking some similarity with Hájková's work.

[8] Hájková, "Sexual Barter," 506.
[9] Ibid., 511-22.
[10] Sommer, "Camp Brothels", 178.
[11] Ibid., 173.
[12] Sommer, "Pipels," 87-89.
[13] Ibid., 90.

Bringing Ka-Tzetnik's book into the conversation, it's clear that his depiction of choice and brothels in concentration camps fundamentally disagrees with both Hájková and Sommer. In the book, Daniella, a fourteen-year-old Jewish girl was selected to be brought to Auschwitz against her will during an *Atkion* in her ghetto.[17] Upon arrival, each girl is stamped with "*FELD HURE*" (literally "field-whore) across her chest.[18] When Daniella asks another inmate what it means, she replies that it means they are now property of the German government.[19] In Ka Tzetnik's view, working in a brothel was not a choice in the slightest sense. Immediately upon arrival, inmates were tattooed with such phrases or numbers, signifying not only their dehumanization, but the theft of all their agency. How can one have agency if you are under the full control of someone else, like the Nazis? To Ka-Tzetnik, there is no room for half or partial-choice.

Millu, on the other hand, is similar to Sommer and unlike Ka-Tzetnik in that her depiction of choice is not as definitive and instead embraces the nuances of the issue. She considers it from the view of several different women, all whose situations paint a different picture of what choice looked like in Birkenau. In Millu's narration of a woman by the name Lili, the motivations behind her actions do not come from a dire need to survive, but rather from a place of romance, comfort, and humanity. Lili never worked in a brothel, but while working in the labour camp alongside Millu, she developed a minor romantic relationship with another Kapo, who also happened to be the romantic interest of her own Kapo, Mia. While teasing her about it, Lili refused to give Liana any details about her *kochany*. Millu realized that she would never let anyone in on her relationship, because "…it was the one thing she could call her own and nurture tenderly in the privacy of her heart–a tiny

[14] Robert Sommer, "Masculinity and Death: De- and Resexualization in Nazi Concentration Camps," in *The Holocaust and Masculinities: Critical Inquires into the Prescence and Absence of Men*, ed. Björ Krondorfer and Ovidiu Creanga (New York: State University of New York Press, 2020), 54.
[15] Ibid., 55.
[16] Sommer, "Pipels," 97.
[17] Ka-Tzetnik, House of Dolls (London: Frederick Muller, 1956), 87-88.
[18] Ibid., 133.
[19] Ibid., 133.

flame carefully shielded from the savagery of the insidious shadows all around."[20] When her *kochany* would flirt with her, Lili was able to forget that she was, in the eyes of the camp, "nothing but a work unit…transforming number A5480 into a breathless, at times even happy, young girl."[21] Echoing Sommer's thoughts on the process of dehumanization and desexualisation upon entering the camp, Lili participated in such a relationship to help keep her going in the camp, but in a different way outside of receiving essential goods. She wanted to feel human and attractive, and in a place where all privacy was stripped from you, she wanted to have something to herself. Also going back to Ka-Tzetnik's idea of being owned, Lili for once wanted to own something herself–as inmates were also stripped of any personal belongings. In another story belonging to a girl named Lottie, Millu strikes a similarity to Sommer in highlighting coerced choices. Lottie used to work in the labour camp, but decided one day on working in the brothels, a decision that sparked great stigma among the women who used to work with her. Rationalizing her decision, Lottie argued, "I don't want to die… Everyone in the lager goes around picking up leftovers from the garbage. They suck bones other people spit out–and I'm supposed to refuse life because it's offered on a dirty plate?"[22] Lottie chose to work in a brothel based on what she thought would give her a better chance at survival–her choice was influenced by her fear of death. While Millu never gives her personal opinion on whether this was a true choice, it echoes Sommer's idea of coerced enlistment, in that the looming threat and fear of death is too heavy of an influence for someone to have full agency and choice over their decisions.[23]

The third and final woman whose story interacts with the idea of choice is that of Lise's. Lise was a married woman who worked with Millu, and despite her marriage, she could see the allure in having a "rational relationship", remarking that another woman they knew who had such a relationship with a *Kapo* had "…already gotten two delicious bowls of soup out of him. With carrots, no less!"[24]

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[20] Liana Millu, *Smoke Over Birkenau* (Florence: The Giuntina, 1986), 21.

[21] Ibid., 28-33

Despite her initial reluctance, she finally gave into a *Kapo*'s flirting with her, and was found coming home from being with him with extra bread, as well as the *Kapo*'s harmonica.[25] Similar to Hájková, including Lise's story in her novel highlights the element of choice in rational relationships, even considering the circumstances under which it occurred. Both agreed to the relationship as long as Lise provided the service of sex, and the Kapo provides food and entertainment.[26] Through comparing these four works on the subject of choice, it's clear that the definition of choice or agency once inside concentration camps like Auschwitz were not the same as that in the outside world. The daily threat of violence and death faced by the inmates impacted the degree of choice exercised behind such decisions, and although each source depicts this degree differently, they share that notions of agency must be adjusted when considering living under a system in which you are dehumanized and owned.

After comparing these four sources, one may look at this paper and see more difference than similarity. However, these differences come together to paint a complex picture of what choice looks like under force. The constant disagreement over sources and choice can offer a seemingly obvious view on choice–that it becomes muddied under force and oppression. People will do whatever they can to try to stay alive for as long as possible, so choice must be understood with this narrative as a foundation. The differences among these works on the basis of source also offer a contribution to our knowledge of this area in Holocaust history. While research on on-the-ground happenings are immensely useful, creativity is also a useful form of research in that it also plays a part in expanding the perspectives and experiences included. The comparisons drawn between these four works in this paper serve to broaden the rather rigid definitions of what counts as credible sources, and the boundaries set between force and choice that we apply when learning about Holocaust and genocide history.

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[22] Millu, 172.
[23] Sommer, "Camp Brothels," 173.
[24] Millu, 181.
[25] Ibid., 197.
[26] Hájková, "Sexual Barter," 506.

Historiographical Interpretations of the Origins of World War I

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Sometimes referred to as the "War to End All Wars", World War I is considered one of the deadliest conflicts in history. A global conflict taking place between July 28, 1914 and November 11, 1918, World War I was fought across Europe, Africa, the Middle East, the Pacific, and portions of Asia. Its belligerents, including much of Europe, the Ottoman Empire, the Russian Empire, and the United States, were split into two major alliances— the Allied Powers, its significant members including France, the British Empire, Russia, and Serbia; and the Central Powers, its significant members including Austria-Hungary, Germany, and the Ottoman Empire.

Perhaps it is the extreme devastation in which World War I resulted that has led historians and scholars to repeatedly return to the question— what caused World War I? What allowed a system of relatively civilized states to slip into a global conflict of such epic proportions? Some, such as the Oxford scholars, place blame on the Triple Alliance. Others, such as Georges Demartial, implicate the Allied Powers, while those like Fritz Fischer point the finger at Germany alone. These scholars' interpretations on the origins of World War I differ largely due to the various political systems in which they were birthed. The political environment in which a scholar presents their ideas influences their final argument.

This essay will argue three trains of thought within this. First, the time period in which an argument is put forth can place certain limitations on its scope, and can thus lead scholars in one specific direction. Second, the changing availability of information can present new perspectives and influence a scholar's conclusions. Third, global conflicts in the future, namely World War II, can recontextualize the First World War and its origins. The end result is a myriad of interpretations on the same topic that are shaped by the politics surrounding them.

When World War I broke out, scholars were quick to attempt to discern what exactly had caused it. This analysis began right from the onset of the war, when moralistic ideologies still swept

much of England specifically. Thus, the time period in which these early ideas were presented shaped the analysis and offered specific interpretations.

The Oxford Faculty's "Why We Are At War", originally published in 1914, was written by six Oxford scholars who argue that the Triple Alliance, an alliance between Germany, Austria-Hungary, and Italy, were to be blamed for the outbreak of World War I. They propose that the Triple Alliance inspired a sense of overconfidence in German decision-makers that encouraged them to completely disregard the law of nations and lay claim to territories both East and West of them.[1]

Germany's aggressive nature towards her Western neighbours, namely Belgium and France, essentially forced England's hand. The scholars present England's siding with France as a quest to protect a nation's autonomy, an ideology considered to be "Right".[2] The scholars write, "Our interest is in Right. We are fighting for Right, because Right is our supreme interest."[3]In this way, the scholars position England, and by extension, other Triple Entente powers as innocent, acting only to reign in the Triple Alliance's expansionary threats.

The Oxford scholars base their argument on moralistic ideology that dictated European politics in the pre-1914 period. Their focus on Germany's aggressive war aims, aided and encouraged by Austria-Hungary and Italy, and England's moral duty as a protector of Right, overshadows the Great Powers' issues of national interest. Said issues reveal the Triple Alliance may not have been the sole actor at fault in the origins of World War I, a revelation that was only discovered post-war.[4]

[1] Members of the Oxford Faculty of Modern History, *Why We Are At War,* 3rd ed. (Oxford Clarendon Press, 1914), 29.
[2] Ibid, 29
[3] Ibid, 117.

In this way, the Oxford scholars were almost too close to the conflict. "Why We Are At War" was published in the first year of the war, marking it as a representation of early thought-processes surrounding its origins. Its early publication limits its perspective to that time period and is therefore influenced by fraught international relations/politics and national prejudices that were, to the writers, recent and undisputed. This interpretation was made before the war's conclusion, before further information could be brought to light, before the European environment could move away from moralistic politics.

With the conclusion of the First World War came changes in the availability of information. Previously unseen documents made public opened space for new interpretations that challenged the Treaty of Versailles' War Guilt clause, and in turn, inspired another political ideology, new-style pacifism.

In a report for the Ligue des droits de l'hommes, Georges Demartial proposes the Allied Powers are at fault for the origins of the war as much as Germany. Demartial argues that the Allied Powers spent twice as much on their military budget than the Central Powers in the decade preceding the war; that Belgian decision makers had seen Britain and France as a greater threat to their national security than Germany; that documents published by Czech philosopher Karl Kautsky showed that Wilhelm II had not entered the war as a personal desire to indulge his nation and his people on war spoils; and that Serbia mainly should accept guilt for the outbreak of war.[5]

Much of Demartial's argument hinges on documents that had been seized or published post-war. Information outlined in them had largely been kept secret until this point. Demartial's criticisms are based on new information gained in the interwar years— the admittedly incomplete "coloured books", Belgian documents seized by German forces, newly published Soviet documents, ideologically diverse British newspapers, and the aforementioned Kautsky documents.[6]

[4] Richard D. Warden, American Historiography of the Origins of World War I, 1914-1935 | A Comparative Study, (PhD diss., University of Montana, 1958), 33.
[5] Norman Ingram, *The War Guilt Problem and the Ligue des droits de l'homme, 1914-1944*. (Oxford University Press, 2019), 79.

As these documents were made public, historical dissent driven by Demartial and his contemporaries would make way for new-style pacifism. The emergence of new-style pacifism encouraged a rejection of post-Versailles Europe. Its seeds were planted in 1916 with Dermartial's harsh criticisms of Versailles' verdict of Germany's war guilt.[7]

This early incarnation of new-style pacifism was adopted by Demartial and others who, "suffer more from an injustice committed by France than from an injustice committed against her."[8]In this way, Demartial's arguments are rooted in a dissatisfaction in France and the burgeoning political ideology of new-style pacifism. The new information made available encouraged Demartial to disparage Versailles' clause further and to assign blame to the Allied Powers, all in embracing this new political belief.

The European political system saw radical shifts during the 1930s. The rise of fascism in multiple European states— most notably Germany— and the occurrence of another global conflict, World War II, also gave birth to new interpretations of the origins of World War I.

German historian Fritz Fischer challenged the interpretations born in the interwar years with his book, "Germany's Aims in the First World War". After accessing government files detailing plans of annexation that had been outlined during World War I, Fischer proposed that German decision-makers held aggressive aims of expansionism, and went so far as to posit that the Reich unleashed the war deliberately as an opportunity to achieve these goals.[9]

Fischer argued that Germany made possible the Austro-Serbian war by issuing Austria-Hungary a "blank cheque"; that Germany accepted war with Russia and France on the basis of British neutrality— knowing that any war involving a great European power would invite a general European conflict— and that decision makers even worked towards this war; and that Germany had already prepared extensive war aims at the conflict's onset and

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[6]Ibid, 79.

[7] Norman Ingram, *The Politics of Dissent: Pacifism in France 1919-1939*. (Clarendon Press, 1991), 123 [8] Norman Ingram, *The Politics of Dissent.* 122.

harboured the final goal of establishing the "hegemony of Germany over Europe".[10] Fischer further argues Germany's deliberate role in causing the war, writing, "Bethmann Hollweg himself saw [...] that the formation of a great central European economic unit under German leadership, "could not be brought about on the basis of agreement on common interests… but only under the pressure of political superiority, should we be in the position to dictate peace terms.""[11]

Fischer's interpretation was a drastic departure from the interwar consensus that no one nation had caused the war, and could have been influenced by other world events and politics taking shape around him. During the interwar years, Fischer had adopted Nazi ideology since it allowed him to distance himself from nationalist-conservative historiography. However, Fischer had become disillusioned with Nazi ideology by 1943. Additional experiences, such as being made a prisoner of war and visiting the United States and Britain after the close of the Second World War, may have pushed him to further question his previous beliefs.[12] The same anti-nationalist/anti-conservative values that drew him to Nazism could have drawn him into liberalism as well.

Whereas the origins of World War I were murky, it was undeniable that Germany had played a major role in the origins of World War II. It is plausible that Fischer, having witnessed Germany's aggressive war policies during World War II, recontextualized the origins of World War I within his new perspective of Germany. Furthermore, the journey Fischer personally went on with German politics perhaps made him more comfortable in taking an anti-Germany stance when studying the origins of the First World War. In this way, the Second World War influenced Fischer's conclusions on the First. Fischer's argument is a result of the extreme political ideologies which controlled Germany and a desire to combat the intense nationalism to which she had fallen victim.

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[9] Annika Mombauer, "The Fischer Controversy 50 Years On," *Journal of Contemporary History*, Vol. 48, No. 2 (2013): 231.

[10] Gregor Schöllgen, *Escape into War? The Foreign Policy of Imperial Germany*. (Berg Publishers Limited, 1990), 3.

[11] Fritz Fischer, *Germany's Aims in the First World War*. (W. W. Norton Company, Inc. and Chatto & Windus Ltd, 1967), 105.

For over one hundred years, scholars have been debating the origins of World War I and have yet to come to a single consensus. While the Oxford scholars blame the Triple Alliance, Georges Demartial turns on the Allied Powers, and Fritz Fischer implicates his native Germany. Each different from the next, these three interpretations are shaped by the political environments in which the scholar made their argument— Englishmen were influenced by their home nation's moralistic ideology, new-style pacifism turned a Frenchman against his nation, and fascism charmed a man, before repulsing him. Time periods in which arguments are presented limit their depth, information availability changes perspectives, and other major world events shine new lights on previous conflicts. The interpretations of the Oxford scholars, Demartial, and Fischer are only a select few in a wide array of them. The First World War has produced possibly the largest body of historiographical work of any conflict, and will produce more works to come. In the end, its origins can be attributed to any number and combination of nations and decisions.

[12] Mombauer, *The Fischer Controversy*, 234.

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Potentiality Fetishism and the Genealogical Technique

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In the first of his lectures in *Society Must Be Defended,* Foucault outlines both the procedural contours and tactical effects of the genealogical approach. In the subsequent lectures, he develops a genealogy of biopower. I intend to do three things in this essay: preliminarily, to set out a working definition of genealogy; then, to trace Foucault's genealogy of the birth of biopower; and finally, to critically assess the resistive efficacy of the genealogical approach. I argue that Foucault's genealogy of biopower mistakenly omits a critique of what I call potentiality fetishism. I suggest that this particular mistake highlights an issue with genealogy in general: that without a critique of the motivating valuations embedded in power knowledge, genealogy is not effective at resisting power relations. For now, though, I return back to the first lecture to excavate our working definition of genealogy.

Genealogy is, for Foucault, a tactical-discursive alliance between two marginalized knowledges of struggle: the disqualified, subjugated, and localized alongside the erudite, archival, and scholarly (8). Genealogy begins with marginalized subjective knowledge, what Foucault calls 'knowledges from below' (7). These knowledges are local memories of power struggle, often disqualified as illegitimate or insufficiently elaborated (7). These subjugated knowledges discredit power's attempts at self-legitimization, by highlighting the contingency of the struggle which brought about contemporary power relations (8, 26). For a receptive reader, encountering these subjugated knowledges might alone suffice to credibly reveal the contingency of power. However, Foucault thinks that the coupling of these disqualified knowledges with historical erudition is needed to give genealogies broader legitimacy and discursive strength (8).

Genealogy is tactically useful because it is differential, it fractures totalizing (i.e., 'scientific') discourses by providing a counter-narrative to the dominant historical record (9). While genealogies are 'anti-sciences' in that they work precisely against

totalizing claims, they are not fictitious (9). The genealogist reanimates subjugated knowledges that are marginal, but nevertheless authentic (9). Genealogy is counter-narrative but not anti-history (9). Genealogy is not a critique of totalizing discourse for its own sake, but is instead intended to redress the concrete power-effects that totalizing discourse has (9). Genealogy discloses the fragility of power's self-legitimization, and in doing so, emphasizes the possibility of new, emancipatory arrangements of power (26, 40).
With this outline of how genealogy works, we can now attend to Foucault's specific genealogical project in the text, the genealogy of biopower. Foucault's genealogy suggests that genealogy was itself vital to the development of biopower. He suggests that a specific genealogical move dismantled sovereign power's self-legitimation, and thereby assisted in biopower's emergence.

Before this genealogy emerged in the sixteenth century, history primarily concerned itself with legitimizing sovereign power (69). Historical knowledge served to establish an unbroken link between sovereign power *du jour* and a more primal sovereignty of yore (66). These linkages (fictitious or not), alongside myths, rituals, and so on, provided an entrenchment of sovereignty in a kind of blinding lustre (66-67). This dazzling effect of sovereignty obfuscated the underlying power struggles which, despite being 'petty' and 'mundane,' would more accurately describe how sovereignty had seized power (66).

History reliably serves its duty to sovereignty from the primitive histories of the Romans until the end of the sixteenth century (49). It is then, however, that we see an alternative historical discourse emerge (69). This alternative historical discourse, what he calls 'counterhistory,' is a genealogy (66). It narrates history not as an unbroken and uncontroversial chain of sovereignty, but as an unending struggle between races (69). It inscribes perpetual race war as the primary historical motif (74).

Foucault sees the emergence of counterhistory as a turning point for Europe. It is, for him, the point at which Europe breaks from antiquity and enters modernity (74, 80). As it emerges, history is no longer solely an account of sovereignty's great deeds, but an account of war, of subjugated and subjugator (70). Previously unheard

populations begin to speak for themselves — narratives of collective subjugation emerge (76). These narratives prophesy a resurfacing of latent race struggle, revolutionary action, and emancipation (78-80). History reveals itself as a discursive battlefield, one in which narratives can be buried, fabricated, and weaponized (72).

It is worth briefly pausing to examine what exactly is meant by 'race' in this counterhistory of race war. At the turn of the sixteenth century, race was demarcated along the lines of language, religion, custom, rights, status, and so on (77). It was not, at this time, a biological distinction (77).

The counterhistory of race war delegitimized sovereign power, enabling the possibility of novel, non-sovereign power-arrangements (80). Foucault believes biopower is precisely the post-sovereign power that emerges in this gap (247). If only briefly, it is worth noting that the relationship between sovereignty and biopower is not one of absolute succession — Foucault describes biopower as 'penetrating' and 'permeating' sovereign power, but also clashing with it (241, 248).

Biopower's emergence relied upon a conceptual transformation of 'war' within the counterhistory of race war (239). Foucault describes this transformation as a displacement and eventual 'negative' reappearance of the motif of war within historical discourse (216). These conceptual transformations were made possible through a novel assertion of nationhood by the Third Estate in revolutionary France (215).

The Third Estate asserted itself as *the* French nation, claiming that only it could constitute a nation (223). It claimed that nationhood was simply the capacity to fulfill a State's necessary functions: agriculture, commerce, and so on (223, 220). The nobiliary conception of nationhood was, in contrast, one of shared custom, tradition, and status (221), what we know as counterhistory's conception of race. Nobiliary nationhood was determined by its struggle against other nations — war was embedded in what it meant to be a nation (223).

The new definition constitutes nationhood exclusively through its own capacities and potentiality (223). Nationhood moves from the plural (as in counterhistory) to the singular (81).

The nation's struggle is no longer a struggle against other nations, but a struggle to produce and administer itself (223-224). This redefinition enabled the displacement of the motif of war within historical discourse (216-217). What Foucault calls the 'negative' reappearance of war is the internalization of struggle (225). The 'war' which determines nationhood is now an internal and civilian war: a war to preserve the nation's potential to constitute itself (257-258).

Both biopower and thereby state racism develop out of this negative reappearance of war. The state's concern with its own potentiality, aided by post-evolutionist discourse (80), develops into disciplinary and regulatory mechanisms intended to manage life and purify the population (244-246). State racism emerges as the culmination of biopolitical concerns with purification and health. Biopower appropriates the sovereign right to kill by reframing it as necessary to preserve the nation (256).

With Foucault's genealogy of biopower laid bare, we can now undertake our final task: critically examining the resistive efficacy of genealogy. As noted above, genealogy is not a neutral exercise, it is an 'insurrection of knowledges' weaponized specifically to subvert power relations (9). Foucault, then, understands his genealogy of biopower to be in some way combatting biopower. Our motivating question is thus: does Foucault's genealogy effectively resist biopower? Does genealogy in general effectively resist power?

Foucault identifies the Third Estate's redefinition of nationhood as the final discursive move from which biopower emerges. This redefinition embeds what I call a fetishization of potentiality. As he says: the greater the nation's potential to constitute itself, the stronger the nation will be (223). I suggest that preservation of potentiality is *the* biopolitical motivation. As such, any effective critique of biopower must address and overturn this valuation.

While Foucault helpfully excavates this fetishization of potentiality, he mistakenly omits any critique of it. I suggest that Foucault's prescription of a future which is 'both anti-disciplinary and emancipated from the principle of sovereignty' (39-40) is one which does not preclude this fetishization of potentiality. Foucault

focuses on a derivative effect of this fetishization, namely biopower, and in doing so cannot see the forest for the trees. His critique is not effective enough to preclude alternative power relations which are anti-disciplinary but equivalently problematic.

Foucault does not give us a critique of the fetishization of potentiality himself. However, I suggest that such a critique can be made. Potentiality perhaps seems at face value to be a good thing. If power is 'essentially that which represses' (15), it seems that Foucault's issue with power is precisely that it can limit our potentiality. Potentiality of some system (subject, nation, or otherwise) is most potent at homeostasis. When I am tired or hungry or sick, my potentiality is limited. My potentiality is greatest when my mind is clear, I am fed, I am healthy, and so on. What, then, is the issue with privileging potentiality?

The danger of potentiality fetishism is, I argue, that it mutates into an unending pursuit of homeostasis. When we are homeostatic, any move which realizes our potential will necessarily bring us out of homeostasis — potentiality is itself the possibility of novel, non-homeostatic states. If we privilege potentiality in itself, then, we will never escape homeostasis. Committing to a *single* potentiality becomes apprehended as limiting the potentialities of our future, so we will never actually pursue *any* present potentiality. Fetishization of potentiality sacrifices *present* potentiality for *future* potentiality, but the realization of this future potentiality is indefinitely put off. This fetishization perpetually sacrifices the present for a future realization which never arrives.

I would now like to step down from the theoretical level and concretize this fetishization of potentiality with the example of Bryan Johnson. Bryan Johnson is a tech entrepreneur who has received recent media attention for his laborious anti-aging protocol (Jan 2023, 2-4). Johnson's protocol has cost him millions of dollars to develop (Jan 2023, 3), and it monopolizes his daily life. His protocol involves taking routine measurements of over seventy of his organs (Jan 2023, 2). Each day, he takes more than one hundred different supplements and medications (Oct 2023). His meals are based on 'gold standard scientific evidence,' and his diet contains little to no daily variation (Oct 2023). To achieve 'perfect sleep,' Johnson

follows a strict bedtime routine: he has no food or liquid after 6 p.m., he goes to bed between 8:45 and 9:30 p.m., he sleeps at a room temperature of 67 ºF, and so on (2018). He admits that this routine has 'come at a cost to [his] social life,' but he assures the reader that the health benefits have disqualified any potential regrets (2018). On his website, large, bolded text pronounces his goal: 'don't die' (Oct 2023). I believe Johnson is a potentiality fetishist *par excellence*. What Johnson is striving towards is perpetual homeostasis, and he spends most of his waking time pursuing this goal. This exemplifies the self-defeating logic of potentiality fetishization: Johnson spends his life in pursuit of a future in which he is still alive, and in doing so, never meaningfully lives.

What is theoretically interesting to me is the way in which Johnson's potentiality fetishism enables a novel discourse about his own body. Johnson refers to his own body as '35+ trillion cells who make [him] who [he is]' (Oct 2023). He wants to enable his organs to 'speak for themselves' and reveal by themselves what (disciplinary) interventions they require (Oct 2023). Whether at the level of cells or organs, Johnson perceives his body as a population of subjects, some of which pose a threat to the health of his body-nation. Johnson scales down biopower's disciplinary apparatus and techniques of regularization from the level of a human population to his own body.

While Bryan Johnson is undoubtedly an extreme example, I think it is not unreasonable to suggest that, in our contemporary milieu, we are all at some level potentiality fetishists. Foucault's prediction of an anti-disciplinary future in *The Birth of Biopolitics* (TBoB, 259) strikes me as particularly prophetic. The disciplinary excesses needed to preserve a nation's potentiality seem to have partially withdrawn in a new fetishization of non-intervention (TBoB, 27). Even in the 1970s, anti-disciplinary discourses like anti-psychiatry had already succeeded in 'jamming the workings of psychiatric institutions' (SMBD, 5). I do not think, however, that our anti-disciplinary society has done away with the fetishization of potentiality. I think that in the withdrawal of power's interest in capacitation and discipline, subjects have needfully internalized potentiality fetishization. I catch myself trapped in this logic at

times. I sometimes feel as though I am baselessly moving toward a future potential (say, the potential of a university graduate) just because it *is* a future potential. Why am I in university? Power is not interested in my capacitation — no one will come and discipline me if I were to drop out. I enjoy philosophy, but then, why not just pursue it outside of such an indifferent institution? The disciplinary powers of yore were undoubtedly repressive, but I think that an anti-disciplinary milieu can be equally fatiguing.

To return to our initial concern, I believe that Foucault's omission of a critique of potentiality fetishism highlights a vulnerability with the genealogical technique in general. Genealogy reveals the contingency of power relations, and in doing so, opens the prospect of alternative power relations. I believe, however, that this disclosure of contingency is not enough. One can pose a rhetorical question to any genealogy: 'Sure, these power relations are contingent, as you claim. But so what?' What the question reveals is this: any effective critique of power must primarily address the motivating valuations that are embedded within power-knowledge. If we do not primarily address and overturn these motivating valuations, our critique can become misused. Genealogy alone can erroneously facilitate alternate power relations which, while appearing at surface level to be emancipatory, reinstate the same repressive valuations.

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Reconnecting To Nature In The 21st Century: Considering *Laudato Si'* as a Guide

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"We live in a world in which a tree is worth more, financially, dead than alive — in a world in which a whale is worth more dead than alive. For so long as our economy works in that way, and corporations go unregulated, they're going to continue to destroy trees, to kill whales, to mine the earth, and to continue to pull oil out of the ground — even though we know it is destroying the planet, and we know that it's going to leave a worse world for future generations. This is short-term thinking based on this religion of profit at all costs, as if somehow, magically, each corporation acting in its selfish interest is going to produce the best result."

– Justin Rosenstein, *The Social Dilemma.*[1]

Introduction

Philo of Alexandria, describing our world in the first century BCE,[2] once wrote that creation is "too great and august to be adjusted to the tongue or ear of any mortal."[3] Centuries later in the 1600s, the poet Thomas Traherne[4] said that the world is so marvelous that it seems to be made[5] of "Rich Diamond and Pearl and Gold."[6] Although ecological discourse was once filled with these sorts of inspiring, hopeful comments about nature,[7]today we can almost immediately tell that they come from a different time.[8] The awe, wonder, and respect that we once felt towards nature has disappeared, and our comments nowadays are instead accompanied by fear and uncertainty.[9]

This shift in sentiment is largely due to humanity's changing understanding of creation — whereas we once saw ourselves as a part of nature, we now believe that we are greater than it.[10] Consequently, we often view the world as nothing more than a tool that exists for our own selfish purposes.[11] But the ramifications of this way of thinking have been profound, and, for proof of this,

1 The Social Dilemma, directed by Jeff Orlowski (Netflix, 2020), film.

we need look no further than the troubling climate crisis we have created.[12] And climate change is not the only consequence of our actions, as scholars have recently discovered another concerning phenomenon—the modern disconnect between humans and nature.[13] Although many names have been attributed to this situation, such as the 'nature-deficit disorder'[14] and the 'extinction of experience,'[15]these terms all aim to capture the same sentiments of alienation, loss, and isolation[16]from a world that we were once so intimately attached to.[17]It is, as Richard Louv put it, the "hunger,"[18]for "an elusive *it* for which I have no name."[19]

Given this troubling predicament, one might wonder: how can we overcome our detachment and reconnect with nature?[20] This question is complex and, accordingly, the answer will also be complicated. Moreover, inspired by Philo's earlier comment about our environment's indescribable nature,[21]I recognize that this question can not be addressed with words alone. This essay, then, combines both language and photographs, recognizing the unique contributions they each offer in our search for a solution to nature isolation.

To begin, we will explore our disconnection from nature in greater detail, considering its origins and ramifications.[22] This will be followed by a photo essay which aims to capture how the disconnected individual perceives the world around them. Then, equipped with a more robust knowledge of this issue, we will consider a possible solution.[23]

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[2] Philo, *Philo: Volume I*, trans. F. H. Colson and G. H. Whitaker (Cambridge: Harvard University Press, 1929), 9, https://www.loebclassics.com/view/LCL226/1929/volume.xml, Alexander Hampton, Week 4 (class lecture, RLG318 - Religion and Nature, University of Toronto, October 5, 2021) and Carlos Levy, "Philo of Alexandria," last modified Fall 2022, https://plato.stanford.edu/entries/philo/.

[3] Philo, 9.

[4] Alexander Hampton, Week 8 (class lecture, RLG318 - Religion and Nature, University of Toronto, November 2, 2021), and "Thomas Traherne," Wikipedia, July 28, 2023, https://en.wikipedia.org/wiki/Thomas_Traherne. [5] Thomas Traherne, *The Poetical Works Of Thomas Traherne,* ed. Gladys I. Wade (London: P.J. & A.E. Dobell, 1932), *Wonder*, line 41-46.

[6] Traherne, *The Poetical Works Of Thomas Traherne*, *Wonder*, line 41.

[7] Hampton, Week 4, Hampton, Week 8, and Alexander Hampton, "Creation and Environment" (class lecture, RLG203 - Christianity, University of Toronto, March 22, 2022).

[8] Alexander Hampton, Week 1 (class lecture, RLG318 - Religion and Nature, University of Toronto, September 14, 2021).

[9] Hampton, Week 8 and Hampton, "Creation and Environment."

[10] Hampton, "Creation and Environment."

[11] Hampton, Week 8.

[12] Lynn White Jr., "The Historical Roots of Our Ecologic Crisis," *American Association for the Advancement of Science* 155, no. 3767 (1967): 1207.

Here, I will propose that religion is uniquely situated to address this issue and foster our reconnection with nature.[24] Specifically, we will consider Pope Francis' papal encyclical, *Laudato Si'*, and discuss how Christianity can help unite us with nature once again.[25] This paper will conclude with a final photo essay which endeavours to show how a life reconnected to nature may look. Ultimately, this discussion will draw attention to an ecological issue that is often overlooked, and will challenge us to look for a solution outside of science and technology.[26]

Exploring the Issue

Since our species was, at one time, so connected to nature, why did we grow apart from it?[27] This question can, in part, be answered by exploring the urbanization of land.[28] Although it was once more common to live in rural environments,[29] studies have discovered that most people around the world now live in cities.[30] But nature is often demolished in these spaces to pave the way for construction,[31] meaning that concrete jungles have displaced natural forests and the chirping of birds has been replaced by the honking of cars. In this way, these spaces have become "segregated from natural systems and processes,"[32] offering only small glimpses of natural life or eliminating them entirely.[33] Since nature *must* be experienced firsthand,[34] as scholars have noted, and "cannot be replaced by vicarious experiences,"[35]the people living in such urban spaces often lack the proper opportunities to encounter nature.[36] Thus, it appears that one's *physical* isolation from nature necessitates feelings of *emotional* isolation — the two are inseparably linked.[37]

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[13] Richard Louv, *The Nature Principle: Reconnecting with Life in a Virtual Age* (Chapel Hill: Algonquin Books of Chapel Hill, 2012), 3, and Masashi Soga and Kevin J. Gaston, "Extinction of Experience: The Loss of Human — Nature Interactions," *Frontiers in Ecology and the Environment* 14, no. 2 (2016): 94.
[14] Louv, 3.
[15] Soga and Gaston, "Extinction of Experience: The Loss of Human — Nature Interactions," 94. [16] Soga and Gaston, 94 and Louv, *The Nature Principle: Reconnecting with Life in a Virtual Age*, 3. [17] Hampton, Week 8 and Hampton, "Creation and Environment."
[18] Louv, *The Nature Principle: Reconnecting with Life in a Virtual Age*, 2.
[19] Louv, 2.
[20] Louv, 3 and Soga and Gaston, "Extinction of Experience: The Loss of Human — Nature Interactions," 99. [21] Philo, *Philo: Volume I*, 9.
[22] Soga and Gaston, "Extinction of Experience: The Loss of Human — Nature Interactions," 94. [23] Soga and Gaston, 99.
[24] White Jr., "The Historical Roots of Our Ecologic Crisis," 1207.
[25] White Jr., 1207 and Hampton, Week 1.
[26] White Jr., 1206.

Technology might also be to blame for our modern disconnect with nature.[38] After all, the addictive nature of social media platforms can compel individuals to stay indoors, glued to an artificial screen.[39] Moreover, with programs such as Google Images and documentary series like National Geographic, one may view any place in the world instantaneously.[40] It is no longer necessary, then, to board a plane to see the Amazon Rainforest, the Northern Lights, or Mount Everest — this can all be done from the comfort of one's home.[41] As such, one may wonder: why bother spending the time, money, and energy to venture to these places in person?[42] However, scholars have argued that there is something to be said for the real experience of nature[43] — after all, "nature, with its rhythms, sights, smells, and sounds, may be facilitated with technology but cannot be fabricated!"[44] Thus, if we continue to live in our virtual realities — never stepping out into the natural world around us — we will miss out on countless opportunities for connection, growth, and knowledge.[45]

Now that we have considered some causes of the disconnect between humans and nature, let us explore the implications of this phenomenon.[46] Firstly, without a proper relationship to nature, we lose out on vital opportunities for health and happiness.[47] After all, countless studies have proven that human wellbeing and nature interactions are linked — anxiety and depression tend to decrease the more one experiences nature,[48] and general health and wellness increase.[49] Some have also suggested that nature can promote social tendencies in individuals,[50] and others have even demonstrated that it prevents conditions like diabetes and heart disease.[51] Consequently, nature is often referred to as Vitamin G (Vitamin Greenspace)[52] or Vitamin N (Vitamin Nature)[53] because of its healing, beneficial properties.[54]

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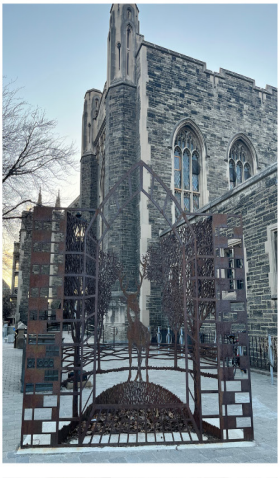
[41] Soga and Gaston, 94.
[42] Soga and Gaston, 94.
[43] Soga and Gaston, 94 and Louv, *The Nature Principle: Reconnecting with Life in a Virtual Age,* 194. [44] Louv, 194.
[45] Louv, 12-13.
[46] Soga and Gaston, "Extinction of Experience: The Loss of Human — Nature Interactions," 94. [47] Soga and Gaston, 94, 100.
[48] F. Stephan Mayer, Cynthia McPherson Frantz, Emma Bruehlman-Senecal, and Kyffin Dolliver, "Why Is Nature Beneficial?: The Role of Connectedness to Nature," *Environment and Behavior* 41, no. 5 (2009): 607-608. [49] Soga and Gaston, "Extinction of Experience: The Loss of Human — Nature Interactions," 96, 97 and Mayer, Frantz, Bruehlman-Senecal, and Dolliver, 608.
[50] Soga and Gaston, 97.
[51] Soga and Gaston, 97.
[52] Soga and Gaston, 97.

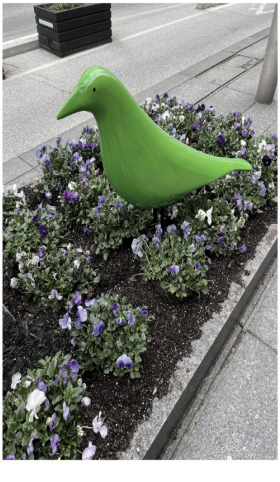
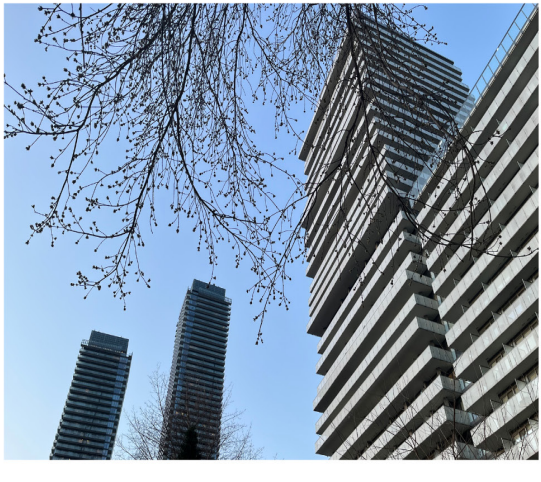
Thus, if it is indeed true that "regular exposure to natural environments is a necessary ingredient for a healthy life,"[55] our disconnection from nature stands to threaten our very health and prosperity.[56]

But there is an even greater consequence that has resulted from our detachment to nature.[57] To put it simply, "[if] people no longer value nature or see it as relevant to their lives, will they be willing to invest in its protection?"[58] Moreover, without a robust attachment to nature, or any sort of vested interest in its wellbeing, humans will likely continue to destroy the planet without a second thought.[59] This kind of limitless destruction combined with apathetic protective efforts will, of course, be disastrous for both planetary and human life.[60] Unfortunately, this "cycle of disaffection"[61]is difficult to break — after all, when we destroy nature, we have less opportunities to reconnect with it.[62] Consequently, we may find ourselves becoming more and more indifferent towards our planet, ruining more and more of it — until it is too late, and we discover that there is nothing left for us to reconnect to.[63]

[53] Louv, *The Nature Principle: Reconnecting with Life in a Virtual Age,* 5.[54] Soga and Gaston, "Extinction of Experience: The Loss of Human — Nature Interactions," 97. [55] Soga and Gaston, 97.
[56] Soga and Gaston, 94.
[57] Soga and Gaston, 98-99.
[58] Soga and Gaston, 98-99.
[59] Soga and Gaston, 98.
[60] Soga and Gaston, 98-99.
[61] Soga and Gaston, 94.
[62] Soga and Gaston, 98, 99.
[63] Soga and Gaston, 98, 99.



Considering a Solution

In 1896, the scientist Svante Arrhenius anticipated[64]that "changes in atmospheric carbon dioxide levels could substantially alter the surface temperature through the greenhouse effect."[65] In 2003, Tesla was founded, and their first car was released by 2008.[66]In 2021, the Canadian government proposed that single-use plastics be banned.[67]

Thus, it seems that humanity is well aware of climate change — in fact, we have been conscious of its presence for many decades.[68] Moreover, because of our keen innovation, we have even created the very tools needed to ameliorate this issue.[69] But despite all of this, the climate crisis only seems to be worsening.[70] Why hasn't the situation improved?[71]

Perhaps we have been searching for a solution in the wrong places.[72] What if the answer lies not in scientific gizmos and technological gadgets, but someplace entirely different?[73]In 1967, Lynn White mulled over this very question, ultimately arguing[74]that "the remedy [to the climate crisis] must … be essentially religious, whether we call it that or not."[75]If White was indeed correct, what might such a religious remedy look like?[76]

In 2015, Pope Francis published an ecological encyclical entitled *Laudato Si'*, or 'Praise Be to You.'[77] This text is, in many ways, a call to action[78] — a reminder of "the wonder and awe of our earthly neighbors [that] we have lost, and [of] the joy and love [that] we need to faithfully care for our common home."[79]I propose, then,

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[64] "Climate Change: How Do We Know?" NASA, accessed April 29, 2022, https://climate.nasa.gov/evidence/, Hampton, Week 1, and Hampton, "Creation and Environment."
[65] "Climate Change: How Do We Know?", Hampton, Week 1, and Hampton, "Creation and Environment." [66] "About Tesla," Tesla, accessed April 29, 2022, https://www.tesla.com/about, Hampton, Week 1, and Hampton, "Creation and Environment."
[67] "Government of Canada moving forward with banning harmful single-use plastics," Government of Canada, December 21, 2021,
https://www.canada.ca/en/environment-climate-change/news/2021/12/government-of-canada-moving-forward-with banning-harmful-single-use-plastics0.html, Hampton, Week 1, and Hampton, "Creation and Environment." [68] Hampton, Week 1.
[69] Hampton, "Creation and Environment."
[70] Hampton, Week 1.
[71] Hampton, Week 1.
[72] White Jr., "The Historical Roots of Our Ecologic Crisis," 1206.
[73] White Jr., 1206.
[74] White Jr., 1206-1207.
[75] White Jr., 1207.
[76] White Jr., 1207.

that we endeavour to reconnect with nature on the basis of this document, and consider the merits that such a religious resolution can offer.[80]

Before considering how it may help rebuild our connection to nature, let us begin by exploring some of the specific guidance present within *Laudato Si'*. Firstly, in one of the encyclical's opening chapters, Pope Francis puts forth a new way of seeing the world.[81] This vision, modeled after traditional Christian ecology, recognizes that nature is not just our habitat[82] — it is "The Gospel of Creation."[83] Consequently, the environment can no longer be treated just as[84] "inert matter"[85] or a "storehouse of resources"[86] — it is instead a gift from God to every being that roams upon it.[87] Thus, Pope Francis calls upon us to reconceptualize the world we live in,[88] and asks us to see it as an extension of God's[89] "good news,"[90]love, and generosity.[91] Looking through this revelatory lens, the world will become a magical, sacred space, where even the smallest blades of grass[92] are "signs and traces of God's presence"[93] and demonstrate "ray[s] of God's infinite wisdom and goodness."[94]

Adopting this outlook will have profound implications for rebuilding our connection to nature. Consider, for example, how money is of paramount importance to many people — it frames our thinking, structures our actions, and informs our policies.[95]It is this value on money that drives many to work tirelessly, meticulously protect their possessions, and carefully budget their profits.[96]

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[77] Catherine Wright, *Caring for Our Common Home: a Practical Guide to Laudato Si'* (New York: Paulist Press, 2020), 7.
[78] Wright, 7 and Joshtrom Isaac Kureethadam, *The Ten Green Commandments of Laudato Si'* (Collegeville: Liturgical Press, 2019), 20.
[79] Wright, 7.
[80] White Jr., "The Historical Roots of Our Ecologic Crisis," 1207.
[81] Kureethadam, *The Ten Green Commandments of Laudato Si',* 46.
[82] Kureethadam, 47.
[83] Kureethadam, 46.
[84] Kureethadam, 47, 48.
[85] Kureethadam, 47.
[86] Kureethadam, 47.
[87] Kureethadam, 48.
[88] Kureethadam, 47.
[89] Kureethadam, 47, 50.
[90] Kureethadam, 47.
[91] Kureethadam, 47, 48.

However, the same kind of attention and care does not accompany environmental considerations — although one would never needlessly waste money, we constantly lay waste to our planet.[97] With *Laudato Si'*, though, we can move beyond such artificially constructed sources of meaning[98] and realize that *nature* is an infinite source of value and inspiration — something we can find in the rustle of leaves, the boughs of trees, and the smell of a fall day.[99] Once we have realized the value of nature, we will finally be able to develop a renewed connection with it, for we will become curious about it and inclined to protect it — perhaps even as much as one does for their money.[100]

In his encyclical, Pope Francis also emphasizes the idea of interconnection.[101] After all, he explains, since every aspect of nature[102] was "called into being by one Father,"[103]then we are *His* sons and daughters and *each others'* brothers and sisters.[104] As a result, nothing can exist in a vacuum, and every being relies upon other elements to support it.[105] Consider, for example, how a table requires wood to be made.[106] This wood must come from a forest, which in turn depends upon sunlight, rain, and the like.[107] The table's existence, then, is only made possible because of a chain of supporting factors,[108] such that "Everything in the cosmos has come together to bring us this table. Looking deeply at the sunshine, the leaves of the tree, and the clouds, we can see the table."[109]

Once we acknowledge our dependence upon nature, we will begin to feel more attached and connected to it.[110] After all, our survival requires that there be plants for us to eat, oxygen for us to breathe, and water for us to drink — all of which we need nature for.[111]

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[92] Hampton, "Creation and Environment" and Alexander Hampton, "Roman Catholicism and the Mediaeval Church" (class lecture, RLG203 - Christianity, University of Toronto, February 15, 2022).[93] Kureethadam, *The Ten Green Commandments of Laudato Si',* 50.
[94] Kureethadam, 48.
[95] Hampton, "Creation and Environment."
[96] Hampton, "Creation and Environment."
[97] Alexander Hampton, "Rebellion and Silence" (class lecture, RLG318 - Religion and Nature, University of Toronto, November 30, 2021) and Hampton, "Creation and Environment."
[98] Hampton, "Rebellion and Silence."
[99] Hampton, "Rebellion and Silence," Hampton, "Creation and Environment," and Hampton, "Roman Catholicism and the Mediaeval Church."
[100] Hampton, "Creation and Environment."
[101] Kureethadam, *The Ten Green Commandments of Laudato Si',* 76-77.
[102] Kureethadam, 78.

[103] Kureethadam, 78.

Instead of feeling independent and invincible, we will finally begin to accept that our lives are bound to the other beings that we share[112] our "common home"[113] with.

Now, it is no secret that *Laudato Si"*s worldview varies greatly from most modern ideas about nature.[114] But our current practices, beliefs, and routines are so ingrained in us that change may seem impossible.[115] So how will we ever be able to adopt this encyclical's advice, see nature differently, and reconnect with it?[116]In his text, Pope Francis outlines a set of[117] "ecological virtues"[118]that may help us improve our contemporary ways[119] and teach us how to see the world as a revelatory,[120]interconnected place.[121]

One of the virtues which Pope Francis discusses at length is gratitude.[122] By cherishing our world and feeling appreciative of it, he explains, we will more easily be able to see[123] our earth as "God's loving gift"[124]instead of "in a purely utilitarian way."[125] As such, this virtue can open our eyes to the fact that nature is not just something[126]to be "studied, understood and controlled"[127] —instead, it must be prized, treasured, and admired.[128]

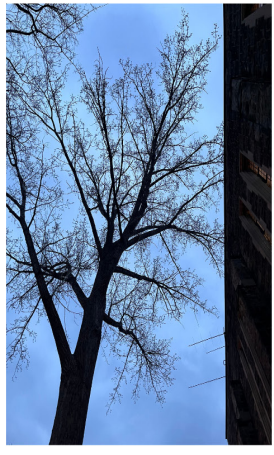
Another essential virtue described in this encyclical is care.[129] Although ecological discourse often refers to 'stewardship' instead of 'care,' Pope Francis carefully uses the latter term throughout this text.[130] After all, "one can be a good steward without feeling connected. If one *cares*, however, one is connected."[131] Thus, by caring,[132]the world suddenly becomes one interconnected place[133] where "the hard line between self and other softens, blurs, [and] even disappears."[134]It can also compel us to treat nature as we would our own family, ensuring that we only demonstrate positive virtues, such as responsibility and love.[135]

[104] Kureethadam, 77.
[105] Kureethadam, 77 and Hui Ling Lim, "Environmental Revolution in Contemporary Buddhism: The Interbeing of Individual and Collective Consciousness in Ecology," *Religions* 10, no. 2 (2018): 4.
[106] Lim, 4.
[107] Lim, 4.
[108] Lim, 4-5.
[109] Lim, 5.
[110] Kureethadam, *The Ten Green Commandments of Laudato Si',* 77.
[111] Kureethadam, 77.
[112] Kureethadam, 77.
[113] Kureethadam, 78.
[114] Kureethadam, 47.
[115] Kureethadam, 112.
[116] Kureethadam, 47, 112, 117.
[117] Kureethadam, 112.

Once we have successfully fostered these virtues, our world will seem entirely different.[136] Of course, nothing will *physically* change: trees will look the same, flowers will smell the same, and grass will feel the same.[137] What *will* change, however, is our perspective, as we will finally be able to spot the enchantment, wonder, and awe that has always been there, hiding just under our noses.[138]

[118] Kureethadam, 112.
[119] Kureethadam, 112.
[120] Hampton, "Creation and Environment."
[121] Kureethadam, *The Ten Green Commandments of Laudato Si',* 77. [122] Kureethadam, 112, 115.
[123] Kureethadam, 115.
[124] Kureethadam, 115.
[125] Kureethadam, 115.
[126] Kureethadam, 115.
[127] Kureethadam, 115.
[128] Kureethadam, 115.
[129] Kureethadam, 116.
[130] Kureethadam, 116.
[131] Kureethadam, 116.
[132] Kureethadam, 117.
[133] Kureethadam, 77.
[134] Kureethadam, 117.
[135] Kureethadam, 117.
[136] Kureethadam, 112, 114, 115.[137] Kureethadam, 114, 115.
[138] Kureethadam, 114, and Hampton, "Roman Catholicism and the Mediaeval Church."



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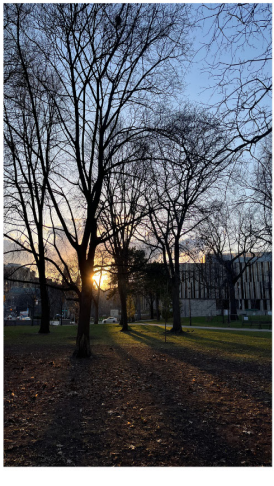
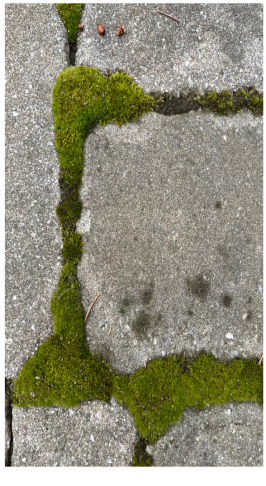


Conclusion

We are certainly at a difficult ecological moment in time. Often, the situation looks bleak, and a solution will require work on the part of every individual around the world.[139] But, as Pope Francis writes, "All is not lost. Human beings, while capable of the worst, are also capable of rising above themselves, choosing again what is good, and making a new start."[140] And, with the help of *Laudato Si'*, we may just be able to 'make this new start' today.[141] Although this solution is different from the technological answers we often seek, I believe that it will give us the tools needed to reverse our deep disconnection from nature.[142] At last, we will develop an appreciation for the world we have been given,[143] and we will finally learn to live[144] "in fond affection with brother sun, sister moon, brother river and mother earth."[145]

"The world is a mirror of infinite beauty, yet no man sees it. It is a Temple of Majesty, yet no man regards it. It is a region of Light and Peace, did not men disquiet it. It is the Paradise of God."

– Thomas Traherne, *Centuries of Meditations*.[146]

[139] Kureethadam, 10.
[140] Kureethadam, 129.
[141] Kureethadam, 129.
[142] White Jr., "The Historical Roots of Our Ecologic Crisis," 1206-1207. [143] Kureethadam, *The Ten Green Commandments of Laudato Si',* 115. [144] Kureethadam, 77.
[145] Kureethadam, 77.

[146] Thomas Traherne, *Centuries of Meditations*, ed. Bertram Dobell (London: P.J. & A.E. Dobell, 1908), 20.

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(Re)Productive Continuities Before the Loom: Textile Production as Incarnational *Imitatio Mariae* in the Late Medieval Convent

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The apocryphal Annunciation yoked textile labour to reproductive labour in the devotional imagination; by the Late Middle Ages, these were bound one to the other as mutual pursuits.[1] Contemporary treatises, hagiographies, and exegetical texts that prioritized a reading of the Virgin Mary as the nurturing, self-sacrificial mother to Christ reinvigorated the 'Spinning Virgin' or *Maria Textrix* of the apocryphal Gospel of James as a Marian title particular to her incarnational role.[2] Weaving the Temple Veil at the moment of Gabriel's arrival, the Virgin learns that a "holy thing… shall be born of [her]" in a conception of the Word that transposes the biological with the material.[3] Mary's enfleshing of Christ in the robes of humanity is achieved in her passing of weft and warp at the loom; textiles thus retain an imprint of the Incarnation in the Marian context by repeating her coincident labours. Fixed by affiliation to the Infancy Cycle, the tools of her trade—loom, needle, and thread—entered into the monastic exegetic vocabulary already saturated with scriptural and symbolic complexity.[4]In displacing the biologically conceptive body with an 'appropriate' production, Mary's maternity is spiritually replicable for women professed to God via embodied *imitatio Mariae*.[5] Taking up the thread of life from the Holy Mother,

[1] Wiktoria Anna Muryn, "Holy (Mis)conceptions: Late Medieval Depictions of the Visitation Featuring the Occupied Womb and their Female Monastic Audience," (PhD diss., University of Glasgow, 2021), 209-12.

[2] John F. Moffitt, "Mary as a 'Prophetic Seamstress' in Siglo de Oro Sevillian Painting," *Wallraf-Richartz-Jahrbuch*, 54 (1992): 141. For the 'Spinning Virgin' in the Byzantine and Late Antique Period, see Maria Lidova, "XAIPE MAPIA: Annunciation Imagery in the Making," *IKON* 10 (2017): 45-62; *Maria Textrix* is the iconographic and literary typology of the spinning or weaving Virgin Mary, originating in the apocryphal Gospel of James, ca. 145 CE.

[3] "Protoevangelium of James," *The Apocryphal New Testament,* trans. Montague Rhodes James (Oxford: The Clarendon Press, 1924), 11:2.

[4] Anna Dlabačová, "Spinning with Passion: the Distaff as an Object for Contemplative Meditation in Netherlandish Religious Culture," *Medieval Low Countries: An Annual Review* 5 (2018): 194; Ane Preisler Skovgaard, "The Fabric of Devotion: A New Approach to Studying Textiles from Late Medieval Nunneries," *Konsthistorisk tidskrift/Journal of Art History* 90, no. 1 (2021): 58.

[5] *Imitatio Mariae* refers to a means of expressing devout life via the imitation of the Virgin Mary; to act as and follow the example of Mary. This practice occurred alongside the more popular *imitatio Christi.*

religious women[6] are incarnational virgins before the loom in imitation of the *Maria Textrix,* with textiles as the pivotal medium in their devotional praxes.

Voicing her *fiat* at the Annunciation, Mary disengages from the workings of reproductive labour and actively relinquishes herself to "the power of the Lord" as a receptive vessel.[7] For her, the growth of a body and its deliverance is lifted from the prototypical labour of Eve, where blood and tissue render it explicitly *of* the body as a carrier of sin with painful birth as the penitential sentence for all womankind thereafter.[8] The canonical gospels insist on the non-bodily participation of Mary in her conception, gestation, and birth, stressing that "it is through the Holy Spirit that this child has been conceived in her;" that "[Joseph] had no relations with her until she bore a son;" and that Jesus was "born, not of blood nor of the will of the flesh nor of the will of man, but of God." [9] The incarnate body of Christ was not to be sullied by the fluids of an impure birth; better still, his Virgin Mother was not to emit them in the first place. Her body is thus a corroborative index scaffolding the Marian socio-ideological function that God could be born of woman, but only if she simultaneously exists in a dual state of the virginal and the maternalistic—a liminality embodied by the devout religious woman. Unstained by original sin, Mary's apocryphal labour is pictured as weaving into being a sacred cloth of flesh in a paradox of virginal motherhood.[10] The inner workings of reproduction must be dissolved for her inviolate virginity and divinity to remain as such; the Gospel of James (as the source which underpinned much of medieval Mariology) veils this pure/procreative dichotomy in the

[6] A note on terminology regarding the use of "religious woman/women:" in the context of the present paper, I employ this term to refer to nuns, anchoresses, tertiaries, and other such women who formally dedicated themselves to religious life. The standing alternatives in scholarship tend to align themselves with biological sex—'female monastics' or 'female religious.' Where the term 'religious women' operates quite successfully is, first, its uncoupling from biological sex in favour of gender in its outward and collective performance. These are individuals who found community in and organized around womanhood, and it is the presentation of gender that determined their external categorization and demarcation. The term 'religious women' likewise acknowledges the plurality of religious life, to which 'nun' has colloquially become a catch-all. Employing 'religious women' as the primary terminology then allows us to explore such women as a complex and nuanced whole, as women vocationally dedicated to religious service, regardless of which vow they professed or to whom.

[7] "Protoevangelium of James," 11:2.

[8] Genesis 3:16 (NAB); Sarah Randles, "'When Adam Delved and Eve Span:' Gender and Textile Production in the Middle Ages," in *Women and Work in Premodern Europe: Experiences, Relationships and Cultural Representation, c. 1100-1800,* ed. Merridee L. Bailey, Tania M. Colwell, and Julie Hotchin (London and New York: Routledge, 2018), 93.

[9] Matthew 1:20-25 (NAB); John 1:13 (NAB).

language of textiles, conflating the attributes of each activity in the absence of a biologically descriptive account.[11]

Unmoored as it was to a singular scriptural basis, Mary's birth emerges as spiritual, flexibly envisioned as woven tapestries, celestial auras, or crafted statements intent on maintaining anatomical and lexical ambiguity.[12] Thus, in their imagining of Christ's arrival as flesh, religious women could operate with a degree of creative liberty. With many being both mothers and avowed virgins themselves, the Nativity was an incarnational narrative they could contribute to with authoritative, even public voices.[13] Birgitta of Sweden (d. 1373), though personally familiarized with the travails of motherhood, envisioned the Virgin's labour as "splendour" and "ecstasy," a "twinkling eye" and an "ineffable light" that eclipsed the sun.[14] Giving company to Mary, the nun writes herself into the scriptural event as an eyewitness and mouthpiece: "I saw the One lying in her womb then move; and then and there…she gave birth to a Son." [15] Placing her authorial body between the audience and the narrative as it unfurls, Birgitta's affinity to the Virgin achieves an exclusive access to the Holy Womb that defies biological circumstance. Her optical faculties and the Virgin's reproductive organs are each deemed physiologically exceptional, having been touched by the divine. Through the *Revelations,* Birgitta composes an alternate record in which her encounter with the Christ Child comes ahead of his bodily deliverance to all others.[16]

Birgitta arranges Mary's birthing body relative to the divine nature of her labour: "[with] her most beautiful hair, as if of gold, spread out upon her shoulder blades…the Virgin knelt with great reverence, putting herself at prayer; and she kept her back toward the manger and her face lifted to Heaven."[17] Birgitta's kneeling birth, with Mary's golden hair freely spilled upon her shoulders, her hands in prayer, her back at the manger, and the Son held by a solar nimbus, thereafter became known eponymously as the 'Birgittine Nativity.'

[10] "Protoevangelium of James," 11:1-2.

[11] Emma Maggie Solberg, *Virgin Whore* (Ithaca: Cornell University Press, 2018), 105.

[12] "Protoevangelium of James," 11:1-2; Birgitta of Sweden, *The Revelations of St. Birgitta of Sweden,* trans. Denis Searby (Oxford: Oxford University Press, 2006), 1: 2.:8.

[13] Anne Winston-Allen, *Convent Chronicles: Women Writing About Women and Reform in the Late Middle Ages* (State College: Pennsylvania State University Press, 2004), 208.

[14] Birgitta of Sweden, *The Revelations,* 1: 21.8.

[15] Birgitta of Sweden, *The Revelations,* 1: 21.8.

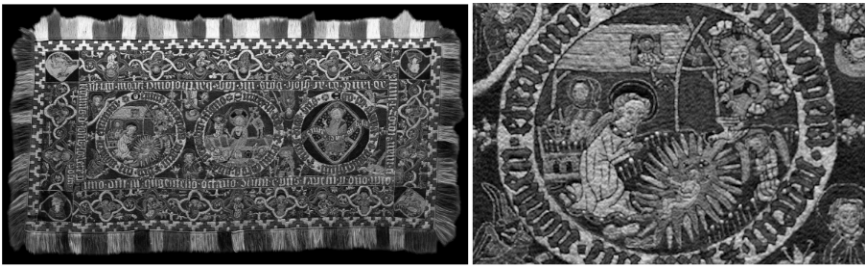

Figure 1. *Propstei-Hängeteppich [Provost Choir Stall Hanging],* Kloster Lüne, ca. 1508, 88.0 cm x 186.0 cm (34.64 in x 73.22 in). Museum für Sakrale Textilkunst, Kloster Lüne, Lüneburg. Image courtesy of Deutsche Inschriften Online, DI 24, Lüneburg: St. Michaeliskloster, Kloster Lüne, Nr. 64, urn:nbn:de:0238-di024g002k0006400.

Birgitta arose as a definitive source for the arrival of Christ on Earth, and her typology entered the visual language of devotional art as verified iconography of Mary's delivery.[18] When viewing such textile-works as the *'Propstei-Hängeteppich*' made "by the hands of the sisters in Lüne," the Birgittine Nativity would have been understood by the maker and meditant as the birth itself, not the moments after (fig. 1).[19]In the embroidery's first of three Christological medallions, the folds of Mary's gown meet around her loins in such a way that covertly alludes to the anatomical realities of the Birgittine analogy. Its form suggests the vagina—the ordinary site of conception and birth through biological means from which the Holy Mother is exempt. Refuting her participation in otherwise carnal functions are the white threads used to weave the dress; symbolically, they perform as an assertion of Mary's enduring virginity and purity throughout the natal arc.[20]

In depicting this Birgittine narrative, religious women could cultivate a visual and theological tradition that derives its vocabulary from their own kind. This was the birth as envisioned and articulated *per manus sororum*: by the hands of the sisters.

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[16] Birgitta of Sweden, *The Revelations,* 1: 21.8.

[17] Birgitta of Sweden, *The Revelations,* 1: 21.8.

[18] Mary Dzon, "Birgitta of Sweden and Christ's Clothing," in *The Christ Child in Medieval Culture: Alpha es et O!,* ed. Mary Dzon and Theresa M. Kenney (Toronto: University of Toronto Press, 2012), 125.

[19] Eckhard Michael, "DI 24, Lüneburg: St. Michaeliskloster, Lüne Monastery, No. 64," Deutsche Inschriften Online, 1984, urn:nbn:de:0238-di024g002k0006400.

[20] Jane Tibbetts Schulenburg, "Holy Women And The Needle Arts: Piety, Devotion, And Stitching The Sacred, Ca. 500–115," in *Negotiating Community and Dif erence in Medieval Europe: Gender, Power, Patronage and the Authority of Religion in Latin Christendom,* ed. Scott Wells and Katherine Smith (Leiden: Brill, 2009), 102.

To participate was to inherit divine knowledge and privileged intimacy bestowed by Mary via such conduits as Birgitta before passing down intergenerational lines of equally devout women. The spiritual, conceptual, and near-familial tether between themselves and the Virgin is made stronger for it, along with the devotional efficacy of the whole experience. This comes not just as a result of the *imitatio Mariae* that is conventual textile production but the representational presence of Birgitta within the scriptural event to which her vision pertains.

Figure 2. *Marienteppich [Mary Tapestry]*, Kloster Adelhausen, ca. 1420-30, wool and linen, 95.5 cm x 209.8 cm (37.6 in x 82.6 in). Augustinermuseum, Städtischen Museen Freiburg, Freiburg. 11513.

Dismissing a biological birth entirely, the *Marienteppich* of Adelhausen sees Christ and John the Baptist borne to their mother's hearts in a conception of the soul uncoupled from that of the body (fig. 2). The intrauterine sight granted to Birgitta is here made communal as the Infancy Cycle is truncated and reimagined on a single, dense plane. From this retrieval and reiteration of Marian iconography comes a pronounced reciprocity between the envisioned and material object within the devotional 'echo chamber' of the convent, manifesting as something of a visual dialect.[21] Privy to the same view and divine bodily admission as Birgitta, Gertrude of Helfta (d. 1302) figures the Marian gestation in overtly tactile terms, conjuring the pregnancy echoed by the *Marienteppich* a century later:

> There also appeared the immaculate womb of the glorious Virgin, as transparent as the purest crystal, through which her

[21] Jeffrey M. Hamburger, *The Visual and the Visionary: Art and Female Spirituality in Late Medieval Germany* (New York: Zone Books, 1998), 118. Margaret Wilson,"Nuns, Priests, and Unicorns: Layers of Enclosure in the Ebstorf Altar Cloth," (PhD diss., The Ohio State University, 2021), 2.

[22] Hamburger, *The Visual,* 118. Original in Gertrude of Helfta, *Legatus divinae pietatis*, 4: 3.4.

> internal organs, penetrated and filled with divinity, shone brightly, just as gold, wrapped in a silk of various colors…one saw the little blossoming boy, the only Son of the highest Father, nurse avidly in delight at the heart of His Virgin Mother.[22]

For Gertrude, Mary's reproductive organs become enveloped in cloth as their intended function is made redundant. The Marian body here internalizes the actual and allegorical materials of Christ's incarnation: flesh and fabric sanctified in the womb of his Holy Mother.

In its translation of *imagined* to *imaged*, the tapestry stabilizes and animates these visionary episodes as well as their scriptural antecedents with recourse to a collective consciousness of events external to the canon. The weaving nun(s) of Adelhausen are then incarnational virgins, delivering Jesus unto his mother's heart with their weft bobbins as the 'penetration of divinity.'[23] A multidimensional *Maria Textrix*, she reperforms the original Incarnation in making that metaphorical cloth of "various colours" that protects Mary's womb in Gertrude's vision.[24] Together with the Birgittine Nativity, this disembodied reproduction casts a monastic ideal for religious women—one which preserves chastity, removed from dangers and temptations of the flesh—and hints at an alternative means of procreation. Such 'birthing' comes as a result of what Caroline Walker Bynum sees as "spiritual fecundity:" a generative phenomenon of the monastic soul, predicated on physical chastity and devotional purity.[25] The 'penetrating' force of divinity that Mary experienced in conceiving the Word was thus within reach even for those who made vows of celibacy upon entering conventual life. By assigning the site of conception to the loom, the mutual exclusivity of the virginal and the procreative body is suspended for those spiritually fertile, just as it had been for the incarnational *Maria Textrix*.[26]

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[23] Hamburger, *The Visual,* 118. Original in Gertrude of Helfta, *Legatus divinae pietatis*, 4: 3.4.[24] Hamburger, *The Visual,* 118. Original in Gertrude of Helfta, *Legatus divinae pietatis*, 4: 3.4.

[25] Caroline Walker Bynum,"Patterns of Female Piety in the Later Middle Ages," in *Crown and Veil: Female Monasticism from the Fifth to the Fifteenth Centuries,* ed. Jeffrey M. Hamburger and Susan Marti (New York: Columbia University Press, 2008), 181.

[26] Rosemary D. Hale, "*Imitatio Mariae*: Motherhood Motifs in Devotional Memoirs," *Mystics Quarterly* 16, no. 4 (1990): 199.

Read within the medieval Christian synonymity of fabric and flesh, the physical work of producing textiles saw a 'gestational' period spanning several months wherein a divine figure came into material being.[27] With each pass of weft through warp, the pictured subject is slowly built up in planes of colour rather than row by row in this intensely tactile, intimate task. Witnessing the growth of a body over time in the rhythmic passing of threads, the weaver becomes a life-giver in metaphorical continuity with the Annunciate Mary. Religious women's manual labour is then fruitful in (re)producing the divine for themselves as well as their places of worship.[28] Fabricating altar coverings with the Annunciation (fig. 2) and choir-stall hangings with the Resurrection (fig. 1), they fasten themselves to the spatial and ceremonial epicentres of the convent in thread. With the Annunciation as Christ's original bodily substantiation, religious women enter into a material dialogue with the Mass—a ritual which they were prohibited from conducting themselves—as generative participants in the Eucharistic conversion and its scriptural precursors.[29] Their loom becomes a liminal, transitional space, a site of birth and rebirth like Mary's womb, where spun fibres become sacral flesh and prayer interwoven.

Against a backdrop of mysticism and affective piety, imitative reproductivity moved beyond its manual performance into a conceptual proxy. When preaching to a group of Dominican nuns, priest and theologian Johannes Tauler (d. 1361) recommended that "whoever wants this birth [of Christ] in her soul...should observe the *qualities* which made [Mary] a mother, physically and spiritually."[30] This proposed pseudo-conception fluently imports its discursive modes from that of the Holy Mother and expands the Marian maternity to be inclusive of the spiritual body in its entirety as a conduit for God.

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[27] Schulenburg, "Holy Women And The Needle Arts," 87.
[28] Schulenburg, "Holy Women And The Needle Arts," 108.
[29] Wilson, "Nuns," 30.
[30] Hale, "*Imitatio Mariae*," 199.

Religious women filled their 'sister books' with experiences and statements that capture a generosity at once self-denying and acutely agentic, cognisant of such pastoral instruction as Tauler's.[31] Adelhait von Frauenberg of Töss fervently wished "for her whole body to be martyred in the service of that sweet little babe," "her skin stripped off to make our Lord swaddling bands, and her veins spun into thread to make him a jacket." [32]In an elected act of flaying given as humility and intensely graphic love, Adelhait recalls Mary's weaving of Christ upon an internal loom and doing so, sustains the Annunciate allegory. Her labour supplements the original maternity of the Virgin by clothing the newborn through her own complementary generative production. As Bynum so poignantly articulated, Adelhait reconfigures the maternal role to be one of "blood sacrifice and reparation for all sinners, as well as comfort, dependency, and union," contingent on the discursive interchangeability of textiles and tissue.[33] She divests herself corporeally to ease Christ's delivery from the purified womb of Mary as a service to not only the infant Jesus but, indeed, Adelhait's spiritual children of her congregation who are redeemed in his birth. Her words resound with the sacrificial selflessness and nurturing axiomatic of Marian motherhood; she provides for Christ and Mary alike as her flesh and the birthing paraphernalia coalesce.

The account goes on to impart that Adelhait then "conceived a great misery in her heart."[34] While she, like Mary, may bypass the physical pangs of labour, neither is exempt from what pains this motherhood inflicts on the spirit. For both women, conception is an anticipatory phenomenon of grief and hurt performed willingly. Mary must carry to term a pregnancy that will unequivocally end in death and contend with the knowledge that she will outlive her "sweet little babe." [35] Her weaving at the Annunciation necessarily precipitates the Crucifixion. 'Marian-ized' textile production— actual or imagined— thus emerges as a devotion hyper-cognisant to the collateral of the Incarnation and the Divine Plan of God.[36]

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[31] See Winston-Allen, *Convent Chronicles,* for close textual and thematic analyses of 'sister books' and chronicles of Late Medieval German convents.
[32] Barbara Newman, *From Virile Woman to Woman Christ: Studies in Medieval Religion and Literature* (Philadelphia: University of Pennsylvania Press, 1995), 83.
[33] Bynum,"Patterns of Female Piety," 173.

Figure 3. *Antependium mit Christus in der Kelter und Gnadenstuhl [Antependium (?) with Christ in the Winepress and Mercy-seat],* ca. 1370, linen, silk, metal thread, 74.5 cm x 124.5 cm (29.3 in x 49 in). Germanisches National Museum, Nürnberg, Gew2464.

The cognitive sequence that follows unlocks a further layer to an already stratified *imitatio Mariae* relative to those tangible cloths fashioned in the convent. In the moment of generating the body of Christ, the seamstress of this embroidered antependium from a Nürnberg convent imitates his Crucifixion (fig. 3).[37] Distinct from weaving, the instruments of embroidery echo the Instruments of the Passion as the process of the former echoes the actions of the latter. On the right half of the linen ground, a veiled Clarrisan nun[38] directs her prayer to a languid Christ upheld by God the Father; blood spatters his outstretched arms as his flesh becomes doubly perforated by the scriptural persecutors and the hand of his maker. Aping the Holy Nails driven through skin and tissue is the tool that conjured their existence in thread. The metallic point of the embroidery needle and the nun who holds it are then prefigurative agents in this collapsed chronology, fixing Christ to the cloth in the same manner as he was fixed to the cross. To know the wounds of Christ with such material intimacy—to be the one who willingly generates them—was to share in the anticipatory sorrow of Mary's maternity, imitative of the *Maria Textrix.*[39]

[34] Ulinka Rublack, "Female Spirituality and the Infant Jesus in Late Medieval Dominican Convents," in *Popular Religion in Germany and Central Europe, 1400-1800*, ed. Bob Scribner and Trevor Johnson (Basingstoke: Macmillan, 1996), 27.

[35] Newman, *From Virile Woman,* 83.

[36] Moffitt, "Mary as a 'Prophetic Seamstress,'" 141.

The monastic experience is thus overlaid with the Marian experience in the divine (re)productivity and yield of her labours. Religious women envisioned pious life as one of remarkable fluidity where to pick up the needle and thread from the extended hand of Mary was to accept not just the role of seamstress but that of progenitor. Her gestation is imported to the activity as a devotional practice, underpinned by *imitatio Mariae* and predicated on the hybridity of flesh and fabric within the Annunciate narrative. This mutuality extends not only to the physical objects woven in the convent but the visionary experiences and articulations with which they are in dialogue. As a palimpsest of the Annunciation, conventual textiles operate incarnationally as an instance of spiritual birthing and, in continuity, spiritual birthing becomes a discursive means of visualizing devotional output.

[37] Anton Legner, *Die Parler und der Schöne Stil 1350-1400: Europäische Kunst unter den Luxemburgern Bd. 1* (Köln: Museen der Stadt Köln, 1978), 383.
[38] Above the figure's head are the initials K E L, stitched in a unique hand from the rest of the lettering. Speculatively, these may identify her as the maker.

[39] Moffitt, "Mary as a 'Prophetic Seamstress,'" 141.

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The Argument of Anti-Creationism: Satan's Neologisms and the Rhetoric of Rebellion in *Paradise Lost*

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***P**aradise Lost* (1667) begins with the famous declaration, "Of man's first disobedience," (1. 1) prefacing Adam and Eve's fall from grace and the crisis of faith that John Milton confronts in his grand biblical epic. A misleading opening, perhaps, as the true conflict begins much earlier than the moment of temptation—much earlier than humanity itself. For in promising a poem that will "justify the way of God to men" (1. 26), the first fall Milton must account for is not humanity's, but the fall of Heaven's brightest angel: Satan. The story of the rebellion takes the form of an embedded narrative, a series of flashbacks in Books 5 and 6, as the angel Raphael descends from Heaven to warn Adam and Eve against Satan's revenge plot. It is framed as a cautionary tale to a still-innocent humanity, in line with the poem's official doctrine of obedience. Yet to reduce the conflict in *Paradise Lost* to a simple dichotomy—individual agency vs. God's will—would be to underestimate the genius of Milton's language. Each character is equipped with a rhetorical strategy that either supports or challenges a theological possibility. Milton's neologisms are one of many rhetorical features that enrich the poem's ambivalence; and Satan's rhetoric in Book 5 is perhaps the most pivotal example of this. In deciphering the lexical novelties of his speech, there emerges a resonance with God's language that distorts the poem's conception of piety, escalating a moment of defiance into a theological dispute with lingering repercussions in the Miltonic imagination.

First, it is necessary to clarify Milton's conception of piety, and all that it entails. The narrative in *Paradise Lost* relies on an acceptance of creationism: the belief that the universe originated from specific acts of divine creation, as relayed in scripture. Within this belief, God's sovereignty is absolute, for He is the "Author and end of all things" (7. 591). The doctrine that Raphael presents to Adam and Eve at the beginning of Book 5 best represents how Milton adopts the values of scripture: there is a merit system that defines the

hierarchy between angels and humans, and it relies entirely on a willingness to obey God's word. Heaven's messenger tells Adam and Eve they will be rewarded—allowed to transcend to angelic status—only "if ye be found obedient" (5. 501). In his review of John Peter Rumrich's new preface to *Paradise Lost,* Miltonist Paul Hammond comments on this system: "The virtuous evolve according to the divine plan; the wicked lapse into perverse otherness" (564). Thus, the obedience to God's "plan" is framed as the ultimate good, the highest reverence; while disobedience is the ultimate sin, the lowest evil. There is, however, a second strand of Milton's piety that is just as significant: imitation. Milton consistently emphasizes God's role as "the great Creator" (3. 167), "the Maker wise" (9. 348), in whose image man was made: "in their looks divine/ The image of their glorious Maker shone" (3. 292). The concept of imitation suggests that since humanity was made in the Creator's image, they most resemble Him in their own acts of creating. Adam and Eve are at their most pious—the height of their righteousness—in Eden, when they are farming, tending to the garden, cultivating life. Therefore, being faithful to God in the Miltonic imagination involves the replication of creationism, expanding the piety that Heaven commands into a two-fold concept: obedience and imitation.

During the rebellion, Satan's language manipulates the strands of Milton's piety, such that they undermine one another. Book 5 culminates in the debate between Satan—who is outraged by God's anointing of the Son as his heir—and the zealous Abdiel, who defends God's decree. Satan's counter-argument issues a challenge to the foundation of Heaven's hierarchy, demanding proof of God's creationism in exchange for the angels' obedience. The speech is truly radicalised, however, by the new compound word Milton coins for the occasion: "We know no time when we were not as now; / Know none before us, self-begot, self-raised / By our own quick'ning power" (5. 859-861). "Self-begot" is invented at this moment to echo and distort God's original command. The *Oxford English Dictionary* defines "self-begot" as being "Of a person: begotten of himself or herself; self-generated" ("self begot," def.). It combines the prefix "self" with the inherently theological verb "beget," meaning "Of God the Father" ("beget," def. 1.b); thereby

weaponizing the language of scripture for the empowerment of Heaven's opposition. The word is first used in the poem by God in his anointment speech: "Hear my decree, which unrevoked shall stand. / This day I have begot whom I declare / My only Son" (5. 602-604). Given that this is the event directly preceding Satan's fall, "self-begot" can be read as a mockery of scripture; Satan is twisting God's own words and spitting them back—imitating, but disobeying—in a warped act of impiety.

Yet the implications of this neologism do not end here; Satan is not only mocking God's imperious decree, he is also rejecting His doctrine. The neologism that Satan invokes offers an alternative reality to the poem's official creation story: God as the maker and the angels, His creations. Satan's alternative conceives the angels as "self-begot," self-generating creatures with their own creative powers. By negating God's authorship, this alternative destabilises His legitimacy as ruler, for He cannot be sovereign over the angels, if they do not owe Him their creation. This is echoed by another neologism, "self-raised," which is defined as being "Raised without external agency, intervention, or aid" ("self-raised," def.). Although the phrase "self- raised" has been cited earlier by the *Oxford English Dictionary*, Milton is the first to use it as a compound word, such that the prefix "self" becomes a linguistic marker for agency. It is also notable that Satan's rhetoric of angelic self-creation is being supported by an act of semantic innovation: by accrediting "self-begot" to Satan, Milton evokes a resonance between the content of the speech and its lexical characteristics. Satan is advocating for the self-creating power of his brethren, while he himself is engaging in an act of original creation. This symmetry lends his argument a certain weight, transforming a debate between faith and free will into a war of ideologies.

Since Satan's speech occurs, chronologically, before the main narrative of *Paradise Lost,* the rhetoric of anti-creationism introduced in Book 5 allows us to read his early neologisms in a new light. Words like "Pandaemonium" or "arch-fiend" from Book 1 can be re-interpreted as part of a larger legacy of semantic innovation. First, "Pandaemonium" is defined as "The abode of all demons; hell, the infernal regions" ("pandaemonium," def.1). This borrows from

the Latin *daemon*, for "demon," the ancient Greek *pan*, a prefix for "all," and the Latin suffix *ium,* which is usually used to describe a large group ("pan-," def.). Milton fabricates the term to describe the council in Hell, "to be held / At Pandaemonium, the high capital / Of Satan and his peers" (1. 755-757). The act of naming this new home accepts Hell as their domain, as God decreed it, yet asserts their own authority over the land, refusing to adhere to His punishment. This is supported by the suggestion that they built the city, or rather willed it into being: in the opening argument Milton writes, "Pandaemonium the palace of Satan rises, suddenly built out of the deep" (768). The diction of "suddenly built" implies that the city was not there when God exiled the angels, attributing its construction to Satan and his followers: a product of demonic imagination. Therefore, an exertion of creativity on a rhetorical level is empowered by a physical act of creation. On the architectural hierarchies of *Paradise Lost,* Milton scholar Steven Blakemore identifies the parallels between the new capital and "the palace of great Lucifer" (5. 760) in Heaven—the site of Satan's rebellion speech. Blakemore describes Pandemonium as "a perverse parody of Heaven" (142); but a parody is, by nature, a form of imitation. Thus, in their continued mockery of Heaven, the fallen angels defend the legitimacy of Satan's ideology. Even after falling, they exhibit a command of creation: the ability to innovate, to beget, both rhetorically and physically.

Comparably, Satan himself adopts the title "arch-fiend" (1. 209), defined as "a chief or leader of fiends" ("arch-fiend," def.). It is the prefix "arch" that is particularly interesting, as it seems to distort the title "archangel" which Satan once held. Like "self-begot," this is a form of imitation, something that once belonged to God and is now distorted—or, perhaps, reinvented—by Satan's rhetoric. The placement of this neologism is also noteworthy, as it occurs synchronously with Satan's physical metamorphosis: from "the infernal serpent" (1. 34) who is "in bulk as huge / As whom the fables name of monstrous size" (1. 196-197) to a heroic figure whose "form had not yet lost / All her original brightness, nor appeared / Less than Archangel ruined" (1. 592-594). The shift from "monstrous" and "infernal" to bright and angelic is the reader's first glimpse at Satan's shapeshifting abilities—a physical

manifestation of his agency. Wicked and disobedient as he may be, Satan is still able to appear as an archangel, undermining God's authority over his physical self and rejecting the threat of "perverse otherness" (Hammond 564) he is condemned to. Satan's control over his divinity, despite his fallen state, reimagines angelic glory as a characteristic of their own selves, rather than a privilege of being obedient to God. By repeating the title "arch-fiend" throughout, and between, these passages, Milton creates a transitive term for Satan's metamorphosis: a compound word that reconciles the angelic and demonic aspects of his selfhood. Therefore, in pairing "arch-fiend" with an aesthetic transformation, Milton connects the rhetoric of self-authorship with Satan's physical nature—quietly empowering his argument, or, at the very least, refusing to discredit it.

Reading these early neologisms in succession with the rebellion, Satan's "self-begot" counter-argument emerges as the precursor to his infamous philosophy: "The mind is its own place, and in itself/ Can make a Heav'n of Hell, a Hell of Heav'n." (1. 254–256). In Satan's mind, he is beyond God's authority and free to evolve without the constraints of Heaven's hierarchy. By weaponizing language—what Milton calls the "Food of the mind" (9. 238)—Satan's rebellion initiates a process of reinvention (culminating in Book 1) after his fall from grace. In Hell, Satan is remade: he replicates his seat of power, "Pandaemeonium," and redefines his material self as the ever-fluid "arch-fiend." The continuity between language of the rebellion and that of the opening argument is supported by the repetition of "self-raised," during the council at Pandaemonium. As Satan rallies the fallen angels against Heaven, once again, he asks: "That all these puissant legions, whose exile / Hath emptied Heav'n, shall fail to reascend / Self-raised, and repossess their native seat?" (1. 632-634). To the unknowing reader, the invocation of "self-raised" serves to foreshadow the scene of the rebellion; but reading the rebellion and its aftermath in sequence, this neologism seems to intentionally recall the rhetoric of self-authorship, allowing it to echo in the justification for revenge. Satan is not only plotting to corrupt God's creations, he is scheming to prove his ideology was right—to validate the original rebellion. By uniting these scenes under the same motive, Milton allows Satan's

counter-ideology to have a presence from the start of the epic, threatening the poem's official obedience to scripture, and weaving another layer of conflict into the plot.

As persuasive as Satan's argument might be, we must consider that it is pitted against the official doctrine of creationism, against the word of God. Is this alternative reality, therefore, an illusory one? Scholars agree that Milton's beliefs are intentionally veiled; but one way to interpret the theological possibilities offered by Satan's neologisms is as a level of narrative discourse. In her article, "Narrating Originality in *Paradise Lost,*" English scholar Maura Josephine Smyth analyses the poem using Seymour Chatman's levels of narration, discussed in his book, *Story and Discourse: Narrative Structure in Fiction*. Smyth recognizes "how Milton carefully distinguishes between what Seymour Chatman calls the levels of story (a narrative's events) and narrative discourse (how the events are framed)" (138). Though Smyth applies this framework to the dynamic between Adam and Eve, she acknowledges that "it is Satan who actually claims authority over his own creation" (138). In doing so, he opens the possibility that, at least on some level of narrative reality, Milton is accepting the ideology self-begetting, contrary to the doctrine of scripture. Smyth also comments on the coexistence of narrative truths: "Milton transfers narrative authority from his narrator to these characters, allowing them to shape the events of story into discourse, precisely to highlight the lack of constant authority any one character—even (and especially) God—holds" (152). This uncertainty is at the heart of Satan's creative powers: he innovates, lexically and materially, to expand the boundaries of what is possible in his world, exposing the illusory nature of a single narrative authority.

To conclude, Milton's neologisms are central to his imagining of *Paradise Lost*; for they occupy the spaces that scripture fails to fill. They are part of the poem's investigative structure—a structure which allows the story to transcend from an imitation of theology into something more: an experience that actively tests the reader's faith, and refuses to be guilty of the blind obedience Satan so passionately rejects. In the Miltonic imagination, lexical innovations become weapons of ideology, ways of navigating the

unknown. The power of new words is especially prominent in Book 5, where Satan's rebellion is brought to life, not through violence, but through his rhetoric. Using neologisms to mark Satan's theory of self-sufficiency, Milton crafts a language of rebellion, a dialect of disorder, that disrupts God's definition of piety. And yet, even in this moment, where Satan is at his most disobedient—the height of the rebellion—the complexity of his language allows questions to be raised: perhaps in imitating God, in being complicit in an act of lexical creation, Satan is still behaving in His likeness, still trapped within His sovereignty. This endless uncertainty is how Milton prevents *Paradise Lost* from inheriting the contradictions of scripture. New words refresh the narrative, blurring the line of official authority and allowing the story to reinvent itself in the mind of each reader.

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SOCIAL
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Always Failing, Always "Guilty": Discourses of Work and Good Motherhood in United States Motherhood-Lifestyle Blogs during the COVID-19 Pandemic

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"We're *tired of feeling guilty*. We're tired of *feeling like we're terrible parents*, like we're *not doing enough…"* (SM3, emphasis added).

1. Introduction

Even before the COVID-19 pandemic, a large literature existed on the unequal share of homemaking and childcare burden in the United States. Pandemic stay-at-home orders and nationwide migrations to remote schooling have only deepened this gulf (Collins et al. 2021; Petts, Carlson and Pepin 2021; Yavorsky, Qian and Sargent 2021). Soaring yet unequally divided childcare responsibilities contribute to what Arlie Hochschild (1990, 8–10) calls the "second shift": after coming home from work, women immediately assume the mantle of homemaker with all its attendant tasks. This additional burden has wide-ranging effects on both women's careers and mental health (Almeida et al. 2020; Petts, Carlson and Pepin 2021). Nevertheless, recent research by feminist economists points to even more work: a "third shift" of emotional labour materializes while COVID-19 threatens a further "fourth shift" of homeschooling (Chung 2020; Perälä-Littunen 2007; Hjálmsdóttir, Bjarnadóttir and Sigurðssonar 2021). A vast body of literature is forming around the gendered impact of the pandemic, yet studies based on surveys and questionnaires are inevitably insufficient in capturing the complex web of interactions and relations that make up the social worlds of their subjects. The numerical accounts they produce of pandemic stress are "individualized, naturalized, and hence, decontextualized," lacking in necessary resolution and context (Adelson 2008, 316). Most fatally, studies fail to account for one of the greatest inventions of the 20th century — the Internet. In times of social isolation, the online world becomes an ever more important

mode of expression and engagement, and only by capturing these interactions will our understanding of the impact of the pandemic on American mothers be complete. This is the knowledge gap this paper seeks to address: how do working mothers discursively resist unfair distributions of domestic labour on the Internet? What are the strategies they employ, and how do they fit into broader discourses of motherhood? Motherhood-lifestyle blogs are valuable sources for such research and a close examination of two popular sites reveals two main discourses. Hardly freestanding, they are instead strategically dependent on larger societal discourses of motherhood while simultaneously working to resist and redefine the motherly image they produce.

2. Methods

This paper draws on a qualitative analysis of the contents of 84 blog posts across two websites, ScaryMommy and Motherly, from January 1, 2020, to December 31, 2021. Relevant blog posts were found using the keywords: "pandemic," "COVID-19," and "covid." Both sites yielded material spanning the entirety of the time interval. To be selected, posts must address either: (1) the experience of motherhood during the pandemic or (2) the experience of working mothers during the pandemic. To identify relevant discourses, posts were coded for topics related to motherhood, mothers' experiences of the pandemic, and work and employment.

3. Findings

3.1. Site description

Since the beginning of the project, the ScaryMommy (www.scarymommy.com) website has undergone major organizational and aesthetic changes. At the time when articles were collected, the website followed a red-white-black colour scheme with sans serif font. The website's logo, "ScaryMommy," was in bubbly black cursive with a red crown on the capitalized "M." In contrast, Motherly (www.mother.ly) did not undergo any significant visual changes. The site retained its mauve-purple-white colour palette and serif font. Unlike ScaryMommy, readers are constantly offered, in the form of a travelling vertical bar, the option to share content

from the site on Facebook, Pinterest, Email, or through a link to the page. Though the sites used in this paper recruit contributors through slightly different processes, both draw most of their content from women and mothers who are free to submit their content for consideration. In both instances, writers were compensated on a per blog post basis.

3.2. Resisting dominant discourses of motherhood

Two modes of discourse emerge in the mothers' discourse: (1) critical and (2) celebratory. While the critical mode of resistance points out how failing to recognize the significance of mothers' contributions causes additional suffering, the celebratory mode of resistance focuses more on the significance of the contributions themselves. The discourses also differ with regard to their treatment of mothers' labour: while the celebratory mode of resistance uses the unfair distribution as evidence of mothers' inner resilience and importance, the critical mode of resistance expounds on the negative effect of additional duties on mothers' mental health and careers. Note that, though they may appear to be in opposition, these two discourses are better understood as two sides of the same coin — different faces emerging from the material. Indeed, they represent different positionings of the woman *vis-à-vis* the impact of the pandemic while building upon each other in significant ways.

A final key difference between the discourses is their relationship to the "good mother," so quoted to highlight its indefinite nature. In the critical mode of resistance, "good motherhood" emerges as an image in the negative — the reverse of what it is not. Its appearance in texts is accompanied by confessions of guilt and feelings of failure, whether from perceived personal incompetency or the snide remarks of others. "Good motherhood" is treated as a standard, as elusive as it is illusive, imposed by a conflagration of societal expectation and governmental irresponsibility. The celebratory mode of resistance takes a vastly different approach. Institutional failures are acknowledged, but "good motherhood" is not posited as a stopgap or compensatory. Instead, it is constructed as freely chosen and actively aspired to, often in the face of difficulties that arise based on the mothers' circumstances.

3. 2. 1. The critical mode of resistance

"Forget climbing up the corporate ladder; we are *hanging by our fingertips from the gutters…* This will be the *death* of the working mother" (SM1, emphasis added).

The critical mode of resistance can be understood as *critical resistance* of the American definition that ascribes so many duties as to overburden women and force them out of the workspace. The mother's role is not valorized or exalted — instead, women are "hanging by [their] fingertips from the gutters" while their brains feel "as if smoke might come out of [their] ears" (SM1, see Appendix A). Recurring topics include burnout, women as the "default parent," mothers in heterosexual relationships as singularly and/or disproportionately impacted in comparison to their partners, and assessment of systematic inequalities. Embodied metaphors of burden and damage are motifs, heightening the *viscerality* of the pandemic's impact on the lives and careers of mothers. Bloggers do not make explicit use of Hochschild's (1990) "The Second Shift," yet its impact is clear: a mother's multiplicity of roles, increased by the pandemic to the point of unmanageability, has devastating effects on her mental health and career. Brandie's description is telling, both of pandemic chaos and her perceived responsibilities:

"It is an *anything-goes type of household*, all for the sake of your career. Your *feral children* are running around hyped up on sugar and boredom. Your *kitchen is like an open bar* at a fancy wedding with no last call. Your *grocery bill has tripled*, and you may have quarantine-ordered a swing set just to get your children out from under your feet. *Routines, meal planning, and mental stability have all flown out the window*. You may have already *burnt through your paid time off* like a smoker burns through their last cigarette, all while trying to *figure out distance learning with uncooperative children"* (SM1, emphasis added).

Though she makes no mention of the second shift, Brandie implicitly takes ownership of many roles that fall within its purview: "*your* feral children," "*your* kitchen," and "*your* grocery bill." Meanwhile,

the "third shift" of emotional labour surfaces in the appointment of mothers as the "family decision maker." Another writer for ScaryMommy, Diana, describes this experience as "having to be the one who worries about it all — the one who constantly has to say no to [the] children, the one who has to decide how risky it is to take them to the doctor if they are experiencing something else besides COVID symptoms" (SM6). The additional labour of homeschooling as schools and daycares close — the new, "fourth shift" — is felt in all of its severity: "staggered schedules, distance learning, and virtual classrooms are all the *working mother's kryptonite*" (SM1, emphasis added). Aforementioned embodied metaphors emerge: "the *deep cuts* we all feel are *eviscerating* your single parent friends" (SM4, emphasis added), "I am *drowning* [emphasis added] in anxiety on this island by myself" (SM5), "working and having our children at home is *stretching us* [emphasis added] beyond what is actually possible" (SM3). Topping this off is Brandie again: "it's 2020 and as a working mother, you are either a good employee or a good mother, but not both … this will be the *death* [emphasis added] of the working mother" (SM1). Refusing to suffer in *tolerant silence*, the women give voice to their suffering through their graphic descriptions, thereby generating solidarity, asserting their claim to pursue work outside the home, and refusing the image of the altruistic, self-sacrificing martyr-mother.

3. 2. 2. The celebratory mode of resistance

"Right now — in this unprecedented moment in history — *we are giving birth to a new world*. Every time you hug your child, every time you stand up for what's right, *you are bringing this new world into existence*" (Ml2, emphasis added).

The celebratory mode of resistance, in contrast to the previous discourse, addresses the diminished, deemphasized, and devalued position of women's and mothers' labour by revealing its significance to the family and society at large. Unlike the critical mode of resistance, this discourse is implicitly dependent on and reproduces the idea of fundamental difference — overcoming the burdens of American motherhood becomes evidence and confirmation of one's

innate abilities as a "woman" and identity as a "mother." Where the critical mode of resistance paints a grim picture that emphasizes the reality of the heavy burdens that mothers bear in taking care of their families during pandemic times, the celebratory mode of resistance paints a highly optimistic picture with an emphasis on the future and gaining awareness for the important role played by women.

In a blog post titled "Moms deserve a gold medal for pandemic multitasking," Sarah asks her readers:

> "Raise your hand if you've been homeschooling, activities researching, Zoom facilitating and Google Classroom checking. Raise your other hand if you've added a new level of supervising, entertaining, feeding, cleaning, shuffling plans without in-person school or consistent childcare support. Stand on your tippy-toes if you've been working during all this or headed back in after maternity leave. Jump up and down if you've been in an essential job, keeping our communities safe" (Ml3).

Compare this passage to Brandie's above. While also acknowledging the difficulties of pandemic motherhood, the same fear and sense of precarity is strikingly absent from Sarah's account. The "working mother" identity that many women "clawed and bled and fought to earn" (Ml1) has disappeared, but the overall tone is one of resigned good-naturedness or noble self-sacrifice. The celebratory mode of resistance, while describing the struggle and frustration of balancing work and childcare during a pandemic, also transforms the experience into a badge of honour: "[W]omen run the world. They manage the family calendar and kick ass at their jobs and know how to run on empty … You all need us to make the world keep turning" (SM2). Here, it is important to note that one of the most important threads of this discourse is how it subverts divisions between work and motherhood. Indeed, "being a mom is a strength, not a weakness." The same activities and responsibilities that, in the discourse of active resistance, made motherhood antithetical to paid labour are now being constructed as indexing characteristics of good workers.

4. Discussion

The above sections give a detailed overview of two discourses of resistance as they appear in blogs published by two major parenting brands. Nonetheless, a simple review does not afford sufficient analytical depth to such a complex topic. An additional strand emerges when one considers the rhetoric of guilt. Drawing on concepts from Fitzpatrick (2021, 96), this paper puts forth the idea of the pandemic as a "high stakes moment in [the] process of moral becoming" towards the aspired-to "good mother," (perceived) failure of which is expressed as guilt. These instances need to be read together with Zigon's (2009, 262) idea of moral breakdown: as embodied morality and performative ethics drift apart, it becomes possible to dispute and redefine the status quo. Attention to another linguistic motif, then, leads to a view of mothers' discourse as capitalizing on such a moment as it emerges during the pandemic. Now, it becomes important to consider the "work" of either discourse — that is, what do they *do*?

Recalling writing employing the critical mode of resistance, vivid descriptions of the impact of overwork on mental health and career come to mind. Despite this, the writers do little to name or actively *challenge* the American definition of motherhood that causes them so much anguish. Writers name the role of systemic and societal failures but never connect the dots into a coherent picture of what they seek to resist. Resistance thus remains diffuse, lessening the impact of their work. Meanwhile, analysis of the work of the celebratory mode of resistance requires attention to the embodied nature of motherhood in women's discussion and discourses of motherhood at large. Borrowing Jain's (2007) analysis of breast cancer in the United States as a model, mother-as-role is similarly naturalized in the female body by means of discourse. In Jain's (2007, 504) analysis, biology is co-opted for the establishment of discursive regimes of truth around gender, enlisting the mortality doled out by the breasted body against the non-conforming woman. Correspondingly, the celebratory mode of resistance celebrates successful fulfilment — often at both a physical and mental cost to the mother — of the tasks assigned to them by the same modern American definition of motherhood that the discourse seeks to

resist. Thus, in celebrating the power and importance of mothers in this manner, writers may be engaging in the counterproductive endeavour of simultaneously reifying and naturalizing the existing distribution of labour. Like their body, their words are co-opted for the reproduction of gender ideologies around employment and the home.

5. Conclusion

Between past research and recent findings, it has been no surprise, least of all to mothers, that the COVID-19 pandemic has had a devastating effect on daily routines, mental health, and hard-earned careers. Considering this struggle, many have taken to the Internet in search of solace and to offer solidarity to others. ScaryMommy and Motherly, both among the largest parenting brands in the United States, provided two such platforms. Through blog posts, women criticized the American definition of motherhood and celebrated roles that were previously deemphasized and devalued. Nevertheless, these discourses fail to pose a coherent, active challenge to this definition.

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Appendix A: Select Blog Posts from ScaryMommy and Motherly

ScaryMommy

SM1 – 2020 Will Be The Death Of The Working Mother (07/23/2020) – Brandie Kedrick SM2 – From The Confessional: Working Mom—During A Freaking Pandemic—Truths(08/11/2020, updated 04/07/2021) – Karen Johnson

SM3 – Working Moms Are Being Stretched Beyond What Is Actually Possible (08/26/2020) – Tabitha St. Bernard-Jacobs and Caitlin Breedlove

SM4 – This Pandemic Is Eviscerating Single Parents (12/15/2020, updated 12/16/2020) – Leah Shapardanis

SM5 – On Teaching In-Person During A Pandemic—While Being A New Mom (12/23/2020, updated 03/19/2021) – Rachel Cockerell

SM6 – Moms Are The Pandemic Decision Makers And It's Exhausting (03/26/2021, updated 03/29/2021) – Diana Park

Mother.ly

Ml1 – To the woman forced to become a SAHM because of the pandemic—I see you (12/08/2020) – Meg Brannon

Ml2 – A love letter to the mama struggling to get through this pandemic (10/14/2020) – Diana Spalding

Ml3 – Moms deserve a gold medal for pandemic multitasking (07/22/2020) – Sarah Wells

Engaging Youth in Canadian Elections: The Promise of Social Media

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Introduction

Voter turnout is a key indicator of a democracy's health. It highlights the engagement of the electorate and presents the greatest form of accountability for those in power. Youth voters (typically defined as 18–34 depending on the study) have historically had the lowest turnout rates compared to every other age cohort since 1984 (Adsett, 2003; *Youth Voter Turnout in Canada*, 2016). However, the 2015 federal election saw extremely high electoral participation across all age groups, with the greatest jump in turnout amongst voters aged 18–24 and 25–34 (*Voter Turnout by Sex and Age*, 2020). Compared to the 2011 election, voters aged 18–24 voted at 18 percentage points higher in 2015 (38.8% to 57.1%) and overall turnout increased to 57.4% for those aged 25–34 (compared to 45.1% in 2011) (*Voter Turnout by Sex and Age*, 2018). The general election in 2019 relatively upheld this trend of greater participation, with those aged 18–24 and 25–34 voting at rates of 53.9% and 58.4%, respectively (*Voter Turnout by Sex and Age*, 2018). Despite the high turnout in 2015 and 2019, it is unclear whether this trend will remain consistent given two prior decades of decline in electoral participation (Jansen et al., 2020). Furthermore, investigating potential mechanisms to improve electoral participation amongst young voters is critical for alleviating the significant gap between younger and older voters.

The lack of turnout by young voters is often attributed to a lack of political interest, knowledge, and mobility of young voters, all of which make them difficult to reach. The scope of this paper will focus on political interest and political information as predictors of voter turnout as they provide the greatest potential for improvement through social media use by political parties. This paper argues that social media presents a unique opportunity for political parties to engage youth voters, yet Canadian political parties fail to utilize it as such. Instead, political parties use social media to supplement traditional campaign strategies and target older swing voters. New approaches are needed that leverage social media

effectively to enhance youth voter turnout and foster greater political engagement. I will first outline the background on voter turnout and describe current social media strategies Canadian political parties use to engage youth. Next, I will highlight how social media can be used to improve youth voter turnout. Finally, I will address the limitations of this paper and outline broader strategies for advancing the political participation of young people.

Background – Voter Turnout

There is extensive literature on factors that affect voter turnout including individual-level factors such as education, socioeconomic status, voter birthplace (i.e., being born in Canada), perceiving voting as a civic duty, access to voting, trust in democracy, and more (Mahéo & Belanger 2021; Blais & Loewen, 2011). The social-psychological factors associated with voting are declining among younger generations with lower perceptions of government responsiveness and limited trust in institutions among current generations (*2015 National Youth Survey*, 2016). This trend is reflected in significantly lower voting rates among youth compared to older populations. For instance, the turnout gap between voters aged 18–24 and the average voter turnout rate was as high as 21% between 2004–2011 (Gosselin, 2016). Several studies suggest that lower rates among youth have to do with the life-cycle effect — the idea that as people age, they are more likely to vote because of several factors (e.g., they are better educated, they are less likely to move, they have fewer conflicts with school and work, etc.) (Gosselin, 2016; Blais & Loewen, 2011). There is evidence that the life-cycle effect is weakening as younger generations are beginning to vote at much later stages than ever, though this may be simply a delay rather than a decline in engagement altogether (Blais & Loewen, 2011). Nonetheless, delayed participation has consequences for our democracy as generational replacement occurs and fewer voters participate in elections.

After analyzing data of voters and non-voters from the 1997, 2000, 2004, 2006, and 2008 Canadian Election Study, Blais and Loewen (2011) found that political interest is a strong predictor of voting as 18–24-year-olds with a medium-high interest in politics

being 22 percentage points more likely to vote (46.6%) than those who expressed low interest in politics (24.2%). They found that the gap was even wider for those aged 25–30 with a 28-point difference between medium-high interest (60.5%) and low interest (32.5%) (Blais & Loewen, 2011). Additionally, they found political knowledge was the second greatest predictor between voters and non-voters, even more so than the level of education and birthplace of voters (Blais & Loewen, 2011). These findings are well-supported in the literature, and more recent data from the 2015 National Youth Survey (NYS) confirms that voters aged 18–34 were less knowledgeable and found it more difficult to learn about political parties than older voters (Milner, 2010; *2015 National Youth Survey*, 2016).

Though many may attribute the lack of interest and knowledge to young people's political apathy, the NYS finds that youth are significantly more likely to vote when parties or candidates contact them during the campaign period (*2015 National Youth Survey*, 2016). However, research by the Samara Centre for Democracy found that during the 2015 general election, young adults were far less likely to be contacted by political parties during the campaign compared to older adults through digital platforms (e.g., Twitter, Facebook, email, text messages), in-person communication, and mail (Anthony et al., 2016). In a survey of voters in the 2019 election, Mahéo and Belanger (2021) found that while 40% of voters over 35 reported being in contact with a party or candidate, fewer than 30% of participants under the age of 35 reported having been in touch with political parties or candidates. While young voters are more likely to move than their older counterparts (Blais & Loewen, 2011) thus contributing to political parties having difficulty engaging with them through traditional methods such as canvassing, social media can break down these barriers and presents an opportunity to engage voters, regardless of distance and location. Additionally, the Samara Centre found that there is a desire for young voters to engage in meaningful ways with democracy, such as discussing policy issues rather than merely why they should vote for a candidate in an election, reflecting a rise in post-materialist values (Anthony, 2016; Anthony et al., 2016). Therefore, rather than simply being apathetic,

young people require greater outreach from political parties, which can be accomplished through social media.

Canadian Political Parties and Social Media

Social media is an essential tool for every campaign and is used by nearly every politician in Canada today. It offers greater access to members of parliament (MPs) by providing a forum for direct communication between MPs and their constituents, allows users to discuss politics with others, and even allows us to hold our elected members accountable (Marland & Power, 2020). Those who subscribe to this philosophy are described as "cyber-optimists" who support the innovation hypothesis, which states that the internet offers greater opportunities for political engagement that are not available offline and that can even mobilize voters and reach once unreachable audiences (Marland & Power, 2020; Harrell et al., 2020).

However, reality suggests a far different story. Scholars in Canadian politics largely agree that Canadian political parties are not using technology to revolutionize politics (Small and Giasson, 2020; Jansen et al., 2020; Harrell et al., 2020). Instead, social media is being normalized and simply used to facilitate "politics as usual," offering an additional platform beyond traditional mass media to spread partisan messaging (Small & Giasson, 2020; Margolis & Resnick, 2000). Small and Giasson (2020) argue that political parties do not actively engage with voters due to immense control over their branding and messaging. For instance, Marland and Power (2020) found that MPs tend to use social media to share party messaging instead of using innovative methods to actively engage with their constituents. This supports past research that finds political parties' messaging on social media uses a "top-down approach," sharing information that is often posted by staff members of parliamentary offices, rather than MPs directly engaging with the electorate (Small, 2011). The reluctance of MPs to directly engage with voters falls in an era of increased party discipline with a fear of stepping out of line and greater centralization of messaging by party leaders in modern times (Marland and Power, 2020).

Additionally, instead of finding unique methods to mobilize their base, parties use social media analytics and microtargeting to reach niche demographics of swing voters, learn about their interests and habits, and draft policies and messaging to persuade them (Patten, 2017; Small & Giasson, 2020). This practice is weakening democracy not only due to vast amounts of data collection that is likely unknown to most members of the general population, but also due to valuing citizens only for their vote or donation rather than viewing them as a group of people whom they have a responsibility to represent.

Clearly, political parties do not effectively make use of social media and technology to improve democratic engagement. In fact, they may even do the opposite. Even so, though it may be idealistic, simply because political parties have operated in this fashion thus far does not mean they cannot change. It would be beneficial in the long-term not only to increase citizen engagement (which *should* be enough to alter their methods) but also to use social media to connect to different demographics of eligible voters, especially young people.

Political Parties and Youth

The current literature examining how Canadian parties mobilize and target young voters in Canada is limited. If political parties are reaching out to young people online, the message is not reaching them. Parties have limited time and money, which is why they may not devote resources to targeting youth voters. Some scholars even argue that it is "unrealistic" to expect parties to target youth voters since they may not even turn out to vote for them (Milner, 2020). However, as previously demonstrated, young people are more likely to vote if they are contacted by political parties (*2015 National Youth Survey*, 2016; Anthony, 2016). Furthermore, youth voters present an opportunity for political parties not only to attract more voters — as younger people are more non-partisan than older voters (Maheo & Belanger, 2021) — but also to capitalize on young people as generators of new ideas and insights and an untapped source of volunteers and support that are essential inside and outside of campaign periods. Additionally, since voting behaviour and political

participation are passed down generationally through socialization (Tossutti, 2019; Cross & Young, 2008), political parties will benefit long-term by building their base and establishing a connection with young people who may start families as they age.

Moving Forward: Social Media, Political Parties, and Youth

Social media has become an everyday part of life for many young people, with most Canadians spending five or more hours online every day. As such, it presents an opportunity for political parties to easily access young voters. If used effectively, social media use by political parties can encourage young people to develop more political interest and knowledge, both of which are associated with higher turnout. For instance, Dumitrica (2014) found that the 2010 election of Naheed Nenshi as mayor of Calgary was largely successful because of social media platforms such as Facebook, Twitter, and YouTube, which portrayed an "authentic" version of Nenshi and directly interacted with potential voters. Appealing to young voters through platforms they commonly use, interacting with them, and discussing relevant issues increased many young people's interest in the election and likely facilitated higher youth turnout rates than in previous municipal elections (Dumitrica, 2014). These connections facilitate greater trust and interest in politics. The words of one participant in a Samara Centre report exemplifies this link: "A candidate in my riding hosted an information session in a youth friendly space about how new legislation might impact our lives … having [the] chance to [connect] with her as an individual made me feel like I could trust her while taking the time to listen to me made me feel like I mattered" (Anthony et al., 2016, p. 14). Therefore, social media offers great potential in engaging directly with young people and potentially improving voter turnout. Whether these strategies can translate to the national level has yet to be investigated, but cases where politicians have successfully mobilized young voters through bottom-up social media strategies — such as U.S. Congresswoman Alexandria Ocasio-Cortez's political success and Barack Obama's victorious 2008 election — show their potential (Rodriguez & Goretti, 2022; Small, 2012). Thus, Canadian political parties should utilize social media to demonstrate their candidates'

authenticity, connect with youth, increase their political interest and knowledge, and generate more engagement in politics.

Limitations: Going Beyond Social Media

Outreach through social media should not be the only solution to mobilize and engage young voters, especially since young people report discussing politics offline more than online and because in-person get-out-the-vote strategies remain more effective than social media (Anthony et al., 2016). Furthermore, many studies find that positive relationships between social media and youth voter turnout produce small effects (Bond et al., 2012). Nonetheless, social media can facilitate offline conversations by allowing the easy spread of information. The small effects from experimental studies can accumulate when dealing with millions of people to make large-scale changes in voter behaviour (Bond et al., 2012).

Social media also presents its challenges. For instance, algorithms create echo chambers that only show users what they want to see, making it difficult to reach those who already do not have an interest in politics. Additionally, appealing to voters through social media requires an opt-in model: the onus is placed on the electorate to follow accounts and keep up with representatives, which may further isolate those who may not have an interest and, therefore, may not show up to vote. These barriers further emphasize that MPs and political parties must go beyond simply advertising or broadcasting messages online and make innovative use of platforms like Instagram, which allow question and answer periods, livestreaming with local organizations, and facilitate avenues for constituents to connect directly with their representatives.

Lastly, solutions beyond social media that encourage electoral participation at young ages are needed. These can take the form of civic education reform, election simulations for high schoolers, and youth parliaments (many of which are already being conducted by Elections Canada and non-partisan youth-led groups like Apathy is Boring) (Milner, 2017). Moreover, investing in other long-term policies that focus on building trust in institutions and political interest is needed. For instance, having more diverse and representative legislatures would lead to greater representation of

minority groups' interests and symbolize greater responsiveness of political systems to all constituents' needs. These policies are crucial for ensuring that MPs accurately reflect the needs of their constituents without using social media as an illusion for greater responsiveness.

Conclusion

Ultimately, changing social media strategy requires changing the fundamental campaigning strategies of political parties. Appealing to youth voters through social media, offering greater freedom to MPs to openly engage with their constituents, and focusing on improving communication between voters and the government are essential not only to improve voter turnout but also to establish greater legitimacy and trust within our democratic institutions. To simply state that young Canadians are apathetic and accept lower voter turnout rates is to do a disservice to youth and this country's democracy. Canadian political parties fail to adequately use digital politics to engage youth but have the potential to use social media as an avenue for improving political interest and knowledge.

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Napalm Bodies: Creating Race in Postcolonial Vietnam

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As a former French colony and key Cold War battleground, Vietnam has been deeply influenced by the presence of foreign powers within its borders. French colonialism, decolonization, civil war, American occupation, and Cold War military imperialism have not only affected how other powers have attempted to construct a Vietnamese "race" but also how the Vietnamese have perceived themselves as a race and nation. Applying racial fabrication — a concept drawn from American Critical Race Theory — to the Vietnamese context reveals the deliberate racialization of Vietnamese people. This analytical framework sheds light on the intentional creation of a race in service of imperial interests. In pursuit of their military and economic goals, Americans created a "race" of people with shared characteristics that justified differential treatment and harm. Ian Lopez's theory of racial fabrication illustrates how the "Vietnamese race" was defined not by phenotype but by supposed natural immunity from harm and objectifying theories of expandability.

Vietnamese History and Racialization

Following World War II, Hồ Chí Minh and his party seized power in Hanoi, marking the beginning of Vietnam's postcolonial period. This era was not free of foreign influence, as France fought to re-establish colonial rule but withdrew after their defeat in 1954 at Dien Bien Phu by Hồ Chí Minh's Viet Minh. This essay will focus on the postcolonial period, specifically the Vietnam War (known in Vietnam as *Kháng chiến chống Mỹ*, or "the Resistance War against America"). The war was fought from 1955 to 1975, between the Viet Minh and the Republic of Vietnam, with increasing American military involvement over the years in support of the capitalist Republic (Consulate of the Socialist Republic of Vietnam, n.d.). American forces generally characterized Vietnamese bodies as physically strong and disposable. These traits have no biological

foundation but were applied to the Vietnamese to create a social group that could be used to support American goals in the region. To Ian Lopez, race connects social meaning to a group of people with a similar history, phenotype, and ancestry (Lopez 2013, 240). Race, however, is never essentially biological
or phenotypic. Rather, it is a product of human creation subject to rapid change, interwoven with social elements like class or gender, and developed in relation to other racial groups (Lopez 2013, 243). Exploring the construction of a Vietnamese race illustrates the human intent behind the creation of racial categories, their dynamic nature, their connection with other social categories, and their relational construction.

Biology, Strength, and Immunity

The exceptionally destructive American war in Vietnam justified harm to Vietnamese bodies through supposedly biological differences, particularly the characterization of Vietnamese bodies as physically resilient. Army doctors modified traditional biological essentialism, arguing that indicators of a Vietnamese race were "subdermal," marked by invisible traits like immunity to disease (Tu 2021, 106).Contrary to even the microbiological knowledge of that time, American scientists insisted that while Vietnamese troops transferred diseases to American troops, the reverse did not occur. This narrative served to downplay the devastation of American presence, as the Vietnamese people were described as carriers of disease who were not themselves affected by illness (Tu 2021, 110). While Americans were "debilitated by a hostile landscape," the native Vietnamese were portrayed as thriving, even during the war, due to an assumed natural resilience (Tu 2021, 125).

Consequently, the Vietnamese people were portrayed as content, or at least indifferent to the harsh conditions of war, in contrast to White American soldiers, who did not belong in tropical squalor (Tu 2021, 124). In studies of wartime disease, American researchers emphasized White suffering, while downplaying sick Vietnamese soldiers and civilians, portraying them as indifferent to disease and pain. Vietnamese soldiers were largely excluded as objects of medical analysis, and researchers highlighted the

diseased bodies of White American soldiers. These studies had visual [1] components. A study on skin disease during the war only included two photos of smiling people, both Vietnamese civilians. These photos attempted to present Vietnamese comfort with pain by contrasting the images of two smiling civilians with graphic images of white disease and illness (Tu 2021, 126). To further justify American violence, General Westmoreland, the Vietnam War Commander, chose to misinterpret Southeast Asian philosophy by claiming that to the Vietnamese, "life is not important," insisting that the victims of American violence were indifferent to it (Tu 2021, 128). The Vietnamese were racialized as if unconcerned with any pain they may have felt to enable a detachment from Vietnamese suffering under the assumption that the Vietnamese themselves were detached from their suffering (Tu 2021, 128). The construction of resilient Vietnamese bodies concealed and rationalized American violence. Ultimately, the supposed biological strength of the Vietnamese people did not protect them from harm, but justified it and put them on the front lines of violence.

Expendability and Objecthood

In parallel, the American presence in Vietnam was justified by their defence of liberal capitalism during the Cold War. American involvement boiled down to a desire to propagate their ideology and way of life. This ideology was manifested in their use of napalm, which entwined expendability with the Vietnamese body, in service of a liberal order. In this vein, racialization occurred through "militarized objecthood," as the indiscriminate use of napalm against Vietnamese infrastructure targets, soldiers, and civilians alike imbued Vietnamese bodies with notions of material expendability, implying an innate disposable character (Bui 2021, 301).

A vision of aggressive economic growth informed the destructive bombing campaigns that characterized the war; infrastructural warfare, irrespective of civilian casualties, was seen as vital to secure liberal democracy. Key political figures, such as

[1]The discussion of American soldiers here refers to the White soldiers who made up the majority of American troops. Black soldiers were racialized differently than White soldiers, a point that will be explored later in this piece.

President John F. Kennedy's chief foreign policy advisor Walt Whitman Rostow, argued that napalm was the weapon of choice to disrupt economic growth and civilian life in North Vietnam. Infrastructural destruction was "a form of punitive de-modernization," upheld by the assumption that non-Western styles of governance were perversions of natural human development (Bui 2021, 302). American scholars hypothesized that the complete destruction of an existing economy, including its cultural institutions and ways of civilian life, would "reset" a socially and politically diseased society, and in the wake of this destruction, liberal democracy would naturally follow (Bui 2021, 302).

The enmeshment of military violence and Vietnamese bodies was critical to American objectives. Vietnamese bodies were destroyed along with infrastructure targets, constructing Vietnamese life as "terrain" to be destroyed in service of liberal capitalism (Bui 2021, 301). They were not the subjects of warfare, but objects to be destroyed, purportedly for their own liberation. In this context, violence was justified as a precondition of freedom. The Vietnamese people were not seen as capable of self-governance but as objects in need of American intervention to lead them toward the "correct" form of government and economy. Vietnamese bodies were tools, used and discarded for a future liberal capitalist order that would paradoxically free them.

This fabrication is relational, not merely between American and Vietnamese people, but between "the flows of things and interrelated constructions of personhood and objecthood" (Bui 2021, 300). To Keva Bui, napalm served as the defining factor between personhood and objecthood. To be American was to hold a monopoly on humanity, and a precondition of humanity in Vietnam was the use of napalm in the service of liberal capitalism. To be human in Vietnam was to wield lethal power against the enemy, which was not just the Viet Minh, but all foreign land and the bodies that came with it. American personhood was entangled with the use of napalm, and constructed as such, personhood excluded all Vietnamese people, who were part of the terrain obstructing liberal capitalism (Bui 2021, 309). Vietnamese objecthood is rooted in the American conception of humanity, which excludes Vietnamese people from personhood as it ties humanity with the use of napalm.

Racial Fabrication: Wrinkles, Contradiction, and Modification

It is clear that race is an active creation, as Vietnamese bodies were specifically and intentionally racialized to support American military and economic goals. The Vietnamese became a "race" because it was useful for American goals to subject them to violence. Thus, the social meanings tied to the Vietnamese race all attempted to legitimize violence. This racialization did not differentiate between civilians, enemy combatants, or allies; all were expendable yet resilient tools for the American cause. However, a key difference between racial fabrication within America, and in Vietnam lies in phenotype. While there are clear visual distinctions between White and Vietnamese bodies, the traits that distinguished the Vietnamese as a separate race were innate, still rooted in biological essentialism, but without specific phenotypic indicators. Racial difference lay in "subdermal" traits, such as immunity from disease, or intangible, but very real, notions of expendability (Tu 2021, 106). These distinctions illustrate the clearly relational aspect of racial fabrication. However, in Vietnam, this relationship was often contradictory. For instance, while White soldiers were portrayed as biologically disadvantaged by Vietnamese ecology, this portrayal stood in contrast to the American notion of Whiteness as a site of power. The portrayal of White soldiers as vulnerable justified additional protection for them, but this benefit was rooted in biological disadvantage, not any social or innate strength (Tu 2021, 121).

Domestically, American leadership was frantically disseminating the aforementioned notions of Vietnamese resiliency and expendability, in an attempt to stem the anti-war movement. However, their characterization of the Vietnamese was in contrast to their racialization of Asians in America, who were portrayed as model minorities — innately hardworking and high-achieving.[2] The successful assimilation of some Asians was elevated and put in contrast to the circumstances of Black Americans, with the biological determinist argument that Asian success proved Black poverty was a condition of natural traits. This contrast was emphasized and disseminated as biological truth to avoid addressing systemic anti-Black racism within the U.S. itself (Tu 2021, 131). Yet, despite these domestic contrasts, Asians and Black people were

suddenly viewed as similar in Vietnam, both as members of socially disordered communities, uniquely able to endure harm (Tu 2021, 131). Contradictorily, this too was purported to be biological truth. This constructed dichotomy justified extreme violence against the Vietnamese and deemed Black troops uniquely suited for lethal labour. Both groups were also seen as members of socially disordered communities. Vietnamese communities under American control faced invasive and discriminatory policing due to their presumed natural susceptibility to communist influences. For instance, the use of tear gas in Vietnam to "flush" people out of their homes, came to shape the way American police chose to respond to domestic unrest, particularly in Black communities (Schrader 2019, 23). In fact, the terms "non-lethal weapons" and "riot control," often used today to describe violent policing tactics in communities of colour, originated in President Lyndon B. Johnson's attempt to portray chemical warfare in Vietnam as safe for all involved and necessary for the American mission (Schrader 2019, 195). Tactics pioneered in Vietnam were later used on Black communities in America, as a way to remedy and mitigate their perceived social ills (Tu 2021, 107).

A Vietnamese Response

In response to imperial violence and Vietnam's subjugation by various colonial powers, postcolonial Vietnamese scholars have sought to remake the "Vietnamese Race." The new Socialist Republic of Vietnam engaged in a formal process to remake ethnicity and race, with the dominant ethnic group (ethnic Vietnamese) trying to "civilize" other ethnic groups to portray a "harmonious and homogeneous" society (Pelley 1998, 377). The national project that emerged after the war necessitated unity, and the state saw strength in ethnic homogeneity. Ethnic Vietnamese were strategically placed as "older brothers" in engineered communities to instruct other ethnic groups, a framing that maintained an image of a Vietnamese "family" (Pelley 1998, 385).

[2]While the majority of today's Vietnamese Americans arrived after the fall of Saigon, the pre-war Asian American population still included a significant number of Vietnamese people, who were racialized together with other Asian communities.

This deliberate framing exemplifies the active construction of race in response to imposed hegemonic constructs.

The creation of ethnic groups in the new nation demonstrates how political circumstances can alter racial categorization. For instance, the Chinese population in Vietnam was not initially racialized or categorized as an ethnic group at all. They were viewed primarily as economic subjects, not ethnographic ones, due to their dominance in the upper-middle class. However, after a breakdown of diplomatic relations with China, Chinese people in Vietnam were suddenly forced to choose a race. They could "become" Vietnamese by renouncing all Chinese ties, or they could leave the country (Pelley 1998, 390). This shift in racial classification further illustrates the dynamic nature of race in response to changing political contexts.

Racial fabrication emerges as a powerful lens through which to dissect the impact of war and occupation on the construction of a Vietnamese race. Race, far from being a fixed or essential characteristic, is revealed to be a malleable construct, molded by geopolitical agendas and ideological goals. Vietnamese bodies were characterized as strong enough to withstand extreme harm but ultimately expendable in the pursuit of imperial goals. The portrayal of Asian and Black populations domestically, juxtaposed against their roles in Vietnam, exposes the often contradictory but always strategic manipulation of race to suit hegemonic agendas.

In 1975, the Vietnamese people were tasked with building a nation in the aftermath of almost a century of war and colonialism. As part of this project, new racial and ethnic lines were drawn. This fabrication of race acknowledges the complexities of racial constructs while affirming the autonomy of the Vietnamese people in their quest for a new, self-defined future. Yet, this fabrication was also completed within a framework of Western conceptions of race to avoid destabilization of the fragile new nation. There is potential in the re-appropriation of these constructs to serve a new narrative of Vietnamese identity, but these fabrications also hold the potential to reinscribe dynamics of colonial domination and division.

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Pharmaceutical Extractivism in Puerto Rico

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Since the advent of Spanish colonial rule, Puerto Rico has hosted a series of extractive enterprises, ranging from sugar plantations to petrochemical industries. Among the many US-based extractive industries to establish themselves in Puerto Rico, perhaps the most destructive and yet well-hidden is the pharmaceutical sector. Following its inception in the early 1960s, Puerto Rico's pharmaceutical industry has evolved into a pillar of the island's economy while securing massive tax breaks (Hedge Clippers 2022, 20). The island's pharmaceutical manufacturers are concentrated in the municipality of Barceloneta, where they draw upon a vast pool of freshwater aquifers to create their products at minimal cost (Ashton 2011, 300). Through the dumping of toxic wastewater into local water sources and the emission of toxic fumes, water extractivism has contributed to significant environmental degradation in Barceloneta (Varona 2022).

The ongoing extraction and pollution of freshwater resources by these companies has transformed Barceloneta into a significant but understudied terrain of extractive conflict. The conflict has been repeatedly framed within a developmentalist narrative which links supposed progress to the subordination of nature under economic needs. Against this developmental imperative emphasized by pharmaceutical companies and backed by municipal officials, Barceloneta's locals have struggled to articulate the inseparability of ecological and community welfare.

Focusing on the period between 1960 and 2000, in which the pharmaceutical industry and responsive community-based environmental resistance were consolidated, I argue that the Barceloneta conflict over water extraction is a crucial example of social contestation over the meaning and desirability of extractivism within a developmentalist paradigm. By studying the discursive and political positions of key stakeholders — namely, community members and the multinational pharmaceutical industry — the Barceloneta conflict offers invaluable insight into the socio-environmental consequences of extractivism and the rationalization of these consequences through developmentalist ideology.

Literature Review

My study draws upon a rich body of scholarship on extractivism, socio-environmental violence, and the developmentalist separation of human and nature into strict categories. Pioneering scholars have described extractivism as a mode of economic development and governance predicated upon the construction of nature as an assemblage of goods to be exploited and converted into capital (Svampa 2015; Gudynas 2018). As Riofrancos demonstrates, extractive development melds ecological and social violence by assaulting non-human environments and their human inhabitants in an effort to achieve development (Riofrancos 2017, 295–298). This discourse of development is rooted in a colonial perception of nature as a monolithic body to be dominated by humans in the creation of material goods that characterize modernity (Gudnyas 2018, 16). Alimonda highlights that developmentalist conceptions of modernity justify environmental violence as a progressive force while denying the social effects of environmental deterioration (Alimonda 2019, 104–107).

Pharmaceuticals and the Imperatives of Extractive Development

As has been the case with many other industrial projects by US-based multinationals in Puerto Rico, pharmaceutical companies have embedded themselves into Barceloneta's social fabric through promises of development backed by the wealthiest nation in the world. After the colonial possession of Puerto Rico was transferred to the U.S. in 1898, the island became a laboratory and exhibit for America-led extractive development (Grusky 1996, 48). Accompanying the launch of a rapid industrialization project in 1948, the U.S. established vast tax exemptions on income and investment in Puerto Rico (Lloréns and Stanchich 2019, 85). These exemptions were expanded in 1976 (Lloréns and Stanchich 2019, 85). In turn, pharmaceutical companies swept into Puerto Rico, seeking to exploit the island's freshwater resources, cheap labour, and minimal environmental regulations (NACLA 1981, 29).

In its early stages, the pharmaceutical industry operated within an industrializing development discourse, arguing that it supplied Barceloneta with sorely needed foreign capital that created

jobs, provided pathways for upward mobility, and raised wages (NACLA 1981, 25). Although the pharmaceutical factories were staffed largely by skilled and English-speaking workers from the U.S., chronic unemployment in Barceloneta at the time buttressed the narrative that the pharmaceuticals were an indispensable harbinger of development (Dietrich 2013, 25). As they became more deeply entrenched in the region, the companies increasingly emphasized that the degree of development visible in the U.S. would remain forever unachievable without their continued presence, even as employment and income levels stagnated (Dietrich 2011, 1448).

In the 1970s, the ecological consequences of pharmaceutical extractivism in Barceloneta became more apparent. Growing public critique necessitated a new developmentalist discourse that maintained pre-existing social promises but recognized environmental degradation as an integral but manageable element of development. Representatives for pharmaceuticals were variably dismissive or unconcerned with environmental concerns such as the pollution of freshwater sources and the decline in coastal marine life, arguing that such phenomena were unavoidable facets of the developmental process that paled in comparison to socioeconomic gains (Lloréns and Stanchich 2019, 89; Dietrich 2013, 36). In support of the pharmaceutical corporations, local U.S. Environmental Protection Agency officials explicitly stated that "ecological issues must be harmonized with economic necessities" (Dietrich 2013, 5). These threads of developmentalist ideology cast environmental deterioration as an inevitable and even necessary aspect of development which reaffirmed the binary separation between society and nature.

In the late 1970s and onwards, ecological violence assumed a distinctly social dimension, motivating another pivot in the discursive approach of Barceloneta's pharmaceuticals. Alongside the degradation of freshwater resources and marine life on which local communities depended, the continued output of toxic wastewater and fumes fueled an uptick in respiratory issues, water-borne disease, and chronic conditions such as diabetes and asthma (Dietrich 2013, 32; Previdi and Vega 2020, 1–2). In this volatile context, pharmaceuticals reframed their developmentalist role through their

credentials as creators of public health, stressing the importance of the medicinal products manufactured in Barceloneta and exported across the world while engaging in philanthropic projects focused on community health (Hedge Clippers 2022, 6; Dietrich 2013, 8). Steeped in the language of technocracy, pharmaceutical corporations increasingly framed themselves as community leaders, uniquely situated to deliver social goods such as healthcare services and jobs while balancing the economic and ecological fruits of development (Dietrich 2013, 7–9). The Barceloneta Regional Wastewater Treatment Plant (BRWTP) was created on Barceloneta's coast in the 1970s to deliver collaboration between the region's pharmaceutical companies and manage pollution (Ashton 2011, 300). The BRWTP failed to stem the growing tide of local health issues but reinforced the dominant position of pharmaceuticals in the nexus of development, pharmaceuticals' socioeconomic goods, and ecological costs in Barceloneta (Ashton 2011, 306).

Community Members in Contestation with Development

The developmentalist rhetoric propounded by pharmaceutical companies and echoed by municipal government officials in Barceloneta created a stifling if not overtly hostile milieu for community counter-narratives. Since the 1960s, community members' concerns about the overexploitation of freshwater resources that fed their homes were met with arguments by municipal and corporate officials that the lack of alternative opportunities necessitated water extraction (NACLA 1981, 29). Both the explosive economic growth experienced by pharmaceutical firms and increased availability of consumer goods in Barceloneta formed another layer of developmentalist defence against potential complaints, even while few of these economic benefits were passed on to the community in terms of employment, income, or access to goods (NACLA 1981, 23–24). Despite their reservations, many local residents became convinced that the pharmaceutical industry provided the only realistic path toward prosperity, even while prosperity remained perennially out of reach (Dietrich 2011, 1446–1447).

Spurred on by the pacification of community complaints, pharmaceutical companies disposed of the toxic liquid wastes from manufacturing into local freshwater sources, drained aquifers, and the ocean (NACLA 1981, 31). In the 1970s, the resulting environmental damage became undeniable, prompting community members to protest against the pharmaceuticals and acquiescent municipal government, demanding the protection of freshwater resources and coastal marine life (Lloréns and Stanchich 2019, 89). In response, municipal and pharmaceutical actors insisted that such protections would render extractive development unprofitable, presenting an implicit choice between the environmental costs and economic gains of development (Dietrich 2013, 21). The competing priorities of ecological preservation and economic realities for poor residents of Barceloneta drove many to dampen criticism for fear of alienating the companies (Dietrich 2013, 21). Sponsorship of community infrastructure and services by pharmaceuticals further reinforced the inseparability of the industry and developmental potential, sidelining even the municipal government in the architecture of community welfare (Dietrich 2011, 1448).

The establishment of the BRWTP intensified the community's experience of ecological degradation, with increased production of toxic fumes manifesting in a deluge of health problems (Dietrich 2013, 58). Through their demands for increased regulations and compensation, grassroots organizations began to challenge pharmaceutical developmentalism by asserting the indivisibility of human and ecological damages (Dietrich 2011, 1450). Presented with this counter-narrative, pharmaceutical companies accused community members of ignorance about their operations and of fabricating health issues for financial motives (Dietrich 2013, 36–40). This reformulated discourse assumed a position of elitist knowledge to dismiss industry critics as uneducated and thus unfit to guide the processes of extractive development. The paternalism imbued in this brand of developmentalism was implanted in public health services created by pharmaceuticals, which refused to treat pollution-related health issues (Dietrich 2013, 97). Pharmaceuticals thereby posed a choice to the community, between the public health supplied by urban modernity and the one supplied by ecological preservation.

Continued efforts by community members to hold pharmaceuticals legally accountable were countered by repeated claims of ignorance, rooted in the denial that ecological casualties of development could outweigh economic benefits (Dietrich 2013, 62). This narrative was weaponized against protesting community members through the enlistment of private security forces by pharmaceuticals to intimidate protesting community members, depicted as an effort to manage community tensions and misunderstandings about development (Hedge Clippers 2022, 18). By asserting the exclusivity of developmentalist knowledge, pharmaceuticals maintained their privileged position in the determination of development's meanings and purpose. Protesting residents of Barceloneta, after all, rarely opposed development outright, regularly framing their grievances within an expressed appreciation for the perceived goods of development, such as easier access to goods and services (Dietrich 2013, 73). At the core of the community's ongoing struggle with pharmaceuticals was an effort to participate in the process of defining and enacting development with a recognition of the intersections of social and ecological welfare (Dietrich 2011, 1442).

Community organizations' efforts to reshape development after the 1980s expanded through public petitions and awareness, but a lack of progress led them to file a lawsuit in 2000 against the pharmaceuticals and local government (Dietrich 2011, 1455). Beyond dismissing the charges of ecological and health damages, pharmaceuticals argued that the plaintiff organization was a false representative of the community, one that was compromising rather than supporting local interests in economic growth and welfare (Dietrich 2011, 1451). The ostracism of these opponents positioned pharmaceuticals as both benefactors and representatives of the community, endowed with the exclusive authority to channel and enact Barceloneta's developmental interests. Simultaneously, the very suggestion that social and ecological violence were aligned served to discredit resistant community members, placing them outside an extractive development model reliant on the progressive degradation of nature and in sharp separation from the human.

Conclusion

Through a hegemonic discourse of development authored by the pharmaceutical industry, Barceloneta has been riven by social and ecological violence, as well as conflict over the desired future. The struggle between community members and pharmaceuticals to define the parameters and limitations of development has repeatedly privileged corporate actors as the architects and authorities of progress. Furthermore, the ongoing conflict has demonstrated the ability of extractive development to simultaneously generate and conceal social and ecological violence, illuminating the potentials, pains, and hierarchies of developmentalism.

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Problematizing Paraprofessionalism: Inequity in Group-Based Social Skills Interventions for Children with Autism Spectrum Disorder

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When discussing issues of equity in education, one cannot restrict one's focus to matters contained entirely within the classroom. One must also consciously examine the impacts of educational practice on students' mental health and preparedness to transition into adult life. Education in a classroom setting is not just a means of information exchange; it is also one of the most impactful means of secondary socialization. The most important lessons we learn as young students have little to do with academic skill, but rather inform our understanding of how we ought to behave in groups, how we can go about forming meaningful connections with others, and how we might use these understandings to further our personal and professional lives.

Students with autism face disproportionate difficulty in developing these understandings and often struggle to sustain their mental well-being and obtain gainful employment as a result. These lifelong difficulties can be attributed in significant part to social delays that emerge in early childhood. As such, evidence-based efforts to assist in the development of autistic students' emerging social skills are of great importance for improving long-term educational equity. There is a body of research indicating the effectiveness of school-based group social skills interventions in developing these skills (Shih et al., 2019; Dean and Chang, 2021), and evidence suggests that educational paraprofessionals are uniquely equipped to assist in these interventions (Shih et al., 2019; Azad et al., 2016). In this paper, the term "educational paraprofessionals" will be used to refer to those school staff members who engage in one-on-one instruction with students and who are supervised by classroom teachers (Azad et al., 2016).

Unfortunately, some research also indicates that these paraprofessionals often are not able to engage as thoroughly with autistic children as might be desired due to a lack of training,

inadequate supervision, or poor clarity regarding the nature of their duties. The implementation of school-based group social skills interventions is therefore a necessary step in ensuring the educational equity of autistic students, and the successful adoption of these interventions is contingent upon the work of properly trained educational paraprofessionals.

Background

According to the DSM-5, Autism Spectrum Disorder (ASD) is characterized by consistent deficits in socialization and communication, challenges in the use and understanding of nonverbal communication, difficulties in forging and maintaining social relationships, the presence of restrictive and repetitive interests, abnormal adherence to routine, and atypical sensory responses (American Psychiatric Association, 2013). It is a disorder that often emerges early in childhood, with most symptoms typically being recognized when children are between one and two years of age (American Psychiatric Association, 2013). Delayed acquisition of social and communication abilities in autistic children adversely affects both their socialization and their learning. Adults with ASD, even those without intellectual disability, often struggle to obtain gainful employment and live independently (American Psychiatric Association, 2013).

Autistic students are not necessarily preordained to suffer from social delays permanently. Some methods of intervention have been shown to be successful in developing their social skills. This paper will focus on the use of interventions that seek to develop the social skills of autistic students in group settings. These interventions can be provided in many forms, including the use of social narratives, self-monitoring, peer-mediated instruction and intervention, video modelling, or prompting (McKeithan and Sabornie, 2019). Traditionally, such interventions have been performed in clinics, and have followed a strictly defined social skills curriculum including instruction in starting and maintaining conversation, handling teasing, and forming positive friendships (Kasari et al., 2016). However, research suggests that a school setting better allows autistic children to generalize their newfound skills (Shih et al., 2019).

Autistic Students in General Education Classrooms

In recent years, the rate at which autistic children are present in general education classrooms has increased. In 2017, for example, 39.7% of students with ASD spent 80% or more of their school day in general education classes (Dean and Chang, 2021). This is beneficial for the social development of autistic children in that it better exposes them to normative social interactions. However, it also poses a significant challenge to their mental well-being, as they are more likely to experience social exclusion in this context (Dean and Chang, 2021). In fact, students with ASD often find that school is an especially socially alienating setting, and many report feeling lonely and disconnected from their neurotypical peers (Shih et al., 2019).

Integration with non-autistic students is important, but it is not a solution in and of itself. When done without adequate support and direct education in social skills, integration has actually been shown to *reduce* the social interaction of autistic students (Kalyveza et al., 2020). Some schools actively foster this alienation by including autistic students in classroom environments but separating them from their neurotypical peers in non-academic contexts (notably including recesses) (Kasari et al., 2021).

Furthermore, autistic students in general education classes often experience academic difficulties as a result of their lack of engagement in the learning environment. This is often attributed to their diagnosis itself, but research indicates that environmental and social supports can have ameliorative effects (Meindl et al., 2020). There is strong interest from parents, students, and teachers alike to increase the inclusion of autistic students within general education classrooms, but teachers often report feeling unprepared to meet the academic and emotional needs of these students. They report that they are not equipped with sufficient training or resources to provide proper instruction to autistic students, including those who have already undergone significant behavioural interventions (often in the form of Applied Behaviour Analysis or Early Intensive Behavioral Intervention) (Meindl et al., 2020). In brief, it is not sufficient to simply physically integrate autistic students into general education classrooms. While this is an advantageous and necessary step, it must

be carried out in conjunction with intentional and research-driven behavioural interventions, as well as the allocation of significant resources to educational professionals and paraprofessionals.

Group-Based Social Skills Interventions in Clinical and Classroom Settings

All children with ASD are unique, and it is important to refrain from assuming that any method of social skills intervention would be equally effective for all autistic students. Kasari et al. (2021) refer to several possible methods of intervention, including environmental support, direct instruction from adults, and access to neurotypical peers in both academic and social settings. This study finds that such interactions are most effective when presented in combination with one another (Kasari et al., 2021). In a meta-analysis focusing on the effects of group-based social skills interventions on secondary school students with high-functioning autism, McKeithan and Sabornie (2019) found that interventions using social narratives are likely to result in high effect scores.

Interventions making use of self-monitoring strategies were associated with more varied effect scores, though they proved quite helpful for certain autistic students. Strategies involving peer mediation were only moderately effective. Studies involving collaboration between researchers and school staff also provided moderately strong effect scores, potentially indicating difficulties faced by school staff members related to applying these interventions. Gates et al. (2017) find that the efficacy of group-based social skills interactions is unclear. More specifically, they contend that self-reporting of social skills among autistic students is improved by these interventions, but that teachers' perceptions of autistic students' social skills remain relatively unchanged (Gates et al., 2017).

However, a review conducted by Michelle Dean and Ya-Chih Chang in 2021 found that each of its 18 monitored studies reported improvement in autistic students' social behaviours. A notable difference between these works is that Dean and Chang restricted their review to interventions carried out in a school setting. Though group-based social skills interventions are often

carried out in a clinical setting with groups of exclusively autistic students, Kasari et al. (2016) remark that improvements made in such settings are difficult for students to generalize, and that "this is somewhat surprising as often the reason for tutoring is to influence skills that will be used at school and in the community" (p. 172). When children with ASD are sequestered from their peers and taught social conventions, they can experience difficulty in generalizing the behaviours they learn to broader social contexts (Dean and Chang, 2021).

The Role and Training of Educational Paraprofessionals

As discussed by Shih et al. (2019), group-based social skills interventions in a school setting are often carried out by school staff. This method is beneficial in that it draws upon existing student-teacher relationships but poses a challenge in that it requires the fidelity of often overburdened and under-trained staff members to the intervention protocols. Paraprofessionals have a critical role to play in this process, as they have a unique capacity to influence peer relationships due to their proximity to students (Shih et al., 2019). Research indicates that paraprofessionals can both hinder and assist in the development of social skills in autistic students and that it is essential that they avoid behaviours such as hovering, interrupting play, and disengaging from students (Shih et al., 2019).

Unfortunately, paraprofessionals are disproportionately likely to become disengaged; Azad et al. (2015) found that, whereas teachers and teaching assistants were engaged in direct instruction 98% and 91% of the time respectively, one-on-one paraprofessionals were engaged in instruction or support only 57% of the time. According to this study, this is a consequence of the fact that paraprofessionals are often subject to role ambiguity, insufficient training, and insufficient supervision, which lessens their potential positive impact on autistic students (Azad et al., 2015). Furthermore, fiscal difficulties faced by schools can result in paraprofessionals (and other staff members) being overburdened, with 150 to 200 students sometimes placed in their direct care (Shih et al., 2019).

Carter et al. (2009) discuss further challenges faced by paraprofessionals, including high turnover rates as a consequence

of low rates of pay and minimal advancement opportunities. They also discuss means with which paraprofessional education can be improved, including the use of on-site coaching and assistance, team-based training, school-wide planning, consultations, summer intensive programs, university partnerships, as well as a multi-tiered staff approach making use of clear and frequent direction from supervising staff. While the training of paraprofessionals is primarily the purview of school administrators, the poor job conditions that contribute to certain subpar professional and educational outcomes are manifestly political in nature. The overburdening and underpaying of paraprofessionals disproportionately and adversely affect students with ASD — as well as those with other developmental and social disabilities — making it an equity concern in the context of both labour rights and unequal educational attainment.

Conclusion and Recommendations for Further Research and Policy

Students with ASD experience difficulties in acquiring social and communication skills at the rate of their neurotypical peers. This can present significant challenges to their educational attainment and long-term psychosocial health. These challenges can be mitigated through the use of evidence-based social skills interactions. Because students with ASD are as diverse and internally distinct as any other subset of the population, it is inherently reductive to put any particular method of social skill intervention on a pedestal above all others. Many methods of social skills intervention exist, including environmental approaches, adult-driven approaches, and peer-driven approaches. Adult-driven group-based social skills interventions have had varying levels of success in fostering the development of social skills among students with ASD. There is strong evidence that adult-driven group-based social skills interventions carried out in school settings have been more effective than those carried out in clinical settings.

Those interventions that take place in school settings are often carried out by school staff, and educational paraprofessionals have a uniquely important role in this process due to their one-on-one proximity to students. Unfortunately, paraprofessionals are often

undertrained, underpaid, and overburdened, and are consequently too often disengaged from autistic students. This is both an administrative and a social problem. Improvement in the training and supervision of one-on-one educational paraprofessionals is a necessary step towards narrowing the divide between autistic and neurotypical students stemming from differences in social development.

As McKeithan and Sabornie (2019) note, there is a dearth of research focusing on the effects of social skills interventions in students with high-functioning autism. ASD is a condition with a remarkably wide-ranging set of symptoms and severity levels. Research into behavioural interventions tends to prioritize students who are both younger and lower functioning (McKeithan and Sabornie, 2019). In recognition of the diverse lived experiences of autistic students, further research into the effects of certain interventions and classroom practices on students with varying support needs would be instrumental in improving the educational outcomes of autistic students across the spectrum.

It is also essential that policymakers reflect on the importance of adequately trained educational professionals and paraprofessionals in their decisions regarding funding and educational regulation. As Carter et al. (2009) discuss, educational paraprofessionals face high turnover rates as a consequence of low rates of pay and minimal advancement opportunities. Additionally, Meindl et al (2020) demonstrate that classroom teachers often feel undertrained and under-resourced in the context of meeting the academic and social needs of autistic students. Legislating significant increases in pay for educational paraprofessionals is a clear step that could be taken to improve the educational experiences of autistic students. As demonstrated by Ohrt et al. (2020), the training of educational professionals in abnormal psychology can bring about real results: "Studies aiming to improve teachers' knowledge of mental health showed significant increases in knowledge, attitudes, mental health literacy, and a decrease in stigma" (p. 843). Schools are the sites of many of our greatest lessons, even if these lessons are not academic in nature. Improvements to the social and academic landscape of students with ASD would provide them with life-long professional

and emotional benefits, This can be done through an approach combining improved funding and specialized, research-driven training for educational professionals and paraprofessionals.

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Rethinking Pedagogy: Deconstructing Heteronormativity in ESL Classroom

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Introduction

Schools and classrooms in general serve as primary social institutions through which children socialize with each other (Freeman and McElhinny, 1996). Particularly, education as an institution constructs but also regulates a wide variety of social identities such as sexuality, gender, and ethnicity in a hegemonic manner (Pawelczyk et al., 2014). The interwoven nature of these social categories results in intersectionality in the classroom setting, with a disregard for marginalized viewpoints (Núñez, 2014). This is particularly evident in classes taught in English for non-native speakers (ESL/EFL). It has been found that most of the available textbooks or reading materials from major ESL/EFL publishers reflect heteronormative discourses (Paiz, 2015; Ruiz-Cecilia et al., 2020) — the belief that heterosexuality is the only acceptable and normal sexual orientation (Dalley & Campbell, 2006). A further dilemma of LGBTQ+ students is the heteronormativity-constructed environment in which they must disclose their sexual orientation in a language classroom, otherwise they would be considered deviant and unable to follow instructions (Liddicoat, 2009). During ESL/EFL classes, teachers-student interactions and the use of non-neutral textbooks diffuse hegemonic discourse, promoting heteronormativity and problematicating sexual minorities, as well as isolating and silencing LGBTQ+ and allied community members (Paiz, 2017; Pawelczyk et al., 2014; Shardakova & Pavlenko, 2004). Building on this understanding, despite the fact that sexuality is viewed as a positive aspect of intellectual exploration (Britzman, 2000), the issue of queering the ESL/EFL classroom has been underexplored (Nelson, 2009). As queer pedagogy continues to make progress in English language classrooms (Paiz, 2017), it may have a similar impact on ESL/EFL classrooms. Queer pedagogy lies at the intersection of queer theory and progressive pedagogy, which requires us to queer progressive pedagogy through the lens of queer theory. Queer pedagogy in ESL classrooms is primarily

concerned with rejecting the notion of "final knowledge" about LGBTQ+ groups, subverting heteronormativity assumptions that degrade minor sexualities and critically reflecting on the normality of sexualities in the world (Curran, 2006). The purpose of this paper is to examine possible strategies for queering the ESL/EFL classroom by examining how pedagogy and materials are utilized. More specifically, it seeks to address the question: How should ESL teachers deconstruct heteronormativity in the ESL/EFL classroom? To achieve the queer pedagogy goals, it is necessary to adopt a reflective approach and to employ textbooks and teaching strategies in conjunction with a critical literacy approach, in which students are repositioned as language researchers, respected for investigating minority culture literacy constructs, and encouraged to problematize classroom and public texts (Comber, 1994). For students to acquire critical literacy skills, it is imperative to emphasize that culture and history shape our understanding of sexuality (Malins, 2016). Therefore, teachers should receive training and utilize materials and strategies based on reflective and critical literacy pedagogy that facilitate the development of critical thinking in light of heteronormativity.

Strategies Queering Teacher Preparation

Several contexts in K-12 education have demonstrated a lack of preparedness among teachers to be mindful of the importance of the topic of sexual minorities as well as to fight homophobia and heteronormativity (Bhana, 2012; Clark, 2010; Evripidou, 2018; Malins, 2016). This suggests that teachers themselves should be made aware of queer pedagogy so that inclusive pedagogy can be implemented more effectively.

It should be proposed that other than the predominant strategy in teacher training — the use of texts and textual practices in teaching queer-inclusive English language arts (Blackburn & Buckley, 2005) — professional development should emphasize the ally-work rather than simple anti-work that interrupts discriminatory language (Clark, 2010). As part of professional development, teachers should have an opportunity to reflect on the environment around them concerning sexualities and related areas and to normalize discussions about

diverse genders and sexual identities in the classroom (Malins, 2016). The Department of Education should develop teachers' programmes that focus on how the topic of sexuality and sexual minorities is silenced and given insufficient attention (Bhana, 2012). It is also possible to obtain guidelines, impetus, and recommendations from professional organizations for educators, such as the National Council of Teachers of English, to prepare for English language courses with a queer perspective (National Council of Teachers of English, 2021). A primary objective of these preparation efforts should be to change the stereotypical attitudes towards homosexual identities and to see homosexuality through a different lens, such as the lens of love and passion (Evripidou, 2018).

Furthermore, not all ESL teachers are aware of the situation of heteronormativity, although most acknowledge homophobia. In this case, ESL teachers should become familiar with the definition or taxonomies of heteronormativity prior to developing or implementing any materials (Moore, 2020). Among these five taxonomies are explicit heterosexism, heteronormative erasure, heteronormative marginalization, heteronormative mainstreaming, and queer inclusion (Moore, 2020). It is possible to use the classifications as a reflexive tool not only for publishers and professional materials writers but also for school teachers to reflect on the extent of their heteronormative practices during teaching or writing (Moore, 2020).

Teaching Strategy: Inquiry-Based Approach

As promoting students to reflect on authors' perspectives and motivation proved to be an effective strategy in ESL/EFL classrooms (Xiao & Hu, 2019), one way to deconstruct heteronormativity and facilitate students' critical thinking skills is to use an inquiry-based approach — reframing questions and deconstruction — that examines sexuality in general rather than a marginalized perspective (Curran, 2006). Before adopting such an approach, the first step should be to establish a safe zone and to engage in a dialogue on LGBTQ+ topics.

Safe Space & Explicit Dialogue

Though most ESL teachers consider social issues one of

their teaching goals, they would eventually refrain from explicitly discussing them to maintain classroom harmony, as students from some cultures may find them controversial. In this regard, it is crucial that a "safe zone" for LGBTQ+ discussion be established before the implementation of the direct approach. A simple method would be to use a sticker designating a "safe zone" on an educator's and classroom's door, indicating that any anti-language behaviour would be challenged and the environment would be safe for discussing relevant topics (Sadowski, 2017). Safe zones enable explicit dialogue in the classroom, allowing students to understand how language and culture define sexuality rather than viewing sexual minorities from a microscope (Nelson, 2008). The direct approach, in addition, allows students — particularly LGBTQ+ students — to acquire the necessary vocabulary and phrases to describe themselves and their surroundings as well as empowers them to self-make rather than be subjected to heteronormative discourse.

Reframe Questions & Deconstruction

As a follow-up to the direct approach, teachers can guide students using inquiry-based approaches. Curran (2006) reframed students' questions in an ESL class regarding sexuality, emphasizing the fluidity of sexuality and the influence of sociocultural context in shaping sexuality. In response to the question of "Is homosexuality innate or socially derived?," the rephrased version could be "What gives you the assurance that someone is straight, gay, lesbian, or bisexual, and what makes you unsure?" or "What makes people believe that they are gay, lesbian, or bisexual?" (Curran, 2006, p. 92). Reframing allows students to challenge the normal discourse and maximize their opportunities to speak and practice languages (Curran, 2006).

A further inquiry-based approach is deconstruction, emphasizing the investigation of implicit assumptions, values, and binaries, as well as the potential effects of discourse (Curran, 2006). In addition to deconstructing the students' questions and redirecting them to analyze motivations and sociopolitical context, another method is to insert reflective discussion questions into textbooks to rethink problematic representations of LGBTQ+

identities (Cashman & Antonio Trujillo, 2018; Curran, 2006; Paiz, 2017). Ricky Martin, a pop star and member of the LGBTQ+ community, is an example of implicit heteronormativity found in Spanish heritage language textbooks (Cashman & Antonio Trujillo, 2018). In these textbooks, there was an emphasis on Martin's sexual orientation and his experience of coming out, rather than treating sexuality as an integral part of his entire being. A critical rethink of the textbook example would require students to consider why the author chose to focus on Martin's sexual orientation rather than his professional career, which would lead them to explore the public value of media coverage. Further, prompting students to consider such implicit assumptions can facilitate their adoption of a queer lens regarding family and gender. Therefore, effective strategies for ESL teachers include providing explicit instruction and adopting an inquiry approach to discuss heteronormativity discourse (Curran, 2006; Paiz, 2017).

Teaching Materials

Despite the necessity to deconstruct heteronormativity through teachers' preparation and teaching strategies, an equally effective and crucial strategy is to queer teaching materials through the use of visual elements and a local queer narrative.

Visual Elements

While it is the trend that youth are less inclined to stick to traditional literacy such as friction (Habegger-Conti, 2015), media literacy that includes images may serve as alternative materials to stimulate engagement in language and critical literacy development, as well as deconstruct heteronormativity (Xiao & Hu, 2019). It is through visual elements that information is conveyed successfully, in the sense that they convey a cultural ideology in which all the targeted readers share a common viewpoint. When considering queer pedagogy, heteronormativity is a commonsense concept. Therefore, the primary aim of using visual materials is either to deconstruct heteronormativity through reflexive questioning methods, such as using "what, why, and how" questions (Habegger-Conti, 2015), as mentioned above regarding the "usual" visuals, or to reconstruct the

new discourses of sexuality through the relevant images.

Incorporating advertisements, magazines, newspapers, documentaries, and movies, as well as picture books and graphic novels into critical language classrooms has proven to be effective (Abednia & Crookes, 2019; Xiao & Hu, 2019). By using these visual materials with a focus on sexual minorities, recent civil rights, and interviews with sexual minority artists, queer pedagogy may be able to further develop its position within the field of critical literacy pedagogy (Moita-Lopes, 2006). However, educators must also be cautious about the intersectionality and whitewashing of LGBTQ+ identities in the visual materials, as not all ESL/EFL students are white (Paiz, 2017). It is also necessary to assess students' knowledge level by combining these visual materials with texts to encourage students to investigate minority cultures and languages through visual representations (Abednia & Crookes, 2019; Paiz, 2017).

Local Queer Narrative Pedagogy

Another innovative and effective pedagogy based on critical literacy pedagogy is to adopt local queer narratives, which allow students to practice the language in a familiar setting (O'Mochain, 2006). For instance, in O'Mochain's (2006) study, he adopted narrative pedagogy in his EFL classroom at a Christian college in Japan. Narrative pedagogy focuses on the narratives of people who share the same geographic and socioeconomic background as the students. The process of this pedagogy is first to provide an interview narrative of sexual minorities for the whole class and then encourage students to link their own narratives — either their own story or the stories they have heard. Subsequently, the author invites students to clarify the meanings and generate greater discussion in the next class discussion. This process allows students to consider what vocabulary the narrators used or did not use, what feelings the words convey, what grammar points are unclear, and so on. In the case of this local queer narrative pedagogy, the author demonstrated that students can interpret and analyze language in a meaningful manner, as well as reflect on social issues and heteronormativity in a non-threatening way, even when such topics are rarely discussed openly within institutional and regional contexts. The

pedagogy could be modified based on the school environment and developmental stages of elementary school students, allowing them to practice English language knowledge while raising awareness of sexuality in a familiar environment.

Conclusion

When sexuality is neglected in ESL/EFL classes, heteronormativity persists, which marginalizes and silences LGBTQ+ students. A more inclusive and equitable learning environment can only be achieved by queering the ESL/EFL classroom. This paper offers some plausible answers to the question of how ESL/EFL teachers may deconstruct heteronormativity in the classroom. Teachers can be prepared through professional development programs that emphasize ally work and familiarize them with heteronormativity. With proper preparation, teachers can apply teaching strategies such as inquiry, reflection, reframing, and deconstruction to help students critically examine and question the sexual normativity discourse. Furthermore, the use of effective and critical materials, such as those with visual elements or based on local narratives, could contribute to student's development of their English language skills and raise their awareness of the importance of inclusivity. Pedagogical approaches to these three steps should be guided by queer pedagogy and critical literacy pedagogy, in which students and teachers critically reflect on sexual normality and question implicit heteronormativity.

Further research is necessary on identifying effective methods for addressing ESL/EFL teachers' concerns and empowering them regarding queer content in the classroom (Paiz, 2015) and addressing parents' concerns and worries regarding these topics in a classroom setting (Bhana, 2012; DePalma & Jennett, 2010). A low-cost online workshop should also be recommended at the policy level for teachers' preparation programs, as well as the establishment of supportive resources, including gay-straight alliances and local library literacy, by education and advocacy groups, especially in rural areas (Page, 2017). Taking these steps outside the pedagogy would enable queer pedagogy to be better integrated into English language classrooms.

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Separating Duty to the People and Personal Indulgence: Politics Versus Policy in Foreign Affairs

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Part I: Introduction

It is the duty of those in power to pursue a foreign policy that benefits their constituents; the process of doing so begs the question of whether politics helps or hinders this endeavour. A critical analysis reveals politics interferes with effective foreign policy crafting, causing subpar policy to be practiced. The failure to separate the two has resulted in cataclysmic consequences. Modern-day Russia has doomed itself by pursuing a politically motivated invasion of Ukraine. American adoption of isolationist foreign policy, fueled by politics, has ended global unipolarity and the stability that comes with it; at the same time, prudent American policy is delayed due to political intervention. Additionally, politically motivated decisions made during the collapse of the Soviet Union laid the groundwork for foreign policy debacles for years to come.

Part II: Russia

Vladimir Putin's personal politics has resulted in a foreign policy detrimental to Russia's economic and geopolitical well-being. Putin believes Ukraine and Russia share a common history, and consequently, any separation results from Western meddling in internal Russian affairs.[1] Resultingly, Ukraine being an independent and successful democracy is a personal political threat to Putin's continued authoritarianism.[2] He fears the question, "if Ukrainians are free, why can Russians not be?" The result of this political belief is the Russian invasion of Ukraine. The proper application of military force, and by extension, foreign policy, requires the state, the army, and the people to be of one mind, properly united and working toward a common goal.[3]

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[1] Anna Reid, "Putin's War on History: The Thousand-Year Struggle over Ukraine," *Foreign Af airs* 101, no. 3 (May/June 2022): 54.
[2] Ibid., 63.

[3] Rupert Smith, *The Utility of Force*, 2nd ed. (United Kingdom: Penguin Random House, 2005), 175.

Putin does not have this united social trinity; it is so completely lacking that he has no choice but to resort to using archaic media control and censorship to project a false history.[4] Even with that, a mass exodus of military-aged able-bodied Russians left the country. These suggest that the politically motivated policy of invading Ukraine is not successful. An improper application of force is not the only way this politically motivated policy has fallen short.

The international consequences on Russia have been severe, showing how a terrible policy decision motivated by one man's politics has resulted in responses that alienate and harm Russia. European nations, by and large, no longer wish to associate with Russia; as such, they have taken steps to end energy dependence on Russia.[5] This means Russia has lost powerful geopolitical leverage. The policy of invading Ukraine was designed to restore Russian influence and power. In reality, it has had the opposite effect, demonstrating how allowing politics to interfere with policy only exacerbates the original political grievance. European nations' decreasing reliance on Russian gas, coupled with the plethora of international sanctions, reduces both Russian government revenue and Russian private sector revenue.[6] Nations fail when their institutions create no incentives to advance.[7] Sanctions mean private businesses and oligarchs, the pillars that until now had kept Russia afloat, currently lack the motivation to innovate. Furthermore, even extractive institutions, which can survive in the short term, are failing with the Russian government's revenue decreasing.[8] Overall, it is clear the politically motivated invasion of Ukraine has dire ramifications for Russia. Russian totalitarian regimes are not the only ones to fall victim to the pitfall of politics misleading policy.

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[4] Daniel Treisman, "Putin Unbound: How Repression at Home Presaged Belligerence Abroad," *Foreign Af airs* 101, no. 3 (May/June 2022): 42.

[5] Andrea Kendall-Taylor and Michael Kofman, "Russia's Dangerous Decline: The Kremlin Won't Go Down Without a Fight," *Foreign Af airs* 101, no. 6 (November/December 2022): 25.

[6] Ibid.

[7] Daron Acemoglu and James A. Robinson, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* (New York, New York: Penguin Random House, 2012), 372.

[8] Ibid., 150.

Part III: The United States of America

The United States has made detrimental foreign policy errors fueled by personal politics. Absolute authorities can unite people and nations into a cohesive unit.[9]In geopolitics, a single unchallenged unipolar superpower can keep the peace. This was the United States; they abdicated this hegemonic position because of politics interfering in the policy. No other country has the power to do this.[10] By pulling back and looking inward, the world order has been destabilized. In recent years, political polarization has reaped havoc on U.S. institutions, resulting in the former paragon of democracy receiving lower and lower scores each year on *The Economist's* Democracy Index.[11] The United States should have used its power effectively over the past several years and supported Ukrainian integration into the Western order.[12] Even twenty years past, they could have pushed more heavily for Russian integration; either or both could have prevented the current war. This policy was not pursued because of nationalist politics within the United States. The left and the right echo the desire for America to step back on the world stage.[13] There is a false belief promulgated among Americans that retreating from the world will cease Russian aggression or that it was being present on the world stage that initiated it.[14]In democracies, politicians are beholden to their constituents and, as such, pursue policies motivated by politics even when it means the world order will burn down.

The United States' withdrawal from the world stage policy due to nationalist politics enabled China to assert its dominance in several key regions. Under President Biden, the United States again tries to assert its dominance in these regions, with the reversal proving the regions' importance and the error of initially pulling out.

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[9] Philip Ball, "Critical Mass: How One Thing Leads to Another," in *Raising Leviathan: The Brutish World of Thomas Hobbes* (New York, New York: Farrar, Straus and Giroux, 2006), 27.

[10] Kendall-Taylor and Kofman, "Russia's Dangerous Decline: The Kremlin Won't Go Down Without a Fight," 33. [11] Economist Intelligence, "Democracy Index 2021: The China Challenge" (The Economist Intelligence Unit Limited, n.d.): 56, https://www.eiu.com/n/campaigns/democracy-index-2021/.

[12] Robert Kagan, "The Price of Hegemony: Can America Learn to Use Its Power?," *Foreign Af airs* 101, no. 3 (May/June 2022): 18.

[13] Anatol Lieven, "Clinton and Trump: Two Faces of American Nationalism," *Survival (London)* 58, no. 5 (2016): 7. [14] Jakub Grygiel, "Isolationism May Be Tempting, but It Is Utopian — and Dangerous," Text, *The Hill* (blog), October 30, 2022,

https://thehill.com/opinion/congress-blog/3711643-isolationism-may-be-tempting-but-it-is-utopian-and-dangerous/.

China has begun making inroads into Pacific nations; in June, Beijing proposed a cooperation agreement with twenty-two Pacific Island nations, offering assistance on security, economic development, cybersecurity and more.[15]In response, the United States has increased its diplomatic presence in the region and introduced policies designed to strengthen cultural ties, such as educational exchange programs and climate change initiatives.[16] The Biden administration publicly declared this was meant to undo the long-decreasing American presence in the region.[17] None of this would have been necessary had the United States not forfeited their presence for the sake of nationalist ideals, to begin with. Politics of nationalism was allowed to dictate policy, giving China the ability to rise in influence at the expense of the United States. Nationalism is not the only type of politics that interferes with the United States adopting a prudent foreign policy.

Personal political relationships have interfered with the implementation of pragmatic policies. President Barack Obama notes that when he decided to end the military intervention in Iraq, he was met with resistance from lifelong military members like Chairman of the Joint Chiefs of Staff Michael Mullen.[18] Proper use of military force requires political will to see it through. The Clausewitzian triangle of the state, the military, and the people was absent.[19] There was no widespread support for the Iraq war; the will was gone. Obama could not withdraw immediately and end the improper application of force; it required months of petty politicking with generals to reach a consensus on how. He credits then-Vice President Joe Biden with hammering out these negotiations.[20] Whether it be large political movements or individual political relationships, politics has undeniably interfered with American foreign policy for the worse. Authoritarian and democratic regimes succumb to politics interfering in policy. Still, this interference can happen during regime change, which requires fast foreign policy decision-making that will impact future generations.

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[15] Jeff D. Colgan and Nicholas L. Miller, "The Rewards of Rivalry: US-Chinese Competition Can Spur Climate Progress," *Foreign Af airs* 101, no. 6 (November/December 2022): 110.
[16] Ibid.
[17] Ibid.
[18] Barrack Obama, *A Promised Land* (New York, New York: Penguin Random House, 2020), 319. [19] Smith, *The Utility of Force,* 175.

Part IV: The Soviet Union

The fall of the Soviet Union shows examples of foreign policy errors on both "sides" that laid the groundwork for international instability. President George H. W. Bush's "Chicken Kyiv" speech was a sound decision in line with his broader foreign policy; however, the political backlash afterwards caused indecisive policy making. The speech was aimed at Ukrainians to convince them to remain in the Soviet Union, reaffirming Bush's policy of dealing with the Soviet centre to denuclearize.[21] However, to Bush's domestic audience, it was seen as him encouraging Ukrainians to give up aspirations of independence and democracy.[22] The negativity it received at home caused Bush to be more hesitant to support Gorbachev in the future. During the attempted coup against Gorbachev, Bush implemented a cautious policy of supporting Gorbachev and the newborn Russian democracy. Still, it did not go so far as to alienate the coup perpetrators completely, thus showing how politics informed policy.[23] After the coup, Gorbachev was significantly weakened, and eventually, the central government collapsed. Decades down the line, the Russian nationalist idea of Ukraine being the "little brother" developed, ultimately leading to the current war in Ukraine.[24] Suppose Bush had remained steadfast in his support of Gorbachev and the center. In this case, it is possible the original policy behind the "Chicken Kyiv" speech would have prevailed, and the Soviet Union would have remained united and been integrated into the global West as a democracy. This possibility, however, was hopeless from the beginning because politics forced Bush to abandon his policy. Some Soviets allowed themselves to be guided by politics, as Bush did, into pursuing a misguided policy.

The coup against Gorbachev is an example of a few men's personal political ambitions hindering the broader public good by forcibly trying to change the policy the nation pursued. The coup was initiated because the plotters identified that the p*erestroika* and *glasnost* reforms would change the institutional structure of the Soviet Union and, by extension, their place in it.[25]

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[20] Obama, *A Promised Land*, 319.
[21] Serhii Plokhy, *The Last Empire: The Final Days of the Soviet Union* (New York, New York: Basic Books, 2014), 65.
[22] Ibid.
[23] Ibid., 129.

The new institutions were not extractive; they were open and free, allowing for individual economic incentives that would enable the Soviet Union to innovate and compete on the international stage.[26] Extractive institutions can generate wealth, but they are not sustainable in the long term.[27] The plotters wanted to maintain institutions that would benefit themselves at the expense of society. Although they failed, they still serve as a testament to individuals pursuing a policy, for politically motivated reasons, that do not help the greater society; it demonstrates the dangers of politics interacting with policy.

Part V: Counter-Argument – Can Politics Support Pragmatic Policy?

Some say politics reinforce effective foreign policy, but this is not the case. They argue that Russian President Boris Yeltsin's resistance to the coup and his political theatre of climbing on top of a tank and inspiring widespread domestic and international support are examples of politics having a beneficial effect. Yeltsin established communication with foreign leaders and secured public support, allowing Russian democracy to survive.[28] On the surface, this appears to vindicate the political impact on policy or suggest that politics has some place in its implementation; a deeper analysis of the long-term implications of this political theatre tells a different story. After the political theatre, Yeltsin began to squeeze Gorbachev for power, going as far as banning the Communist Party in Russia.[29]Instead of ending the absolutist power structure benefiting a few, he ushered in a new one. The institutional structures remained intact and allowed for the rise of Vladimir Putin, who would then use this power to invade a sovereign nation. The effect completely undermines the sacrament of non-invasion, ultimately jeopardizing world stability.[30] This definitively shows that, in the long run, politics had a negative result.

An argument can be made that the American war in Afghanistan demonstrates politics and policy reinforcing one another.

[24] Reid, "Putin's War on History: The Thousand-Year Struggle over Ukraine," 62.
[25] Plokhy, *The Last Empire: The Final Days of the Soviet Union*, 87.
[26] Acemoglu and Robinson, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, 42-43. [27] Ibid., 150.

Post-9/11, there was massive public support for the intervention; however, while broad public support existed and motivated the intervention, the lack of a long-term sustainable political goal undermined the endeavour. The politically motivated war in Iraq initially derailed the Afghan war, which diverted attention away for six years.[31] The shifting political strategy further complicated matters: some believed there was a narrow scope to the mission — that is, eliminate al-Qaeda — while others had larger nation-building agendas in mind.[32]In this situation, the application of force had the military and people on board, but the political goal was shifting; thus, the third side of the Clausewitzian triangle — the state — was missing. Without the unity of the three, any application of force is doomed to fail.[33] The war in Afghanistan initially showed politics supporting policy, but similar to the Russian example, in the end, politics undid the policy.

Part VI: Conclusion

Russia launched a doomed invasion that harmed its people because it was led astray by politics. The United States has allowed politics to interfere in policy, destabilizing the world and simultaneously undermining itself. The collapse of the Soviet Union demonstrated how politics prevented leaders from implementing effective policies and missed the opportunity to capitalize on the moment and usher in peace. These cases all conclusively prove politics inherently conflicts with crafting stable foreign policy.

[28] Plokhy, *The Last Empire: The Final Days of the Soviet Union*, 101.
[29] Ibid., 143-144.
[30] Tanisha M. Fazal, "The Return of Conquest? Why the Future of Global Order Hinges on Ukraine," *Foreign Af airs* 101, no. 3 (May/June 2022), 27.
[31] Obama, *A Promised Land*, 316.
[32] Ibid.

[33] Smith, *The Utility of Force*, 214.

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SCIENCES

Branching Out: A Comprehensive Tree Inventory and Ecological Analysis of Philosopher's Walk, Toronto, Ontario

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Philosopher's Walk, a linear park nestled between Harbord Street and Bloor Street West, has borne witness to the city's transformation over the years. Its origins trace back to a time when Taddle Creek meandered through the area - a space where Indigenous peoples would gather (The Canadian Encyclopedia 2015). Unfortunately, due to urbanization and sewage contamination, the creek became a public health hazard and was buried in 1884 (The Canadian Encyclopedia 2015). In the 1980s, landscape architect Michael Hough revitalized this gem (Figure 1), evoking the historic character of Taddle Creek through immersive tree-lined pathways (Landscape Plan Discover Archives 1993).

Figure 1: 1: Original Landscape Plan, Philosopher's Walk (1993) from the NAK Design Group, Landscape Architects, Toronto, Ontario. This document is sourced from the Trinity College Archives at the University of Toronto.

Philosopher's Walk is not just a tranquil escape, it's also a living memorial. Fourteen red oaks, planted in 1990, pay tribute to the women who were tragically lost in the 1989 Montreal Massacre (The Canadian Encyclopedia 2015). Donors continue to play a pivotal role in preserving and enhancing the walk (The Canadian

Encyclopedia 2015). The Bennett Gates, erected in 2006, stand as a testament to Avie Bennett's generosity, symbolizing the importance of public-private partnerships in sustaining cherished urban spaces (The Canadian Encyclopedia 2015).

Urban green spaces, like Philosopher's Walk, have a twofold impact on physical and mental well-being. They encourage outdoor activities, akin to the Japanese practice of Shinrinyoku or forest bathing, boosting immune functions, and mitigating the urban heat island effect for a cooler and healthier urban environment (Li 2009). Additionally, these spaces provide mental respite, reducing stress, anxiety, and depression while enhancing mood and social interactions, contributing to a healthier and happier urban population (Barragan-Jason 2022). Recognizing their importance in urban planning is vital for promoting both physical fitness and mental well-being to create livable and enjoyable cities.

Initiating a comprehensive street tree inventory is a primer for efficient urban forest management. A street tree inventory provides vital information for maintenance, facilitates informed tree planting decisions, and supports diversity within urban green spaces (Galle 2021). Inventories can offer precise location data for each tree by species, enabling better monitoring of sensitive species. Furthermore, inventories establish a baseline for canopy growth tracking and offer a structured reporting system for stakeholders regarding maintenance needs (Galle 2021). Diverse urban forests, with a wide variety of native species and structures, demonstrate resilience to urban challenges (i.e. limited space, air and soil pollution and land use planning) (Galle 2021). Thus, a tree inventory aids in planning future tree planting with a focus on promoting diversity in the urban forest. Without a comprehensive tree inventory, communities may struggle with haphazard decisions, inadequate budgeting, and potential harm to the urban environment (Galle 2021). Therefore, starting with a tree inventory is essential for effective urban forest management and promoting diversity within an urban ecosystem.

This street tree inventory of Philosopher's Walk examines: (1) the canopy cover for the tree cover class; (2) the diversity of species, genera, family, and type (angiosperms or gymnosperms) of street trees; (3) how the trees score on one tree diversity benchmark

and one tree diversity index; (4) the distribution of tree size and age classes; and (5) the overall health of each tree.

Methods

Over the course of a two-day tree inventory of Philosopher's Walk (conducted on Thursday, October 5, and Friday, October 6, 2023), 100 trees were selected at random to be measured and assessed (Figure 2). The tree assessments encompassed multiple parameters for each tree, including location coordinates (latitude and longitude), circumference at breast height using a flexible measuring tape, tree identification (species, genus, and family), native/non-native species status, health rating, canopy cover, and size class. Diameter at breast height (DBH) was calculated post-survey using the circumference at breast height measurements.

Figure 2: Map of Philosopher's Walk and the random sample of 100 trees surveyed in this study.

To accurately identify the tree species, the PictureThis app and the dichotomous key "Trees of Ontario" written by Linda Kershaw were used. Health ratings, a pivotal component of this inventory, were assigned to each tree on a scale from 0 to 5 (tree death to optimal health condition) based on visible signs of disease and insect infestation. This rating also took into account the overall condition of the tree's crown, assessing factors such as branch and twig mortality relative to the rest of the crown, aligning with the Ecological Monitoring and Assessment Network (EMAN) Monitoring Protocols and Standards (Public Services and Procurement Canada and Government of Canada 2004). Table 1 elaborates on the specific attributes that correspond to each health rating category.

Rating	Codes
5	Healthy; twig/branch mortality of less than 10%, insect infestation, and disease are absent
4	Light decline; twig/branch mortality between 11% and 50%, very low prevalence of insect infestation and disease
3	Moderate decline; twig/branch mortality between 51% and 75%, moderate prevalence of insect infestation and disease
2	Severe decline; twig/branch mortality between 76% and 85%, high prevalence of insect infestation and disease
1	Nearly dead; twig/branch mortality between 86% and 100%, very high prevalence of insect infestation and disease
0	0 Dead; tree is dead by natural causes, whether standing or not

Table 1: Health ratings and codes of attributes associated with each health rating.

This study aimed to assess the health of Philosopher's Walk, through the process of a tree inventory, which is crucial to ensure its continued benefits for the community. Essential tools for this inventory included the 10-20-30 benchmark. According to this rule, an urban tree population should include no more than 10% of any one species, 20% of any one genus, or 30% of any family (Kendal 2014). This guideline promotes biodiversity, disease resilience, and a balanced distribution of tree species within these green spaces. See Appendix 1 for the full raw data collection table of this study.

Statistical analysis

i-Tree software was used to evaluate the canopy cover for the survey area. RStudio and ArcGIS Pro were utilized to conduct statistical and geospatial analyses post-survey on species richness, abundance, evenness, size and age class, and overall tree health.

Limitations

It is important to acknowledge the limitations of this survey. Tree assessments were constrained to two days, 100 trees, and only focused on trees growing within Philosopher's Walk, impacting the generalizability of the results to the broader landscape and ecosystem of the city of Toronto.

Results

Canopy cover

According to the analysis conducted in i-Tree, tree and shrub species were found to cover 45.49% (with a standard error of ± 2.21%) of the area within Philosopher's Walk. The tree benefits estimates, based on the Tree/Shrub area coverage, determined that approximately 3,850,935.41oz (± 186,663.56oz) of carbon can be stored in these trees. These results are followed by subsequent land cover classes: Grass/Herbaceous (34.51% ± 2.11%), Path/Sidewalk (11.96% ± 1.44%), Impervious Buildings (4.90% ± 0.96%), Soil/Bare Ground (2.75% ± 0.72%), and Impervious Road (0.39% ± 0.28%). The Water and Impervious Other land cover classes were absent from the survey area.

Size and age class distribution

The mean DBH was 28.79 cm, the median was 21.01 cm, and the standard deviation was 21.93 cm. This distribution is strongly skewed to the right towards smaller tree sizes, with a skewness value of 1.55. This trend in the data is also exhibited by the leftward slant of the normal distribution curve in Figure 3. Additionally, 38 of the 100 trees were assessed as young, while 62 of the trees were identified as mature.

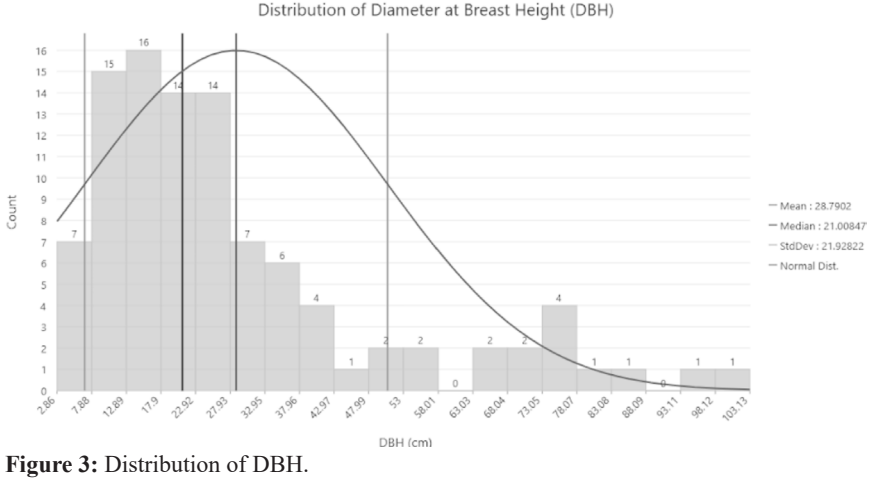

Figure 3: Distribution of DBH.

Species richness, abundance, and evenness

The species richness of Philosopher's Walk is reflected by its 35 unique species. Of these 35 species, 22 of the species are native to Canada, while 13 of them are non-native; 62 individual trees included in the survey are native, and 38 are non-native (Figure 4). The species evenness of this linear park is 0.936, with a Shannon Diversity Index of 3.295. Sixteen of the trees were gymnosperms (conifers) and the remaining 84 trees were angiosperms (flowering trees). Figure 5 displays the distribution of family, categorized by tree type. Figure 6 shows the distribution of genus categorized by tree type. The abundance of each species ranges between 1 and 7 individual trees, as depicted in Figure 7. The two species with the highest abundance (7 individual trees each) are Celtis occidentalis (hackberry) and Quercus rubra (red oak). The 10-20-30 benchmark is met, as no more than 10% of the trees are from the same species, no more than 20% of the trees are from the same genus, and no more than 30% of the trees are from the same family.

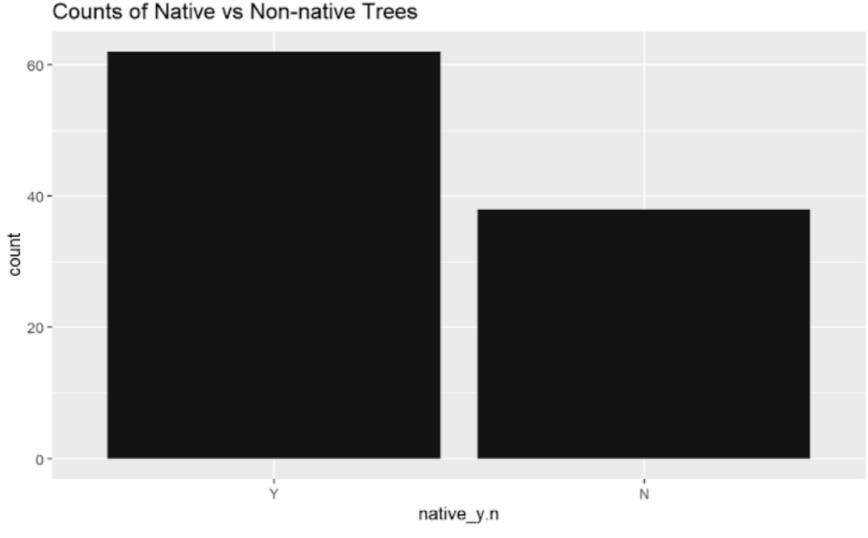

Figure 4: Distribution of native and non-native trees.

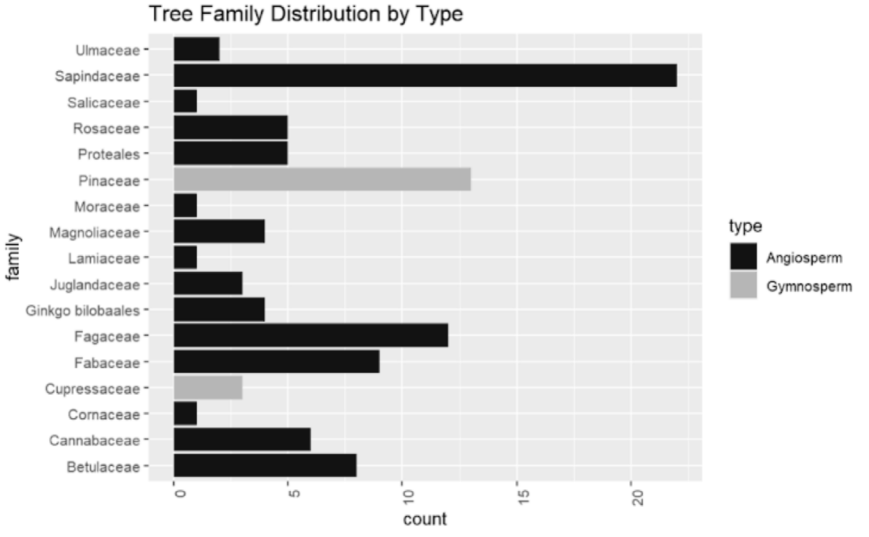

Figure 5: Distribution of families categorized by tree type.

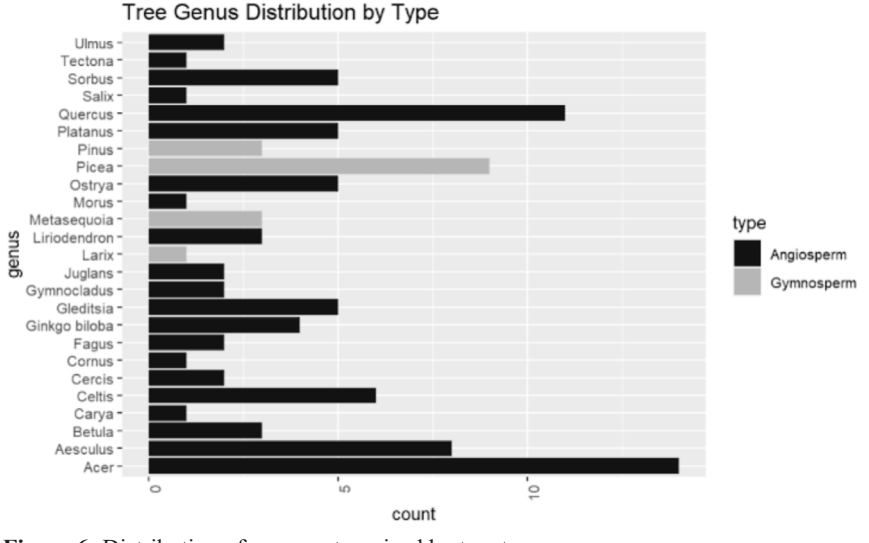

Figure 6: Distribution of genus categorized by tree type.

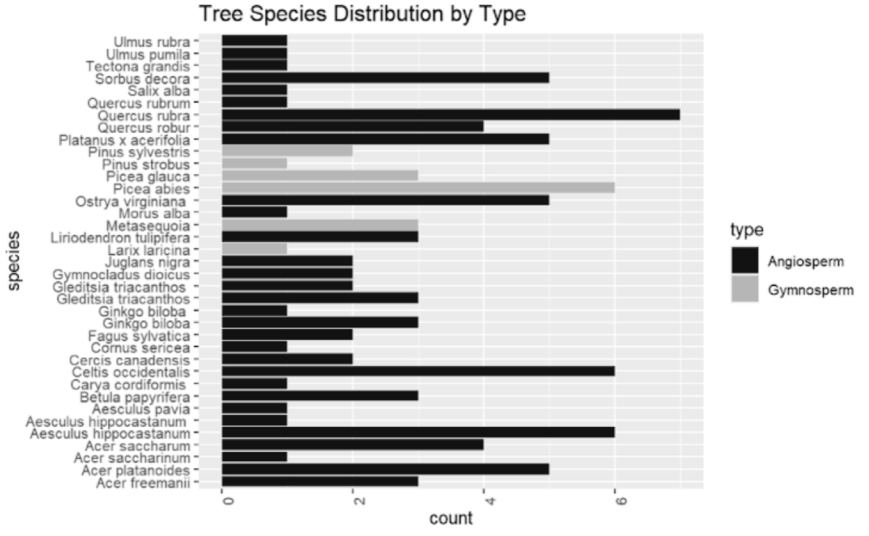

Figure 7: Distribution of species categorized by tree type.

Overall tree health

On a health scale from 0 to 5, health code 5 was assigned to the greatest number of individual trees (43 out of 100), followed by code 4 (32 trees), code 3 (13 trees), code 2 (8 trees), code 1 (3 trees), and code 0 (1 tree). The mean health score across all species was 4.01 out of 5, the median was 4 out of 5, and the standard deviation was 1.15027. The scores are strongly skewed to the right towards the higher margin of overall tree health, with a skewness value of -1.22. This trend in the data is also exhibited by the rightward slant of the normal distribution curve in Figure 8.

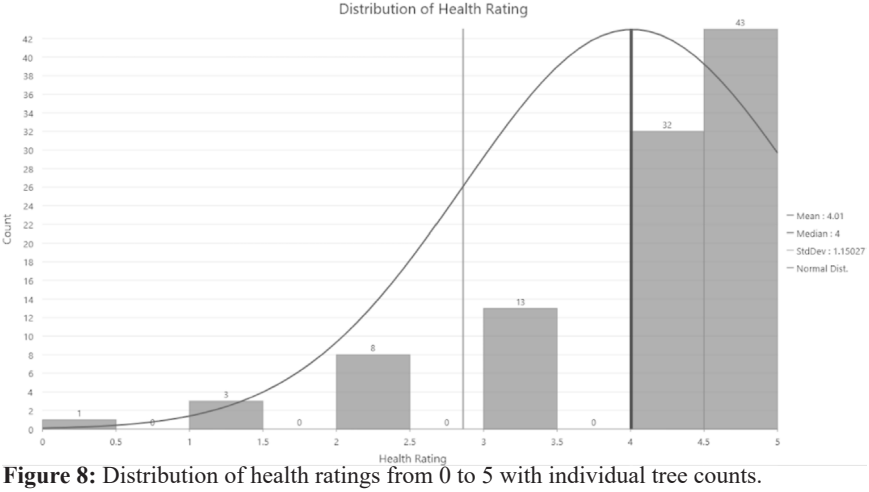

Figure 8: Distribution of health ratings from 0 to 5 with individual tree counts.

Specific cases of poor tree health

Additional field notes taken for each tree assessed in Philosopher's Walk provided context for the unique circumstances and characteristics of each tree that was surveyed. Based on the additional field notes taken for each tree included in the survey, the one tree that was assigned a health rating of 0 was *Carya cordiformis* (bitternut hickory). Another case is a *Larix laricina* (eastern larch) that was assigned a health rating of 1 with especially high mortality of twigs and branches. Most of the damage to this tree is attributed to a competing *Acer platanoides* (Norway maple) adjacent to it. The canopy of this *A. platanoides* consists of much more robust branches, suppressing the canopy growth of the *L. laricina* on the same side where *A. platanoides* was growing.

Discussion

The Philosopher's Walk analysis offers insights into its ecological aspects and overall health. The study shows that 45.49% of the area is covered by tree and shrub species, emphasizing the significance of its canopy cover. The estimated carbon storage of 3,850,935.41oz highlights the vital role these trees play in mitigating carbon emissions. Comparing Philosopher's Walk to Toronto's broader canopy cover statistics reveals a remarkable 45.49%, surpassing the city's goal of 40% by 2050 (City of Toronto 2021). This performance is promising for local climate regulation and carbon sequestration, but it underscores the need for tailored management strategies.

The overall tree health in Philosopher's Walk is robust, with most trees receiving health ratings of 4 or 5. However, cases of poor health, like the dead C. *cordiformis* and severely declining L. *laricina*, emphasize the importance of individual tree characteristics. Effective management strategies should consider these unique circumstances and mitigate competition among neighboring trees.

The diversity of tree species in Philosopher's Walk, with 35 identified, including 13 non-native species, enriches the ecosystem but poses ecological challenges. The picturesque landscape style, focusing on visual appeal, meandering paths, and strategically placed trees, prioritizes aesthetics but disregards ecological interac-

tions, functionality, and biodiversity. This approach may introduce non-native species that disrupt ecosystems (The Cultural Landscape Foundation 2023). Maintenance practices like pruning and mowing can disrupt native species using trees as habitat, affecting ecological balance. Balancing aesthetics and ecological sustainability should be the focus of Philosopher's Walk management.

Recommendations

Given the emphasis on tree planting to combat climate change, especially the Canadian government's 2 Billion Trees project, implementing native species-oriented tree planting strategies in urban green spaces is crucial (Service Canada 2021). A 2014 study in a temperate Australian climate found that native mixed-species plantings play a pivotal role in carbon sequestration, storing substantial carbon over time (Cunningham 2014). Planting more native trees can enhance dynamics between trees and native pollinators, benefiting ecosystems (de Souza e Silva 2020). Mixing native trees in urban green spaces can avoid monocultures, leading to a denser canopy and enhanced overall productivity (Paker 2014).

The majority of trees planted in Philosopher's Walk are angiosperms, favoring flowering species for aesthetic reasons. Adding more gymnosperms can better mitigate urban heat waves by efficiently cooling the area. Methods of tree planting should consider long-term ecosystem health and sustainability, going beyond simply adding more trees.

In addition to strengthening ecosystem health with native trees, the City of Toronto should construct accessible green spaces to allow people to benefit from mental and physical health advantages. Disparities in green infrastructure (GI) in certain neighborhoods, influenced by substandard built environments and socio-economic conditions, result from systemic issues, including capitalism. Tailored strategies are essential for addressing GI needs in economically marginalized communities. Initiatives should overcome resource and knowledge barriers by providing free or subsidized GI solutions (Regier and Conway 2022).

The 3-30-300 guideline, introduced by Dr. Cecil Konijnendijk for urban forest programs, can be implemented in Toronto

to provide all residents with access to trees and green spaces (Ling 2022). This guideline specifies that each resident should have a view of at least three substantial trees, neighborhoods should maintain 30% canopy cover, and residents should live within 300 meters of a high-quality park. In a Toronto assessment, only 12% of the city's 180 distinct neighborhoods met the 3-30-300 criteria (Ling 2022). Higher-priced residences were more likely to meet all components, highlighting the need to address economic disparities in urban forest initiatives.

Conclusion and future research directions

In summary, this tree inventory underscores Philosopher's Walk's ecological importance with its 45.49% canopy cover for climate regulation and carbon sequestration. While most trees are healthy, cases of poor health highlight the complexity of individual tree attributes. The diverse mix of 35 tree species, including non-natives, demonstrates resilience but prompts further ecological exploration. Balancing aesthetics with ecological sustainability in urban green spaces is crucial. Implementing the 3-30-300 guideline for equitable green space access is recommended. Future research should focus on long-term monitoring, non-native species impact, social and psychological effects, sustainable design practices, and comparative studies to enhance the role of urban green spaces in well-being and sustainability.

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Epistemic Curiosity Underlying Problem-Solving

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The concept of synoptic integration in cognitive science highlights the importance of building upon bridges between the domains of psychology, neuroscience, linguistics, anthropology, philosophy, and artificial intelligence. To understand what it means to study cognitive science it also must be understood what it means to approach topics through a multi-apt lens. There exists a desire to make novel connections, explore, and examine a variety of ideas. The study of curiosity in cognition marked a turning point in how motivation is understood. However, while there are many aspects of curiosity studied in the context of psychology, neuroscience, and machine learning, attempts to synoptically integrate these findings remain limited. Exploring and understanding epistemic curiosity may serve as an explanation for how, in cognition, certain information is pinpointed and deemed relevant in problem-solving processes. Aspects of epistemic curiosity including its intrinsic motivation, information-seeking nature, as well as the application and reverse engineering of curiosity into artificial intelligence, will all be discussed to convey this idea.

The process of information-seeking seems deceivingly simple. Take Newell and Simon's search space, which introduced a general idea that in problem-solving there are initial states and goal states and must be navigated using heuristics that improve chances of finding a solution and reaching goal states (Newell and Simon 1971). There are many types of curiosity, such as epistemic curiosity, and arousal-based curiosity (Beswick 2017). Epistemic curiosity, is defined as curiosity that involves the acquisition of general knowledge and information seeking in a way that reduces uncertainty, is what will be focused on here, as well as metacognitive processes that are integral to understanding the function, importance, and scope of curiosity, beyond a behavioral sense. The many domains of curiosity can be found to be the root of cognitive motivation and meaning (Beswick 2017). As demonstrated by Gottlieb (2013), exploration may be guided by curiosity, in terms of epistemic states, and estimating our uncertainty. Further, this research indicated that

information seeking may be motivated intrinsically, and there may be intrinsic rewards that motivate curiosity (Gottlieb 2013). This intrinsic motivation can be shown to have in decision-making and problem-solving.

There are numerous ways that aspects of curiosity can be measured, from a neuron level to an overall decision-making level. Firstly, eye movement control can be shown as an effect of curiosity, and therefore these specific movements can be measured and separated from other separate experiences such as surprise or confidence (Baranes 2015). When people were given trivia questions, their eye movements were tracked by eye link technology while the question was presented and after the answer was presented (Baranes 2015). Through this and by giving the subjects a combination of personality assessment questionnaires to create a curiosity scale, the eye movement patterns of fixation and saccade were compared to the timing of the questions and answers (Baranes 2015). Levels of curiosity were found to peak at intermediate levels, in between the question being presented and the subject answering, suggesting a link between eye movement control and epistemic curiosity (Baranes 2015). While this study is integral to understanding causal relationships between an information gap and motor decisions, many questions are left unanswered. This conclusion implies that more mental activity than previously believed may be directly linked with curiosity and information-seeking tasks. While the connection between curiosity and cognition has been established, the further exploration of how curiosity arises may be beneficial in the context of problem solving.

For early psychoanalysts, the answer lies within drive theory. Drive theory, as described by Freud in 1915, serves to integrate biology and psychology to show that cognitive processes stem from basic survival and reproduction. Entropy, described as the random information flow between the environment and a system, can be connected to drive in the sense that we need more entropy to minimize uncertainty (Solms 2021). In order to do so, some type of work has to be performed with energy that is bound as opposed to free, in a self-organizing manner (Solms 2021). Self-organizing systems adapt intrinsically, and such systems must work to avoid unexpected

outcomes. However, this means there must be some sort of filter, a limit to the information taken in from the environment, and thus a process that overall requires learning (Solms 2021). While epistemic curiosity exhibits a self-organizing quality, this does not necessarily result from the same theory of drive as proposed by Freud. The reward from this type of curiosity seems to be the information itself, not some underlying desire (Metcalf 2020). For instance, a person searching up "how to make bread" may be a method of survival, but it may also arise from a lack of knowledge on the bread-making process and a desire to learn. Curiosity can therefore be argued to be for-its-own-sake motivation, a form of motivation that still functions in the absence of reward or punishment (Silvia 2012). In terms of information seeking in curiosity, there is an indication that there exists a preference for non-instrumental information, meaning information that will, "(not) change their ultimate decision but will refine their priors." (Eliaz 2007). Furthermore, a study involving risk tasks paired with personality questionnaires found that belief updating, memory, and attention can all be involved with pathways that are not dependent on non-instrumental information, and rather, involve uncertainty (Kobayashi 2019). This study supports that the information itself is the reward because a lack of uncertainty implies a sense of knowing. While this provides that drive theory may not be the underlying process of curiosity it additionally raises fundamental questions on the extent to which uncertainty exists within cognition overall.

The uncertainty here is much less broad than some may think. The region of proximal learning (RPL) is described as the space where we have the feeling that something is just about to be realized, as structurally demonstrated in Fig. 1 (Metcalf 2020). When people are in this state, they are significantly more likely to want to know the answer to something than not (Metcalf 2020). The tip-of-the-tongue (TOT) state is similar to when someone feels they are just about to know something, the key thing is that this is a metacognitive state, a feeling of a cognitive process (Metcalf 2020). This TOT state appears to be connected to curiosity in that people tend to become more curious when in a TOT state. Metcalf (2020) found participants answering questions were about

twice as likely to want to know the answer to question when in a TOT state. These findings are significant as they are a further demonstration of epistemic curiosity and this type of curiosity being intrinsically motivated, and therefore can be brought down to the roots of cognition. These are top-down conclusions about complex cognitive processes; however, much can be said about the small-scale connection that underlies them. As Metcalf (2020) points out, curiosity is metacognitive, meaning that it has a feeling associated with it, beyond just knowing something, and therefore this may not be reflected in neuroimaging.

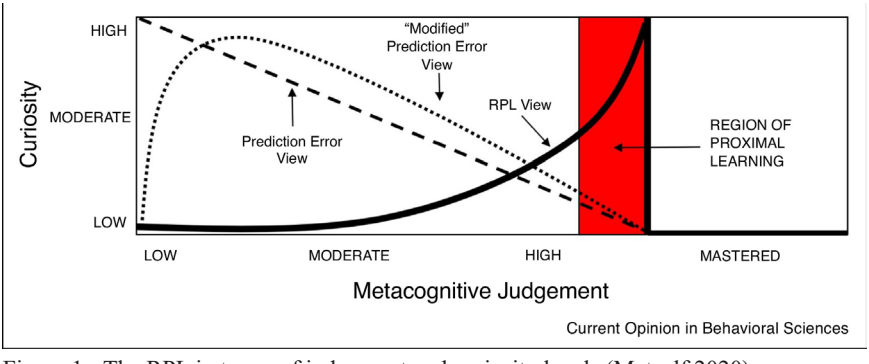

Figure 1 - The RPL in terms of judgement and curiosity levels (Metcalf 2020)

Neuroimaging can be shown to provide a framework for curiosity in terms of reward, learning, and control. C. Elegans, are single-celled worms, that have about 302 neurons, and yet when removed from one environment and placed in another, can alter their movements following around 15 minutes of exploration to gain information (Calhoun 2014). Jempa et. al. in 2012 showed that curiosity activated the anterior insula as well as the anterior cingulate cortex, associated with higher-level functions such as learning. This was demonstrated by giving participants ambiguous images and then through fMRI, tracking perceptual uncertainty (Jempa 2012). To integrate curiosity into a wholistic theory of cognition, it should be a process that has the possibility to be implemented in entities besides just neuron systems. However, these studies further qualify that curiosity has a broad reach in cognitive processes as well as that it can be observed at a micro level.

From these subsequent studies involving curiosity, it becomes increasingly clear of the universal presence of curiosity over cognitive processes, as well as some insight into how it may function and manifest. The general problem-solving framework, as developed by Newell and Simon in 1971, indicates that in cognition, there are goal states and initial states, and a certain path and operations have to ensue in order to reach a goal state through this extremely vast web of information called a search space. Although there are many flaws with this framework in the sense that we cannot just search through all the information that could potentially be up there, this is where the notion of relevance realization comes into play. Relevance realization emphasizes the importance of the ability to zero in on relevant information to go from the initial state to the goal state (Vervaeke 2009). Although many valiant attempts have been made, there has been no conclusive account of how this relevant information is filtered, attained, or categorized. This is due to the conclusion being drawn that relevance realization is the underlying process of all cognitive processes, and therefore relevance is circular in that formulating a theory of relevance realization may involve relevance realization itself, and so on (Vervaeke 2009). It should be noted that the attempt here to connect curiosity to relevance realization will not satisfy any entire underlying mechanism of relevance realization, but rather outline one possible significant underlying process, which does of course succumb to the circularity described prior. However, while this theory of the necessity of relevance realization is being adopted here, this theory is not entirely flawless. Generalizing the range of processes underlying cognition as relevance realization is challenging because there may be no limit to the underlying processes of any phenomena, "what is everything around us made up of?", Thales of Miletus would have said water, then Dalton would have said atoms, and now we start to discuss quarks, and the process goes on. There are going to be processes shown to be underlying curiosity, however, curiosity can be shown to underlie the realization of relevant information.

Curiosity comes into the conception of relevance realization in the determination of how relevant information may be attained or filtered. Relevance realization seems to be at the junction between

consciousness and subjectivity, ownership and qualia, with each respective aspect relying on the seeking of relevant information (Vervaeke 2009). For instance, to go from participatory knowing to perspectival knowing, a process of relevance realization is necessary, and this is essentially how subjectivity relates to consciousness according to Sperber and Wilson (2010). A direct link between curiosity and realization of relevance can be drawn in this way, as we have a capacity for self-reflection and awareness of awareness. Curiosity, as outlined in its application into artificial neural networks by Shi in 2020, can be implemented beyond just neurobiological, curiosity meets all requirements for a concept that is integral to assigning relevance.

The connection between relevance and curiosity must also be incorporated into any attempts to create strong artificial intelligence (AI). Deep learning allows learning in a computational sense to occur beyond just one layer or representation and rather has the ability to process more gestalt and multiple levels of abstract data (LeCun 2015). Although this type of learning is extremely influential in the development of stronger AI, the learning ability must not just stop with provided data, more information must be located in an autopoietic manner, self sustain. This means that, interactions with the environment should be self-produced. Deep learning can be shown to be the mechanism, and curiosity can be shown to be the continuation of learning, the map to autopoiesis. Neural networks, while they are not the entire picture in cognition, are a vital piece of the puzzle. Spiking neural networks (SNN) is a type of artificial neural network that is currently the most biologically realistic in modeling biological neural networks. Shi, Zheng, and Yang 2020 proposed an SNN that is curiosity-based and integrates grasping new information through novelty estimations and dynamic updates through neural models of curiosity. This has been shown to have a 98.55% accuracy in terms of learning (Shi 2020). This is an excellent example of how processes such as curiosity can be practically involved in the development of machine learning algorithms. Although the use of curiosity in this example involves seeking information and navigating through a problem-solving situation, it is not exactly the same as epistemic curiosity

since it is lacking the use of environmental interactions and overall autopoiesis. Since these components would be needed in order to create a holistic model of computation. Wang and Hayden attempt to address this dilemma in 2021 by integrating cognitive maps with latent learning and curiosity. Latent learning, a type of learning that occurs in absence of a reward, is integrated with curiosity in the sense that through curiosity and latent learning, people are able to alter their representations of their environment and give rise to adaptive flexible behavior. While this is not yet directly represented in AI, it shows how curiosity could possibly be a solution to AI being unable to explore and gather relevant information from its environment.

It is important not to equivocate this argument regarding curiosity with that of behaviorism. One could argue that curiosity is too much of a behavior-based phenomenon to be a relevant explanation of any major aspect of cognition. Behavioralism is reductive in generalizing cognition to behaviors such as that of speech or any patterns of action. Curiosity, at first glance, can seem to succumb to these generalizations, especially in the way it was first studied as motivation and something that solely produces behaviors. However, by now it should be clear that that is not the whole picture of curiosity, and that, as with most cognitive processes, behaviors can be found to be linked to it. However, curiosity involves and can be studied through much more than behavior, for instance studying curiosity through neural networks, in the context of metacognition, or so far as the implementation of cognition into SNNs. Curiosity has been shown to involve complex information seeking within the domains of learning, memory, and attention (Jempa 2012).

Cognition and problem-solving are not processes meant to be simplified and generalized Nonetheless, we can make connections between underlying processes in order to more fully understand what it is that motivates information-seeking and filtering in order to problem-solve. It has been shown that epistemic curiosity is one such underlying process, that is integral to understanding not just motivation, but problem-solving and attention-based processes. This has been demonstrated through the intrinsic motivation of epistemic curiosity, the metacognitive aspects of curiosity, as well as the way

information-seeking and curiosity, are connected through cognition down to the neuron level. Curiosity has further been shown to be a process that can be implemented into artificial intelligence in order to address their inability to interact and gain information from their environment.

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Following a Trail of Breadcrumbs: Celiac Disease

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Most of us believe in the sentiment of everything in moderation. We indulge in our favourite doughy cookies, moist cakes, and rich brownies without much concern. Any restrictions we impose on our diets are temporary, and thus lifted as we please. But this is not the case for us all. For some individuals, every single interaction with food requires careful consideration to protect the integrity of their very tissues. Unfortunately, this is the daily reality for many living with celiac disease (CD). CD occurs when the immune system's response to gluten creates a destructive frenzy of auto-reactive inflammation, merging both the innate and the adaptive immune system.

The manifestations of CD involve a dominant interplay between nature and nurture, with certain genetic predispositions creating ideal environments conducive to disease progression. Despite being relatively unknown to the public, it is estimated that as many as 1 in 100 Canadians are unknowingly affected by CD, highlighting how severely lacking current diagnostic, and by extension, treatment procedures, are (Beyond Celiac, n.d.). The National Foundation for Celiac Awareness (NFCA) was established more than two decades ago, yet CD continues to be misinterpreted as alternative GI-related disorders, leading to its farse of rarity.

Disproportionately Affected Populations

Certain populations appear to face an increased risk of developing CD, including women, Caucasians, and past sufferers of viral infections (McDonald et al., 2015; Voisine & Abadie, 2021). Specific geographical regions also have an increased propensity for carrying strongly associated genetic susceptibility factors, resulting in an inherited risk (Gujral et al., 2021). The rate of diagnosis seems to be highest in those of Caucasian descent. As Voisine and colleagues (2021) mention, approximately 40% of the Western population carries at least one HLA-gene variant associated with an increased risk of CD. These genetic factors appear to permeate other ethnic groups much less (McDonald et al., 2015).

Furthermore, an association between childhood gastrointestinal infection and later development of CD is evident, specifically regarding pathogens like rotavirus (Voisine & Abadie, 2021). The development of the immature immune system can be altered through repetitive gut infection, resulting in higher susceptibility for a later autoimmune event. These viruses impact the intestinal structure and microbiome environment, setting up the perfect scene for gluten proteins to expulse out of the gut lumen and be taken up by the innate system.

As the dominant HLA variant varies between countries and thus genetic predisposition is vast, socioeconomic factors could be a likely reason for why certain regions are exceedingly affected by CD. Income and resource accessibility impact essential aspects of diagnosis and urgency. The severity of CD is a spectrum, therefore the need of diagnosis and treatment is subjective and may not be seen as a priority for those of lower socioeconomic status. It seems reasonable to assume that these factors contribute to the observation of Europe dominated CD compared to developing countries (Gujral et al., 2021).

Getting Down to the Grains: Environmental and Genetic Susceptibility

Understanding the grace of the immune system is important in comprehending why certain factors increase an individual's susceptibility. In a healthy immune system, immune cells are tested against self-tissues to ensure that they do not mistakenly recognize these molecules as a threat through a highly-regulated process called self-tolerance (Romagnani, 2006). In an autoimmune disordered system, these crucial mechanisms are disrupted, allowing self-reactive immune cells to flourish, triggering inappropriate responses to non-threatening molecules. So, what exactly about gluten unsettles the immune system?

Gluten is made up of a variety of proteins including gliadin and glutenin (Gujral et al., 2021). The formation of an irregular immune response can be attributed to gliadin's properties of high density and amino acid composition, which decrease the protein's digestibility (Balakireva & Zamyatnin, 2016). If the intestinal

structure is compromised, resulting gliadin fragments escape the intestinal lumen and are engulfed by innate antigen-presenting cells (APCs) like macrophages or dendritic cells which go on to express these peptides on their surface in the form of MHC-peptide complexes. These complexes interact with adaptive naïve T cells, aiding in their differentiation into helper T cells that subsequently contribute to cytotoxic T cell (CTL) and B cell activation, as well as autoantibody production. The release of pro-inflammatory cytokines by a variety of cells promotes characteristics associated with CD, including intestinal villi damage (Aboulaghras, 2022).

The abnormal orchestration of the innate and adaptive system against gliadin is associated with a variety of HLA and non-HLA genes (Aboulaghras, 2022). HLA genes are specialized genes making up the histocompatibility complex, which is utilized by innate cells to present gliadin peptides to adaptive cells. These genes, including DQ2 and DQ8, tend to contribute more to CD compared to the less impactful non-HLA related genes, as particular variants appear to carry a heightened affinity for gliadin. Though they do not guarantee disease development, a combination of HLA genes are required for CD development (Voisine & Abadie, 2021). However, factors potentially influencing the intestinal microbiota or integrity of the intestinal epithelia prior to instatement of CD, such as childhood infection, present the strongest evidence for risk influence apart from the presence of gluten proteins (Aboulaghras, 2022; Voisine & Abadie, 2021).

Diagnosis is as Complex as the Immune System

Diagnosis and treatment is particularly important to encourage remission before severe complications occur. Symptoms ranging from widespread deficiency to diarrhea can prompt further investigation by healthcare providers, leading to either a common serologic blood test or intestinal biopsy (Dewar & Ciclitira, 2005). Serologic tests analyze the blood for gluten-targeted antibodies produced by plasma cells diverged from activated gluten-specific B cells. While serologic tests are more accessible than surgical biopsies, they can sometimes be unreliable.

This unreliability can occur because antibodies have a short lifespan, meaning they may not be detectable in the blood if an individual has already been following a gluten-free diet (GFD), resulting in a false-negative result. For this reason, serologic tests and biopsies are often used in combination to yield a reliable result. During duodenal biopsy, the practitioner removes and examines intestinal tissues for key characteristics of disease including abnormal mucus and flattened or damaged villi. These results, like serologic tests, are best evaluated in combination with other health assessments, including the evaluation of nutrient deficiencies like folate and iron which may be less absorbed in a compromised intestinal tract. Genetic tests for required HLA genes can provide additional evidence towards diagnosis. Delays in diagnosis are associated with decreased potential for remission the following year, likely due to prolonged immune-mediated villi damage (McDonald et al., 2015). There are many reasons why CD could go undiagnosed long-term, including issues with testing integrity and accessibility, as well as the dissimilar manifestations of the disease.

In the developing world, the prevalence of diagnostic tests is significantly lower, leading to the assumption that Western countries are facing higher rates. However, some evidence supports the contrary. Studies suggest that in the Middle East and Africa, rates of CD may be equivalent to or even higher than in Western countries, but it often goes undetected due to lack of accessibility and variation in symptom presentation (Cataldo & Montalto, 2007). Additional evidence suggests that environmental factors unique to developing countries could contribute to the development of "silent CD" characterized by milder outward symptoms but with similarly severe intestinal damage.

Long-Term Effects and Current Treatment Methods

Many consider CD as an exclusively intestinal disease, though this disease can impact wide aspects of an individual's health and overall life (Ciacci & Zingone, 2015). McDonald and colleagues (2015) show that even on a GFD, damage to mucosal tissues can have long-lasting effects, including deficiencies leading to severe conditions like prolonged anemia. Additional evidence suggests an

association between CD and other gastrointestinal conditions, like Crohn's disease and Ulcerative Colitis. Socially, those with CD often face barriers due to the constant attentiveness required by the restrictive condition (Ciacci & Zingone, 2015). In general, celiac sufferers tend to avoid visiting restaurants and social gatherings more often than those with more common restrictive dietary patterns in fear of accidental exposure. This could be an explanatory factor in understanding why CD is associated with mood disorders like major depressive disorder (MDD) (Medline, n.d.).

So, the solution appears simple. Just avoid all gluten-containing foods in the hopes of remission…right? Although the recommendation of a GFD is the most common, it is not ideal for all. A GFD is often inaccessible, especially for those tight on money. Comparisons between average and gluten-free alternatives of basic pantry staples in Canada find gluten-free products are, on average, 242% more expensive for the same quantity (Stevens & Rashid, 2008). It can also come with additional side effects of its own, if not adapted meticulously. The average GFD leads to deficiencies in folate, vitamin D, and calcium (Theethira et al., 2014). Prolonged vitamin D and calcium deficiency promotes bone loss in an attempt to manage calcium levels in the blood, contributing to an increased risk of developing osteoporosis.

Some evidence even suggests that a GFD alone is not sufficient to restore intestinal mucosa nor reduce outward symptoms of the disease, thus a combination of diet and pharmacological methods may be required (McDonald et al., 2015). These cases can also result in a state called refractory sprue, potentially increasing the risk of some cancers including T-cell lymphoma (Medline, n.d.). In this state, steroid drugs can be prescribed to manage intestinal inflammation (Mayo Clinic, n.d.). Unfortunately, most individuals with CD are diagnosed at later stages of their life when recovery is less likely, limiting potential options. There is no present cure for CD, but a combination of a GFD and drugs in some cases can be sufficient to relieve the most severe symptoms and prevent serious damage (McDonald et al., 2015).

Only the Crumbs Left: Conclusion and the Future

While the future of CD diagnosis and treatment may initially appear bleak, ongoing advancements are paving the way for a more promising outlook. Increased awareness has led to earlier diagnosis, particularly crucial for children as full recovery is more achievable ata young age (Mayo Clinic, n.d.). However, there is still an increasing need for more accessible, reliable, and less invasive diagnostic tests, particularly in developing countries (Cataldo & Montalto, 2007). Exciting experimental procedures to treat or even cure CD are in the pipeline. These include a range of drugs and therapies targeting specific antibodies (Kulkarni et al., 2021). If successful, these innovative approaches could provide cheaper options for those unresponsive or unable to commit to a life-long GFD. All things considered, advancements in medicine and our evolving understanding of the complex immune system hold promise for enhancing the quality of life for those grappling with the daily effects of CD.

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Rock-A-Bye Planet: Implications of Nature-Deficit Disorder

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The blatant shortfalls of our current age responding promptly and efficiently to the climate change crisis will force our future generations to manage an increasingly complex and critical ecological situation (Leitzell & Caud, 2021). To both avoid catastrophe and promote the flourishing of the global community, future generations must be characterized by a steadfast care for our environment, with an intrinsic desire to facilitate change. However, the conditions of our increasingly urbanized world may inhibit the development of emotional attachments to nature, a robust basis of pro-environmental behavior (Mackay & Schmitt, 2019). Nature-deficit disorder, a novel concern in human well-being caused by a steep decline in contact with the environment, is a growing reality for the children of the modern world (Ward-Smith et al., 2020). Due to its potential in undermining children's emotional attachment to nature, it may pose a significant threat to the sustainable decision-making of our future (Edwards & Larson, 2020). Insights from environmental psychology must be utilized to establish an emotional connection with nature within the children of the 21st century and, therefore, foster a fervent desire within them to protect our environment.

The Current State of the Environment

Rapid global warming has ensued as a consequence of the rapid increase in greenhouse gases emissions of the industrialized world. Predicted to push the Earth past a global temperature of 1.5°C, this extraordinary warming may destabilize the earth at planetary scale (Steffen et al., 2015). Erratic heat waves, extreme flooding, unprecedented melting of the permafrost, loss of biodiversity, and lethal acidification of the ocean are a few examples of transformations already underway as a result of the unbridled effects of climate change (Leitzell & Caud, 2021). Though many predicted consequences are known to be irreversible and detrimental to the health of the global community, much remains to be quantified

by scientific research, leaving much danger unknown (Steffen et al., 2015). Physical earth changes amplify social injustices, as those most vulnerable of the population seem to be disproportionately affected by the negative consequences of climate change. As an example, many marginalized individuals are forced to live in cheaper, industrial areas and, thus, bear the adverse costs associated with local pollution (Hajat et al., 2015). Although indisputable that human actions are significantly accelerating the grave effects of climate change, very little has been done globally to curb them (Letizell & Caud, 2021). The incompetencies of this generation to adequately address environmental concerns necessitates that the future generation has strong environmental values and sustainable intentions.

Nature-Deficit Disorder

Nature-deficit disorder (NDD), coined by Richard Louv (2008), refers to the "human costs of alienation from nature," including mental and physical health issues (p. 41). This insight, not intended to be a medical diagnosis, stemmed from the observation that children in the 21st century are growing up with a lack of contact with the natural world (Louv, 2008). Industrialization and urbanization has physically isolated children from nature, with the grey paved concrete of roads becoming more familiar to modern children than the soft brown soil that once covered much of our Earth (Edwards & Larson, 2020). The dominant leisure activities of children have drastically shifted from explorational play within nature to programmed play on electronic devices (White et al., 2018). Glued to their glowing screens, children lose rich environmental information. This is illustrated by the finding that children in the UK were better able to identify Pokémon characters than wildlife species (Balmford et al., 2002). An increased usage of electronic media was correlated with a substantial decrease in visits to national parks in high income societies, suggesting a link between the contemporary lack of awe for the biotic community and excessive interest in electronic entertainment (Pergams & Zaradic, 2006). A Canadian survey reported that the amount of time humans spend outdoors was most similar with the time they spent in vehicles,

around 5%, leaving the remaining bulk of time spent indoors (Matz et al., 2014).

This relatively recent, yet dramatic, decrease in contact with nature may come as a shock to our evolutionary wiring, since humans were tangibly required to rely on the environment for survival in the past. Although the fate of humans still fundamentally depends on the welfare of the Earth, it has become less visibly apparent (Nisbet et al., 2009). Physical estrangement from nature due to urbanization and industrialization has led to cognitive separation, where humans no longer identify themselves as being a part of nature (Ward-Smith et al., 2020). This erroneous belief of a supposed separation from nature leads to a reduced integration of the environment into the self-concepts of humans. Since individuals are intrinsically motivated to protect things that are associated with themselves, the perception of the environment as the "other" reduces a desire to defend it (Mackay & Schmitt, 2019). Harming the planet is not seen as harming oneself (Mayer & Franz, 2004). With the decrease in contact with nature in children of the modern world, the vitality of ecological interdependence may become less appreciated (Warber et al., 2015). To be able to perceive the intrinsic value of nature, proposed treatments for NDD must incorporate the formation of nature as a self-defining feature in children (Mackay & Schmitt, 2019).

The Implications of NDD

Due to the importance of an awareness of the interdependence between humans and the ecological community, the rising lack of contact with nature may pose severe implications on both the future of humans and the future of the planet. Emotional connections with nature (Rosa et al., 2018), pro-environmental behavior (Mackay & Schmitt, 2019), and human well-being may all be impaired without sufficient contact with nature (Wang et al., 2021).

Contact and Connection With Nature

Though experiencing a significant decrease in children of the modern era, positive childhood experiences in nature are vital to the formation of a strong and intimate connection with nature.

Pleasant experiences within natural settings imbues an emotional attachment and identification with the place (Rosa et al., 2018). This can be likened to an upward spiral of positive experiences in nature. The more interactions with nature, the more opportunities arise to have a positive experience. With more positive experiences, desire to spend time with nature increases (Fredrickson, 2001). One frequently utilized measure of an individual's emotional attachment to nature is the Connectedness With Nature Scale (CNS) (Mayer & Franz, 2004). It evaluates the degree to which someone feels intimacy and care for nature as well as a sense of oneness with nature. Contact with nature as a child is significantly positively correlated to high scores on the CNS as an adult (Scott et al., 2014; Soga et al., 2016; Pensini et al., 2016). Thus, it seems that exposure to nature in childhood is a significant predecessor for the formation of an emotional connection with nature in adulthood.

Connection With Nature and Pro-environmental Behavior

Pro-environmental behavior (PEB), referring to any behavior done with the intention of sustaining the environment, is strongly associated with a firm emotional connection with nature. The more love an individual feels for nature, the more strongly integrated nature becomes into one's self-concept. Thus, caring for nature translates into caring for oneself, making that care intrinsically motivated and more desirable (Mayer & Franz, 2004). Indeed, a meta-analysis examining the general population demonstrated that individuals with higher on CNS scores were also higher on scores of PEB (Mackay & Schmitt, 2019). Since the general population was studied rather than exclusively university students, this increases the likelihood that such results are generalizable across nations. High scores on the CNS have also been showed to be correlated with other pro-environmental demonstrations, such as anti-consumeristic values, perspective taking, and identification as an environmentalist (Ward-Smith et al., 2020). An intimate attachment to nature appears to be linked to PEB in humans, highlighting the necessity for human-nature connections to be fostered in childhood.

Contact With Nature and Well-being

The growing lack of contact with nature in children poses a threat not only to the environmental action of our future generation, but also to their mental and physical well-being. Natural environments are ones that our evolutionary ancestors were adapted to thrive in and contemporary humans continue to experience restoration in them (Joye & van den Berg, 2018). Stimulated by a variety of sounds, sights, and smells, interactions with nature engage the totality of human sensations (Franco et al., 2017). Many studies have demonstrated a robust and positive link contact with nature and improved mental health and relaxation (Warber et al., 2015), subjective well-being (Wang et al., 2021), and physical health (Barton & Pretty, 2010). For the sake of both the mental and physical health of children, the integral place of nature in their life must be re-established.

Addressing NDD

To prevent the potential consequences of NDD in children of the modern age, insights from environmental psychology are necessitated. As is evident from developmental psychology, positive exposure to nature at an early age is critical (Li et al., 2021). Incorporating environmental education and exploration into schooling can both foster an emotional interest in nature and establish a sustainable community with peers. Strong social attachment to local communities has been correlated to PEB since community engagement increases the perception that climate change is a legitimate threat (Smith et al., 2021). One recent educational program in the UK focused on raising awareness for local bird species in school children aged 7 to 10, providing them with the skills needs to both identify and solve environmental problems (White et al., 2018). Results demonstrated that children were able to better identify local birds after the program and had increased positive attitudes towards them. These results were most significant in children with low baseline scores, demonstrating how important these programs can be for children who may not get the opportunity for nature interaction at home (White et al., 2018).

Other educational programs have demonstrated an increase in willingness to conserve biodiversity and adopt sustainable behaviors in young children (Zhang et al., 2014; Collado et al., 2013). Children who attended a camp with an environmental education component had increased emotional affinity towards nature, strengthened pro-environmental beliefs, and adopted more willingness to display ecological behavior (Collado et al., 2013). Thus, it seems that there still exists an innate love for nature within the children of the 21st century, but it must be sparked by targeted programming.

A somewhat ironic suggestion to address the environmental consequences of a technology dominated world is the creation of environmentally educational technology (Edwards & Larson, 2020). Environmental technology capitalizes upon the electronic orientation of children and engages with environmental problems in a manner that children are familiar with. Video games have been designed to facilitate PEB and awareness in a style that modern children are attracted to, with promising indications of success (Fletcher, 2017). While some argue that a mere simulated environmental game cannot evoke the same intimate connection with nature, research has demonstrated that children's willingness to conserve biodiversity were correlated not only with active experiences, but also with indirect experiences of nature (Soga et al., 2016). Environmental video games suggest a potential to stimulate a greater awareness for ecological matters in a manner most attractive to the targeted population.

To meet the needs of a growing population affected mentally by NDD, the practice of ecotherapy is particularly adept. Ecotherapy is an increasingly recognized type of psychotherapy that holds the basic premise that the Earth is an intrinsic part of human health and that humans are an intrinsic part of the Earth (Clare & Tudor, 2023). It recognizes both the harm in viewing nature as separate from humans and the benefits of an attachment to nature (Summers & Vivian, 2018). By providing opportunities to reconnect with nature, ecotherapy can be used to restore this fractured bond between humans and the earth community. This psychotherapy thus can expand the self-concept to incorporate the environment, allowing

for a perception that harming the environment harms oneself (Ward-Smith et al., 2020). In this way, both PEB and well-being can be fostered.

Conclusion

An upcoming generation motivated and educated to tackle the climate crisis is desperately needed. NDD, accelerated by urbanization and technology, may thwart PEB in children of the modern world by preventing an emotional connection to nature (Mackay & Schmitt, 2019). With nature contact being so crucial to the mental and physical health of humans, children's well-being may also suffer. However, this does not have to be the last word for our species or our planet. Environmental educational programs have been demonstrated to increase sustainable attitudes and behaviors in young children (Collado et al., 2013) and video games have been designed to foster an excitement towards environmental concerns (Fletcher, 2017). Ecotherapy exists as a means to reintegrate humans in their place in the larger Earth community and facilitate pro-environmental desire (Clare & Tudor, 2023). NDD need not destroy the future of our planet if our children remember to love nature.

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Mental Health in Morocco: A Meshing of Secular and Spiritual Worlds

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Almost 50% of Moroccans suffer from mental disorders (Economic, Social and Environmental Council, 2022). This highlights the urgency that Morocco, a North African country of 37 million inhabitants (United Nations Population Fund, 2023), needs to take in addressing its mental health concerns. The World Health Organization defines mental health as a "state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community" (2022), but definitions can vary across countries—especially in a unique place like Morocco. The way a country defines mental health shapes the way its population accesses care (WHO, 2022). Therefore, by reviewing Morocco's approach to mental health, both in its definition and treatments, a clearer picture of health outcomes for Moroccans becomes possible. Revealing this approach to mental health inevitably brings to light social determinants of health (SDoH), such as one's gender and sexual orientation, that negatively influence health outcomes for certain Moroccans.

Colonial Legacy

It is necessary to understand Morocco's colonial past to grasp its present stance on mental health. For most of the early 20th century, the Moroccan health system was overseen by French colonialism (Paul, 1977; Stein, 2020). France established psychiatric hospitals to protect their colonizers; however, it was also interested in the mental health of Moroccans to ensure the availability of their cheap labour (Paul, 1977). Therefore, two systems of care emerged, a more humane one for White colonizers, and a problematic one for Moroccans. As such, heinous acts were committed within these mental hospitals (Paul, 1977). One of these institutions, Berrechid Hospital, has a painfully similar human rights record to Leros' infamous psychiatric hospital in Greece (Giannakopoulos & Anagnostopoulos, 2016; National Human Rights Council [NHRC],

2012). This colonial legacy still impedes Moroccans from accessing needed mental health services (Hajer, 2015). Although different in many regards, this historical context resembles the traumatization of North American Indigenous folks near the end of the 19th century by White colonizers (McCormick, 2020)—a group, like Moroccans during colonial times, who were traumatized by Western health institutions. Like their counterparts across the Atlantic Ocean, Moroccans now tend to favour traditional healing methods due to their intergenerational distrust of Western psychiatric institutions (Hajer, 2015).

Morocco's Definition of Mental Health

Due to Morocco's bipartite system of care, it defines mental health in terms of both Western psychiatry and traditional healing methods (Stein, 2020). Western models of care are found within their mental health facilities, which treat concerns with medical interventions (NHRC, 2012). This is largely influenced by Morocco's 1959 Dahir—their only legislation regarding mental health—that advised for the humane, medical treatment of mental health concerns. Despite this, mental health is highly stigmatized in Morocco (NHRC, 2012)—and to a greater extent if one gets a diagnosis from a Western practitioner (Hajer, 2015). As for traditional healing methods, stigma is still associated with individuals needing help due to their perception that the cause of their suffering is their lack of closeness with God, thereby making it seem as if their mental afflictions are their own fault (Hajer, 2015; Mahmood, 2020). However, there is still a belief in medical approaches to mental health among traditional healers; if their treatments are unsuccessful, they refer patients to Western practitioners and claim that the root cause is biological (Stein, 2000). As such, most of Morocco's conceptualization of mental health seems to gravitate on two opposite extremes of the biopsychosocial+ model (Engel, 1977; Katerndahl, 2008); either entailing a spiritual or biological cause. There is much growth to be had in the Moroccan mental health system in the examination of social and psychological causes.

Islamic Roots

Before France's colonization, Morocco solely treated mental health concerns through traditional healing methods that were infused with Islamic teachings (Hajer, 2015; Stein, 2000). Ninety-nine percent of Moroccans are Muslim, so Islam's impact on mental health is still felt today (Office of International Religious Freedom, 2023). Islam views mental health as a holistic process—the psychological and physical realities are one—and any mental affliction is seen as a test of patience. In addition to spiritual methods, Islam encourages the use of science for recovery (Mahmood, 2020); however, most Moroccans first seek out religious help for their mental health concerns before accessing care within Western-based health systems (Hajer, 2015), which is most likely due to a lack of agency experienced during former French colonial rule. As such, and like Indigenous folks in North America who also suffered at the hands of European colonialism (McCormick, 2020), Moroccans are returning to their traditional Islamic roots to alleviate mental health concerns (Hajer, 2015).

Islamic Healing

The large Islamic influence leads to Moroccans addressing their mental health concerns through traditional methods (Stein, 2000). Islamic healers base their healing rituals on targeting either a jinn (i.e., an evil Islamic spirit that takes over one's body), the evil eye (i.e., energy within oneself that represents envy), the patient's past sins, or sorcery (Mahmood, 2020). Meditative practices called dhikr, relating to supplications to God, are common. Throughout this process, the patient focuses on aspects of God to achieve a calm state (Mahmood, 2020). Relatedly, Islamic healers typically prescribe specific verses from the Qur'an that relate to the mental hardship being experienced by the patient; this process is called Ruqyah (Mahmood, 2020). Additionally, a common form of traditional healing involves patients visiting a marabout—the tomb of famous Islamic philosophers who were believed to be blessed (Stein, 2000). The most famous of these in Morocco is the marabout of Bouya Omar who was known to settle grievances between humans and djouns—which are evil spirits (Stein, 2000). Lastly, if the ailment

involves previous mistakes, repentance is prescribed to try and purify the patient and bring them closer to God; this seems to be especially used for Muslims dealing with substance use (Mahmood, 2000). Consuming alcohol is illegal for Moroccans (National Observatory on Drugs and Addiction, 2015) and forbidden in Islam (Mahmood, 2000); Moreover, a recent human rights report advised that addiction treatment was neglected within the country (NHRC, 2012). These structural restraints seem to contribute further to the hardship experienced by Moroccans struggling with addiction. Nonetheless, traditional healing methods continue to offer respite for Moroccans (Hajer, 2015, Stein, 2000).

Western Psychiatry Views

Despite a traditional healing stronghold within Morocco, Western psychiatry's influence on mental health is still prominent. For instance, during COVID-19, Morocco's Minister of Health established hotlines, mental health promotion programs, and remote services—including a peer therapy program that helped bring mental health care to underserved rural areas (WHO, n.d.). However, once again, remnants of its colonial past seem to hinder further progress. As mentioned earlier, France racially segregated Moroccan mental hospitals; though this is no longer practiced, there is still an eery similarity in terms of socioeconomic division within Moroccan mental hospitals (Hajer, 2015). There are two tiers of service for mental health patients: one for the rich, and one for the poor. Whereas one side of a ward might have windows and psychosocial services , the other will have decrepit cells for solitary confinement . In terms of national health insurance, only severe mental disorders (e.g., schizophrenia) are covered. This leads to a huge discrepancy in access to care (Hajer, 2015). Therefore, it is likely that Moroccans are going into denial about their mental health needs, which is known to exacerbate symptoms (Ortega & Alegria, 2005). This lack of access to quality health service contributes to poor health outcomes, but this is not the only SDoH in Morocco.

Notable Social Determinants of Health

Women in Morocco face an uphill battle in terms of mental health care equity; Moroccan health institutions do not adapt mental health treatments to one's gender (NHRC, 2012; World Bank Group [WBG], 2018). This is despite, compared to males, Moroccan women experiencing more psychological distress (El Mzadi et al., 2022; Moustakbal & Belabbes Maataoui, 2023; Zouini et al., 2019) and more violence (Hababa & Assarag, 2023; WBG, 2018). Spousal rape is also not a criminal offense in Morocco (Bureau of Democracy, Human Rights, and Labor [BDHR], 2023). It quickly becomes evident that being a woman in Morocco leads to poorer mental health outcomes. One might state that women are biologically disposed to feel more psychological pain (Bartley & Fillingim, 2013); but, this is a misleading, and potentially sexist, micro approach that reduces the structural oppression that Moroccan women face.

In addition to gender, sexual orientation is also a noteworthy SDoH in Morocco. The law prohibits same-sex sexual activity—which is punishable by up to three years in prison (BDHR, 2023). Hate crimes against LGBTQ+ individuals are disregarded by police, and harassment of this community is rampant (BDHR, 2023). Simply put, antidiscrimination laws, and the penal code in general, do not protect LGBTQ+ Moroccans. Accessing mental health care in Morocco can be difficult for many reasons, but this is severely amplified when one is part of a community that is actively criminalized. This lack of structural support is known to exacerbate psychological distress for LGBTQ+ individuals (Garcia et al., 2019). Additionally, some individuals interpret Islamic texts in ways to further justify harassment towards this community (Human Rights Watch, 2020). The importance of feeling connectedness for LGBTQ+ folks to develop resilience is well-noted (Garcia et al., 2019), but these structures in Morocco appear to inhibit them from doing so. Therefore, non-medical factors, such as sexual orientation, leads them to experiencing worst mental health outcomes than the general population.

Conclusion

Equipped with Western psychiatry and traditional healing methods, Morocco can reconcile its colonial past to improve mental health outcomes for its most vulnerable inhabitants. A recurring theme within Moroccan mental health is the need of avoiding all-or-nothing dichotomies—whether by attributing mental health issues to either spiritual or biological causes; having mental hospitals that only curtail to the rich and neglect the poor, or having a national health insurance that only treats debilitating mental disorders if any at all. Interestingly, one of the symptoms of PTSD is all-or-nothing thinking (American Psychiatric Association, 2013); the progression of the mental health crisis in Morocco in response to French colonialism mirrors PTSD symptoms. In clinical settings, it has been shown that narrative therapies where one owns one's story can greatly reduce PTSD symptoms (American Psychological Association, 2017); this is exactly what Morocco, collectively, has been doing. For instance, their appreciation for Islamic healing traditions—which entails getting in touch with its pre-colonial narrative—has led them to having a comprehensive governmental response to COVID-19 mental health concerns (WHO, n.d.). This meshing of the secular and spiritual worlds brings about an exciting future for all Moroccans.

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Self-Compassion: A Road Map to Self-Concept Clarity in Ketamine-Assisted PTSD Treatment

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Post-traumatic stress disorder is a chronic, life-altering psychological disorder with a lifetime prevalence of 3.9% in the general population and 5.9% in those who have experienced trauma (Koenen et al., 2017). Symptoms are categorized by intrusions, avoidance, alterations in cognition, mood, and arousal, and are often difficult to treat despite available pharmacological and psychological interventions (American Psychiatric Association, 2013; Ragnhildstveit et al., 2023). Recently, psychedelic-assisted therapy (the therapeutic use of psychoactive substances) has shown clinical efficacy in treating PTSD. One of the frequently reported psychological insights following a psychedelic experience is increased self-concept clarity, which is known to be low in individuals with PTSD (Cicero, 2017). Self-concept clarity is the internal consistency and stability of an individual's identity and the degree to which they are cognitively aware and confident about their own attributes (Campbell, 1990; Campbell et al., 1996). Importantly, according to self-verification theory, traumatic experiences can inhibit the development of a unified self-concept (Evans et al., 2015; Streamer & Seery, 2015). As such, how can disruptions in self-concept following trauma best be remedied?

A growing body of evidence supports ketamine, a non-competitive N-methyl-D-aspartate (NMDA) receptor antagonist and non-classical psychedelic, as a promising solution for treatment-resistant PTSD (Anis et al., 1983; Ragnhildstveit et al., 2023). Clinical evidence from randomized control trials, case studies, and open-label studies has shown ketamine to be effective in improving treatment-resistant PTSD in as little as one to six sessions (Feder et al., 2020; Ragnhildstveit et al., 2023). However, these improvements, associated with increased neuroplasticity, tend to be short-lived with negative symptoms recurring within days to weeks (Pradhan et al., 2018; Ragnhildstveit et al., 2023). This has led to the development of adjunctive protocols for

ketamine treatment, including preparatory psychotherapy, therapist-supervised dosing, and psychotherapeutic integration, which have been shown to increase long-term positive outcomes (Dore et al., 2019; Ragnhildstveit et al., 2023). However, standardization of these protocols has yet to be developed. Specifically, further investigation into psychotherapy methods used during integration—the process of intentionally engaging with the psychedelic experience to incorporate psychological insights into one's life—is warranted (Bathje et al., 2022). Current research shows that self-compassion-focused psychotherapy, when paired with ketamine treatment, will lead to lasting changes in self-concept clarity for PTSD patients. Evidence will be presented including self-compassion's role in increasing self-awareness and reducing self-rumination and real-world outcomes from pairing self-compassion-focused models and ketamine.

Self-Compassion as a Mechanism to Enhance Self-Concept Clarity

Self-compassion is a form of relating to oneself that involves non-judgmental recognition and acceptance of one's emotions and internal experiences (Neff, 2003a; Neff et al., 2007). Research has shown that self-compassion promotes resilience, the ability to adapt to adversity, and may reduce the risk of developing psychopathologies (Bonanno et al., 2007; Cohn et al., 2009; MacBeth & Gumley, 2012; Wagnild & Young, 1993). Furthermore, self-compassion has been found to be significantly linked to PTSD such that individuals high in self-compassion are less likely to engage in avoidance strategies (Thompson & Waltz, 2008). As such, the following adaptive strategies associated with self-compassion support its mechanistic role in enhancing self-concept clarity.

Increasing Self-Awareness

The first strategy that self-compassion requires, and ultimately will lead an individual to build self-concept clarity, is self-awareness. Neff (2003a) proposed three aspects of self-compassion: self-kindness (versus self-judgement), common humanity (versus isolation), and mindfulness (versus overidentification). According to the S-ART (self-awareness, self-regulation, self-transcendence) model, the practice of mindfulness involves the development of self-

awareness or "meta-awareness of self" (Vago & Silbersweig, 2012, p. 2). Thus, self-awareness is a logical precursor to building self-compassion. Moreover, self-awareness is a proposed requirement for self-concept clarity such that mindful individuals, or those aware of their internal states, are more likely to have greater self-concept clarity (Hanley & Garland, 2017). Their findings further demonstrated that self-concept clarity mediates the relationship between psychological well-being and mindfulness. As such, this evidence supports self-compassion as an ideal route to increasing self-concept clarity.

Reducing Self-Rumination

A second route that self-compassion can take to greater self-concept clarity is through its inverse relationship with self-rumination — a negative, chronic form of self-focus motivated by a perceived threat to the self (Trapnell & Campbell, 1999). Importantly, self-rumination is associated with low self-concept clarity and low resilience and is commonly reported in those who have undergone trauma (Cicero, 2017; Willis & Burnett, 2016). Thus, long-term reduction in self-rumination is an important target for PTSD treatment and may be accessed through enhancing self-compassion. Neff (2003b) and Neff and Vonk (2009) were among the earliest to demonstrate that greater self-compassion is associated with less rumination. Relatedly, Leary et al. (2007) found that self-compassionate individuals are less likely to experience negative affect following a negative event because they are less likely to engage in self rumination. Subsequent research by Samaie and Farahani (2011) also showed that self-compassion differentially moderates the relationship between self-rumination and self-reflection with stress. Specifically, self-compassion attenuates the relationship between high self-rumination and high stress and magnifies the relationship between high self-reflection and low stress. In contrast to self-rumination, self-reflection is a form of self-focus that is motivated by curiousity and a desire for self-knowledge (Trapnell & Campbell, 1999).

Critically, this shift away from self-rumination and toward self-compassion has been documented following psychedelic experiences and partially mediates the relationship

between psychological insights and reported improvements in depression, anxiety, and stress (Fauvel et al., 2023). Though some researchers argue that the subjective effects of psychedelics (e.g., psychological insights, mystical experience) are not necessary for therapeutic benefit (Olson, 2021), these findings provide scaffolding for the assertion that subjective effects are critical for long-term therapeutic success (Yaden & Griffiths, 2020). Overall, this growing body of research provides support for self-compassion as a mechanism to improve self concept clarity.

Real-World Evidence for Self-Compassion-Focused Models and Ketamine

When viewed through the lens of improving self-concept clarity, one self-compassion-focused model is already showing promising results in treating PTSD. 'Trauma Interventions using Mindfulness Based Extinction and Reconsolidation' (TIMBER), which was developed to address existing gaps in trauma-related psychological disorders, has been shown to prolong therapeutic effects when combined with ketamine (Pradhan et al., 2018). TIMBER psychotherapy employs acceptance and self-compassion strategies, rather than aiming to change behaviour, and focuses on developing a 'mindful state' to promote cognitive reprocessing and detached reappraisal of traumatic memories (Pradhan et al., 2018). This mindfulness-based cognitive therapy has shown significant success in two randomized, double-blind, placebo-controlled studies where participants who received the combination protocol of ketamine and TIMBER therapy experienced full or near full remission of PTSD symptoms, lasting for an average of 34 days (Pradhan et al., 2017, 2018). In comparison, this duration of remission lasted 2x longer than reported responses to mindfulness therapy and 5x longer than reported responses to ketamine alone (Feder et al., 2014; Murrough et al., 2013). As such, the reported therapeutic benefits of ketamine that assist in repairing self-concept can be bolstered in duration if paired with appropriate self-compassion-focused psychotherapy during integration.

Limitations and Future Directions

Self-compassion is only one mechanism among many that may help facilitate PTSD treatment in psychedelic-assisted therapy. For example, future interventions may consider targeting psychological flexibility over self-compassion, as both are predictors of well-being (Pyszkowska & Rönnlund, 2021). Furthermore, there is a well-established link between PTSD and psychological inflexibility (Seligowski et al., 2015). Future research should also consider the therapeutic alliance. A wide body of literature emphasizes the critical aspect of trust and secure attachment within the therapist-patient relationship, especially in trauma-exposed individuals (Howard et al., 2022). Finally, future research should also take into consideration culturally attuned trauma-informed therapy for diverse populations (e.g., Indigenous peoples) and the effects of 'set and setting' on ketamine-assisted therapy (Dore et al., 2019; Muscat et al., 2021). Addressing these limitations may help increase the reach and magnitude of ketamine-assisted therapy.

Conclusion

In response to the limitations of traditional pharmacological and psychological interventions for treatment-resistant PTSD, research has turned with hope toward psychedelics. This robust body of evidence elucidates the therapeutic potential of ketamine to synergistically pair with psychotherapy, magnifying the strength and duration of treatment success. In light of these results, defining and standardizing the models of psychotherapy used for psychedelic integration is of great significance for wide-reaching clinical applications. As such, self-compassion is a well-studied construct that may serve as a powerful mechanism to address the fractures in self-concept commonly experienced by individuals suffering from PTSD. By encouraging new self-processing pathways of enhanced self-awareness and reduced self-rumination, the integration of self-compassion-focused models of psychotherapy with ketamine will lead to lasting changes in self-concept clarity, an essential step towards achieving long-term healing from PTSD.

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