Revue YOUR Review

Volume/Tome 3 (2016)

York Online Undergraduate Research

Intended to showcase York University (Toronto, Canada) student research, *Revue* **YOUR** *Review* is an annual, refereed e-journal offering an opportunity for York University students to prepare a paper for publication. The journal is multidisciplinary, open-access, and bilingual: articles are published in English or in French.

Revue **Y**ork **O**nline **U**ndergraduate **R**esearch *Review* is associated with York University's annual, multidisciplinary Undergraduate Research Fair. Articles are revised from top essays submitted for York University credit courses and accepted as poster presentations at the juried Research Fair. Submissions are reviewed by an Editorial Board comprised of York University faculty members, writing instructors, librarians, and students, and may also be sent to expert readers within the discipline. Together, the Research Fair and its associated e-journal offer students an educational experience in researching, writing, preparing an abstract, designing and presenting a poster session, and revising a paper for publication—all components in the cycle of scholarly knowledge production and dissemination. Author rights are governed by Creative Commons licensing.

La *Revue* **YOUR** *Review* se propose de mettre en valeur la recherche des étudiants de premier cycle et offre aux étudiants de l'Université York (Toronto, Canada) l'occasion de rédiger un article pour la publication. Cette revue annuelle à comité de lecture et à libre accès est pluridisciplinaire et bilingue (anglais/français).

La *Revue* **Y**ork **O**nline **U**ndergraduate **R**esearch *Review* est liée à la foire annuelle de recherche de l'Université York. Les articles ont été sélectionnés et révisés des meilleures dissertations soumises pour un cours de premier cycle à l'Université et acceptées comme présentation d'affiches à cette foire, elle-même sous la direction d'un jury. Les soumissions à la *Revue* sont examinées par un comité de rédaction comprenant des membres du corps enseignant, des professeurs d'écriture, des bibliothécaires et des étudiants. La *Revue* et la foire de recherche offrent aux étudiants une expérience authentique de s'engager dans les processus de recherche, d'écriture, de préparation d'un résumé, de participer dans une conférence scientifique, de travailler avec des rédacteurs et de reformuler une dissertation sous forme d'article de recherche—l'ensemble des parties composantes du cycle de la production des connaissances et de la distribution du savoir. Les droits des auteurs sont soumis à la licence Creative Commons.

Revue **YOUR** Review

York **O**nline **U**ndergraduate **R**esearch

Volume/Tome 3 (2016)

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[*] Posters can be viewed on the *Revue YOUR Review* website/Pour voir les affiches, veuillez visiter le site web de la *Revue YOUR Review* : http://yourreview.journals.yorku.ca.

Guest Editorial

Welcome to the third volume of *Revue YOUR Review*, York University's journal showcasing some of the outstanding research produced by York's undergraduates. The research articles in this journal represent a significant milestone in each student's academic work, having started as a research project for a course, passing adjudication for acceptance into the Undergraduate Research Fair as a poster presentation, and finally having been further developed as a paper for inclusion in this journal. Each paper is the culmination of a scholar's complete journey through the scholarly lifecycle, from inception of an idea, through research and development, and finally to dissemination of findings through publication. Thus, the journal is an embodiment of York's commitment to undergraduate education, where research goes hand in hand with teaching and learning.

York University strives to provide an environment that makes a journal such as this possible. As a research-intensive university with a focus on undergraduate education, York cultivates the link between research and learning, and recognizes its important role in helping undergraduates realize their potential as civically and critically engaged citizens within their communities and in the growing knowledge economy. For example, Jesse Thistle explores Toronto's lost Metis history, and Sandra Roy takes up questions around Quebec identity through the lens of local cuisine. From Julien Cossette's consideration of social media in the Gezi Park protests in Turkey, through several papers considering important questions—practical and theoretical—in the fields of psychology, corporate responsibility, and theatre, readers will be exposed to the wide range of disciplinary areas in which York's undergraduates are engaged, and that explore issues of importance to many communities—research, local, national, and international.

Guest Editorial

Please don't miss the abstracts from the third Annual Undergraduate Research Fair included in this volume. I trust you will find something that piques your interest. And I hope that you will check back as further volumes are published. What better way to find out about student research happening at York!

Adam Taves
Acting Associate University Librarian
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Éditorial

Bienvenue au troisième tome de la *Revue YOUR Review,* une publication de l'Université York (Toronto, Canada) qui met en valeur les travaux de recherche exceptionnels effectués par des étudiants de premier cycle de l'Université. Les articles qui paraissent dans ce périodique représentent des jalons importants dans les cycles d'études académiques de leurs auteurs, ayant été conçus au départ comme projets de cours, ensuite adjudiqués et puis admis à la session d'affichage de la foire de recherche de l'Université et finalement acceptés comme articles publiés dans cette revue. Chaque article représente donc l'aboutissement du voyage complet d'un chercheur en formation à travers le cycle de vie de son travail érudit, dès la naissance d'une idée jusqu'à l'étude de fond, pour arriver enfin à la diffusion des résultats dans une revue scientifique. En effet, cette revue incarne l'engagement de l'Université à enrichir l'éducation du premier cycle, où la recherche va de pair avec l'enseignement et l'apprentissage.

L'Université York cherche à créer un environnement qui rend possible la publication d'une revue savante telle que celle-ci, vouée à la diffusion des travaux de recherche de haute qualité des étudiants. En tant que grande université axée sur la recherche tout en mettant l'accent sur l'éducation de premier cycle, York s'efforce à cultiver le lien entre la recherche et l'apprentissage et aussi à aider les étudiants à réaliser leur plein potentiel en tant que citoyens critiques engagés dans la vie civique de leurs communautés et d'une économie du savoir en plein essor. Par exemple, Jesse Thistle interroge l'histoire perdue des Métis de Toronto, alors que Sandra Roy examine l'identité québécoise vue à travers le prisme de la cuisine régionale. De la considération des manifestations sur les médias sociaux dans l'affaire du Parc Gezi en Turquie aux articles nombreux abordant des questions importantes—pratiques ou théoriques—touchant à la psychologie, au théâtre, ou à la responsabilité d'entreprise, les lecteurs de ce numéro connaitront la vaste gamme de disciplines dans lesquelles s'engagent les universitaires ainsi que les questions importantes à nos communautés diverses—tant locales et nationales que globales.

Éditorial

À ne pas manquer—les résumés d'articles de tous les animateurs qui ont participé à la troisième foire annuelle de recherche des étudiants de premier cycle de l'Université qui a eu lieu en 2015, paraissent à la fin de ce numéro. Je suis sûr que vous trouverez quelque chose qui suscite votre intérêt. Et j'espère que vous continueriez à consulter notre revue au fur et à mesure que les numéros à venir seront publiés. C'est une excellente façon de se renseigner sur la recherche effectuée par les étudiants de premier cycle à l'Université York.

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Nous remercions vivement nos auteurs-étudiants, qui ont participé avec enthousiasme au long processus de révision des articles et qui ont reçu les commentaires avec grâce. Un grand merci aux « parrains-coach » volontaires—Marcella Duran, Shanna Lino, Irene Markoff, Scott McLaren, Dominique O'Neill et Peter Unwin—les experts-académiques qui ont su guider ces nouveaux auteurs à travers le processus de préparation de leurs articles scientifiques et qui ont partagé des conseils sur leur expression écrite. Nous tenons à remercier également Michael O'Connor, le rédacteur en chef de la maison d'édition Insomniac Press (London, ON), ainsi que ses étudiants du cours Book Publishing Practicum (WRIT 4721, Université York), qui ont fait la révision initiale des articles. Nous aimerions remercier tout particulièrement Joy Kirshner, directrice visionnaire des Bibliothèques de l'Université York, qui reconnaît la valeur d'offrir un forum à libre accès pour la production et la dissémination de la connaissance scientifique des étudiants et pour qui la conception d'une bibliothèque du XXIᵉ siècle comprend l'engagement communautaire et l'apprentissage expérientiel. Merci aussi à Andrea Kosavic, bibliothécaire chargée de la culture numérique à l'Université York, qui dispose d'une compréhension profonde en édition numérique, ce qui se traduit par son appui concret de cette revue. Nous sommes reconnaissants du travail excellent de notre étudiant-assistant en production numérique, Michael Pietrobon. La *Revue YOUR Review* est née d'une vision, mais vit grâce au soutien actif de ces personnes.

Les rédacteurs en chef

JESSE THISTLE

"We Are Children of the River"

Toronto's lost Métis history

This essay investigates how Toronto was connected to the French river system fur trade emanating from Montreal via the Toronto Carrying Place and how that connection gave rise to a proto-Métis population between the years 1620 and 1821. The takeover of New France in 1760, and the merger of the Hudson's Bay Company with the North West Company in 1821, among other geopolitical factors, ended Toronto's 175 year involvement with the fur trade, yet an impression of Métis presence remained in the city until the 1880s. The British agricultural and treaty era in Ontario, beginning in 1793 and lasting until the 1850s, was so rapid and absolute that, I contend, it erased the older French and proto-Métis history from the city's historiographical memory and imagination. Remnants of it do nevertheless exist in archives and older primary and secondary literature, and it is an erasure that wrongly assumes that the city had no Métis history.

The senior governing body of the Métis Nation of Canada, the Métis National Council (MNC), defines the eighteenth- and nineteenth-century historic homeland of the Métis as the area now encompassed by the three prairie provinces of Manitoba, Saskatchewan, and Alberta, portions of Ontario northeast of Sault St. Marie up along the Quebec border and westward to the Manitoba border, areas of British Columbia, the southern geographic strip of the Northwest Territories, and the north-central United States (Métis National Council). The Toronto area has been left out of the MNC-designated historic homeland. The modern political border of the MNC's Métis homeland, however, is not representative of the historic Métis homeland, which was *not* a bounded territory but was rather a fluid system of overland and river transport and portage routes that stretched across North America (St.-Onge & Podruchny, 2012, p. 82). By looking at how Toronto was at one time connected to the fur-trade river system, and then tracking a rise in racism towards the Métis across the

nineteenth century in the city, it is possible to show that Métis once lived in Toronto but were erased from the city's historical memory. Because the erasure has been so absolute, the MNC and many scholars—Métis and otherwise—believe that Toronto has no Métis history (Anderson, 2011, p. 39). In the first era, 1609-1760—the French Regime—we see that the area now known as Toronto was a transport route in the fur trade that brought together the ancestors of Toronto's later proto-Métis (see definition below). In the second, 1760-1818, we see the fall of the French Regime and the British takeover of Upper Canada, with proto-Métis visible in city life. In the third, a rising intolerance of "half-breeds" begins to articulate itself in Toronto by 1818 and peaks in 1885, by which date no Métis are visible in the historic record of the city. By understanding Toronto's geographic position in the French river system and then tracking Toronto's nineteenth-century "half-breed" racism, we can show that the Métis were once present but vanished from the city, which will explain why some scholars, and the MNC, believe Toronto had no Métis history (Anderson, 2011, p. 19).

The first era that we will evaluate to understand how Métis were once in Toronto but disappeared by the late nineteenth century is the French Regime, 1609-1760. In this period, we see the European and First Nation ancestors of the Toronto area's proto-Métis intermingling with each other in the French fur-trade river world. Métis scholar Brenda Macdougall (2010) defines "proto-Métis" as mixed-blood ancestors of the western Métis Nation who practiced endogamy and created the first generation of truly Métis progeny, after whom a rise of Métis culture occurred—Métis ethnogenesis (p. 18). The French river system prior to 1760 covered an immense tract of land that stretched from Quebec and Montreal on the St. Lawrence River in the east, the Upper and Lower Great Lakes regions, south and northwest of Lake Superior, down through the Ohio and Mississippi Valleys, and into the southern Louisiana Territory emitting at New Orleans (Sleeper-Smith, 2011, pp. 12-13). Early-twentieth-century historian Percy Robinson (1933) found that the Toronto region had successive French-First Nations contact from the early 1600s to the time of fur trader Jean-Baptiste Rousseau in the late 1700s, a "record [that] is scarcely broken and runs back three centuries to the arrival of white man in Canada" (p. 219). Indeed, contact between First Nations and Europeans remained constant around Toronto chiefly because of the Toronto Carrying Place—a portage route long used by First Nations, and later the French, and to some extent the English—which connected the north shore of Lake Ontario at the mouth of the Humber River (a secondary route in the Carrying Place also began at the mouth of the Rouge River) to the southern tip of Georgian Bay and Lake Huron (Robinson, 1933, pp. iii-iv). The Carrying Place was a shorter and safer, albeit more difficult, thirty-mile portage into North America's rich Northwest fur lands for voyageurs from Montreal, as opposed to the longer, mainly aquatic, southern Niagara communication which traversed Lake Erie, up through the Detroit and St. Clair Rivers, and into Lake Huron; or along the complex and dangerous French River System that went along the Ottawa and French Rivers into

Lake Huron (Robinson, 1933, p. 20). Between the years 1610-1650, according to Robinson (1933), "there were many [documented and undocumented] Frenchmen in Ontario," an observation he qualifies with reference to the 1640-1641 *Jesuit Relations* diary of Father Jérôme Lalement, who noted, "plusieurs de nos François qui ont esté icy, ont fait autrefois voyagé en ce païs de la Natiõ Neutre, pour en tirer les profits & les avantages de pelleterie, & autres petites denrées qu'on en peut esperer" ["Many of our Frenchmen who have been here have, in the past, made journeys in this country of the Neutral Nation for the sake of reaping profit and advantage from furs and other little wares that one might look for"] (Robinson, 1933, p. 10; the French original and the English translation cited here are drawn from Thwaites, 1898, pp. 202-203).[1] Sulpician missionary François Vachon de Belmont recorded in *Histoire de l'eau-de-vie en Canada* (written around 1705 [Belmont, 1840, p. ii]) the first definitively documented visit of white men to the Toronto area in the Haudenosaunee village of Teiaiagon (located on what is now Baby Point in Toronto) in the 1670s:

> Le Carnaval de l'année 167 . . . . [sic] six traiteurs du Fort de Katarak8y [sic], nommés Duplessis, Ptolémée, Dautru, Lamouche, Colin et Cascaret, enyvrèrent tout le Village de Taheyagon, dont tous les Sauvages furent saouls trois jours durant. Les viellards, les femmes et les enfans s'enyvrèrent tous ; après quoy, les six traiteurs firent la débauche que les Sauvages appellent Gan8ary [sic], courans tous nuds avec un baril d'Eau-de-Vie sous le bras [The Carnival of the year 167{0}—six traders from Katarak8y {sic} named Duplessis, Ptolemee, Dautru, Lamouche, Colin and Cascaret made the whole village drunk for three days; the old men, the women and the children got drunk; after which six traders engaged in the debauch which the savages call Gan8ary {sic}, running about naked with a keg of brandy under the arm]. (Belmont, 1840, p. 19; English translation drawn from Robinson, 1933, p. 31)

Belmont's quote possibly records the first known sexual contact between First Nations and Europeans at Toronto which could have produced the city's first mixed-bloods—that is, if "debauch" and "Gan8ary" can be qualified to mean sexual intercourse (Robinson, 1933, p. 31). Surely these Teiaiagon mixed-bloods, if any were produced, would have been raised and known as Haudenosaunee. Raising mixed-blood children as First Nation citizens, by First Nations people, was an enculturation practice that would persist in the Toronto area right up until the founding of York in 1793 and beyond (Peterson, 2012, p. 30). Peter Jones, among others, is a good later example of a Toronto area mixed-blood that was raised and believed himself to be First Nations (D. B. Smith, 2013a, p. 31; Peterson, 2012, p. 27). Sexual intercourse between incoming French voyageurs, coureurs de bois (the former were the legal class of the French fur traders, the latter illegal, and both were

notorious "adulterers" according to Jesuit missionaries [Sleeper-Smith, 2001, p. 40]), and First Nations women was, according to Susan Sleeper-Smith (2001), a "common strategy" used by First Nations to draw European men into a "reciprocal economic relationship" so as to "ensure steady access to European trade goods" and "secure military alliances" (p. 5). As well, Richard White (1991) notes that sex was used by First Nations in the Great Lakes to "level the playing field" with Europeans by physical "negotiation, where neither could win through force" (p. 52). The north shore of Lake Ontario in the seventeenth and early part of the eighteenth century was certainly an inhospitable and level playing field for both European traders and First Nations people as power transferred from Haudenosaunee to Anishinaabe-Mississauga between 1700-1710, and French-English belligerence steadily increased from 1718 through to 1760; thus, it was advantageous for all parties vying for control of the Carrying Place's martial and economic benefits to engage in alliance-making via sex at Toronto (Robinson, 1933, pp. 61-62). A Jesuit Priest expresses his moral revulsion at the sexual alliance-making practiced widely across the seventeenth century fur-trade river world, remarking that to secure allegiance and goods, Indigenous female bodies "pouvoient tenir lieu de marchandises, et q^{ls}. y seroient encore mieux receus que le Castor" ["might serve in lieu of merchandise and would be still better received than Beaver-skins"] (Sleeper-Smith, 2001, p. 51; the French original and the English translation cited here are drawn from Thwaites, 1900, pp. 196-197).[2] Furthermore, Sleeper-Smith (2001) estimates that, by the 1680s, around 800 coureurs de bois were active in the Great Lakes region, and it can be assumed that many used the Toronto Carrying Place to reach the Illinois Country to avoid detection and capture along the well-monitored and garrisoned southern Niagara-Detroit portage (p. 5; see also Robinson, 1933, pp. iii-iv). Moreover, and apart from a covert communication, Robinson (1933) asserted that "there was *regular* [legal] trading at Toronto as early as 1715, and . . . with the exception of a short period between 1687 and 1715, there was continuous trading at Toronto from Pere in 1668 to Simcoe in 1793" (p. 62). The length of illegal and legal trade along the Toronto Carrying Place (1620s-1759), when combined with the logic of sexual alliance-making, allows one to assume that intermixing between Europeans and First Nations could have occurred and created a generation of proto-Métis around Toronto just as it had elsewhere in the French fur-trade river world, even though it is undocumented.

   The second era we examine to see how Métis were once present in Toronto but disappeared occurs at the fall of the French Regime and the beginnings of colonial York: 1760-1818. This epoch in Toronto's history shows a shift away from the fur trade to a British agricultural society. To start, the 1760 defeat of New France effectively transferred control of France's North American possessions to Britain,[3] and with it came the extensive inland fur-trade river system based in Montreal (Dickason & Newbigging, 2010, pp. 133, 161). British elites at Montreal who had been wise enough to implant themselves as heads of the old French fur trade soon

began reaping vast amounts of capital, but with newfound wealth came increased economic and military competition from the Hudson's Bay Company based in the north, which effectively restricted the Montreal fur trade to the south along the Great Lakes (Dickason & Newbigging, 2010, pp. 133, 161). Furthermore, the Old Toronto Carrying Place in the years 1760-1783 saw a decline in use as traders from Montreal passed over the ancient route in favour of the shorter Niagara portage to the Illinois country or the aquatic Ottawa River system to the Northwest (Firth, 1962, i); this, however, changed with the defeat of the British in the American Revolution (1775–1783) (Robinson, 1933, pp. 167-183). Threatened from the south and cut off from the rich fur-lands of the Illinois, Lower and Upper Canada after 1783 began looking for a new capital city (Niagara-on-the-Lake/Newark, located on the U.S.-Canadian border, was the old capital of Upper Canada but was vulnerable to U.S. attack) with a suitable overland military communication to protect against American invasion; it was an anxiety, when coupled with the economic need to exploit the Northwest fur-lands, that reinvigorated interest in the Old Toronto Carrying Place (Firth, 1962, i). The Scottish merchants of the North West Company (NWC), who after 1771 absorbed the lion's share of the Montreal fur trade, had long known of the Carrying Place's martial and economic potential consequent of their older inherited French fur-trade connections (Robinson, 1933, pp. 174-175). Frenchman Pierre de Rastel de Rocheblave, the last British Commander of the Illinois country and founding member of NWC (himself a remnant of the old French fur trade with ties to powerful French and mixed-blood families at Detroit: the Caldwells, Harrisons, Askins, and Babys), suggested the harbour of Toronto as the site of the new Upper Canada capital to Governor General Lord Dorchester in 1787 because, as noted by Robinson, he "knew the history [of Toronto] and value of the route" (Robinson, 1933, p. 175). Robinson goes on to state that Dorchester listened to Rocheblave's suggestion and made "moves" to declare Toronto the new Upper Canadian capital because "Dorchester, in touch with [NWC] merchants from Quebec [Montreal], wished the new capital to command the new route to the great northwest and the fur trade there" (Robinson, 1933, p. 175). Dorchester's plans for Toronto were, however, overthrown by Lieutenant-Governor of Upper Canada John Graves Simcoe in 1791 (Robinson, 1933, p. 175). Even so, on 27 August 1793, Simcoe reversed his earlier position on Toronto and declared York the capital of Upper Canada and opened the land for survey and settlement upon seeing Toronto harbour and the Toronto Carrying Place and their unique military and fur trade possibilities (Robinson, 1933, p. 175).

By February 1799, a letter from Chief Justice of Upper Canada John Elmsley to York administrator Peter Russell confirmed Simcoe's and the NWC's use of the Toronto Carrying Place, which was "henceforth" seen to have "regular [NWC] winter voyages up to Fort Joseph in Matchedash Bay on Georgian Bay" (Robinson, 1943, pp. 256-257). It can be assumed that at the turn of the nineteenth century, all overland lugging of heavy transport related to the fur trade up and down the Toronto

Carrying Place was undertaken by NWC engagés—the lowest fur-trade labour class consisting of mainly proto-Métis and Frenchmen (Podruchny, 2006, pp. xi, 2). Proto-Métis John Askin Jr., appointed Indian interpreter at St. Joseph's Fort, and husband of mixed-blood Madeline Peltier, verified the NWC's regular use of the Toronto Carrying Place in an 1807 letter he wrote to his mixed-blood parents in Detroit:

> Every winter an Express leaves this in Jany. for York and returns from York that is to say leaves York about the 1st of Feby for this. Should you condescend to write After this Winter (this being to [sic] late for you) you can address your Letters to the Care of Mr. Dn. Cameron or Capt Givens [in York] & they will see them forwarded. (Robinson, 1943, p. 256)

On 17 June 1808, John Askin again wrote home and verified more NWC and Métis activity along the Toronto Carrying Place: "Messrs McGilvery & Thain [and their Métis/French entourage] passed here a few days ago for Montreal via York" (Robinson, 1933, p. 25). During the winter of 1808 John Askin Jr. lost his interpreter position at St. Joseph's, whereupon he sent his mixed-blood son (no name given) to York to plead for vocational reconsideration (Robinson, 1943, p. 256). The young lad, now in York in 1809, wrote to "Dear Grand Papa in Sandwich" (John Askin Sr.), stating that "he had arrived in York on the 20th in fifteen days from the Island of St. Joseph with despatches from his father for His Excellency Governor Gore" (Robinson, 1943, p. 257). The letter must have worked, as by 1811 John Askin Jr. wrote from St. Joseph's in his old position of clerk to his brother at Queenston, Upper Canada:

> My Dear Brother A Messrs. Gilivray, Gregory and McKay leave this for Montreal tomorrow via York (along the Toronto Carrying Place) for the purpose of making some arrangements respecting the portage they mean to establish from Yonge Street to Matchedash Bay. I avail myself of their conveyance . . . . Should the N.W. Gentlemen establish the road as is proposed from York to Matchedash it will be the making of the Country and will injure Mr. Mcintosh very much which I'm sorry for, he having a large family and a worthy man. His son Alexr. left this about 12 o'clock on the *Nancy* loaded with [fur] Packs for Fort Erie. (Robinson, 1943, pp. 257-258)

From the paper record, it appears that the future NWC Yonge Street that Askins wrote about in 1811 is the same portage memory Dr. Scadding wrote about in 1873, which he stated his elder Toronto informants reported seeing in the earliest years of colonial York, 1793-1818:

> As stated already in another connection, we have conversed with those who had seen the cavalcade of the North-West Company's boats, mounted on wheels, on

their way up Yonge Street. It used to be supposed by some that the tree across the notch through which the road passed had been purposely felled in that position as a part of the apparatus for helping the boats up the hill. (p. 426)

John Askin Jr.'s letters detailing the NWC's voyages with engagés along the Toronto Carrying Place and young Askin sending letters to Sandwich from York in 1809 confirms a proto-Métis presence in Toronto at the turn of the nineteenth century.

Another mixed-blood with ties to York and Detroit at the turn of the nineteenth century was Thomas McKee. McKee also had ties to the Askin clan and was the proto-Métis husband of mixed-blood Therese Askin (Barkwell, 2012, p. 42; Botsford, 1985, p. 109; Robinson, 1943, p. 257). Therese was sister to Askin Jr., the interpreter at Fort St. Joseph and daughter of "Grand Papa in Sandwich" John Askin Sr. (Barkwell, 2012, p. 42; Botsford, 1985, p. 109; Robinson, 1943, p. 257; Macdougall, 2010, p. 18). The mixed-blood marriage of Thomas McKee and Therese Askin also fulfills two of Macdougall's specifications for Métis ethnogenesis—endogamy and procreation—as they married and had three first-generation wholly Métis children at Detroit: Catherine, Marie Ann, and Johnny (Botsford, 1985, p. 3). Furthermore, Therese is confirmed to be mixed-blood at least three generations back (Barkwell, 2012, p. 42; Botsford, 1985, p. 109; Robinson, 1943, p. 257). Getting back to McKee: Thomas McKee was the interracial proto-Métis/Shawnee/Chaouanon son of British Colonel Alexander McKee (proto-Métis) and Sarah "Sewatha" Opessa (Shawnee/Chaouanon) (Barkwell, 2012, p. 41). He was elected to and sat in the Upper Canada Legislature in York for the riding of Kent in 1797, and Essex in 1800—although it is well known that because of his alcoholism he periodically missed sitting at York during the summer months (Clarke, 2003). Like all other mixed-bloods in Upper Canada at that time, McKee lacked concrete racial terminology to define his *Métissage*—interraciality, or at least that's what the non-use of the term "half-breed" in the *Upper Canada Gazette* (*UCG*) newspaper between the years 1793-1817 suggests.[4] Thus, he and other Upper Canadian mixed-bloods at that time identified as "Indian" even though they could be considered proto-Métis as their patronyms appear in the classically defined western Métis a generation later (Devine, 2004, pp. 53-74; Botsford, 1985, p. 1).

Another extensively connected fur-trade man at York was Frenchmen Jean-Baptiste Rousseau who was a contemporary business associate of Frenchman Laurent Quetton St. George before 1800. St. George is counted as one of colonial York's wealthiest merchants at the turn of the nineteenth century who, as illustrated by historian Edith Firth (1962), received his furs from Amherstburg and the narrows at Lake Couchiching. Firth (1962) also details that St. George was a well-connected man who in 1802 "fur traded extensively with Indians" at various Upper Canada posts, among which Queenston, Fort Erie, Lundy's Lane, Dundas, Kingston, and Niagara (p. 124). Thus St. George was tied into the northern fur trade through the

NWC and the Toronto Carrying Place and in the south through the old French mixed-bloods along the Detroit and Niagara portage. Rousseau, on the other hand, is remembered by Robinson (1933) as "the last citizen of the old French Regime and the first citizen of York" (p. 209). Robinson (1933) also states that Rousseau was known in his day as "the Chief Factor of the Humber" and was linked into the Toronto-area fur trade in multiple ways through "Col. Bouchette, Frobisher and the North-West fur-traders, and [the Six Nations Haudenosaunee through] the great Chief Brant (Rousseau was married to Brant's adopted daughter Margaret Clyne)" (pp. 146, 210, 214). Rousseau may have also been connected to the mixed-blood Baby family at Detroit through the Hon. James Baby, as James lived on Baby Point while Rousseau lived downstream at the mouth of the Humber during the latter half of the eighteenth century—this, however, remains only speculation and cannot be proven without further research (Robinson, 1933, p. 146).

When the War of 1812 broke out, the last remaining segment of Yonge from Willow Creek portage to the Nottawasaga River and Penetanguishene remained unfinished, during which time all NWC fur trade was diverted along the safer Ottawa and French river system far from the U.S. border (Robinson, 1933, p. 146). Yonge between the years 1812 and 1814 may have temporarily lost its mantel as the NWC's fur express but it took on an even greater role becoming the military supply chain that secured both York and Fort Michilimackinac (Robinson, 1943, p. 262). On 12 June 1813, a letter sent by Mrs. Powell from York to Colonel W. D. Powell in Kingston recounts the arrival of the Corps of Canadian Voyageurs (Métis)—later the Provincial Commissariat Voyageurs—by way of Yonge Street (I would note here two things to remember: 1) at this time, Métis and "half-breeds" are known in the Upper Canadian imagination by the homogenizing term "Indians"; and 2) the upper portage at Nottawasaga River and Penetanguishene was not yet complete, so they needed experienced *engagés* to traverse the northern gate):

> [A] Boat is just coming round the point; its Colors cannot yet be ascertained; I sicken at the Idea of its being 13 Strips . . . the Boat is gone past, apparently to the Head of the Lake . . . 2 o'clock, Dr. Strachan and Mr. Allan called before dinner to tell me of the reinforcements at hand . . . the Bank was covered with people and foremost just at the corner of our Street was D Cameron with a party of Indians just come from Lake Simcoe; [with] several of our own Soldiers. (Firth, 1962, p. 313)

By February 1814, the U.S. was in a position to take back Fort Michilimackinac, an attack that seemed imminent given the fact that America controlled the Upper Great Lakes and all southern portage routes after the Battle of Lake Erie on September 10, 1813 (Barkwell, 2009, p. 5; Grodzinski, 2014; Robinson, 1943, p. 263). Robinson (1943) stated that on 22 April 1814, a relief force of 250 officers and soldiers was

dispatched from Kingston for Michilimackinac via York up Yonge Street, whereupon they completed the Nottawasaga portage: "twenty-nine large batteaux were constructed from pine timber cut on the ground, and the expedition embarked . . . . reaching Michilimackinac after nineteen days of hazardous voyaging in time to frustrate the American attack" (p. 263). The arrival of a fresh cohort of British soldiers and reinforcements up Yonge had startled the American warships *Tigress* and *Scorpio*, which had been docked at the mouth of the Nottawasaga, and, after being put to flight towards Fort St. Joseph, the U.S. crews were captured, taken prisoner, and escorted to Kingston by way of Yonge and York (Robinson, 1943, p. 263). Ironically, Simcoe's dream of making York wealthy via the Toronto Carrying Place and defending the town with its protected naval harbour had been reversed in reality: Yonge had become the defensive bastion and the Toronto harbour the economic windfall after the war (Robinson, 1943, p. 263).

The years leading up to 1821 marked a critical turning point in York's connection to the fur trade. To start, the Louisiana purchase of 1803 had destroyed the old French fur trade south of the border as Anglo-American pioneers rushed to agriculturally settle the Illinois Country and the tributary lands draining into the Mississippi (Englebert, 2010, p. ii). As well, the U.S. Embargo Act of 1807 limited cross-border trade between the U.S. and Canada, which made access to the Illinois-Mississippi fur-shed difficult from Montreal (Embargo Act, 2014). Moreover, John Jacob Astor established the American Fur Company on 6 April 1808, which diverted all U.S. fur products to New York, away from Detroit, York, and Montreal (Englebert, 2010, p. 163). Scholar Robert Englebert (2010) says the embargo, the shift in American land use, and Astor's redirection, strangled the old French system, and by the 1830s the old Illinois French trade had slowed greatly—but it still existed (p. ii). Meanwhile, the 1814 Treaty of Ghent signed between Britain and the U.S. ended the War of 1812 and secured the U.S.-Canadian border for the first time, further impeding cross-border trade (Dickason & Newbigging, 2010, pp. 146-147). Cut off from the south, the old half-breed fur-trade connections that had once supplied York via Forts Niagara, Detroit, Amherstburg, and Malden, from the Illinois, no longer existed (Robinson, 1943, pp. 261-262; Englebert, 2010, p. ii). Furthermore, the increased conflict that raged between the NWC and the HBC north of the border peaked between the years 1815-1820, which made trading in fur in Canada very expensive for both enterprises (Robinson, 1943, pp. 261-262). Faced with failing legers and debt, both companies decided to merge in 1821 forming the northern mono-conglomerate HBC (Van Kirk, 1980, p. 133). The new HBC then diverted all its fur northeast towards Hudson's Bay, where it had established coastal forts with ocean access to European markets (Van Kirk, 1980, p. 133). Consequently, the Toronto Carrying Place/Yonge as a route to the northwest was no longer used—it was too expensive, time-consuming, and dangerous to ship furs to European markets via the old French river system from Montreal (Dickason & Newbigging, 2010, p. 146).

Thus, cut off from its north and south fur trade communications, York's long history in the fur trade ended within the span of two decades—1803-1821 (Robinson, 1943, pp. 261-262). Moreover, the sustained peace that came with the 1814 Treaty of Ghent saw a massive surge of British immigration to Canada and America (Dickason & Newbigging, 2010, p. 146). In Upper Canada alone between the years 1821 and 1851 the population swelled from 750,000 to 1 million British-Canadians, while south of the border the population of Euro-descended Americans increased tenfold (Dickason & Newbigging, 2010, p. 146). Fulfilling this demand, land plots in Upper Canada were then surveyed and cut into agricultural lots for incoming settlers; soon the majority of the arable farmland on the Ontario peninsula was occupied, virtually all the land around Toronto (Dickason & Newbigging, 2010, p. 146). Jaqueline Peterson (2012) notes the effect that the Great Lakes treaty and settlement era had on the area's proto-Métis: "The multiethnic Great Lakes fur trade communities, sufficiently populous and connected by regional kinship networks, might have been on the verge of a Métis ethnogenesis by 1815. However . . . . fur trade society, always centrifugal [connected to the river system], was snuffed out in the treaty era, its individual members transformed and reinvented as old [agricultural land] settlers" (pp. 30-31). Indeed, the proto-Métis who had once traversed and traded at and through York were arrested from achieving Métis ethnogenesis by three impinging factors: 1) treaty making; 2) agricultural land settlement; and 3) amputation from the old French fur-trade network.

By looking at how Toronto was at one time connected to the fur-trade river system, we have established that proto-Métis did use the town of York as a transportation node. In the second half of this essay we will track a rise in Toronto's half-breed racism across the nineteenth century, which will show why Métis are no longer found in the city by 1900. Olive Dickason and William Newbigging (2010) note that between 1821 and 1851, Indigenous people in the Great Lakes region (then ten percent of the population) became a problematized "ethnic minority" in need of "civilizing, re-education, and assimilation" (p. 147). It is little wonder when we look at the *UCG* articles directly after the 1814 Treaty of Ghent that we find the racialized term "half-breed" articulated for the first time in York's printing history (Communications, 1818). A *UCG* article "Offences in the Indian Territories" dated 29 October 1818, describes the Selkirk trail wherein Métis Paul Brown and François Fermin Boucher stood trial in York at Old Montgomery's Court House (the modern day northwest corner of Richmond and Victoria Streets just east of Yonge Street in Toronto) where they were found not guilty of the murder of Hudson's Bay Company (HBC) Governor Robert Semple, who was killed at the Battle of Seven Oaks on 19 June 1816, in the Selkirk Settlement in what is now Winnipeg (Offences, 1818; Mulvaney, 1884, pp. 19-29; Scadding, 1873, p. 298). Also accused but not present were "Bostonionas" Peter Pangman and Cuthbert Grant (both Métis), and twelve other senior Lower Canadian-Scot wintering partners of the NWC who, according to

the HBC, had maliciously attacked the Selkirk Colony on 19 June 1816, killing Gov. Semple and 21 of his men (Offences, 1818). All of the accused were found not guilty by the York jury (Offences, 1818; Seven Oaks, 2013). The NWC then successfully countersued the HBC for illegal seizure of Fort William following the Battle of Seven Oaks and the unjust holding and persecution of Boucher and Brown who were detained for two years on unspecified charges (Bumsted, 2009, p. 403).

In a published letter about the trial in the same *UGC* 29 October 1818 issue, a York citizen known simply as "Z" articulates the first known use of the word "half-breed" in Toronto's printing history, specifically describing Métis as "half breeds" alongside "Indians": "Mr. McDonell and his party, therefore halted a few miles above Fort Douglas and sent a party of Indians and *half breeds* (half Indians) with Mr. Boucher, Mr. Brown was also with them and is a *half breed* (Communications, 1818; italics and parentheses verbatim). The fact that Z describes Métis as "half breeds" in italics and then qualifies what it means in parentheses—"(half Indians)"—is significant and denotes three things: 1) the term "half-breed" was relatively new and needed to be explained to the general audience at York; 2) "half-breeds" are not "Indians" (this is also a first for Toronto publishing history, as the distinction between half-breed and Indian had never been specified in print); and 3) there were a few people in 1818 York who already knew Métis by the term "half-breed"—Z, for instance.

Moving along, one prominent half-breed in Toronto during the 1830s and '40s was Anishinaabee Peter "Kahkewaquonaby" Jones or "Sacred Feathers," and it is by examining how city press treated his marriage to Eliza Field that we understand Toronto's increasing Métis racism via its disdain for interracial marriage. Dickason and Newbigging (2010) describe Jones as "a Mississauga-Welsh," which is an accurate depiction of how he self-identified, i.e. as a Methodist *and* Mississauga person negotiating two very opposite and conflicting worlds—Euro "civilization" and "Indian savagery" (p. 150; Wyatt, 2009, p. 168). It should be noted that this essay does not wish to conceptualize Jones as a Métis person, merely to highlight his internal and external polarity—clearly, he was a proud Anishinaabee Mississauga and remains remembered as such (Wyatt, 2009, p. 154). Indeed, cultural ambivalence defined Jones's identity throughout his life, which, as noted by scholar Kyle Carsten Wyatt (2009), made him physically appear like "the heathen . . . fused with the evangelist" wrapped in a Métis sash (p. 167). Jones's cultural ambivalence is best encapsulated by the wife he chose: Eliza Field (D. B. Smith, 2013b, p. 130). Despite being warned by Jones that their poly-ethnic union would not be accepted at York, Field travelled from her native England to wed Jones. Jones cautiously wrote: "The fact is my beloved Eliza, it is that feeling of prejudice which is so prevalent among the . . . settlers (not Indians in this country). They think it is not right for the whites to intermarry with Indians" (D. B. Smith, 2013b, p. 130). What is more, white women marrying Indigenous men during Jones's time was inconceivable to Anglo-settlers because of the British Imperial cult of womanhood, which believed European

women pious and pure, and the domestic conduits of "civilization," whilst Natives were socially inferior and, as noted by Victoria Freeman (2012), "a sexual threat to white society" (p. 209; D. B. Smith, 2013b, p. 130). Regardless of Jones's apprehensions and the Anglo cult of womanhood, the pair did wed on 8 September 1833, in New York City, and in line with the racial sentiments of the day, on 12 September 1833, *The New York Commercial Advisor* inked a hateful article dubbed "Romance in Real Life." The article was quickly snatched up and reprinted by a York newspaper *The Patriot and Farmer's Monitor* on 27 September 1833 (D. B. Smith, 2013a, p. 31).

Donald B. Smith (2013b) states that in Toronto during the 1830s and '40s, interracial unions hardly ever occurred, consequent of "a [British] colonial world rife with racial prejudice" towards interracial marriage (p. 130). Accordingly, he then goes on to quote Peter Jones who observes that in urban Upper Canada in the 1840s "only three or four Indian men were married to white women, and only three or four Indian women to white men" (p. 130). Jones's tiny estimation of only six to eight mixed couples must be remembered in the Upper Canadian demographic context of its time, mentioned earlier in the last subsection—1 million British settlers following the 1814 Treaty of Ghent.

By 1850, the old mixed-blood families of York's colonial period had faded into obscurity—consequent of Toronto's shift away from the fur trade—replaced demographically by HBC elite families who between the 1830s and 1850s sent their "country born" (British-First Nations ethno-mix) Métis sons to Upper Canada to be educated (Brown, 1977-1978, pp. 4-7). These young Métis men, small in number, were schooled at St. Thomas, Cobourg, Grafton, Port Hope, Lindsey, and many other southern Ontario towns and villages (Brown, 1977-1978, pp. 4-7; Brown, 1980, p. 193). The majority of these country-born sons sent east carried the patronyms of their NWC fathers or grandfathers—Ross, Cameron, Ermatinger, MacDonald, Cameron, McIntosh, and McKenzie—many of whom had concrete historical connections to Yonge Street and Toronto.

NWC-Métis daughters were also sent east prior to 1850, among whom Margaret Cameron, the daughter of former NWC Chief Factor John Dugald Cameron. Cameron places Margaret in Toronto in a letter he wrote to James Hargrave dated 5 May 1843: "Clouston [Orkney husband of Cameron's Métis daughter Elizabeth] is going down to settle on his farm at Cobourg . . . . My [Métis] daughter Margaret lives with her Aunt at Toronto" (Glazebrook, 1938, pp. 435-437; as cited in Brown, 1980, p. 193, with the exception of my addition of "Métis" in brackets in the last sentence). Of the many young Métis sent east around 1850, almost all were persuaded to marry "white," a trend that was in line with the Social Darwinist logic of the day, which believed that miscegenation "polluted" one's race and produced degenerate half-breed progeny (Brown, 1977-1978, pp. 4-7; Freeman, 2012, p. 204).

In 1865 the Métis couples of Sandy Ross (Métis) and Catherine Murray (Métis), and William Coldwell (Caucasian) and Jemima Ross (Métis), moved to Toronto after being convinced by brother James Ross to move to "civilization" (Van Kirk, 1985, p. 213). Upon arrival, both couples had been shut out of Toronto's Anglo society, despite the fact that they were wealthy homeowners and successful business people (Van Kirk, 1985, p. 213). Accordingly, and because of homesickness, by year's end Sandy and Catherine headed back to Red River, where they were accepted, while Jemima and William remained in Toronto, and, as noted by Van Kirk (1985), because of "increasing melancholy, Jemima died in 1867" (p. 213).

Apart from the Ross siblings and in-laws, the epoch between 1850 and 1885 sees almost no prominent public Métis citizens of Toronto, except one: their aforementioned brother, James Ross (W. D. Smith, 2003). Ross's history in Toronto is well documented and does not need to be reiterated here. What we do need to note is that after he and his siblings leave, no known Métis are left in nineteenth-century Toronto—half-breeds vanish from the city's historical record (W. D. Smith, 2003; Van Kirk, 1985, pp. 204-205).

Lastly, in 1869, the Métis under the leadership of Louis Riel challenged and defeated the Dominion of Canada during the Red River Resistance, thus securing Manitoba as a homeland province for half-breeds. Riel's win was, however, short-lived as settlers from Ontario flooded Manitoba during the 1870s and drove the majority of Métis westward into Saskatchewan by the 1880s (Dickason & Newbigging, 2010, pp. 181-182). The Red River victory had enraged Anglo-Protestant Toronto, which felt, as expounded by the 22 August 1872 *Globe* article titled "The Metis of Manitoba," that "British Protestant supremacy" was the rightful purveyor of North America and that the mongrel Métis had, just by virtue of opposing Canada, violated British law as well as every Briton who wished to push his fortune in the Northwest. To most Toronto citizens it was unheard-of for "dirty" half-breed "squatters" to challenge the might of Anglo-Saxony, much less defeat it and steal away its "divinely promised" inheritance (Le Metis, 1871). Prime Minister Sir John A. Macdonald was equally enraged as Torontonians at the half-breed triumph, and in an official correspondence addressed to Finance Minister Sir John Rose dated 11 March 1870, he expresses his Métis hatred and what he planned to do to avenge the loss: "It will never do to leave the future Government of the Country [the Northwest] at the mercy of these impulsive half breeds and our object should be to get a Force into the Country [to rule it]" (Berger & Aldridge, 2001, p. 46). Telling indeed, and when the Métis rose up again in 1885 to defend against Canadian settler-state expansion, Toronto's half-breed racism in the press turned dark and dehumanizing. Illustrations of Métis as deranged and violent bison charging Sir John A. Macdonald coloured the pages of *The Toronto Evening News* (*TEN*), and violent poems about "yelping half-breed hell hounds" with calls for their "victorious" slaughter by way of "Gatling guns" graced the pages of *The Globe* (Million, 1885, p. 4; Mulvaney, 1885).

Finally, in the *TEN*, 25 March 1885, in an article simply named "Comments Section," we see the Métis reduced to bumbling alcoholics, a stereotype that lingers to this day: "If Riel's Rebellion doesn't end in a big drunk like his last insurrection some 14 years ago, Col. Williams M. P. and his fellow fire-eaters will not require to go to Egypt . . . [and] Judging by their [Métis] last miserable performance [at Red River], it will be much safer to tackle the Métis than the Sudanese" (Comments, 1885; Fraser & Commito, 2012). Yes, the citizens and press of Toronto believed in 1885 that the Métis were "dirty drunken half breeds" in need of conquering and subjugation by a justified Anglo-Protestant Canada, and in understanding the city's racism we come to see why Toronto's Métis disappeared by the close of the nineteenth century.

In conclusion, while the MNC defines the eighteenth- and nineteenth-century historic homeland of the Métis as territory bordered by Manitoba, Saskatchewan, and Alberta, portions of Ontario, areas of British Columbia, the southern strip of the Northwest Territories, and the north-central United States (Métis National Council, 2014), to the exclusion of the Toronto area, the modern political borders of the MNC's Métis homeland do not accurately represent the historic Métis homeland, which, as has been demonstrated here, was a fluid system of transport and portage routes that stretched across North America and included Toronto. When we look at how Toronto was once an integral part of this river trade system, then track a rise in the city's half-breed racism across the nineteenth century, we see that the Métis were once in the city but disappeared from its historical memory. In the French Regime, we observe Toronto's role in the fur trade where Europeans and First Nations people intermingled. Then, we see the fall of the French and the British takeover of Upper Canada with many proto-Métis active in city life. And, lastly, we follow Toronto's growing nineteenth-century half-breed intolerance and come to understand why no Métis were present in the city after the 1870s. In closing, after much research and reassessment of primary and secondary documents through the process of writing this essay, I was led back to a street that I have walked my whole life, a street of whose importance I was completely unaware, and a street that follows a footpath that is many centuries older than Toronto itself: Yonge Street. And when I began walking the Carrying Place as my voyageur ancestors once did, and saw the land how they would see it—a land connected by waterways and portage routes—I rediscovered Toronto's lost Métis history and came to a conclusion that echoed what an Elder had communicated to me many years previous when I asked her where our people had come from. Her response was: "We are children of the river, the river is our mother, what affects her, so in turn affects us." Just how right she was in her assessment of Toronto's Métis is, from my new historical perspective, astounding.

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[1] This passage is part of a larger communication from Jérôme Lalement to Jacques Dinet, dated 1642, published in Thwaites (1898, pp. 126-265) as "Relation de ce qui s'est passé de plus remarquable en la Mission des Peres de la Compagnie de Jesus aux Hurons pays de la Nouvelle France, depuis le mois de Juin de l'année mil six cens quarante, jusques au mois de Juin de l'année 1641/Relation of the most remarkable things that occurred in the Mission of the Fathers of the Society of Jesus in the Huron country of New France, from the month of June in the year one thousand six hundred and forty, to the month of June in the year 1641."

[2] This passage is part of a larger communication from Étienne de Carheil to Louis Hector de Callières, dated 1702, published in Thwaites (1900, pp. 188-253) as "Lettre du R. P. Étienne de Carheil à M. Louis Hector de Callières, gouverneur. A Michilimakina le 30 daoust [sic] 1702/Letter by Reverend Father Étienne de Carheil to Monsieur Louis Hector de Callières, governor. At Michilimakina, the 30th of august [sic], 1702."

[3] The exception to this is the portion of Louisiana that lay west of the Mississippi, which was ceded to Spain. Spain would administer the territory from afar for the rest of the century and then return it to France, who, in turn, sold it to the United States in 1803.

[4] The *UCG* newspaper makes no mention of the word "half-breed" between the years 1793-1817 (I examined *UCG* literature and found no trace of the word until 1818), which implies that British Upper Canadians did not conceptualize the term until at least 1818 (Tobin, 1993, pp. 10-19).

SANDRA ROY

"Steak, Blé d'Inde, Patates"

Eating national identity in late twentieth–century Québec

This paper explores the connections between pâté chinois *and Québec national identity during the second half of the twentieth century. The respective French, British, and Native roots of the ingredients are highlighted and discussed, with a particular emphasis on socioeconomic and cultural terms that also extends to the analysis of the historical preparation of the layered meal, more akin to "daily survival" than to gastronomy. Special attention is also given to the significance of the dish's origin myths, as well as to cultural references on a popular television series. Those origin myths are separated along the French/English divide, thus evoking the often-tempestuous relationship between these two languages and their speakers in Québec. The progression of the discourse surrounding* pâté chinois, *from a leftover dish prior to the rise of nationalism in the '70s, to a media darling in the decade following the 1995 referendum, corresponds with efforts to define and then to redefine Québécois identity. The history of the dish tells the tumultuous history of the people of Québec, their quest for a unique identity, and the ambiguous relationship they have with language.* Pâté chinois *became a symbol, reminding French Canadians of Québec daily of their Québécois identity.*

INTRODUCTION

As a little girl, *pâté chinois* was my favourite meal—but only my grandmother's version. The classic recipe is simple: cooked ground beef at the bottom, canned corn—*blé d'Inde*—in the middle, mashed potatoes on top, warmed in the oven for a few minutes.[1] Grandma did it differently: she mixed all the ingredients together without putting them in the oven. For her, it meant less work. For me, it meant a better *pâté chinois*. For other Québécois, however, the disregard for the structure

meant that what my grandmother made was not the real thing. Indeed, altering the dish—its ingredients or its layering—is arguably considered sacrilegious. Only renowned chefs are given a license to innovate and still legitimately label their concoction *pâté chinois*.

The true nature of *pâté chinois* came under scrutiny in 2007 when the Montréal newspaper *Le Devoir* asked what should be considered Québec's national dish. *Pâté chinois* was controversially declared the winner. Some said *tourtière*, a meat pie, was more justifiably Québécois. Others saw *pâté chinois* as too proletarian, yet others praised the choice precisely because it was a food of the common people (Deglise, 2007a, 2007b). This passionate debate about a national meal came at a time of enduring political and social debates about Québécois national identity, following two failed independence referendums in 1980 and 1995 (Mathieu, 2001, p. 9). The concurrence of these debates suggests a link and raises many questions: What does the life of this dish tell us about the Québécois people and this national identity crisis? Why is it that a minor change to the recipe tends to be perceived as sacrilegious and dramatically altering the nature of the dish? What can we learn from what is said about this meal?

This paper will argue that in the late twentieth century, *pâté chinois* became a symbol representing, for the French Canadians of Québec, their Québécois identity, a reminder of their tumultuous history, and their ambiguous relationship with language.[2] To demonstrate the changing status of *pâté chinois*—from a simple leftover dish before the rise of nationalism in the '70s to a media darling after the independence referendum in 1995—as well as to understand the significance of the change, we will first look into the material characteristics of the dish. We will then dive into its origin myths and the important signification of these discourses, before trying to appreciate how the meal is understood in Québécois popular culture.

WHAT IS *PÂTÉ CHINOIS*?

First, let us look at what the preparation and ingredients can tell us. Beef, corn, and potatoes are common staples to many cultures, but the ways and the circumstances in which they are used give them different meanings that can illuminate some aspects of the identities of the cultural groups using them (Coulombe, 2002, p. 104).

Québec's traditional cuisine—typically economical and simple, using few ingredients and cooking them slowly (Armstrong, 2011, p. ix)—was shaped by shortage and the harsh conditions of winter. Since French Canadians lived off the land, ingredients had to be found or grown locally, in the family garden or farm. Thus, as in British and Anglo-Canadian cuisine, a typical meal in Québec is composed of a piece of meat with a vegetable and potatoes (Coulombe, 2002, p. 118). Additionally, the growing season is short and the winter long, therefore staple food had to be stretched to last until the next crop, especially as families were large. Dishes called *plats de desserte*, food made from leftovers of previous meals, such as

pâté chinois, were common in Québec. They helped to stretch the family's limited supplies.

While there is some evidence of earlier consumption, it was only after the British conquest of Nouvelle-France in 1760 that potatoes became frequently used. In 1749, Pehr Kalm (1771) found that French colonists did not have a high regard for them (p. 120). When British ingredients supplemented French-Canadian cuisine, however, potatoes made a regular appearance in local cooking (Coulombe, 2002, p. 73). Corn is the indigenous plant that settlers were quick to adopt because it was important to their subsistence in the New World (Warman, 2003, p. 151). In *pâté chinois*, canned corn is used, a product that appeared during the second half of the nineteenth century (Warman, 2003, p. 25). By 1882, Ontarian facilities were indeed canning corn and sending it to Montréal by railway (Lemasson, 2009, pp. 62-63). Already greatly appreciated by the French Canadians, corn was thus made available all year round thanks to technological innovations and industrialization. As for ground beef, it was widely available because of the rise of supermarkets—in Montréal, Dominion opened its first store in 1920 and Steinberg in 1927 (Lemasson, 2009, p. 61). It was the most economical meat since the least tender parts of the animal were used, but it also had a gourmet status from its association with French cuisine and its *Bifteck-Frites, Bœuf Bourguignon,* and *Steak tartare* (Coulombe, 2002, p. 57). The use of ground beef represented a compromise between feeding a family economically and enjoying the luxury of red meat (Lemasson, 2009, p. 61). For these reasons, p*âté chinois* might be said to be a working-class meal.

Both *pâté chinois*' name and its structure have taken on mythological proportions. Authors and chefs are adamant: the structure of *pâté chinois* is unvarying. This unchangeable order, according to Chef Laurent Godbout, is "ce qui permet aux gens de s'y reconnaître" [what makes people recognize the dish][3] (Lemasson, 2009, p. 94). This layering of ingredients, a fundamental element of Québécois cooking, evokes a widely used technique for making foreign dishes feel familiar. For example, spaghetti was described in recipe books at the time of its introduction in Québec as "des rangs successifs de pâtes et de viande hachée, surmontés d'une couche de fromage râpé" [successive rows of pasta and minced meat, topped with a layer of grated cheese] (Coulombe, 2002, pp. 122-123). The name and the origins of the recipe remain a mystery and stimulate the circulation of myths. *Pâté* means pie and *chinois* Chinese. It has no dough, however, so it is not a pie. As we will see later, it has no link to China either. Perhaps the name is simply an example of the minimal influence of foreign dishes in Québec prior to 1960. We can find recipes with foreign-sounding names in local recipe books before then, but they were made with familiar ingredients and structures, and no integration of foreign culinary cultural principles (Coulombe, 2002, p. 95). While there were clear limitations on the availability of certain ingredients, this suggests conflicts between a desire for the exotic and a preference, or need, for the familiar.

Just what was familiar to the Québécois palate? Of the three cultural groups closely associated with Québec history (French, British, First Nations), the French have primarily influenced Québec's cookery. A French dish, *hachis parmentier*, is interestingly similar to *pâté chinois*. It consists of mashed potatoes over ground meat. Surprisingly, the possibility that *hachis parmentier* might be the predecessor of *pâté chinois* is never discussed seriously by researchers. One of the only references is found in the food-based memoir of André Montmorency (1997), a Québécois actor known for his penchant for gastronomy, who presents a personal theory (p. 103). Given the importance attached to the memory of Québec's French roots, we would expect more stories from chefs and scholars connecting the meals together.

The British, who took political and economic control of the colony after 1760, also have a dish similar to *pâté chinois* called shepherd's pie. It consists of layers of ground meat, gravy, and mashed potatoes. Replace corn for gravy, and you have a "Chinese Pie." Interestingly, substituting one ingredient for another was the method most used to bring change in Québec cooking (Coulombe, 2002, p. 121); yet, not only has shepherd's pie never been thought of as a possible forbearer, but the idea of a close identification between *pâté chinois* and shepherd's pie is firmly rejected by Québécois chefs and scholars. In his massive anthology of the history of Québec cuisine, chef and journalist Jean-Marie Francoeur (2011) discards many possible root recipes for *pâté chinois* with a simple declaration: "c'est une variante du *shepherd's pie*" [it's a variant of shepherd's pie] (p. 478). By comparing rejected origin dishes to shepherd's pie, he denies the similarity but also creates an opposition: Francoeur tries to convince us that shepherd's pie and *pâté chinois* are so fundamentally different that one could not possibly be associated with the other. Jean-Pierre Lemasson, professor of urban and tourism studies at the Université du Québec à Montréal, is even more vehement in his rejection of shepherd's pie. Writing lyrically about a tendency to translate the name *pâté chinois* into shepherd's pie, he denounces such "traductions culturellement erronées" [culturally erroneous translations] that not only "brouillent notre identité culinaire" [blur our culinary identity] but sanction "l'idée que ce n'est pas un plat authentiquement Québécois ni une de nos créations culinaires les plus originales" [the idea that it is not a genuinely Québécois dish, nor one of our most original culinary creations] (Lemasson, 2009, p. 100). If what he refers to as the "divin paté" [divine pie] (Lemasson, 2009, pp. 13, 34) is found to have derived from a British idea, it would no longer be Québécois.[4]

WHAT IS SAID ABOUT *PÂTÉ CHINOIS*?

Let us turn our attention to the discourses surrounding *pâté chinois*. In the twentieth century, the dish was talked about in three diverse ways, which seem to correspond to three major periods in the search to define and to redefine Québécois identity. Before the 1970s, the definition of Québécois identity was crystal clear, lived daily, and unspoken. Being Québécois meant being part of a French Catholic family in

Québec (Mathieu, 2001, p. 30). Anybody else living in Québec was Canadian. During the same period, *pâté chinois* was a common food that everybody knew how to make—just like the national identity, it was an everyday, even tacit fact. There was no need to define and to explain the making of *pâté chinois*. Many *plats de desserte*—meals made from leftovers—were found in recipe books, but not *pâté chinois* (Lemasson, 2009, p. 69). To find traces of its existence, we have to turn to newspaper articles. Its first appearance is a mention in *La Presse* on November 19, 1930 where *pâté chinois* is described as an established dish (Francoeur, 2011, p. 414). Historians studying recipe books argue that a recipe starts appearing in books only when it is considered culturally significant (Lemasson, 2009, p. 71). The absence of *pâté chinois* in recipe books therefore suggests that it did not represent a proper Québécois dish *per se*, but rather a simple method of recycling leftovers.

After the Quiet Revolution in the 1960s, many things changed in Québec society and the influx of immigrants was a factor of change.[5] The definition of Québécois identity as being a part of a French Catholic family no longer sufficed, and defining and illustrating Québec's common culture became increasingly important with the introduction of new cultures (Mathieu, 2001, pp. 30-32). In this context of redefinition of identity, *pâté chinois* started appearing in "collections de recette de nos grands-mères" [our grandmothers' recipe collections] (Lemasson, 2009, p. 77). These types of books are repertoires of food heritage organized to represent the past in a way fitting the symbols the people desire to convey at that time (Aubertin & Sicotte, 2013, p. 6). Starting in the 1990s, *pâté chinois* developed a high profile. Within a few decades, it went from common and unassuming to being at the centre of Québec's cultural life, just as the exclusively francophone definition of Québécois culture was being challenged. In the 1980s, the political context in Canada had been leaning toward a valorization of cultural diversity rather than assimilation, but the real moment of realization took place the night of the 1995 Québec referendum to proclaim independence from Canada. When the leader of the separatist movement Jacques Parizeau blamed "l'argent et des votes ethniques" [money and ethnic votes] for the defeat, the locus of Québécois identity needed to be redefined (Mathieu, 2001, pp. 10-11).

In this context, *pâté chinois* became culturally significant, and it first rose to stardom through television. *La Petite Vie* was an extremely popular sitcom that ran from 1993 to 1999 in Québec. The show was a satire of a working-class family. Every Monday night, Francophones of all generations and every class rallied around their televisions to follow the struggles faced by the Paré family. Its success is still unsurpassed today in Canadian broadcasting. In 1995, the episode "Mlle Morin" had an audience of over four million and "Réjean Reçoit" reached 4,098,000 people (Desaulniers, 1996, p. 18). To give some perspective, Québec had a total population of 7,045,080 in 1996, with 5,784,635 people declaring French as at least one of their mother tongues (Statistics Canada, n.d.). On those two occasions, *La Petite Vie* thus reached more than 55% of the entire population of Québec, and about 70% of the French-speaking population.

The whole series centred on two ideas: the relationship with Québécois language and a research and affirmation of identity (Nevert, 2000). We have already discussed these two ideas with regard to *pâté chinois,* a dish that, fittingly, was regularly featured on the show. The character of Thérèse brought *pâté chinois* to the small screens of millions of Québécois every week because she could never remember how to make it. The ingredients and structure had to be repeated to her constantly, less a list of ingredients than a mantra and norm to follow (Nevert, 2000, pp. 93-94). "Steak, blé d'Inde, patates" was the rule, and this expression quickly took hold in pop culture. It is still referenced in Québec today when somebody seems to have trouble with the simplest concept. What *La Petite Vie* did every week was to give the population a shared experience around a dish that has deep roots in Québec experience. The rigidity of *pâté chinois* in the show substitutes for an invariable feature of Québec culture, its language and French heritage, while making fun of the idea that there is an unchanging Québec culture.

As Thérèse can testify, the rule was not very flexible. *Pâté chinois* was required to stay close enough to the original to be recognized. That is why chefs have a hard time bringing glamour to the dish. In his final chapter, Lemasson (2009) discusses how any deviation in ingredients, structure, or name is blasphemous. These "variations hérétiques" [heretical variations] (p. 100) constitute for Lemasson a "détournement culturel, une tentative d'enlèvement symbolique, une prise d'otage avec vol d'identité qualifié" [cultural misappropriation, attempted symbolic kidnapping, hostage-taking with identity theft] (p. 99); however, he does make exceptions for the recipes of seven Québec chefs, and even praises them for elevating *pâté chinois* to the realm of gastronomy (pp. 97-99). As long as the ingredients are from Québec, he makes allowances for changes. Acceptable substitutes for the meats are ham, duck, deer, or *boudin*, a blood sausage common to nations of French heritage. Contrary to Lemasson's earlier diatribes against corn replacements, it is often replaced in the recipes presented, while potatoes rarely are. Meat, identified earlier as the French ingredient, seems to be the least important, while British potatoes are stable. This can be explained by a shift of perceptions about meat and potatoes today. Meat is associated with money, and thus with the English Canadians, while potatoes are associated with impoverishment and the French Canadians (Deglise, 2007b).

The trend started by *La Petite Vie* and chefs caught on. *Pâté chinois* is now featured prominently in books, museums exhibits, and in the press. The readers of *Le Devoir*—a French-Canadian elite newspaper that has been supporting the idea of independence (Charron & Bastien, 2012; Descôteaux, 1999) elected it as Québec's national food, a controversial choice due to the dish's working class roots. By the mid-1990s, *pâté chinois* was increasingly saturating both the common and elite francophone culture daily.

WHAT DOES *PÂTÉ CHINOIS* TELL US?

What was the message and cultural meaning carried by *pâté chinois*? The aim of *Le Devoir,* chefs, and scholars was to create a shared experience and a shared past, to forge a community that would rise above inequalities and differences, and define the limits of that community. In other words, reinforce the nationalist sentiment that had been struggling ever since 1995 (Anderson, 2006, pp. 6-7). This objective is reflected in the circulating myths about *pâté chinois,* which focus on finding the origins of the dish and determining an explanation for its name.

What is Chinese about *pâté chinois*? Nothing other than its name. The most widely propagated theory is that it was fed to Chinese railroad workers in the West by British cooks. This story has been disproven more than once, however. The truth is that these Chinese workers cooked for themselves with ingredients they knew, such as rice, salmon, and tea. They did not use potatoes nor eat beef (Francoeur, 2011, p. 475; Lemasson, 2009, p. 40). Another theory is based on the premise that American statistician Carroll D. Wright once referred to the French-Canadian immigrants as the "Chinois des États de l'Est" [Chinese of the Eastern States] (Francoeur, 2011, p. 478). Clearly, these two unproven theories do not reveal a direct link with Chinese people; rather, they imply a denunciation of the British and American behaviours towards minorities. Lemasson (2009) speculated on many other possibilities for a Chinese connection. All of his suppositions relate to word plays, placing these theories squarely in the realm of the nation's relationship with the French language. He proposes, for example, that *chinois* was used to mock the Catholic Church, which, at the beginning of the twentieth century, was hard at work in its evangelization campaign in China (p. 88). Additionally, the expression "c'est du chinois pour moi" [it's Chinese to me] in the sense of "I find it complicated," is common in Québec.[6] Such use of antiphrasis is habitual in Québec. Some have seen a link there, because the dish is not complicated to make, although searching for *pâté chinois*' origin and history is shrouded in mystery (Lemasson, 2009, p. 87).

As for stories of a French origin, there are few. As discussed previously, *hachis parmentier* is not considered as a predecessor. One theory supposes that *pâté chinois* was first eaten in the Nouvelle-France town of Lachine as early as the mid-seventeenth century. The town's name came in mockery of the land owner's intent to find an inland passage to China (Francoeur, 2011, pp. 480-484); however, there is no proof of the existence of the dish in Lachine in the seventeenth century. Another theory suggests that *pâté chinois* evolved from *tourtière*, a meat pie. In his book, Francoeur (2011) explains that *Chine* evokes *échine*, or "chyne" in English. The word refers to cuts of meat from the back of animals used in *tourtière*. The crust of the pie would have disappeared, replaced by earthenware because of the rising price of flour at the end of the nineteenth century. Potatoes would have been added to complete the meal and corn would have replaced other vegetables during a period of famine (pp. 490-494). It is worth mentioning that these two theories are rather recent and

are not integrated into the folklore. They point to a conscious effort made to find and protect French origins.

The myths of an Anglo-Saxon origin for the dish are more varied. The best known, first reported by the linguist Claude Poirier (1988), links *pâté chinois* with the town of China in Maine. He stated that Americans knew the dish under the name China Pie. The town of China was in an area of high French-Canadian immigration, leading Poirier to believe that the Québécois appropriated the dish and brought it home. Lemasson (2009) rejects this theory, however, and posits *pâté chinois* as a creation of French Canadians exiled in New Hampshire, rather than a dish recuperated from the Americans (pp. 50-51). Contrary to Maine, he claims that New Hampshire had sufficient numbers of French Canadians working in the mills to sustain the propagation of the dish beyond the state. Although Poirier suggests a French-Canadian appropriation of a New England dish, the emphasis put on the high French-Canadian immigration hints again at an effort, shared by Lemasson (2009), to avoid asserting an Anglo-Saxon origin to *pâté chinois*.

After examining the origin myths of *pâté chinois* and its three possible influences (Chinese, Anglo-Saxon, and French), a clear pattern emerges. Firstly, the theories related to Chinese people need to be folded into those of Anglo-Saxon origins. The railroad worker story, while disproven, holds strong because it tells the story of a food that was forced upon the Chinese, seen as inferior and treated bleakly by the British. The Québécois also feel they were the victims of exploitation and bad treatment by the British and Anglophones of Canada (Létourneau, 2004, p. 108). Secondly, the French theories are of two kinds: those linking to European-French origins, and those highlighting particularities of the Québécois French language. Finally, what we learn from the Anglo-Saxon theories, or rather *how* those theories are discussed in Québec, is a resistance to defining the dish's Anglo-Saxon elements, reflected in a strong emphasis of the Québécois roots of the meal.

As we have seen, *pâté chinois* reflects and strengthens the Québécois identity. From an ordinary food, it became a trendy king, part of the collective popular imagination of Québec, disseminating its message for all: we are one, we are French-speaking (Aubertin & Sicotte, 2013, p. 153). This constant reminder came at a time when the foundations of Québécois identity were shaken and there was a need to reinforce weakened social bonds, which is one of the primary purposes of patrimony (Aubertin & Sicotte, 2013, p. 5). Perhaps when my grandmother was making *pâté chinois* not as a layered dish with well-divided ingredients, but as an integrated whole, she was not just making life easier for herself. Maybe she was imagining a new idea of Québécois identity, more attuned to what people wished for after the 1995 referendum, instead of what they got: variations of the same old francophone identity.

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[1] *Blé d'Inde* is a term commonly used to refer to corn in Québec. The name is said to originate from the beliefs held by sixteenth- and seventeenth-century colonizers who had reached India. While the term is now rarely used in the rest of the Francophone world, where the word *maïs* [maize] is typically preferred, many Québécois have held on to this particularism.

[2] In the context of Québec, the terms "French Canadian" and "Québécois" have been generally used to refer to French-speaking residents of the province. The difference guiding their use is both historical and political. "French Canadian" has been used since the British Conquest to refer to the French-speaking population living in Canada. The use of *Québécois* became more prominent in the twentieth century as the Québec identity and sovereignty movement took shape.

[3] All translations are mine.

[4] The First Nations have given French Canadians ingredients to cook with, but native dishes are not part of the common Québécois culinary repertoire.

[5] Prior to 1960, the province was under the tight conservative control of Premier Maurice Duplessis (Union National Party) and the Catholic Church. The sixties saw the election of the Liberal Party which oversaw the liberalization of society, culture, and politics, as well as a fast secularization. The economy moved from a survival to a growth mode.

[6] "C'est du chinois pour moi" is analogous structurally and semantically to the common English expression "it's Greek to me."

SOMAYYA SALEEMI

Mild Traumatic Brain Injury, Dementia, and Exercise

Increasing white matter integrity in the brain

Numerous studies have been carried out on mild traumatic brain injury (mTBI) and its treatment plans. This review covers the history of mTBI, differential diagnosis of the injury, and post-concussion syndrome (PCS). Furthermore, it explores the relationship between mTBI and aging, dementia, and Alzheimer's disease and how exercise relates to changes in white matter in the human brain. From the reviewed literature, it is possible to see the relationship between mTBI injury and white matter: mTBI may lead to structural changes in white matter fibre tract integrity. Exercise can be used to respond to cases of mTBI as it encourages the formation of new connections between neurons along with an increase in the production of new neurons. Aerobic exercise can lead to the replacement of damaged white matter as well as increased cognitive performance. This review demonstrates the possibility of using exercise to treat cases of PCS through white matter repair.

INTRODUCTION
Annually, about 18,000 Canadians experience a traumatic brain injury (TBI) that requires them to be hospitalized for treatment and monitoring (Brain Injury Centre Canada, 2011). In addition, there are 1.3 million Canadians who live with deficits acquired as a result of TBI (Brain Injury Centre Canada, 2011). The majority of these cases are reported as resulting from motor vehicle accidents, falls, and assaults often in urban areas. Overall, TBI led to spending about $151.7 million on treatment and care in the years 2000 and 2001 (Brain Injury Centre Canada, 2011).

DIFFERENTIAL DIAGNOSIS OF mTBI
According to Giza and Hovda (2001), a mild traumatic brain injury (mTBI) is a transient neurologic dysfunction that results from biomechanical force. Loss of

consciousness is a clinical hallmark of mTBI or concussion but it is not needed to make a diagnosis. The symptoms that are likely to be considered in the differential diagnosis may include confusion, dizziness, disorientation, headache, and visual disturbance (Giza & Hovda, 2001).

The diagnosis of cases of moderate or severe brain injuries is normally self-evident. Problems arise, however, when other life-threatening injuries that require immediate attention are present, such as physical trauma to other parts of the body: in these situations, the brain injury is normally missed (Giza & Hovda, 2001). While most physicians are familiar with mTBI management, there is difficulty in diagnosing and treating mTBI owing to the subtlety of deficits (Arciniegas, Anderson, Topkoff, & McAllister, 2005).

Diagnosis can involve brain imaging techniques such as computerized axial tomography (CAT), positron emission tomography (PET), and magnetic resonance imaging (MRI). To help clarify certain deficits, follow-up evaluation by physical, speech, and occupational therapists may be necessary (Giza & Hovda, 2001). Furthermore, differential diagnoses should involve consideration of other neurologic and psychiatric disorders (Giza & Hovda, 2001). The effects of negative expectations on cognitive performance in head injury, known as diagnosis threats, and development disorders should both be taken into consideration during the diagnosis of mild traumatic brain disorder (Suhr & Gunstad, 2002).

Lastly, carrying out a differential diagnosis of mTBI requires the understanding of the effect of concussion on brain metabolism. Henry et al. (2011) explored this and revealed that concussion leads to neurometabolic impairment, especially in the prefrontal and the motor cortices.

POST-CONCUSSION SYNDROME

Chen, Johnston, Collie, McCrory, and Ptito (2007) define post-concussion syndrome (PCS) as the continued occurrence of symptoms following mTBI. PCS symptoms include fatigue, headache, light-headedness, attentional and memory deficits, irritability, anxiety, and depression. The duration of symptoms is one of the key criteria for the clinical assessment of mTBI, however it is important to note that post-concussion symptoms are self-reported and are not always specific to concussions. The usefulness of PCS in the assessment of cerebral concussion remains unclear given that such symptoms are non-specific in nature and a large percentage of the normal population report identical symptoms in the absence of a history of concussive injury (Chen et al., 2007). There is a strong need for better-defined criteria and validated assessments of PCS. One way of doing this is by correlating self-rated PCS scales with other objective assessments, such as those provided by neuropsychological tests.

mTBI AND WHITE MATTER INTEGRITY

White matter consists of millions of bundles of axons (nerve fibres) that link neurons in distinct brain regions into functional circuits (Fields, 2010). The white colour comes from the insulation that encloses axons, called the myelin sheath. Myelin is necessary for the efficient and high-speed conduction of electrical impulses (Fields, 2010). Damage to white matter can weaken signal conduction and as a result can impair sensory, motor, and cognitive functions.

The relationship between white matter integrity and mTBI has been studied and is well documented by various researchers. Investigation by Gao and Chen (2011) on the morphologies of spared neurons in the cortex after mTBI reveals that mTBI leads to limited tissue lesions and cell death. However, mTBI causes widespread, significant synapse degeneration in the cortical neurons that are spared. This widespread loss disrupts neural circuitry leading to neurologic dysfunction. Thus, for proper diagnosis, treatment, and management of mTBI, it is important to detect neuron damage in cerebral white matter after TBI (Bazarian et al., 2007).

It is well known that mTBI leads to long-term cognitive and emotional difficulties along with behavioural disturbances (Gao & Chen, 2011); however, the lack of direct evidence-based neural correlates of the disorder has largely hampered treatment and diagnosis of mTBI. Unlike severe TBI, mTBI does not lead to significant tissue lesions or cavities in the cortex. Furthermore, neuro-imaging through magnetic resonance has always produced negative results, indicating that the damage is beyond the resolution of current scanning technologies (Gao & Chen, 2011).

Researchers and clinicians have attempted to use several tools (e.g. MRI and CAT) to study the damage caused to white matter, but these tools have not been sufficient. According to Cubon, Putukian, Boyer, and Dettwiler (2011), most athletes who experience mTBI experience rapid onset of short-lived neurological impairment without structural changes as measured using MRI and CAT. Indeed, researchers have recently reported that lesions to white matter tracts are underdiagnosed when using conventional imaging techniques (Inglese et al., 2005). Diffusion tensor imaging (DTI) has provided a solution to this problem. DTI is an objective tool that can be used to assess severity and recovery functions after a concussion. It involves assessing the white matter fibre tract integrity (Cubon et al., 2011). Diffusion tensor changes are a sign of brain damage. A way to measure these changes is by using an analysis called tract-based spatial statistics (TBSS), which can evaluate axonal injury of the white matter skeleton by effectively detecting structural changes from mTBI (Cubon et al., 2011).

SIMILARITY TO AGING, ALZHEIMER'S DISEASE, AND DEMENTIA

Dementia is a general term used to describe loss of memory as well as other human intellectual abilities. This loss normally interferes with one's daily life. The most common form of dementia is Alzheimer's disease (Tremblay et al., 2013). Another

term known as mild cognitive impairment (MCI) has also been used to refer to the form of dementia that does not interfere with one's daily life. The greatest known risk factor of this disease is aging. Indeed, adults over 65 years of age comprise the majority of the patients with this disease. According to Tremblay et al. (2013), Alzheimer's disease normally worsens over time. In the early stage, memory loss is the main symptom, but in the later stages, patients normally experience loss of other intellectual abilities. Numerous studies have been conducted to establish the relationship between Alzheimer's disease and mTBI with several showing that older adults who have had cases of mTBI are more likely to exhibit brain changes that are suggestive of Alzheimer's disease (Jellinger, 2004; Van Den Heuvel, Thornton, & Vink, 2007; Tremblay et al., 2013). A study by Tremblay et al. (2013) on the correlation between cognitive decline in late adulthood and sports concussions sustained in early adulthood revealed physical brain anomalies in otherwise healthy former athletes. The researchers posited that these anomalies were a result of earlier mTBI and, therefore, suggested that mTBI may result in cognitive decline later in life. These patterns of decline are often associated with abnormal aging in those without history of mTBI (Tremblay et al., 2013). In a meta-analysis of seven case-control studies, Mielke et al. (2014) found that those who sustained an mTBI without loss of awareness were significantly more likely to develop MCI later in life. This risk increase was significant even after adjustments for education, alcohol consumption, and familial history of Alzheimer's disease.

Other studies have looked at amyloid-beta deposition, which is a key post-mortem indicator of Alzheimer's disease. According to Jellinger (2004), both human post-mortem and non-human experimental studies show amyloid-beta deposition after head injury. This has been confirmed in a recent study by Mielke et al. (2014).

EXERCISE AND WHITE MATTER INTEGRITY

Apart from the known benefits of exercise such as a reduction of cardiovascular disease risks and the strengthening of muscles and bones, exercise has been used in the management of Alzheimer's disease to benefit the brain (Tremblay et al., 2013). Specifically, it is used with the intention of improving memory performance and other cognitive functions while also delaying the onset of the disease.

According to Baker, Freitas, Leddy, Kozlowski, and Willer (2012), increased blood flow to the brain may trigger biochemical changes that lead to the production of new connections between neurons as well as the production of new neurons. Exercise appears to protect newly formed neurons by triggering the release of a nerve growth factor. This facilitates the formation of functional connections with neurons in proximity (Leddy, Kozlowski, Fung, Pendergast, & Willer, 2007). Importantly, exercise has been shown to contribute to the development of white matter for both new and aging neurons.

Numerous animal studies have indicated that exercise has several benefits beyond neurogenesis (Leddy et al., 2007). Some of these benefits include an increase in the production of neurotransmitters and angiogenesis, which is the development of new blood vessels. A meta-analysis conducted by Leddy et al. (2007) showed that training increases the cognitive performance of individuals between the ages of 55 and 80. This is an age group that is often associated with low levels of cognitive performance due to aging (Jellinger, 2004). Another meta-analysis demonstrates that exercise boosts cognitive performance through fitness training for adults over 65 years who suffer from cognitive impairment as a result of dementia (Jellinger, 2004). Furthermore, physical activity has been used to enhance neurogenesis for the management of Parkinson's disease and dementia (Jellinger, 2004).

According to Leddy et al. (2007), however, patients with post-concussion symptoms should not be involved in exercise due to the potential re-emergence of symptoms. On the other hand, extended rest may also lead to PCS patients experiencing deconditioning and secondary effects, including depression. Leddy et al. (2007) further suggest that PCS may be reduced by the patients' being submitted to aerobic exercise.

Studies investigating rehabilitation programs also indicate that progressive exercise treatment helps in reducing PCS symptoms by aiding the flow of blood in the brain (Baker et al., 2012). Patients put under an exercise regimen have reported increased cognitive performance compared to their counterparts who are not involved in training. Another example in a rehabilitation setting is a study by Riggs et al. (2016) that explored neurocognitive outcomes of exercise in children. Their study utilized DTI to examine exercise outcomes in children who were treated with radiation for brain tumours. The intervention was found to increase recovery from the radiation-induced side-effects. Radiation makes the brain unable to produce new brain cells, including white matter. The inability of the brain to produce new cells has, therefore, caused some cancer patients who are treated by radiation to lose memory and cognitive ability. The study suggests that exercise helps prevent post-radiation treatment memory decline by increasing blood flow to the hippocampus, a brain structure used in learning, navigation of space, and memory. The duration of these exercises and the exercise routines, however, need to be selected and planned with great care to prevent an exacerbation of symptoms.

CONCLUSIONS, LIMITATIONS OF CURRENT RESEARCH, FUTURE DIRECTION
This paper highlights the relationship between mTBI and white matter. It further reveals the possibilities of using exercise to treat the effects of mTBI. There is a need for further studies on the exact mechanism through which exercise repairs white matter that is destroyed due to mTBI. Future studies should take advantage of DTI to help isolate specific locations where exercise enhances neurogenesis. Future

studies should also attempt to measure the outcome of aerobic exercise interventions on the white matter integrity in patients and athletes who have had one or more concussions.

Finding parallels between white matter changes in patients with dementia and in patients with mTBI can not only lead to the development of novel interventions to treat lingering PCS symptoms that follow mTBI, but also help advance the understanding of the underlying neural mechanisms that lead to white matter atrophy in both patient populations.

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The Origin of Emotion

Determining conscious processing of the facial feedback hypothesis

The facial feedback hypothesis states that sensory feedback from the contractions of facial muscles can influence mood. Researchers have demonstrated this effect, but have not been able to determine whether it occurs consciously or unconsciously (Dimberg & Söderkvist, 2011; Mori & Mori, 2010; Strack, Martin, & Stepper, 1988). The proposed study will determine if the facial feedback effect can occur through unconscious processing alone, allowing psychologists to better understand how the mind-body connection affects human emotion. The facial feedback effect will be viewed as changes in mood, which will be measured on scales using results from self-report questionnaires and emotional ratings of neutral photographs (Crawford & Henry, 2004; Libkuman, Otani, Kern, Viger, & Novak, 2007). Unconscious processing will be evaluated by using topical anesthetic to prevent a group of participants from feeling which of their facial muscles are being stimulated. Previous research has found little difference between individuals enacting the facial feedback effect using entirely conscious and semi-conscious techniques (Strack, Martin, & Stepper, 1988; Mori & Mori, 2009). Therefore, this study predicts that facial feedback effects are determined by unconscious processing and that strong facial feedback effects should be evident even when participants are not aware of the facial stimulation.

Keywords: psychology, facial feedback hypothesis, cognition, cognitive processing, consciousness, emotion, treatment, depression

The idea behind the facial feedback hypothesis was first conceptualized by Charles Darwin, who suggested that the expression and repression of emotions can, respectively, intensify and dampen feelings (1872). Building on this foundation, William James (1890) proposed that emotions arise from the perception of bodily changes, and that if no changes are felt, thoughts remain purely rational. However, these ideas were not elaborated upon until nearly a century later, when Silvan

Tomkins (1962) re-conceptualized the facial feedback hypothesis to allow for empirical testing: "the face expresses affect, both to others and the self, via feedback, which is more rapid and more complex than any stimulation of which the slower moving visceral organs are capable" (p. 205). This foundation continued to evolve into our current understanding of the facial feedback hypothesis: "skeletal muscle feedback from facial expressions plays a causal role in regulating emotional experience and behaviour" (Buck, 1980, p. 811). Studying this phenomenon can help us understand the origins and function of human emotions, as well as provide insight into how we form thoughts and judgments (McIntosh, 1996).

Many of the early facial feedback hypothesis experiments were aimed at defining the concept's theoretical boundaries. A seminal review of key experiments was done by Ross Buck in 1980 to determine whether the facial feedback hypothesis was a between-subjects phenomenon based on the emotional expressiveness of particular people, or a within-subjects effect that is situation-dependent but can affect everyone. Buck focused on two studies for his analysis. In the first, participants were repeatedly given electric shocks and told to exaggerate their pain, maintain artificial calm, or act naturally; skin conductance and subjective ratings of pain were found to vary significantly between the three groups (Lanzetta, Cartwright-Smith, & Kleck, 1976). In the second study, participants were asked to view and rate pictures while flexing facial muscles associated with smiling or frowning; their ratings determined that expressed emotions significantly influenced assessments of neutral stimuli (Laird, 1974). An analysis of these results led Buck (1980) to conclude that the facial feedback hypothesis was a within-subjects phenomenon that was consistent across individuals.

However, it was also noted that the methods used by the two studies were flawed (Buck, 1980). The principal weakness in Lanzetta's 1976 study was the possibility of demand characteristics, which could have resulted from participants being asked to express specific emotions. Laird's 1974 study attempted to control for demand characteristics by using deception to get participants to flex facial muscles without directly asking them to smile or frown. However, the results he obtained may nevertheless have been due to participants' ability to recognize and connect the contraction of their facial muscles to the corresponding emotions. While Laird opted to reinterpret conscious processing as the actual *modus operandi* of the facial feedback hypothesis (1974), other psychologists did not share this opinion and attempted to restructure their studies to eliminate the possibility of conscious processing (Buck, 1980; Izard, 1981; Winton, 1986; Adelmann & Zajonc, 1989).

These researchers attempted to build upon the technique of asking participants to suppress, exaggerate, or show normal emotional responding by disguising the purpose of asking participants to express emotions (Kraut, 1982), asking participants to display only parts of facial expressions (Rutledge & Hupka, 1985),

and using physiological tests to measure bodily changes instead of relying on self-reports (McCanne & Anderson, 1987). These new approaches were highlighted by a pivotal experiment that attempted to bypass conscious processing by drawing participants' attention away from their facial muscles through clever misdirection (Strack, Martin, & Stepper, 1988). In this study, participants were told that the experiment was evaluating the difficulty people without hands had performing everyday tasks. They were given pens and asked to fill out a questionnaire that included the funniness rating of a cartoon, which was used to judge the facial feedback effect. Participants were then divided into three groups. The two test groups held their pens using their lips, which contracted the orbicularis oris muscle and created a frown, or their teeth, which contracted the zygomaticus major and risorius muscles and created a smile. The control group held their pens in their non-dominant hands. As predicted, results showed significantly more positive ratings of the cartoon when the participants inadvertently smiled. Additionally, this study effectively dealt with demand characteristics: "without an explicit probe, the participants expressed no suspicion about the study's purpose" (Strack, Martin, & Stepper, 1988, p. 773). In fact, the methodology of this approach appeared so sound that for the next two decades, studies would continue to test the facial feedback hypothesis using objects held in participants' mouths (Larsen, Kasimatis, & Frey, 1992), bandages that put pressure on their foreheads (Mori, & Mori, 2009), and elastics that pulled on key facial areas (Mori, & Mori, 2010). Unfortunately, while tests for demand characteristics did show that participants were not aware of the purpose of these studies, their emotional states may still have been influenced by connecting muscular contractions to the corresponding emotions. That is, these studies did not demonstrate whether the facial feedback hypothesis was driven by conscious processing of muscular feedback or by unconscious mechanisms.

Nevertheless, most researchers—satisfied with this new methodology—ventured instead into the study of new areas of facial feedback that included genuine versus forced smiles (Soussignan, 2002), the feedback effects of complicated emotional responses like crying (Mori & Mori, 2007), and previously untested emotions like surprise (Bermeitinger et al., 2013). Other psychologists were interested in determining whether facial feedback effects were sufficiently strong to induce an emotion that was entirely absent or whether these effects could only serve to intensify or temper existing emotions (Zajonc, Murphy, & Inglehart, 1989). One study that considered these possibilities examined a patient with a rare case of bilateral facial palsy, which caused facial paralysis (Keillor, Barrett, Crucian, Kortenkamp, & Heilman, 2002). The patient revealed that her ability to experience emotions was in no way affected by her condition. Testing using images from the International Affective Picture System (IAPS) (Bradley & Lang, 2007) led researchers to conclude that the facial feedback effect can only serve to modify existing emotions, not create new ones (Keillor, Barrett, Crucian, Kortenkamp, & Heilman, 2002).

This study served as an inspiration for a highly innovative exploration of the facial feedback hypothesis that used the paralyzing effects of botulinum toxin (BOTOX) to test whether the absence of afferent signals from facial muscles to the brain would diminish emotional states (Davis, Senghas, Brandt, & Ochsner, 2010). Using fMRI scans, the study determined that amygdala and brainstem activation in participants that were asked to imitate emotional expressions was significantly lower following BOTOX injections, indicating a strong facial feedback effect. While the aim of this study was to reaffirm that the facial feedback hypothesis only serves to modulate existing emotions, it also inadvertently served as a basis for determining whether the effect is driven by conscious or unconscious processing. Because the BOTOX rendered participants unable to feel their facial muscles contract, the study seemed to indicate that the facial feedback is interpreted unconsciously. However, the flaw in this study was its reliance upon asking participants to mimic specific emotions, thus reintroducing the possibility of demand characteristics and conscious processing.

The current proposal builds upon this research to determine whether the facial feedback effect occurs consciously or unconsciously, while at the same time eliminating the possibility of demand characteristics and participants' ability to feel their facial muscles contracting. Additionally, to determine the universality of the facial feedback effect, the proposed study would encompass several emotions and a diverse group of participants. Due to the ethical constraints of injecting key areas of participants' faces with BOTOX—the effects of which can last for months (Davis, Senghas, Brandt, & Ochsner, 2010)—as well as safety concerns arising from potential nerve damage and scarring (Coté, Mohan, Polder, Walton, & Braun, 2005), this study will instead use an effective combination of short-acting topical anaesthetics. To eliminate the demand characteristics that may result from asking participants to display specific emotions, it will rely upon neuromuscular electrical stimulation (Maffiuletti, Minetto, Farina, & Bottinelli, 2011) and instructions that portray the study as measuring the relationship between muscular tension and self-reflective thinking.

Since previous research has consistently demonstrated the facial feedback effect in participants with both high and moderate cognitive processing potential (Strack, Martin, & Stepper, 1988), this study predicts that facial feedback effects are governed largely by unconscious processing. As a result, it is expected that there will be no significant difference in emotional ratings of neutral images and emotional self-reports between the control group, which will be able to consciously feel their facial muscles being stimulated, and the test group, which will not. If, on the other hand, the control group shows a significantly greater facial feedback effect, it would suggest that the facial feedback effect involves some degree of conscious processing. It is not expected that the control group will show less of a facial feedback effect than the test group.

METHODS

Participants

The participants will be 144 York University undergraduate psychology students fulfilling their degree requirements (York University, 2013a).[1] Nonprobability quota sampling will be used to mediate recruitment costs while ascertaining external validity of the results across races and genders (N = 144; 72 males, 72 females; 48 participants of African descent, 48 of Asian descent, 48 of European descent).[2] Equal numbers of males and females will be used for each racial subset.

Apparatus and materials

This study will use a neuromuscular electrical stimulation (NMES) device (Maffiuletti, Minetto, Farina, & Bottinelli, 2011) to stimulate participants' facial muscles, and a topical anaesthetic to manipulate their ability to feel the stimulation. The NMES device will be a Hasomed Rehastim 2, which is often used in modern NMES studies (Vidaurre et al., 2013). In accordance with therapeutic facial stimulation procedures, the device will be programmed to produce electrical impulses at 50 Hz, in 4-second bursts (Vrbová, Hudlická, & Centofanti, 2008). Test group participants will have a cream containing 20% benzocaine, 6% lidocaine, and 4% tetracaine applied to their faces. These compounds have proven effective for inducing facial anaesthesia (Oni, Rasko, & Kenkel, 2013) and are safer than other topical anesthetics (Chowdhary et al., 2013).

Measurement of the facial feedback effect will be conducted using a pictorial test of affect and a self-report questionnaire. The pictorial test will consist of 20 neutral images from the International Affective Picture System (IAPS) (Bradley & Lang, 2007), which will be rated by participants on numerical scales of happiness, sadness, or anger ranging from one to five. These emotions were chosen as they have reliably produced the facial feedback effect in other studies (Mori & Mori, 2010; Strack, Martin, & Stepper, 1988). IAPS has proven to have high reliability of emotional and neutral ratings of its images (Libkuman, Otani, Kern, Viger, & Novak, 2007). The self-report questionnaire used to supplement the pictorial test results will be the Positive and Negative Affect Schedule (PANAS), which is a list of 20 emotions with corresponding numbered scales also ranging from one to five (Watson & Clark, 1994). Studies have confirmed that PANAS has high external and construct validity (Crawford & Henry, 2004).

The Mood and Anxiety Symptom (MASQ) questionnaire (Keogh & Reidy, 2000) will be used to determine if the administration of the topical anaesthetic increases anxiety or negative affect in participants, which could contribute to increased emotional responding in the latter tests. The possibility of demand characteristics will be evaluated using the Perceived Awareness of the Research Hypothesis (PARH) scale (Rubin, Paolini, & Crisp, 2010), which has been shown to effectively demonstrate if participants are aware of deception (Allen & Smith, 2012).

Experimenter bias will be controlled for by employing a quasi-double-blind design where neither the participants nor experimenters will be aware of which emotion is being induced in which participants (the electrodes will be attached and removed by a separate experimenter), but will be aware of control and test groups due to the transparency of the anaesthetic's numbing effects. Since the questionnaires and rating systems used in this study will be numeric, no training will be required for experimenters to interpret the results. However, to ensure procedural integrity, experimenters will receive training in the use and calibration of the NMES device, as well as physician-supervised practice in the correct placement of the facial electrodes and administration of the topical anaesthetic.

Procedure and design
This study will obtain approval for all medical equipment and experimental procedures and will comply with the ethical standards of the American Psychological Association (American Psychological Association, 2010) and the York University Human Participants Review Committee (York University, 2013b). All participants will arrive at the laboratory individually and be given instructions that attempt to prevent them from focussing on their emotions. They will be told that the study aims to measure the relationship between muscular tension and self-reflective thinking and that the device attached to their faces operates by sending and receiving electrical impulses, which may create a tingling/tensing sensation. They will then sign a consent form that will reaffirm these instructions, outline that no identifying information will be collected in order to ensure their privacy, and explicitly state that they can withdraw from the study at any time without losing credit for their participation.

Participants will be assigned (matching for race and gender) to a test group, which will have a topical anaesthetic applied to their faces to "minimize distraction from the electrical sensations," or to a control group, which will be given a regular face cream portrayed as a "conductor gel" and told to ignore the electrical sensations.[3] After the anaesthetic and cream are applied, participants will be asked to fill out the MASQ questionnaire to determine whether the effects of the facial anaesthetic are creating any additional anxiety in the test group, which may heighten emotional responding. Participants in both control and test groups will then be assigned (again matching for race and gender) to receive NMES of either: 1) the zygomaticus major muscles associated with smiling and happiness; 2) the depressor anguli oris muscles associated with frowning and sadness; or 3) the orbicularis oculi and orbicularis oris muscles associated with a furrowed brow and anger (Waller, Cray, & Burrows, 2008).[4] All participants will be led to a private room, where they will sit in a relaxed position with the NMES device stimulating one of their three muscle groups. After one minute of stimulation, a projector will begin to cycle through the twenty neutral IAPS photographs, allowing thirty

seconds for the participants to evaluate and rate each one. After the cycle is complete, participants will fill out the PANAS questionnaire to rate their overall affect and the PARH questionnaire to control for guesses of deception. All participants will then be debriefed about the true nature of the study and will sign a second consent form to reaffirm their agreement for their results to be kept and analyzed. They will also be asked to sign a pledge not to discuss the experiment with other students so as not to hamper experimental integrity.

This 2x3 between-groups design will examine two independent variables: 1) ability of participants to feel their facial muscles being stimulated; and 2) placement in the smiling, frowning, or brow-furrowing conditions. There will be 24 participants (matched on gender and race) in each of the six groups.[5] The main effects and interactions will be measured with an Analysis of Variance, with the significance level set to alpha = .05 for all statistical tests. The dependent variable will be the facial feedback effect, measured by comparing the groups' affect scores on the IAPS picture ratings and on the PANAS questionnaire.

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[1] The number of participants was chosen to mirror samples from previous facial feedback hypothesis studies (Dimberg & Söderkvist, 2011; Mori & Mori, 2010) and to facilitate segmentation of participants into matched groups based on participant variables.

[2] While nonprobability sampling can lower external validity, two factors have influenced the decision to use this method: 1) this study will approximate the samples of previous facial feedback hypothesis research, which used university student participants (Mori & Mori, 2010; Strack, Martin, & Stepper, 1988), and 2) this study will examine unconscious processing of the facial feedback hypothesis, which is unlikely to be influenced by education level. The limitation of homogeneity of age within this sample cannot reasonably be avoided with current resources.

[3] Before either the anaesthetic or the inactive cream is administered to participants' faces, it will be applied to the inside of their forearms for 10 minutes to test for any allergic response; if a response manifests, participants will be discharged from the study, receiving full credit for their participation.

[4] Repeated measures will not be used to avoid testing effects and carryover of previous affect to other conditions.

[5] The participant variables of race and gender, while used to increase validity during participant selection and group design, will not be statistically analyzed to maintain viable group sizes and avoid a complex four-factor design.

ALEX GAGE

"That Place Where the Wave Finally Broke and Rolled Back"[1]

Modernism and adolescent psychological development

Modernism represents the crisis of opportunity: a period of liminality brought about by intense and sustained changes in technology and society is accompanied by an unbalancing expansion of possibilities for the individual in this new and mutable landscape. Understanding this unprecedentedly unpredictable world required contemporaries of the modern era to develop a correspondingly "modern" consciousness. We can deepen our understanding of this process by drawing analogies to adolescent psychological development—a period in the individual's life that serves as a more-than-apt analogue for exploring the historical period of Modernism. Using the archetype of "modern man" as observed and represented by German author Johann Wolfgang von Goethe in his metaphorically sensitive parable, Faust, as a launching point, it is possible to identify corollary developments in the history of Modernism and the modern subject and adolescent psychological development.

The analysis of Modernism involves a healthy dose of understanding crisis and conflict in the dialectical sense. At the level of the individual, writers like Marshall Berman (1988) have identified a phenomenological entity in the *modern subject*, who exists in a constant state of becoming as they seek to develop a coherent sense of identity and belonging on the shifting sands of the modern world (p. 5). The overriding paradigm is that the restructuring of the modern world, opposed to that of its ridged predecessor, the Gothic, coincides with the potentiality for an *expansion of consciousness*. The acquisition of this broader and liminal *modern consciousness* marks the metamorphosis of the subject from recognition as a unit of being to one of

becoming; this constitutes its modern pedigree. Here, both the structure of society and the available roles within it expand. Meanwhile, existing roles either undergo change or are pruned away. The crisis of modernity, then, revolves around the dialectic of old, new, and the multiple potentials for the new, bringing about the struggle to establish the changed relationships of the subject, both internal and external.

The crisis of modern consciousness—a consciousness of becoming—is in one respect a crisis of development—a keystone of Modernism itself. There is a similar stage of an aggravated subject becoming dialectic during human psychological development: that of adolescence. It may very well be that the *modern period* is the stage at which Western civilization engaged with the issues confronted during individual adolescent development on the civilizational scale. Therefore, it may be possible to gain a more thorough understanding of the expansion of consciousness and resultant experiences of crisis within modernity by examining the degree of analogy present between Modernism and the experiences of the modern subject, and those of adolescent psychological development.

First, however, the recognition of adolescence itself and the understanding of psychology as a scientific field are both products of modernity. Before going any further, it is important to clarify one aspect of the relationship between modernity and adolescence: the adolescent experience as it is contemporarily known is essentially only possible in the modern world. Particularly, the imposition of mandatory education and training needed to navigate the modern world during adulthood (literacy, technical skills, etc.) allows for an extension of the *psychosocial moratorium*, where the subject has few responsibilities and is able to engage a creatively exploratory stage of developmental experimentation with different roles and personalities: the pursuit of self-discovery (Steinberg, 2011, p. 260). This is made possible in an industrialized society by the creation of wealth and mass availability of leisure, particularly in connection to the growth of the middle class. Moreover, to reiterate, the industrial world necessitates this period of suspended responsibility and identity in order for the subject to acquire the knowledge required to sustain its complex organization. Such a trial period is simply not necessary or profitable in an agrarian society—it would in fact be detrimental. It is a mistake, however, to assume that the process of adolescent development in and of itself is dependent upon the modern world. A chicken-and-egg debate would be fruitless. The psychological processes during adolescent development are effects of the human brain's hardwiring that predate Western civilization itself. For this reason, Freud (1930/2010) commented that "we cannot fail to be struck by the similarity between the process of civilization and the libidinal development of the individual" (p. 74), surrounding an argument on the necessity of sublimation of the libidinal instinct within the prevailing social order. In context of the proposed framework for this paper, Modernism did not create adolescence, but rather is sympathetic to such

development. This accounts for modernity's ability to support and expand the process of adolescent development in a way that was not possible in previous eras.

A reconnaissance into the matter by the comparison of several facets of the adolescent's development against a number of modernist texts seems most effective as a way of breaking the soil. At least it is as good a place to open up the field as any, since the texts employed can be read as examples of the modern consciousness—as possessed by their composers—trying to express itself. Consider the methodology as a neurologist probing different areas of the (collective) brain to measure its response. A logical point of entry then would be to look to some of the changes in cognition brought about during adolescence and to see if they can be identified within the texts. Among these, Goethe's *Faust* will serve as the primary example based on Berman's (1988) conclusion that its protagonist may serve for an archetype of modern consciousness on both individual and civilizational levels (pp. 38-39).

Adolescents undergo five primary changes in cognition (Steinberg, 2011, p. 58). These changes are not to be understood as sequentially dependant but rather as broad facets of a simultaneous, interrelated process. Though there is insufficient space here to address all five of these areas of change, central to the adolescent's expansion of consciousness is the change from dealing with the world in terms of the concrete to thinking about the possible: "What is real [becomes] just a subset of what is possible" (Steinberg, 2011, p. 58). This destabilization of absolutes is completely necessary for adolescents' ability to capitalize on the opportunities of the *psychosocial moratorium* as it allows for the conception of *possible selves*[2] and for a shift towards a *future orientation* (Steinberg, 2011, p. 247).[3] Goethe's *Faust,* composed over six decades (1770-1831) that, as Berman (1988) observes, witnessed the transition into the *modern era* (p. 39), reflects just such a shift in cognition.

Berman (1988) writes, "Goethe's hero and the characters around him experience, with great personal intensity, many of the world-historical dramas and traumas that Goethe and his contemporaries went through; the whole movement of the work enacts the larger movement of western society" (p. 39). He observes in Faust what he calls the "desire for development" (p. 39), a *dynamic process* that will assimilate all modes of human experience as a part of Faust's own personal growth (p. 40). In the Faustian metaphor, this desire for development functions on both the individual and civilizational level. Faust's personal development is doubled by his interaction with and influence over the world around him—a sort of industrialized pathetic fallacy. He invokes the modern age as a means to enable his further personal development.

The *psychosocial moratorium* arrives in the form of Mephistopheles, who offers Faust the freedom from responsibility. He provides Faust with money, allowing him to abandon his occupation without concern for supporting himself; magical powers to make action of Faust's will; and, most importantly, the time for the already-middle-

aged Faust to experiment with his newly opened desires and potential in the form of a youth-restoring potion (Berman, 1988, p. 40). The middle-aged once again becomes the late adolescent, or scarcely older.[4] Berman's (1988) analysis identifies Faust experimenting with three possible selves. He begins as "The Dreamer": a scholar and paragon introvert (pp. 41-50). With the self-assurance of youth and the resources of Mephistopheles at his command, Faust transforms himself into "The Lover": a personality contrived in his desire to be someone irresistible to the lovely Gretchen (pp. 51-60). The final Faust is that of "The Developer": Berman's ultimate modern figure, whose function in the allegory is to take Faust's internal dialectic of possibilities and create an external world in that image (pp. 61-71), where individuals will be "*tätig-frei*," essentially 'free-to-action' (Berman, 1988, p. 66), in a community that does not require "the repression of free individuality in order to maintain a closed social system"; as a consequence, "the process of economic and social development generates new modes of self-development, ideal for men and women who can grow into the emerging new world" (p. 66).

Goethe draws together the conquering of unchanging nature and overcoming the stagnant Gothic consciousness through Faust's massive infrastructure projects: building dikes, draining marshes, erecting homes, and constructing a new community to reflect this value of development. Faust literally builds the modern world on the moral blueprint of his own thirst for personal development; it is a relentless upscale of his own *psychosocial moratorium*. The modern world is not free of responsibilities, but it is freed from the important responsibility of tradition, which heretofore has ruled society: "This is the highest wisdom that I own, / The best that mankind ever knew; / Freedom and life are earned by those alone / Who conquer them each day anew" (Goethe, 1832/1961, pp. 467, 469, as cited in Berman, 1988, p. 65). Not only is Goethe's modern man free to confront and change the world around him, he is free to transform *himself* anew each day. The Faustian ideal is freedom of the subject to match the mutability of a dynamic world that fosters an inner growth in tandem with external development.

All three personalities—Dreamer, Lover, and Developer—are not created by Faust's moratorium but are aspects of his self. His modern consciousness allows him to imagine the possibilities of each and to explore the different roles therein, though he is never confined to one or the other. The adolescent brain undergoes a process of *synaptic pruning*, trimming down unneeded pathways in the brain while strengthening those more used to increase its efficiency (Steinberg, 2011, p. 69). In the same way, Baron Haussmann's boulevards connected one end of Paris directly to the other; in the process, many of the existing labyrinthine medieval street networks were demolished. Faust likewise preserves and prunes aspects of these personalities or modes of cognition towards shaping an evolving integrated self. Though his tragedy is that he fails to complete the process and is in due course destroyed, there is enough to go on for a brief and simplified example of this process.

As The Dreamer, Faust desires a way in which to grow towards the ultimate potential of his being and at the same time to unify or to reconcile this rich and dynamic inner life with the outside world. But his focus has been the inner journey. Metamorphosed into The Lover, he turns outward to pursue external relationships. His romance with Gretchen can easily be seen as an attempt to join aspects of his former inner life (lust, love, striving, yearning) and outer life by attaching these emotions and desires to another human being. Quickly, Faust discovers this alone to be insufficient. He abandons his role as The Lover and adopts that of The Developer, preoccupied again by his initial lust for limitless personal growth, which would naturally be limited by the selection of a personality as specific as The Lover. His new role provides an alternative means of satisfaction for his drive to bridge the inner/outer divide by expressing himself via industrial development, which, as already described above, serves his potential for inner growth. The interpersonal path of The Lover no longer seems necessary to Faust and is pruned away. Berman (1988) notes, "He has finally achieved a synthesis of thought and action, used his mind to transform the world" (p. 65). Indeed, according to Steinberg's (2011) text, agency—in the sense of feeling that one has influence over one's life and environment; that one is not helpless to circumstance—is one of the definitive characteristics in attaining a coherent sense of identity (p. 263). Faust's journey is, in one regard, a quest for agency.

During adolescence, the subject shifts from perceiving the world in absolute terms to a world of relativities (Steinberg, 2011, p. 63). This can extend to the point where "once adolescents begin to doubt the certainty of things that they had previously believed, they may come to believe that everything is uncertain, that no knowledge is completely reliable" (p. 63). It is therefore necessary to test everything while previous boundaries dissolve. For example, the values taught by the adolescent's parents and practiced in society can come to be seen as completely relative, perhaps anachronistic (p. 63). It is even possible to conceptualize Faust's design for the modern world as the adolescent mind's struggle for identity made manifest. Why then did Faust ultimately succumb to a fate not much different from that of poor Gretchen, whom he leaves behind?

There are two potential ways to answer this question. One reading is simply that as The Developer, Faust achieves his full potential and has no more reason for being in the modern world, one that he has created much in his own image. Berman (1988) seems to think so and says that the tragedy of Faust as The Developer lies with the irony that, with the triumph of the modern over its predecessor, there is simply "nothing left for him to do" (p. 70). According to Erik Erikson's seminal theories on adolescent development, "the adolescent's identity is the result of a mutual recognition between the young person and society: The adolescent forges an identity, but, at the same time, society identifies the adolescent" (as cited in Steinberg, 2011, p. 259). In that case, Erikson and Berman agree: Faust has potentially crossed the threshold of adolescence into adulthood. He is to himself "Faust, The Developer"

and society recognizes him as such. He has achieved his full potential within the moratorium; therefore, within the modernist dialectic of creation and destruction, his death as an adolescent signifies his birth into the world of adulthood—at the very least, his exit from the adolescent world.

In this discussion, however, such an answer oversimplifies matters. Engels (1880/1999) called the modern world's becoming state as part of "the process of evolution of man himself" (p. 697) and described its present form as a series of escalating crises until the point at which "this circle . . . gradually narrowing . . . becomes more and more a spiral, and must come to an end, like the movement of the planets, by collision with the centre" (p. 707). The dialectic of becoming as creation and destruction, and its consequences for the subject, have been worked over by many of the writers already featured. Baudelaire (1855/1965) puts it perhaps most resonantly:

> a system is a kind of damnation which forces one to a perpetual recantation; it is always necessary to be inventing a new one, and the drudgery involved is a cruel punishment. Now my system was always beautiful, spacious, vast, convenient, neat and, above all, water-tight; at least so it seemed to me. But always some spontaneous, unexpected product of universal vitality would come to give the lie to my childish and superannuated wisdom—that lamentable child of Utopia! (p. 123)

And so, "progress takes the stage with a gigantic absurdity, a grotesqueness which reaches nightmare heights. The theory can no longer be upheld" (p. 127). This is Baudelaire's critique of social progress; its systematization and dismantling is not so different from the continuous conjuring and dismissing of possible selves and associated value systems with which the adolescent grapples. The irony he touts being that "progress" by this model is self-defeating, requiring one to continually begin anew; it is difficult to recognize what is gained. With this, it is time now to return attention to the crisis of Modernism, which, for the subject, delineates a crisis of identity.

Erikson's theoretical framework of an adolescent crisis of *identity versus identity diffusion* (Steinberg, 2011, p. 261)[5] addresses this pattern of coalescence and crisis. He identifies one of the threats to a stable sense of identity (Steinberg, 2011, p. 248)[6] as that of *identity foreclosure*, which is when an individual establishes a fixed sense of identity before having the opportunity for sufficient role experimentation (Steinberg, 2011, p. 261). A healthy sense of identity is never fully resolved once and for all but is open to revision throughout life. The *psychosocial moratorium* is a violently concentrated performance of this practice as, ideally, the subject is free to build up and tear down personalities to suit their needs, striving towards an elusive sense of self (Steinberg, 2011, p. 264). The modernists' sometimes-utopian quest for

progress, shares in this violent concentration and carries with it similar hazards, such as what Baudelaire describes above as the trap of systematization that cuts off progress unless one is willing to smash it down and start fresh. Baudelaire, in effect, is also issuing a warning against *identity foreclosure*.

Returning to Faust as an archetype of the modern, the second possible answer to my earlier question is that Faust The Developer is destroyed when he becomes trapped in a state of *identity foreclosure*. Faust makes his deal with the devil; it is a contract signed in his own blood. Their arrangement depends on the condition that, in exchange for Mephistopheles's services, Faust agrees "That all my striving I unloose / Is the whole purpose of the pact," and that "as I grow stagnant I shall be a slave" (Goethe, 1832/1961, pp. 187, 185). In other words, the moment he rests in his development, he is condemned as a slave to Mephistopheles. Faust traps himself in the same systematization that Baudelaire describes and thereby cuts off his own potential for growth as The Developer: "The word dies when we seize the pen, / And wax and leather lord it then" (Goethe, 1832/1961, p. 187). Faust has already rewritten the opening of the Book of John as "In the beginning was the Deed." Substituting "Word" for "Deed," he imagines himself in the image of a God "who defines himself through action, through the primal act of creating" (Berman, 1988, p. 46). Goethe connects the Word and the Deed in such a way as to represent Faust's struggle to reconcile his inner life with the outer world. Faust's modernist ideal is to make the Word (the inner experience and self) the Deed (expression through action that will make the Word exist in the outer world). But when the Word dies on the pen, and is so mummified in the binding of a book or the bind of a written and signed contract, how can the Deed not be similarly bound? Remembering that Faust has chosen to define himself by deed, he has hereby signed himself into a state of foreclosure once he achieves his original target identity.

Admittedly, identity is a somewhat ambivalent example. Gretchen too is the victim of *identity foreclosure*. However, in her case it is not a product of a Faustian deal, but rather its supposed antithesis: tradition. A paradox like this highlights another complication of this study, since psychological development issues and modernity are not mutually exclusive. Modern consciousness is rife with impending self-contradiction and the becoming dialectic itself is, in fact, reliant upon the clash of such oppositions and the joining of the paradoxical. It is worth a moment, then, to probe into further detail.

Faust awakens within Gretchen's modern consciousness (Berman, 1988, p. 53), yet, unlike Faust, Gretchen does not have the advantage of a *psychosocial moratorium*. She is still locked in the traditional world of the Gothic: denounced by her brother, shunned by her neighbours, crushed by morality, confined by the courts, and sentenced to die (Berman, 1988, pp. 55-56). Where Faust rejected the old world's available roles and its notions of virtue, Berman (1988) notes that Gretchen instead chooses to uphold the old values to an unsustainable extreme (p. 58). Faust

throws the Gothic halo to the ground whereas Gretchen burns it out in an extraordinary display. Faust will do the same later when he inexorably achieves his own destruction, blinded by the glow of the halo placed over the head of The Developer. Clearly, *identity foreclosure* is not an obstacle exclusive to the modern world; however, it is a major issue as a threat to modern consciousness that is constantly redefined by "progress."

There is then the possibility that the proposed consonance between Modernism and adolescence may actually have paradoxical properties of amplification. On the one hand, civilization is grappling with the same or similar issues confronting growth, survival, and gratification as the adolescent. That would suggest that the historical context of modernity presents adolescents with increased opportunities of development. On the other hand, if society functions in a state of adolescence or, at the very least, advocates an extended *psychosocial moratorium*, then there is the possibility that the social necessity that would provide a major impetus to resolve the adolescent identity crisis may be absent. On the contrary, a stable society might depend upon its subjects' inability and complete disinterest in developing past a certain point of early adolescence and therefore curb their opportunity to define themselves as subjects to their optimum potential.

In his introduction to Nietzsche's panegyric to the Faustian modern man, *Thus Spoke Zarathustra*, Walter Kaufmann (1982) makes the following observation:

> often painfully adolescent emotions distract our attention from ideas that we cannot dismiss as immature at all. For that matter, adolescence is not simply immaturity; it also marks a breakdown of communication, a failure in human relations, and generally the first deep taste of solitude. And what we find again and again in Zarathustra are the typical emotions with which a boy tries to compensate himself. (p. 106)

This offers a line of inquiry towards part of the dialectic between marginality and agency, which can pose as a barrier to development. The marginal figure is a common trope among modern literature: Faust (and the Devil for that matter); the revolutionaries of Zamyatin's *We*; Tonio Köger, Thomas Mann's poet of mixed geographic and class origin who is at home nowhere; the proletariat of Marx and Engels, estranged from labour and thereby from themselves; Bazarov, the nihilist in *Fathers and Sons*; Shelly's Dr. Victor Frankenstein; and, of course, Nietzsche's Zarathustra, among many others.

Steinberg's (2011) text identifies adolescence as a marginal period. Adolescents are separated from adults and many times "are prohibited from occupying meaningful roles in society and therefore experience frustration and restlessness" (p. 15); additionally, "that marginality is an inherent feature of adolescence because adults always control more resources and have more power than young people" (p.

15). The terms "adolescent" and "adult" could easily be substituted for "proletariat" and "bourgeoisie," respectively, and Steinberg's argument would begin to sound a lot like Marx's. A certain degree of this marginality should be noted as necessary to the *psychosocial moratorium* since "meaningful roles" and the control of powers come with the consuming responsibilities of managing them. Without a certain marginal status, adolescents would lack the freedom to question and to experiment outside of the existing social values and roles. At the same time, the responsibility is an experience itself and crucial to development. Should it be withheld completely or for too long, the danger of a sort of *mass adolescence* approaches as eventually the frustrated and restless adolescent learns to sublimate their desires more or less successfully within adolescent liminality and forfeits their agency, disengaging from the dialectic—and thereby perpetuating an unresolved state—of identity crisis.[7]

By now this appraisal of the characteristics of development in modernity and adolescence has taken on the nature of a knife-edge: boundless potential along the straight and narrow—but to the left lies the snare of *identity foreclosure* and, to the right, a mausoleum of liminality. So be it; in the words of Zamyatin's dystopian protagonist D-503, "a knife is the most permanent, the most immortal, the most ingenious of all man's creations. The knife was a guillotine, the knife is a universal means of resolving all knots, and the path of paradox lies along the blade of a knife—the only path worthy of the mind without fear" (Zamyatin, 1924/1993, p. 113). The knife is the path of the French Revolution; it is the technology that split the atom and unlocked the Pandora's box of nuclear energy. For D-503, it is the path for the mind without fear. What he never thinks to ask is if the mind without fear is the proper mind to make the final call.

That is perhaps one of the defining relationships between Modernism and adolescence: the willingness to walk the knife's edge, to make the Faustian bargain, to seek experience to fill the gaps left by cold reason. *Behavioural decision theory* does not recognize these types of judgement calls as the product of madness, as Doctor Frankenstein would blame for his compulsion under which he created a monster. Nor would its theorists agree that they constitute the path of the mind without fear.[8] *Behavioural decision theory* understands the risk-taking of adolescents, quite often to fulfill the urge for *sensation seeking* (Steinberg, 2011, p. 84), to be the result of a calculated process (Steinberg, 2011, p. 82). Put simply, when adolescents evaluate the risks and rewards of a potentially dangerous course of action, they often tend to weigh the rewards more heavily than the potential dangers (Steinberg, 2011, p. 83). If there is something to be gained in experience, it is worth the risk—and even if it proves foolhardy, it is worth it just to know. This is an eerie echo of the nineteenth-century ethos of progress for progress's sake, in which pushing the boundaries of discovery inherently advanced the human race. It is the same naivety that, as Berman (1988) declares, led the Italian Futurists to sing:

of great crowds excited by work, by pleasure and by riot; . . . of multi-colored, polyphonic tides of revolution in the modern capitals; . . . of the nightly fervour of arsenals and shipyards blazing with violent electric moons; greedy railway stations that devour smoke-plumed serpents; factories hung on clouds by the crooked lines of their smoke; bridges that stride the rivers like giant gymnasts, flashing in the sun with the glitter of knives; adventurous steamers . . . deep chested locomotives . . . and the sleek light of planes (Marinetti, 1909/1973, p. 22, as cited in Berman, 1988, p. 25)

Though in the early twenty-first century we are generally labelled as a "post-modern" society, or even at a post-post-modern stage, the becoming dialectic is an intrinsic human experience and one that has only come upon broader vistas of even greater unknown quantity at the civilizational scale. Psychologists recognize that the identity crisis of adolescence is never fully resolved but is a living process, and even that adolescence in the neurological sense continues on several years into adulthood (Steinberg, 2011, p. 71). The perspective herein argued should be seen as a way of not only further understanding the crisis of the modern subject, it should be considered as offering an alternative approach to addressing the crisis in which Western Civilization still finds itself, and into which it may possibly still be sinking deeper. While it is impossible to predict the future with any certainty, a thorough understanding of a process—to which I have aimed to contribute—is the surest method to confidently decide on a means of influencing it that will affect the intended positive result. This does not answer, however, the bigger question of what a positive result is, and what is an acceptable means of attaining it.

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[1] Thompson, 1998, p. 67.

[2] "Possible selves": "The various identities an adolescent might imagine for him- or herself" (Steinberg, 2011, p. 247).

[3] "Future orientation": "The extent to which an individual is able and inclined to think about the potential consequences of decisions and choices" (Steinberg, 2011, p. 247).

[4] This disruption of the linear correspondence between age and growth is like that which I suggest of civilization. At any "age" a civilization may experience an analogous process to any given stage of individual human development. The order is not set.

[5] "Identity diffusion": "The incoherent, disjointed, incomplete sense of self characteristic of not having resolved the crisis of identity" (Steinberg, 2011, p. 261).

[6] "Sense of identity": "The extent to which individuals felt secure about who they are *and who they are becoming*" (Steinberg, 2011, p. 248).

[7] Though I am not equipped to comment thoroughly, at this point in time I feel obligated to mention that a prolonged state of mass-moratorium sounds very similar to how Ortega y Gasset (1930/1994) described the disposition of "the masses."

[8] Studies show that adolescents are no more likely to underestimate potential risk factors than adults; younger adolescents tend to *overestimate* the involved risk (Steinberg, 2011, p. 83).

SERGEY MAZURITSKY

The Downside of the Web

Compulsive internet use, empathy, and altruism

Reliance on the internet can become problematic, and can therefore be related to deficits in pro-social behaviours and the associated cognitive and emotional processes. This research examined the relationship between compulsive internet use, empathy, and altruistic behaviours. It was hypothesized that a positive correlation would exist between measures of empathy and altruism, and a negative correlation between compulsive internet use and both of the measures of pro-social behaviour. A survey study was conducted that compared scores on the Compulsive Internet Use Scale, The Toronto Empathy Questionnaire, and the Self-Report Altruism Scale. Participants were 161 York University students with a mean age of 22; 65% were female. Results support the three hypotheses, indicating the existence of a significant correlation, as predicted. Implications regarding workplace practices and quality of life are discussed.

INTRODUCTION

Reliance on the internet has significantly increased over the past two decades. Statistics Canada (2010) indicates that the percentage of daily users grew from 63.7% in 2005 to 75.1% in 2009. This represents an increase of 11.4% in a span of just four years, and it can be inferred that the percentage of daily users is much higher today. Similar trends are observed in the Netherlands where more than 80% of adolescents between the ages of 12 and 25 use the internet every day, with 97% reporting using the internet at least once a week (Bethlehem, 2005).

Compulsive internet use is a phenomenon that is characterized by individuals becoming overly attached to the use of the internet, which results in psychological, social, and professional dysfunctions (Meerkerk, 2007). This concept is relatively young and is still being explored by a great number of researchers. The literature refers to this construct as compulsive internet use, internet addiction, pathological

internet use, problematic internet use, internet dependency, and excessive internet use. These constructs are synonymous with one another, with only slight variations in how the phenomenon is measured. For the purpose of this paper, this construct will only be referred to as compulsive internet use (CIU).

Meerkert (2007) provides a functional definition of CIU in terms of the traits and behaviours that are present. CIU involves a loss of control, meaning that individuals spend more time online than intended despite previous attempts to stop. Compulsive internet users also become preoccupied with the internet, which is exhibited by thoughts about the internet when offline, or by preferring to engage in online activities instead of offline activities. Compulsive internet users also tend to use the internet as a coping mechanism or mood modifier to relieve negative states. Lastly, CIU is marked by conflicts with significant others due to internet use, which are accompanied by guilt and remorse (Meerkert, 2007). Studies have found that at any given time 4% to 8.1% of university students could be considered compulsive internet users (Morahan-Martin & Schumacher, 2009).

Current research indicates that a relationship exists between CIU and several psychological and behavioural constructs. For example, Caplan (2005) suggests that there is a relationship between CIU and a lack of various subsets of social skills. Engelberg and Sjöberg (2004) corroborate this finding by concluding that those considered compulsive users lack the emotional and social characteristics of high emotional intelligence. At the core of these findings is the claim that increasing dependence on the internet cuts off users from genuine social relationships and interactions, ultimately having an adverse effect on their ability to socialize effectively in natural face-to-face interactions.

A major component of effective interpersonal communication is the ability to experience empathy. Empathy is an emotional component where individuals have the ability to experience the emotions of others. It also has a cognitive component, in which individuals deliberately attempt to decentre themselves from a normally ego-centred perspective to take on the perspective of another (Davis, 1994). Taken together, this construct allows individuals to better assess and interpret the intentions of others, thereby increasing the accuracy of their communications and social interactions.

Current literature shows that mirror neurons, which are important components in the development and maintenance of our ability to experience empathy, are primarily activated during direct face-to-face interactions (Iacoboni, 2007). Due to the fact that computer use replaces the time involved in face-to-face interactions, it also reconfigures the neural networks responsible for controlling empathy and one-on-one social skills (Blakemore & Chowdhury, 2006; Nie & Hillygus, 2002). Furthermore, McEwen (2008) states that stress from prolonged internet use reconfigures neural networks in the hippocampus, amygdala, and prefrontal cortex, which control mood, thought, and empathy. Therefore, it can be said that CIU can

have negative effects on interpersonal skills by affecting one's ability to experience empathy.

Another interesting finding indicates that CIU in adolescents is related to an increase in anti-social behaviour and a decrease in pro-social behaviour. According to Ma, Li, and Pow (2011), pro-social behaviours usually involve sharing, cooperating, helping, feeling empathy, and caring for others in the form of altruism. Altruism is defined as actions that are not motivated by an external reward or by an avoidance of punishment that improve the wellbeing of others at a cost to oneself (Davis, 1994). Interestingly, the most frequently proposed explanation of altruistic behaviour is attributed to a heightened sense of empathy. It is presumed that if someone is in need, empathetic emotions, which include sympathy and compassion, become distinguished from the more self-oriented emotions of discomfort and anxiety. The empathy-altruism hypothesis maintains that feelings of empathy "evoke motivation with an ultimate goal of benefiting the person for whom the empathy is felt" (Batson & Powell, 2003, p. 474).

It seems clear that a relationship exists between empathy, altruism, and a great host of positive aspects ranging from overall well-being and quality of life to an individual's emotional intelligence and ability to establish meaningful relationships. Furthermore, there seems to be a reciprocal relationship between CIU and a variety of these interpersonal skills and pro-social behaviours. From one side, there is evidence suggesting that exposure to digital media, including the internet, reconfigures neural pathways that are responsible for interpersonal skills; from the other, there is evidence supporting the hypothesis that people with certain traits or dispositions are more likely to engage in CIU. Regardless of the approach to the question, it seems likely that there exists a relationship between CIU and traits such as empathy and altruism.

Because research is lacking on these specific types of associations, the goal of the present study will be to investigate these relationships. Three hypotheses are tested: 1) individuals who report greater empathy will also report a greater tendency to engage in altruistic behaviour; 2) compulsive internet use will be associated with lower levels of altruistic behaviours; and 3) compulsive internet use will be associated with lower levels of empathy.

METHOD

Participants

One hundred sixty-one participants were surveyed from January to February 2014. All of the participants were from York University, located in Toronto, Canada. Of the studied sample, 105 (65%) were female and 56 (35%) were male. The ages of the participants ranged from 18 to 44, with a mean age of 21.6 (SD = 3.49). The mean year of study at the university was 2.97 (SD = 1.30), with the exclusion of one

participant that did not report this information. All of the participants were anonymous and were chosen at random from the general campus population.

Materials

The Compulsive Internet Use Scale (CIUS) developed by Meerkert (2013) consists of 14 questions regarding personal internet use. It is answered on a five-point Likert scale, which assesses the frequency with which the subject engages in such scenarios, ranging from "Never" to "Very Often." Total scores on this measure ranged from 0-56, with higher scores indicating greater compulsive internet use. According to Meerkert (2013), the items on this scale tap into the loss of control associated with internet use, preoccupation with the internet, withdrawal symptoms associated with not using the internet, using the internet to cope or to modify mood, and conflicts in daily life due to the use of the internet. The reliability of this measure was high (α = 0.89).

The Toronto Empathy Questionnaire (TEQ), developed by Spreng, McKinnon, Mar, and Levine (2009), consists of 16 items that are measured on a five-point Likert scale. The items ask the participants to identify how the statement applies to themselves, ranging from "Never" to "Always." Scores ranged from 0-64, with higher scores indicating a more empathetic disposition. This scale mostly targets the emotional aspects of empathy; however, cognitive components are also present. Emotional aspects refer to empathetic concern for others, while cognitive components emphasize the ability to take on perspectives of others and predict others' behaviour or mental state (Spreng et al., 2009). This measure was found to have high reliability (α = 0.87) as well as high validity.

The Self-Report Altruism Scale (SRA) was developed by Rushton, Chrisjohn, and Fekken (1981) and consists of 20 items. Participants are asked to rate the frequency with which they engage in the altruistic behaviours using a five-point Likert scale ranging from "Never" to "Very Often." Scores ranged from 0-80, with higher scores indicating a greater frequency of altruistic behaviours. The developers of the SRA note that the score on this test allows a better-than-chance prediction in terms of the subject's future behaviours, and was corroborated by numerous studies involving peer ratings of the subject, as well as a variety of other pro-social values. The internal consistency of this measure was high (α = 0.89).

Procedure

This was a correlational study which followed a survey-based design. Each participant received a package of the questionnaires that they were asked to complete. The order of these tests was counterbalanced using a Latin square design, so that neither the order of the tests nor participant fatigue would influence the scores on one test over another. The questionnaire packages were preceded by a consent form and a one-page general demographic questionnaire. The complete packages

were distributed to students at York University who volunteered their time to complete them. Participants were sought out at various parts of the Keele Campus including, but not limited to, Vari Hall, Central Square, and Curtis Lecture Halls.

Questionnaires were manually graded using scoring keys that were unique to each questionnaire. This was done so that each participant would have a final, quantifiable score associated with each questionnaire. Scores were not dichotomized to represent distinct groups in relation to the constructs. All of the scores existed on a continuous scale, with the minimum and maximum scores being represented by the total spread of the questionnaire. These scores were then analyzed using SPSS software to determine the strength and significance of the correlations.

RESULTS

Scores on the CIUS had a mean of 21.81 (SD = 11.02). The TEQ yielded a mean of 45.77 (SD = 8.55). Lastly, the SRA produced a mean score of 34.95 (SD = 12.24). All of the questionnaires produced a natural bell-curve distribution.

A Pearson correlation was used to examine the relationship between altruism, empathy, and compulsive internet use. Scores on TEQ were significantly correlated with scores on the SRA, r(159) = .34, p < .01. Scores on the CIUS were significantly negatively correlated with scores on the SRA, r(159) = -.22, p < .01. Lastly, scores on the CIUS were significantly negatively correlated with scores on the TEQ, r(159) = -.32, p < .01. The effect size was measured using Cohen's conventions of interpreting the Pearson correlation. All of the correlations established a medium effect size.

Discussion

The results of the study provide support for all three of the hypotheses being studied. It was found that individuals who tend to have high levels of altruistic behaviour are also likely to be highly empathetic. It was also found that CIU was negatively related to measures of both altruism and empathy.

The relationship between empathy and altruism was a result that supports the empathy-altruism hypothesis. The ability to understand and share the feelings of another appears to be an important aspect in one's motivation to act in a selfless manner. It is important to note, however, that while the empathy-altruism hypothesis postulates that altruistic behaviours will be motivated toward the subject for whom empathy is felt, this research cannot bridge that gap. Therefore, the results of this study only point to the relationship between one's empathy and the likelihood of altruistic behaviour in a general manner.

The finding that compulsive internet use was related to decreased levels of empathy and altruism was also expected, as current literature points toward this link. Although it cannot be deduced whether CIU reconfigures neural networks responsible for empathy and altruism or that individuals low on these qualities are

more likely to engage in CIU, it is still an interesting and significant finding that establishes a link that has previously been unexplored in the literature.

Limitations

The social-desirability bias could have influenced the results of this study. Since constructs such as empathy, altruism, and CIU require taking a stance that might be viewed unfavourably by others, respondents may have answered in a socially desirable manner that may not have been truly representative of themselves. Furthermore, because respondents volunteered their time to participate in the study without any evident gain to themselves, this behaviour could be considered altruistic in itself. Following the empathy-altruism hypothesis, this also means that participants may have experienced some empathy towards the researcher that motivated their decision to participate. Both this experience of empathy and the engagement in an altruistic act may have put the participants in a frame of mind that is more favourable in regard to these constructs. This could have led them to evaluate their levels of empathy and altruism as greater than what they truly are.

The definition of CIU may have also influenced the result. The questionnaire asks participants to rate a variety of items as they relate to personal use of the internet, meaning outside school or work, without distinguishing between the different types of activities in which they may be engaging. Some researchers argue that certain internet behaviours are beneficial while others are not (Ma, Li, & Pow, 2011). Scores on the CIUS may be skewed by instances in which respondents were referring to positive internet behaviours because this distinction in the measure is vague.

Lastly, it is important to note that a convenience sample of York University students was used for this study, thus a generalization with reference to the overall population cannot be made. Also, because the study was correlational in nature, the directionality of the relationship between these constructs cannot be established.

Implications and Future Research

Research by Asthana (2009) has shown that dispositions of empathy and altruism, amongst other things, are key components of one's subjective experience of happiness and overall quality of life. Furthermore, these dispositions are also related to greater overall health and longevity (Post, 2005). Throughout the literature these constructs are always defined in a positive manner, whether it is in relation to the individual exhibiting them or the effect that they have on the community. These constructs are ultimately related to one's overall well-being and are beneficial to society as they are a major part of pro-social behaviour on a general level.

As mentioned earlier, empathy plays a major role in one's overall emotional intelligence (Engelberg & Sjöberg, 2004). Empathy is related to both the verbal and the non-verbal sensitivity of others' intentions in communication (Davis, 1994). This capacity to understand another's point of view is, for Mullen (2009), a "critical

element to moral reasoning, ethical sensitivity, social influence, and the development of healthy interpersonal relationships" (p. 2023). The author also notes, "organizations (and professions) dependent on building trust-based relationships with members of other organizations may have an increasingly hard time getting new members to engage outsiders face-to-face" (p. 2010). This is because internet-mediated communication is on the rise, with face-to-face interactions becoming rarer over time. Mullen (2009) concludes that those who have an over-reliance on computer-mediated communication may be ill-suited for high-trust professions involving the establishment of face-to-face relationships.

Because research has shown that empathy and altruism are important characteristics of individuals that are high in emotional intelligence, and that these individuals are more likely to be selected for a variety of organizational and professional positions, measures of CIU could be used as meaningful predictors of these traits (Davis, 1994; Mullen, 2007). Therefore, the CIUS could be used as a selection tool in the recruitment and selection process for jobs that require interpersonal, face-to-face communication.

Another implication of this research pertains to the overall quality of life that is associated with individuals high in CIU. It has been established in previous studies that one's happiness, life satisfaction, and longevity are all related to dispositions of altruism and empathy (Asthana, 2009; Post, 2005). Taken together with the findings of the current study, as well as with Blakemore and Chowdhury's (2006) research, which indicates that over-exposure to digital media changes the physiological functioning of neural pathways responsible for empathy, it could be hypothesized that interventions aimed at reducing compulsive internet use could have a therapeutic effect in enhancing one's quality of life.

This research calls for a development of an intervention program that would assist individuals considered compulsive or problematic users of the internet through the increase of pro-social behaviours. Furthermore, this intervention program would serve a dual purpose of enhancing pro-social tendencies and decreasing maladaptive internet use. The effects of such an intervention could be hypothesized to increase satisfaction with life as well as enhance traits related to emotional intelligence that could aid with employment.

Future research should also attempt to establish a causal relationship between one's levels of empathy, altruism, and CIU. This would allow for a more direct representation of these relationships and would aid in the formation of the kind of intervention program mentioned above. Furthermore, it would be important to investigate variations in these constructs that are a result of generational differences. The present study was not representative of the population as a whole because the evaluated sample had a mean age of 22. It would be interesting to investigate the relationships of the CIU in different age groups, and to compare them to the results in this cohort.

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JULIEN COSSETTE

#OccupyGezi

On Twitter and affective news

On the dawn of May 31, 2013, Istanbul's riot police raided Gezi, a park recently occupied by activists standing against the threat of its destruction. On social media, pictures of the bloody police intervention went viral, sparking outrage and a political momentum that materialized throughout the country in the form of protests against the national government. Taking as a point of departure my personal experience of the events, this essay examines the use and effects of Twitter in the context of particular forms of civilian protests. In particular, I suggest that such tweets may contribute to the development of an affective environment that can foster a collective sense of belonging, association, and shared experience. First, I discuss media censorship of the initial protest in Istanbul. I then proceed with a discussion of the affective connotations of the messages and photographs shared on Twitter. In this regard, I also bring forward the cultural concept of "martyrdom" as a helpful analytical tool to explore these issues.

> *Oppression creates the need and demand for recognition.*

> — Halverson, Ruston, & Trethewey (2013, p. 321)

Keywords: affect, citizen journalism, social media, social movements, Turkey, Twitter

On the dawn of May 31, 2013 in Istanbul, the local riot police raided Gezi, a park recently occupied by activists standing against the threat of its destruction (Navaro-Yashin, 2013; Oncu, 2013). The imminent demolition of the public space was part of a colossal urban development project that sought to replace a popular park filled with trees and greeneries with a shopping mall and a mosque. Backed by the Turkish government, the controversial plan sought to refashion at large the neighbouring Taksim square, generally considered to be the centre of modern Istanbul and known for its variety of cultural and intellectual institutions frequented by artists, academics, and tourists alike.[1] The threat and underlying motivations of

this project left no one indifferent, however. It shocked the collective political imaginary of a considerable number of inhabitants of Istanbul, as I briefly describe below.

On that morning, the occupiers of the park were violently awakened by tear gas and jets of water. Almost immediately, word of the police intervention began to circulate on social media. Pictures of bloodied faces went viral, sparking local and international outrage (Yıldırım, 2013). Within hours and days, response protests began to erupt throughout Istanbul and Turkey, surprisingly regrouping a very diverse group of people (Navaro-Yashin, 2013; Oncu, 2013). From a relatively small-scale cultural and environmental resistance action emerged a spontaneous social movement uprising against the Turkish government and what was perceived as the Islamization of the state (Dagtas, 2013; Navaro-Yashin, 2013; Oncu, 2013; Yıldırım, 2013). The political demands made by protesters expanded beyond cultural and environmental concerns to critiques of the "arrogant" politics of Recep Tayyip Erdogan's Islamist Justice and Development Party.[2]

This essay offers a conceptually informed reflection on Twitter that suggests that tweets may contribute to the formation of an affective environment that holds the potential to foster a collective sense of belonging, association, and shared experience. It is inspired by my personal (limited) participation in the events, and more specifically by the time spent with a few locals in their offices, and following the events of the protest on social media as they happened down the street. On the afternoon of May 31, during my first visit to Istanbul, I stumbled onto a Taksim Square cluttered with debris and invaded by police. The air reeked of tear gas. At a certain distance, I had observed protesters in their cat-and-mouse chase with the police until a tear gas canister exploded at my feet. It was while escaping from the chemical cloud that I met Hakan and her co-workers. United by a shared traumatic experience of police repression, social boundaries usually set between strangers were brushed away within seconds.

After joining their impromptu medical support team, Hakan and her co-workers welcomed me into their office, where we exchanged stories and discussed the recent events and Turkey's political climate in an attempt to make sense of what was going on outside. Their workday was long over by then, but with rumours of police roadblocks and transit interruptions, they had yet to leave their office. Massed behind a desk, we were hypnotized by the spectacle unfolding before us on the two computer screens. The loud explosions of tear gas canisters down the road periodically drew our attention to the windows. On the left monitor, a live video stream displayed the events unfolding on a nearby street. On the right monitor, Hakan was scrolling through tweets marked with the hashtag #OccupyGezi. Some tweets were in Turkish, which she translated for me, adding her own political commentaries to the mix. Those with pictures spoke for themselves. The atmosphere was uncanny—hardly describable. We felt excited,

exhausted, angered (for different reasons), puzzled, and torn between joining the protest and leaving safely before it might be too late. We were unsure of what would happen next, but we shared this hopeful sense that Turkish history was in the making.

As an international tourist, I appreciated the protection from arbitrary mass arrests in Hakan's office, though I was initially taken aback by the particular dynamics at play. How was it that we relied on Twitter and live video streams to follow what was unfolding only a few hundred meters away? Was this a case of "slacktivism," a pejorative term used by some communications and social-movement scholars to refer to "feel-good" online actions—usually considered inefficient—taken from the comfort and intimacy of one's dwelling (Valenzuela, 2013)? This critical concept, I later realized, only makes sense if one immediately evaluates social media in terms of concrete effects and consequences offline. It enforces a single, normative possibility and timeline for political activity. As previously noted, Hakan and some of her co-workers had been actively engaged in providing medical support to protesters earlier in the day. At that time, however, they might not have felt the urge to commit to the movement as some of them did in the following days, when protests erupted throughout the country. They were also technically bound to their work and responsibilities. In the following pages, then, I seek to address the social dynamics at play during those moments in the office when we sought to stay informed about the situation through social media.

The role of social media in activism and political unrest—particularly in relation to the "Arab Spring"—has been the subject of countless public and scholarly debates (see, for example, Aday et al., 2013; Aman & Jayroe, 2013; Bruns, Highfield, & Burgess, 2013; Diriöz, 2013; Fattal, 2012; Halverson et al., 2013; Juris, 2012; Mabon, 2013; Markham, 2014; Robertson, 2013; Tufekci & Freelon, 2013; Valenzuela, 2013; Wolfsfeld, Segev, & Sheafer, 2013). Such discussions have largely focused on questions of logistical support, information diffusion, connectivity, differences with traditional media, and mobilization. Sweeping critiques from both scholars and protesters, however, have warned against the reification of concepts of "Internet revolution" and "Twitter revolution" and the overstatement of the role of social networking sites. While they do not deny the crucial role played by social media in altering politics and fostering change, they have sought to reposition these technologies and applications not as causes, but rather as amplifiers, "facilitator[s] of revolution" (Halverson et al., 2013, p. 313; see also Mabon, 2013; Markham, 2014; Tufekci & Freelon, 2013; Valenzuela, 2013; Wolfsfeld et al., 2013).

In light of this literature, this essay shares Valenzuela's (2013) and Tufekci and Freelon's (2013) opinion that research on digital technologies and political activity must move beyond simplistic questions about their interconnectedness. My aim, rather, is to explore how, and to what effect, Twitter may have been "alter[ing] the

information ecology" (Tufekci & Freelon, 2013, p. 844) at the time. After elaborating on my methodology, I will discuss media censorship of the protests in Turkey before focusing on the affective connotations of some of the messages and photographs shared on Twitter on and around May 31, 2013. Based on my experiences, I suggest that tweets may contribute to the formation of an affective environment that can foster a collective sense of belonging, association, and shared experience. In this sense, my essay expands beyond the thesis that Twitter is used to transmit organizational information for political protests, in order to dwell on the meanings, the intensities, and the potentialities that those messages convey. Following Boellstorff's (2008) argument that the online virtual world of Second Life should be taken seriously, I contend that tweets should be treated the same way— that is, as legitimate sites of cultural production. Considering tweets in and of themselves, I do not ask whether this energy translates into offline action. In fact, I share Tufekci and Freelon's (2013) perspective that the distinction between online as virtual and offline as real is fundamentally flawed and misguided. I am not concerned, moreover, by anxieties about distinguishing between rumours and truth, considering instead that the veracity of the information is of little importance if it is *believed to be true* at the moment of consumption. In an unrelated example, we can think of April Fool's Day in North America: people are tricked into believing a message, which, despite its false nature, can have real affective, emotional, and physical effects for those who accept at face value the information they are encountering.[3]

METHODOLOGY

Twitter is a social-networking digital platform that allows users to publish concise messages (tweets) of 140 characters or less with the possibility of incorporating hyperlinks and pictures. One may "favourite" and republish (re-tweet) the tweets of others, as well as "follow" particular accounts, which refers to the tracking of their future tweets. As a public forum, Twitter offers a variety of "means to collect, communicate, [and] share . . . information . . . on different levels of engagement" (Hermida, 2010, p. 301). Hashtagging, for example, flexibly mediates, puts in discussion, and gathers under a single rubric particular tweets sharing the same referent. This method, the result of a user-generated technological development, has grown into an influential cultural convention since its inception.[4] Gyori (2013) argues indeed that this practice, to the extent that it allows users to tap into hubs of interests and affinity, "has become a favored mode of communication, bonding, and self-expression" (p. 486) that connects individual comments to larger discussions. Hashtagged discussions are horizontal—denuded of overarching decision-makers. They unfold organically through a multitude of users that adopt the same referent in their own tweets. In other words, they are not controlled by a specific organization or users.

According to Bruns et al. (2013), hashtagging can form "ad hoc issue publics" (p. 873; see also Tufekci & Freelon, 2013, p. 846 on "hashtagged public space"). It also contributes to the "trending" and potential viral diffusion of certain discourses and narratives. In this essay, I highlight 22 tweets published on and around May 31, 2013 with the inscription "#occupygezi," the hashtag that we used in Hakan's office and that reached world-wide notoriety in the following hours and days. A number of the selected tweets included links to websites and blogs, photographs, live streams, and/or referred to other users. Due to copyright issues, however, I have resorted to short bracketed descriptions of images in lieu of their inclusion in this article. Even though all messages were public, I have also anonymized tweets by removing any links and identity markers given their highly political nature. All but one tweet I examined were published in English.

Some scholars have highlighted the difficulty of collecting data on Twitter (see, for example, Bruns et al., 2013). At the time of my research (early winter of 2014), the website was not particularly "archive-friendly." Although I later learned about the existence of some user-generated applications that can be used to produce inventories of tweets respecting particular conditions, I did not have access to such tools. That said, the aim of this essay is not to provide a comprehensive, archival review of all of the tweets identified with the hashtag "#occupygezi" published on and around the day of May 31, 2013. Instead, I seek to reflect on my partial experience in Istanbul and the questions it provokes. To this end, I embraced an experiential approach that simulated what I considered to be a typical experience on Twitter (it certainly was ours in that office in Istanbul) to provide complementary examples. That is, when users scroll down their feed, they are likely to read only particular tweets while skipping or missing out on a number of others. Just like our attention was grabbed by the photographs shared on the Twitter feed, I have particularly focused on visual depictions accompanied by a commentary.

Finally, I must emphasize again that I have purposively not verified the facticity of the information shared in the selected messages. More than 15 years ago, Hine (2000) discussed the difficulty of distinguishing between "the true" and "the false" on the Internet. Yet, as it will become clear later, anxieties pertaining to gossip and rumour mills barely matters in the context of this essay, not only because I am focusing on the live effects of these tweets, but also because these processes are integral to how Twitter has grown as a form of social media.

ON CENSORSHIP AND IMMEDIACY

In Turkey, the early days of the protests were marked by the silence of local news media, which stood in stark contrast to their international counterparts (Genç, 2013). Penguins notably became a potent satirical symbol of this presumed censorship following the reports on social media that the main news network had aired a documentary about the habits of this animal species while Takshim square

was a theatre of resistance (Dagtas, 2013). For Egin (2013) and Genç (2013), the biases, partisanship, and corruption of Turkish mainstream media could be explained by a feeling of intimidation in regards to the prospect of governmental retaliation. In this context, many protesters felt that most news media did not represent their interests, and they increasingly turned to Twitter for an alternative (Dirioz, 2013; Genç, 2013). Consider the following excerpt of tweets as an example of this turn to social media to comment on censorship and to evoke the protests:[5]

> #OccupyGezi protests, so big in scale yet ignored by the mainstream media. The only flow of information is online or foreign media.

> Istanbul's asking for your help.media censorship in Turkey!please spread the word #occupygezi [*Photograph of some protesters in a Taksim Square clouded with thick teargas.*]

> huh, #occupygezi is now the leading story in US edition of news.google.com, but not in the the turkish one...media blackout much?

> From now on I will tweet in English about Gezi Park resistance for foreign press. #occupygezi

Beyond accusations of censorship, it must be noted that Twitter thrives on the instantaneity and ever-changing momentum of "premediated situations"— unfolding events that cannot be immediately reported by print publications that generally operate on different temporal and methodological registers (Papacharissi & Oliveira, 2012, p. 267). In the context of crises and catastrophic events, Twitter can be thought of as a form of "electronic word of mouth" (p. 268), an interconnected and constantly evolving web of information that becomes a source of commentaries, user-generated "news," as well as a forum for journalists and pundits to share their observations and opinions (see Dirioz, 2013; Juris, 2012). In Turkey, social-media feeds provided real-time information about the events of Taksim Square through the work of "citizen journalists" (Genç, 2013) and journalists from non-mainstream media sources (Dirioz, 2013). Notably, this turn to Twitter as a news-reporting and discussion platform for local and internal audiences was not a unique moment in history. Social movements such as Occupy (Juris, 2012) and uprisings in Egypt (Aman & Jayroe, 2013; Papacharissi & Oliveira, 2012), Tunisia (Halverson et al., 2013), Libya (Bruns et al., 2013), and Iran (Dirioz, 2013; Gyori, 2013) have all resorted, to different extents, to social media to circumvent political and media censorship or partisanship.[6] These platforms offered an alternative "continuous stream of events" (Papacharissi & Oliveira, 2012, p.

266) and provided a forum for the expression of opinions. In Egypt, for example, blogs became prominent news sources at a time of restricted or blocked access to mainstream media (Aman & Jayroe, 2013; Papacharissi & Oliveira, 2012).[7]

In Turkey, tweets relating to the protests were not unanimously accepted or left un-critiqued, however. In a declaration, Prime Minister Erdogan, known for his ability to spin public discourse in his favour (Karaca, 2013), asserted that Twitter was the "worst menace to society" (Egin, 2013, p. 55).[8] Assessing the value of protesters' tweets on a religious scale, he stated that "their one million tweets are equal to one 'bismillah'" (Oncü, 2013, p. 22), the oft-repeated first word of the Quran. Yet, for Turkish protesters, tweets circumvented media censorship (or limited coverage) and offered a forum for them to express themselves relatively freely (Dirioz, 2013). In a sense, it suspended "the limits of the sayable" (Karaca, 2013; see also Dagtas, 2013) by providing a virtual space for protesters to actively resist attempts from the Turkish state to delegitimize them.

ON NON-TRADITIONAL "NEWS" OUTLETS, NEW FORMS OF EXPRESSION, AND MODERN-DAY MARTYRS

The use of Twitter, such as in the context of protests, has fostered new forms of expression, media consumption, and journalistic paradigms (Papacharissi & Oliveira, 2012). It resists the mass media monopoly that marked the twentieth century by acting, according to some, as a megaphone that has the potential to shift power relations of influence on the world's opinions (Aday et al., 2013). Gyori (2013) argues, however, that Twitter has "created blind spots and undermined traditional journalistic codes" (p. 485) by deemphasizing well-sourced empirical observations. For example, the author explains that Western media have often been unable to confirm the source and authenticity of photographs they use (Aday et al., 2013; see also Papacharissi & Oliveira, 2012). On Twitter, the rhythms of news production are simply temporally incompatible with traditional journalistic conventions (Papacharissi & Oliveira, 2012). Twitter journalism "capitalizes on rapid . . . dissemination of information, and collaborative . . . editorial processes" (Halverson et al., 2013) by participants. As instant updates become both the norm and the appeal of Twitter, offering exclusive stories and scoops becomes incommensurate with information processing and the verification of sources (Markham, 2014).

Though Genç (2013) argues that alternative forms of publications such as tweets are borne to accurate representations, for these users could otherwise lose their readership, we might ask what happens when the babblings of non-journalists, or "citizen journalists" (Genç, 2013), appear side-to-side with a journalist's messages on a Twitter feed. Nowadays, anyone can share news and stories describing their subjective experience of an event. As a result, credentialization is increasingly obsolete—or has transformed standards—and well-sourced news stories risk to be

mixed with other forms of (dis)information (Dirioz, 2013). Despite often taking the appearance of objective reports of events, tweets can indeed "blend emotion with opinion, and drama with fact, reflecting deeply subjective" descriptions and interpretations of events in the making (Papacharissi & Oliveira, 2012, p. 274; see also Markham, 2014).

Rather than attending to the question of validity and truth, however, I find it imperative to think about the effects of narratives and other processes on Twitter in and of themselves (Boellstorff, 2008). In other words, it is crucial to examine "why some audiences find acts of mediation that favor intuition over evidence highly persuasive" (Gyori, 2013, p. 482; see also Halverson et al., 2013; Papacharissi & Oliveira, 2012). Consider the following series of tweets as an example of what might have appeared on the Twitter feed in Hakan's office, inspiring in us diverse reactions and emotions:

> Brilliant pic of a woman standing resolutely against Turkish police #occupygezi [*A woman in a red dress is peppersprayed by a police officer.*]

> The pictures from #occupygezi are truly dystopian. Started with 100s, but turned into 1000s against govt troops

> Even some football fan clubs are now joining to protests at #occupygezi; this is spreading beyond political activists. That's important.

> Police open fire with plastic bullet to protestors #occupygezi #direngeziparki [*A kneeling police officer holds a fuming (plastic bullet? teargas canister?) gun.*]

> The police have thrown a gas bomb into the emergency room in the Taksim hospital. Fascism at its finest! #occupygezi

> this is madness #policeviolence #Turkey #occupyGezi #direngeziparki

> #Turkey's tear gas canisters WITH LOVE FROM USA! #OccupyGezi [*Image of a teargas canister with the inscription "made in U.S.A."*]

> erdogan's police uses unbalanced power against the people @ #taksim! #occupygezi #istanbul #dayangeziparki #Turkey [*A man lies on the ground, next to another standing protester with a scarf over her nose.*]

> Gas en el lobby del #Taksim hotel [Gas in the lobby of #Taksim hotel] (my translation) #Estambul #direngezipark #occupygezi [*Image of the lobby of a building presumably clouded with teargas.*]

> Chaos in Turkey as police use tear gas and water cannons on 10,000 protesters #occupygezi [*Some protesters are targeted by water cannons, while other run away, protecting themselves.*]

> They'll use water cannons, teargas, and even shoot rubber pullets at your head. Your Mission is to be heard, you're being heard. #occupygezi

> The Police are torturing masses of people in Gezi Parki at Taksim Square and in subway in Istanbul. #occupygezi [*In a clouded Taksim Square, a large mass of protesters are sprayed by water cannons.*]

> gas INSIDE a CAR #occupygezi [*A man exits a truck filled with teargas.*]

> Police firing tear gas shells near wounded people in today's protests at Gezi Park #direngeziparki #occupygezi

> Crowds are calling for mayor's resignation in Istiklal street near Taksim Square in Istanbul #occupygezi [*Photograph of a street filled with protesters.*]

> this is not a war zone? #occupytaksim #occupygezi #direngeziparki [*Three protesters drag a seemingly inert body through a cloud of teargas.*]

The tweets above achieve multiple things at once. They document (or pretend to document) events from first-hand experience, express opinions about politics and police brutality, and appeal to emotions and senses of solidarity, courage, and suffering. They are convincing, mostly written in a direct language of certainty.

Scannell's (2004) idea that media produce "effects of truth" (p. 582) can be applied to Twitter as well, where such effects can manifest themselves in various ways. Some users, for example, become celebrities through the exponential retweets of their messages (Papacharissi & Oliveira, 2012). Thanks to this function, they "[attain] visibility, and potentially, credibility" (pp. 275–277). Effects of truth may also emerge through the organic and "collaborative construction of events out of atomized stories" (pp. 267–269), an assemblage of tweets that, through space and time, becomes something larger than the sum of its parts (Halverson et al., 2013). Papacharissi and Oliveira (2012) have referred to such assemblages of tweets as a real-time, round-the-clock affective news environment.[9] According to them, the flow of information on Twitter "is characterized by mounting, emotive

anticipation" (p. 276). The "constant pace, frequency, and tone of tweets" (p. 276) posted in the midst of events set an ambiance, a political space in which people can "grapple with ideas, elaborate arguments, and reflect on the information acquired" (Valenzuela, 2013, p. 924). This ambiance is affective in the sense that it is premediated and anticipatory (Papacharissi & Oliveira, 2012). It involves an affective engagement (gestures or expressions) that both "inform[s] the shape an event will take" (p. 276) and is informed by the unfolding events. The anticipation and mutual constitution are not a prognosis of the future; they rather "communicate a predisposition to frame it" (p. 280).

For Papacharissi & Oliveira (2012), the synthesis of humour, opinion, emotion, and information is reminiscent of "the affective patterns of interpersonal conversations" (p. 278). On Twitter feeds, Robertson (2013) notes, "image, affect, experiential accounts, and emotive testimonies" leave a significant imprint (p. 329). Typically, such tweets have affective, rather than cognitive, effects, because the same news is constantly reiterated by several people with little or no new information, but a growing mix of emotional input. Many of the tweets cited above evoked or shared images of violence perpetrated against individuals or groups by state representatives. In this regard, the transcendental power of those images and texts (Juris, 2012; Wolfsfeld et al., 2013) must be analyzed in relation to affective news environments. I would like to suggest that their evocative power shares certain connections with that of modern-day martyrs.[10] A martyr can be understood as the victim of state violence: severe injuries or an unsettling death that may humiliate the state and force it to take a step back, thus leading to the betterment of the life of others who identify with the martyr's cause (Halverson et al., 2013). In the context of social movements and political upheavals, some images of violence may gain a symbolic value and evoke martyrdom if it is associated with a suffering individual struggling for a group or a cause. As such, those powerful photographs and their narrative constructions, continuously unfolding through social media, can have a galvanizing power on a population and become a catalyst for social movements (Halverson et al., 2013). For Halverson et al. (2013), the visual representation of martyrs "increases the potential for imagined solidarity" (p. 329). Twitter, which allows for the sharing of images, the circulation of ideas, and the development of conversations, has fostered a new form of participation and witnessing that can be mediated through social media rather than direct experience. People can emotionally connect and feel a form of communion, not necessarily between themselves and others, but between themselves and a movement, an idea, or an ideology.[11] In other words, affective attachments and environments are fostered, and a "logic of aggregation"—that is, the gathering of individuals sharing some common denominator (Juris, 2012, p. 266)—might emerge under a shared feeling of belonging, collectivity, and struggle.

CONCLUDING REMARKS, MOVING FORWARD

In this essay, I took as a point of departure my own experience of the events in Taksim Square, Istanbul. As complements to the argument, 22 tweets published with the hashtag #occupygezi on and around May 31, 2013 served as a window into the experience of Hakan, her co-workers, and me as we scrolled down the Twitter feed in their office while protests were happening down the street. Arguing that tweets should be studied in and of themselves, for they produce "effects of truth" (Scannell, 2004), I have examined conceptually the effects and possibilities of protesters' turn to Twitter to circumvent traditional media censorship. In particular, I suggested that social media feeds can organically develop into affective environments. By way of assemblages of coalesced stories, images, and martyr-like narratives, they can foster feelings of belonging, collectivity, and shared experience. As Markham (2014) notes, however, social media discourse is "multifarious, argumentative, wide-ranging, entertaining, contradictory," and that it cannot be abstracted from cultural and linguistic constraints (p. 91). To this end, affective and ambient news environments might be better conceptualized as alternatives to journalistic conventions, rather than mere substitutions or replacements (Papacharissi & Oliveira, 2012).[12]

The breadth of my research was undeniably limited, aiming more towards a reflection emerging from my own experiences in Istanbul than an all-encompassing review of Twitter activities on and around May 31, 2013. In the future, a long-term project could seek to evaluate further engagements with Twitter in times of political unrest, in an attempt "to move from broad brushstrokes to fine-grained analyses" (Tufekci & Freelon, 2013, p. 847). Such ethnographic work would "complicat[e] facile mappings of social media usage" (Fattal, 2012, p. 888; see also Yıldırım, 2013) and enrich public discussion about its politics. Affective potentialities are not "things" that can be easily understood through simple observation. As such, long-term fieldwork would allow for a greater sensitivity to such intensities, and thus a better understanding of the effects of stories on individuals. It would also be interesting to analyze how the narratives about the events have developed over the following weeks and months on Twitter, and in the personal lives and habits of Turkish people.

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[1] Navaro-Yashin (2013) asserts that the projected transformation of Taksim square had a strong nationalist flavour. In Prime Minister Tayyip Erdogan's imagination, the project would have "restored the grandeur of Istanbul" and also "emblematized . . . a return to the Ottoman Empire" (Navaro-Yashin, 2013).

[2] Despite some comparisons, however, Yıldırım (2013) argues that enthusiast homogenizing references to the so-called Arab Spring might be misleading, given Turkey's idiosyncratic history.

[3] Of course, this situation can always be complicated by doubts and skepticism, as reflected in real-time discussions and questions that are sometimes raised in regards to the validity of the information presented.

[4] According to Bruns et al. (2013), hashtags first really integrated the architecture of the social media in the aftermath of the 2007 wildfires in San Diego. At the time, they had been immensely useful in the coverage of the natural catastrophe.

[5] The original orthography, grammar, and style of the tweets has been preserved.

[6] While governments still attempted to manipulate public opinions circulating on social media, they quickly realized that the flow of information could hardly be controlled or censored (Aman & Jayroe, 2013). Not all instances were successful, as protesters found ways to get around the blockade through proxies and similar strategies. On Twitter, fears and rumours informed by past events in the Middle East were circulating, particularly in response to accounts of limited or inexistent internet connection in Taksim Square:

> protestors urge people/shops/cafes in beyoglu-taksim district to remove wifi passwords 2allow them internet access-3g slow/gone. #occupygezi

> We dont have internet connection here! Please help us to spread our voice! This is ISTANBUL! #occupygezi #direngezi

[7] Papacharissi and Oliveira (2012) point out, however, that traditional media networks such as Al Jazeera were nonetheless "central to conveying protesters' grievances to a global audience" (p. 266).

[8] This international Twitter discussion was a source of critiques by pro-government actors who decried an act of manipulation by foreign, non-Turkish forces attempting to Westernize domestic politics of Turkey and destabilize its economy (Dirioz, 2013).

[9] Papacharissi and Oliveira (2012) understand affect as "emotion that is subjectively experienced" (p. 276), particularly in relation to "processes of premediation, enabled by newer media, that frequently anticipate news or events prior to their occurrence" (p. 276). They argue that "anticipatory gestures afford emotive expression but also inform the shape an event will take, and of course are further shaped by ongoing events" (p. 276). In the context of this essay, affect refers to the indeterminate subjective and emotive potentialities of what is shared on Twitter in the immediacy and instantaneity of a moment, and in contrast to the slow-moving traditional media that congeal stories in an appearance of objectivity.

[10] See Gyori (2013, p. 483) for a discussion of the death of Neda Agha Soltan in Tehran, Iran. Within hours, the video of her death at the hands of paramilitary militia became internationally viral, making "a dramatic impact [and] triggering outrage around the world" (p. 483). Gyori argues that she effectively became a martyr. See also Halverson et al. (2013) for a discussion of the deaths of Mohamed Bouazizi by self-immolation in Tunisia, and Khaled Saeed, at the hands of police officers in Egypt. In all three cases, violence was arguably perpetrated by the state or state-related groups and effects. Because of its larger historical and political connotations, however, we should be cautious nonetheless with the metaphor of martyrs, and most importantly situate it within modern-day discourses and practices.

[11] See also Gyori (2013), which further argues that what matters is the effect of communion, rather than the question of whether there is a "real" basis to that feeling; and Juris (2012), who evokes a "sense of connectedness and copresence, potentially eliciting powerful feelings of solidarity as protesters read about distant and not-so-distant others engaged in the same or kindred actions and protests" (p. 267).

[12] Just like we should be skeptical of traditional media's claims of objectivity, we should not assume that they do not convey affective tones—quite the opposite.

MAIA MILLER

Music as Literature,
Literature as Music

Combining aurality and text in *Street Scene*

The story of Street Scene *has been realized to high acclaim many times over as a play and as an opera. Each is exceptionally inventive and employs intermediality—the practice of creating a piece within a single medium while referencing, either literally or structurally, other mediums—to reach critical and popular success. Playwright Elmer Rice turned to music, which inspired his structure and introduced polyphony into his play* Street Scene. *He also incorporated the musical quality of repetition into his play and made it central to his characters' oppressive social immobility. In his opera version of the story, composer Kurt Weill transformed literature into music to create uniform mental images similar to those evoked by words, and reversed Rice's rejection of the narrating role by including arias in his opera. Each version of* Street Scene *has managed to transcend the limitations of its medium by reaching across the arts to convey the powerful and moving themes of alienation, loneliness, and diversity.*

Keywords*: intermediality, literature, music, opera, Elmer Rice,* Street Scene*, Kurt Weill*

The story of *Street Scene* is a glimpse into the life of a community of working-class New Yorkers spanning multiple ethnicities, professions, and generations. Elmer Rice won the 1929 Pulitzer Prize for the play, which spawned the highly acclaimed theatre-opera, premiering 17 years later, composed by Kurt Weill with lyrics by Langston Hughes. Revolving around two main plot points of unrequited love and scandalous murder, the story's distinction lies not in its immediate action, but in what Frank Durham (1970/2009) describes as its startling likeness to reality. The primary objective of the story for Rice was to provide a realistic panorama of the lives of working-class ethnic New Yorkers in the post-World War I era (Mersand, 2001, p. 35). It deals with a breadth of real-life subject matter—birth, death, love, jealousy, bigotry, poverty, violence, and reconciliation (Kowalke, 1995, p. 39)—and is acclaimed for authentically depicting the working-class "struggl[e] to survive [in] the

crushing reality of urban life" (Perkins, 2001). The story centres on the theme of alienation and loneliness in the crowded and cruel city, though Rice and Weill each convey this theme with an intermedial form of realism unique to the medium in which they operate.

Rice desired to provide a realistic slice of working-class ethnic New York life through sound, sight, and dialogue in his play; Weill (1947), believing that European opera had divorced itself too greatly from language and that theatre had lost its relation to music, aimed to invent "a special brand of musical theater that would completely integrate drama and music, spoken word, song and movement." Intermediality is the practice of creating a piece within a single medium while referencing, either literally or structurally, other mediums. Both Rice and Weill explore the theme of alienation amongst the mosaic of working-class city dwellers by combining language with aurality within their respective art forms. Rice combines sound and musical structure with text, while Weill maximizes the dramatic potential of words by fusing Broadway musical and opera with literary technique. In doing so, both versions of *Street Scene* are more accurately able to depict the sentiment of oppression in working-class city life. I will explore in this paper how Rice and Weill establish, each in his own way, a sense of loneliness among the principal characters by reaching across artistic mediums. That sentiment is then juxtaposed against a diverse, populated, and busy environment—a "patterned mosaic" in Rice's words—also produced through intermediality (Kowalke, 1995, p. 40).

EVOKING LONELINESS IN *STREET SCENE*

Loneliness is the primary theme for Rice and Weill, and both artists incorporate intermediality in order to emphasize the devastation that loneliness brings to each principal character. Both artists manipulate the role of the narrator through intermediality in order to most authentically express this theme, while Rice delves further into exploring the musical concept of repetition.

A significant characteristic that often distinguishes a play from other forms of literature is the lack of a narrator in a script. Music also has no narrator. Rice could have inserted a character who talks directly to the audience like a third-person narrator, or used soliloquies that act as first-person narration to translate emotion and thought on stage; yet, he chose not to. Omitting an explicit narrator stands in stark contrast to Weill's choice on the matter. Rice left "innermost thoughts, feelings, and dreams to be expressed in other ways [aside from language] on the stage," whereas "Weill hoped that music would then fill in these scenes" (Thuleen, 1997). The aria is the soliloquy's musical equivalent, and although Rice chooses not to employ the soliloquy in his source text, Weill inserts its musical counterpart into his opera (Thuleen, 1997). As a result, the aria-soliloquies give insight into character development that otherwise does not explicitly exist in the play. Sam's laments about living at the tenement and being in love with Rose are implied in the play, but never

explicitly articulated as they are in the opera. Mrs. Maurrant's aria "Somehow I Never Could Believe" gives her character depth as the audience hears her inner thoughts, which are never expressed in the same manner in the play. Moreover, "the only musical numbers to receive overtly operatic generic labels . . . are sung by the four principals," while the shallowest characters, like Mae Jones or Mr. Easter, sing the most "conventional" songs (Kowalke, 1995, pp. 42, 45). In essence, this means that the deviation from the popular-styled songs determines a character's complexity and depth. Here, Weill is leaning on the music to explicitly convey information about narrative structure (i.e., which characters the audience should identify as "main" characters) (Kowalke, 1995, p. 45). The arias shape the characters in such a way as to differentiate them from those of the source text; an example is Mrs. Maurrant's "A Boy Like You," which depicts her as far more maternal than how Rice portrays her. Weill also draws on music to emphasize emotional high points in the story, relying on it to communicate to audiences explicitly when they should experience heavy emotions (Thuleen, 1997). The opera's arias are adept at conveying the emotional struggles and laments of the main characters of the story; yet these additions mirror the role of the narrator that traditionally exists in literature and not in opera (and which does not exist in Rice's text). "The entire musical score thus becomes a form of storytelling" (Weill, 1946). Weill embraces the literary narrator as storyteller of internal thoughts.

Meanwhile, Rice's lack of narrator can be considered akin to instrumental music, which is especially apt at expressing emotions but not at explicitly telling a story (Wolf, 1999, p. 32). The reader learns how the characters feel in Rice's *Street Scene* largely when those characters tell one another, within the play, about those feelings. Otherwise, they are forced to infer from other hints in order to determine a character's inner thoughts. This ambiguity and open interpretation brings the play closer to music, since musical cues suggest but never explicitly define a narrative or story. Listeners often invent their own story based on suggestions made by the music and taking into consideration social connotations. The fragmented structure of the play turns readers into emotional detectives all the more, forcing them to make connections between past and present conversations in order to understand the current action or sentiment. Even the dialogue that is provided is often "emotional, rambling, without logic, and typically inconclusive," resulting in additional ambiguity (Durham, 1970/2009). Yet the theme of loneliness surfaces through conversations amongst the characters. The emotion is elicited, despite the text's omission of a narrator or of explicit instruction of internal thought.

Rice continues his intermedial project by employing verbatim repetition. Music relies on the recurrence of notes and melodies in order to move forward. From classical sonatas to modern pop ballads, a song is most recognizable by phrases played cyclically or layered on top of each other. In contrast, literature is not as tolerant of exact duplication as music (Wolf, 1999, p. 20); however, the closer

literature gets to music, the more acceptable such reiteration often becomes (Wolf, 1999, p. 20). Poetry, for example, can often suitably exhibit this feature because of its semblance to music. Defying the restrictions of his medium, Rice sews verbatim repetition into his literature. Rice opens with Mrs. Jones commenting to Mrs. Fiorentino, "I hope it's hot enough for you." The line is quickly echoed by other characters again and again throughout the play in almost exactly the same way. This motif of "hot enough for you" becomes a frequently recited tune. The characters rely on this chime as a crutch for conversation, either as an introduction or as main subject matter, just as music depends on repeated sounds to propel forward and to develop. Importantly, the heat is a symbol of the oppression, frustration, and social stagnation that each character faces (Mantel, 2001). The characters lean on their symbolized immobility in order to make connections and to move the "plot" of their lives forward. By using musical repetition, Rice demonstrates the central role that oppressive and alienating social conditions play in the daily lives of this milieu.

THE PATTERNED MOSAIC OF *STREET SCENE*
The primary characters' loneliness and social immobility are juxtaposed against a persistent interconnectedness of many people, voices, and cultures. The constant intimate and boisterous environment is stiflingly alienating. In the intermedial tradition, Rice infuses his play with musical features like an assemblage of an orchestra and melody, while Weill imitates the literary effect on the imagination. Each artist also incorporates polyphony as it exists outside his respective medium in order to imply simultaneity.

While literature cannot be music, it can employ "ingenious linguistic means or special literary techniques" in order to imply, suggest, or imitate music indirectly (Scher, 1982, p. 229). One way in which Rice musicalizes his script is by integrating elements of music into the structure of his work. Rice's *Street Scene* has forty-three characters, most of whom have speaking roles, are differentiated from others by their occupation and social class, and do not share any specific relationship with many other characters (Mersand, 1941, p. 37). This symphony of characters mirrors an orchestra, where most instruments have voices that are distinct and differentiated from others based on their timbre and tone, as well as by the specific melody that one voice plays as compared to another. The *Street Scene* opera also has many instrumental voices, scored with a large orchestra in mind (Thuleen, 1997). In such an orchestra, while the voices play together, there is no inherent relationship between, say, the clarinet and the trombone given their different sounds, instrument groups, and roles in carrying the music. Like the voices in an orchestra, the characters in Rice's play form a mixture of voices that are joined together not by relationship but by chance (Petrusso, 2001). This assemblage of characters is reminiscent of the collection of instruments in an orchestra, and is one way in which Rice is able to

allude to music through his medium in order to achieve his message of plurality in the city.

A second way in which Rice evokes music in order to illustrate the patterned mosaic backdrop of the city is through melody. In literature, melody is typically dependent on language; the standard intonations of the language often determine how a passage is pronounced (Wolf, 1999, pp. 15-16). Additionally, since prose is never regarded primarily as a genre of sound, its aurality is often disregarded, with readers opting to hear literature, if at all, in their internal voice (Wolf, 1999, p. 16; Scher, 1982, p. 229). As a result, "a special effort is needed to remind the reader of fiction of the original sound quality of the language whose letters he [or she] is perusing" (Wolf, 1999, p. 16). Rice makes this special effort of aurality and a specific melody in his reader's mind through his characters' "accents." Most characters exhibit linguistic tendencies that reflect their ethnic background, from Mrs. Jones's mild mispronunciations, to Filippo "Lippo" Fiorentino's and Abraham Kaplan's distinctly Italian and Yiddish intonations, respectively. Words often drop syllables or are misspelled in order to realize these accents. While it is true that "even if . . . sound may occasionally be conjured up in the reader's mind, this is only possible for a short time," so Rice's continual use of accented written language imposes the characters' voice quality and melody onto the reader (Wolf, 1999, p. 16). It is literally impossible to read Kaplan's or Lippo's dialogue—even internally—without hearing their heavy accents. Through this skilful and persistent technique, Rice is able to impose a melody to his written words, even as it exists in the reader's mind. Moreover, given that the words in these characters' speeches are so distorted from familiar spelling and pronunciation, one is inclined to read the text aloud to determine its meaning based on what one hears. This all the more thrusts an aural quality onto the text, changing the literary experience from silent reading to one of hearing.

Such accented dialogue has the additional musical effect of inserting leitmotif into the text. Each character in the written play is paired with an aural theme: an accent. The character constantly appears with this musical signature—the leitmotif—indicating when she or he is present in the action. Furthermore, unlike many other literary texts that emulate leitmotif through conceptual themes or repeated phrases, these accents are highly aural; therefore, not only do leitmotifs exist in this play, they exist as distinctly acoustic, pushing the text further into the realm of music.

In a similar fashion, Weill integrates elements of literature into his opera in order to achieve the same goals as Rice. The *Street Scene* opera is famous for combining elements from different and disparate genres in order to produce a new style of musical drama theatre, and Weill uses the plurality of genre to establish the density and busyness of the environment (Thuleen, 1997). This most obviously influences the audience's feeling of *who* is present in the community. The variety of musical genres in the performance mirrors the many personalities, ethnicities, professions,

and classes that also exist in that milieu. Beyond this simple allusion, Weill's music further insists upon the diversity of the community by using literary technique to generate a vivid image. Werner Wolf (1999) argues that literature is more capable of creating specific fictional "possible world[s]" that are uniform across different audiences than music is because of the clear direction that words can provide (p. 25). No less, what is at the disposal of musicians and composers are the cultural connotations attached to genres of music that dictate not only emotion, but actual elements of narrative (1999, p. 29). Wolf cites the sonata as an example, which carries with it the assumed narrative of a male and female subject engaging with one another (p. 30). For *Street Scene*, Weill implements the power of cultural connotation to paint specific images by incorporating American jazz and blues into the opera. The song "I Got a Marble and a Star" is written as a standard blues piece, and the character who sings the song, Henry Davis, is almost always cast as Black—this despite any instruction in the script or importance to the narrative. The character's name is not particularly racialized to make one assume that he would be specifically African American; there are no such characters explicitly written into the source text; and the character Henry Davis does not even exist in Rice's play. No less, this role is consistently cast as a Black performer because the song is perceived to be a "Black" one. Weill exploits the social understanding of jazz and blues as part of African American subculture as a means by which to insist that this character is in fact a part of that subculture. While the music cannot literally speak, it still manages to dictate a certain uniform image across its interpreters: specifically, that the opera's casting should encompass a diversity of ethnicities and racial backgrounds that include African Americans.

Weill's musical concoction has an additional effect of emulating plurality in this milieu. The multiple genres not only imply the manifold existent ethnicities, but also demonstrate the interdependence amongst and the fusion within people. Sam's arioso "Lonely House" epitomizes the themes of the play by lamenting his loneliness despite his company (Kowalke, 1995, p. 40). This song likewise demonstrates the community's interconnectedness *within* Sam himself by "blending formal operatic elements with the structure and patterns of American jazz and blues" (Thuleen, 1997). Sam, a working-class bookish Jew working through law school, simultaneously sings: a) an arioso, which is typical of elite European operas; and b) a blues-infusion piece, which is typical of a completely different ethnic culture from his own. A blues arioso stands far apart from Sam's personality or social circumstance, yet is fitting to the realism of the play because the genres match so exactly the emotions being expressed (Thuleen, 1997). The combination of genres is a demonstration not only of the plethora of types of people living together, but also of the influence that such an environment has on a character's individual personality. A key feature of music is its ability to achieve polyphony. Contrarily, literature "would have to be able to present and sustain two or more ideas or narrative strains

simultaneously—which, by the nature of its medium, it cannot do" (Scher, 1982, p. 233). This dilemma is often tackled by authors through puns that allow for a double-meaning of words or phrases, thus alluding to a double-sound. Rice attempts to tackle this challenge in two ways: first through structure, and second through diegetic sound.

While literature cannot reproduce polyphony in the traditional sense, it can suggest it through "the rapid and systematic switching from one context to another in consecutive (fragments of) phrases" (Wolf, 1999, pp. 20-21). Switching back and forth between different voices and storylines in literature can give the reader the effect that multiple events are occurring simultaneously. In *Street Scene*, the "mosaic of patterns" emerges due to the fragmented snippets of people's lives, jumping between stories rather quickly and in short spurts (Petrusso, 2001). As a result, "the plot is not linear but pieces of stories that develop over time," just like in music (Petrusso, 2001). The fragmented and colliding storylines give the reader the impression that multiple events are taking place in different spaces but at the same time. In this regard, Rice has built a sense of polyphony within the structure of his play.

The second manner in which Rice integrates polyphony is through diegetic sound. The play outlines in the beginning that, "throughout the act, and, indeed, throughout the play, there is constant noise . . . . The noises are subdued and in the background, but they never wholly cease" (Rice, 1950, p. 114). This description allows Rice to insist that multiple sounds are occurring at once—these street noises plus the dialogue—without actively producing them all throughout the play himself. While the nature, volume, and type of noises are left to the imagination of the reader, this insistence at the beginning of the play urges the reader to be responsible for generating them. For example, just as readers would hold on to the visual descriptions of a story—in this case, the image of the tenement—in order to situate themselves in the fictional world, readers must also hold onto the auditory elements in order to fully understand the setting of the play. Rice's detailed yet broad description even lends ideas to the types of noises that readers could imagine. By making sound an integral part of the setting, Rice cleverly uses language to produce polyphony in his literature, with the reader as musician.

Weill's genre choices likewise incorporate polyphony, although in such a way that it represents simultaneity that is more characteristic of literature than of music. Literature often relies on conceptual polyphony, where the concurrent events are two ideas rather than two literal sounds (Wolf, 1999, p. 20). Although words' clarity stands in stark contrast to music's ambiguity in definition and meaning, a word can still be ambiguous or have a double meaning, as with puns (Scher, 1982, p. 230); in such cases, a word can adopt multiple interpretations (Wolf, 1999, p. 23). Weill's music behaves like a pun by obscuring clarity and adopting multiple denotative meanings. "Somehow I Never Could Believe," for example, is "the most conventional

aria in the nineteenth century operatic tradition that [Weill] ever wrote," yet "it is full of stretches that are jazz" (Thuleen, 1997). Is it, then, an operatic piece, or a jazz piece? It does not fall into the category of Broadway musical, either. Weill purposely attempts to follow the "line between opera and musical comedy to the point where the line no longer seems to exist" (Sanders, 1980, p. 356). In this way, his music, by exploiting multiple genres, can be interpreted in multiple ways: as an opera, as a Broadway musical, and as blues. This differs from music's traditional form of ambiguity, since the confusion rests not in determining what the narrative of the piece is, but because there *is* more than one apparent narrative. This mirrors the pun, which insists that the reader understand the word or phrase as two equally valid interpretations. Ultimately, all the intermedial decisions that both artists take speak to their greater objective of demonstrating all of the multivariate personalities that coexist in the city.

CONCLUSION

Both the literary and operatic manifestations of *Street Scene* are highly acclaimed works. By reaching across artistic mediums, each version has managed to transcend the limitations of its own medium to convey the powerful and moving themes of alienation, loneliness, and diversity. Both Rice and Weill appreciate the potential that a work of art can have when aurality and text are combined. Rice turned to music to inspire his structure and to infuse musical polyphony into literature. He incorporated the musical quality of repetition into his play and made it central to the oppressive inertia of the tenants. Weill transformed literature into music to create uniform mental images similar to those instigated by words, and reversed Rice's rejection of the narrator role by including arias into his opera. Taken all together, Weill and Rice artistically crafted pieces that are richly complex, unmistakably intermedial, and highly successful at depicting the real lives of the often-overlooked urban dweller.

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EGI TROKA

The Danger of Shareholder Primacy

Harm to stakeholders, shareholders, and the well–being of the corporation

The shareholder primacy model has been increasingly used to manage corporations, even though U.S. and Canadian corporate law does not require it. This paper analyzes three major arguments for using this model. The first relies upon contract law, the second appeals to concerns regarding agency costs, and the third focuses on property. In spite of these pervasive arguments, the adverse consequences of shareholder primacy are much greater than its benefits. Three adverse consequences include clashing interests between shareholders and creditors; the inadequacy of this model to address the interests of different shareholders; and the model's inefficient and inequitable effects on stakeholders and the corporation. Instead of pitting the interests of stakeholders against each other, we should be developing a model whereby the value of each stakeholder to the corporation is calculated according to each corporation's unique financial and social situation.

Although North American corporate law does not legally require corporate directors and managers to use the shareholder primacy model in managing their corporations (Stout, 2002; Stout, 2013), it has become the norm. Shareholder primacy implies that the interests of the shareholders are the most important interests in a publicly traded corporation, and thus managers must work to maximize shareholder value above all. As Lynn Stout (2012) explains, "according to the doctrine of shareholder value, public corporations 'belong' to their shareholders, and they exist for one purpose only, to maximize shareholders' wealth. Shareholder wealth, in turn, is typically measured by share price—meaning share price today, not share price next year or next decade" (p. x). Three major arguments for using this model draw upon contract law, agency theory, and property law respectively. Despite the perceived benefits of a shareholder primacy model, the negative consequences of shareholder primacy are

much greater. Three consequences of this model include clashing interests between shareholders and creditors, the inadequacy of this model to address the interests of different shareholders, and the model's inefficient and inequitable effects upon stakeholders and the corporation. Instead of pitting the interests of stakeholders against each other, there should be attempts to develop a model whereby the value of each stakeholder to the corporation is calculated according to each corporation's unique financial and social situation. The debate surrounding shareholder primacy is important as corporations are increasingly influential in social, economic, and environmental spheres. With increasing corporate scandals and financial crises, the public is becoming more educated on these issues and is beginning to express the will to hold multinational corporations responsible.

Agency theory explores the relationship between a person or group of people, known as the principal, who delegates tasks and the authority to make decisions to a person or people known as the agent(s). An example is the relationship between an employer and the employee. It acknowledges the problem of clashing interests between different parties such as the interests of managers versus those of shareholders, among shareholders themselves, and shareholders against other stakeholders (Armour, Hansmann, Kraakman, & Pargendler, 2017). It can include all social relations that involve economic interactions, such as a set of contracts between agents and principals that ensure that interests are properly aligned (Fligstein, 2002). The principal-agent problem is caused by interdependence between different actors such as the owners, the board of directors, managers, and employees (Fligstein, 2002). Accordingly, there are three different types of internal control problems to resolve (Fligstein, 2002). Firstly, there is the relationship between managers and employees. Secondly, there is the separation of ownership and control. Lastly, the division of labour between different levels of management is an internal control problem.

Christine Mallin (2013) argues that the delegation of work from a principal, such as an owner, to an agent, such as a director, can be disadvantageous. Agents can work in their own interest by not taking the appropriate risk in pursuing the principal's interests. This might occur because agents view the risk as inappropriate, or because they misuse their access to more information. There is also the further problem that as utility-maximizing individuals, the agents may pursue their own pecuniary gain at the expense of the shareholder and the corporation. This is where shareholder primacy seeks to resolve the issue by insisting that a corporation's board of directors should only be seeking to maximize the interests of shareholders. Shareholder primacy exists along a spectrum and has the single goal of maximizing shareholder interests. Shareholder primacy advocates argue that adopting and applying this model maximizes the wealth of all members of society, because increasing share value tends to imply an increase in the value and profitability of the

corporation itself, which in turn is assumed to benefit third parties in the community and the broader economy.

A major legal precedent for shareholder primacy was the early case of Dodge v. Ford Motor Co. (1919). The Dodge brothers argued that profits in the form of dividends belonged to shareholders and Ford should not have given that money to customers. The trial judge agreed and it was established that directors have a legal duty to put all shareholders' interests before the other stakeholders. The following three arguments provide support for shareholder primacy.

One of the main arguments is that while contracts already provide protection for stakeholders (Zhao, 2012), it is unlikely that contracts can foresee every event that will affect stakeholders due to the limited nature and benefits of the contract in terms of the task or event specific criteria to which it applies. A contract is transactional and makes it difficult for the parties involved to see the bigger picture. Shareholders are seen as "residual unspecified claimants" while other stakeholders receive their fixed claims. Also, shareholders are only paid what is left after the fixed claimants are paid. Therefore, shareholder primacy seeks to fill the gap between shareholders and corporations where contracts lack the speed and simplicity to respond to swift changes in the corporate world.

A second argument in favour of shareholder primacy addresses agency costs. Since shareholders are liable to suffer the consequences of the poor decisions of directors, they should be allowed to instruct directors with respect to their duties. While this argument is central to agency theory in its attempt to resolve incongruity between the interests of agents and principals, it nonetheless fails to address the effects of poor management on other stakeholders, such as employees, suppliers, customers, and members of the surrounding community.

The third argument is based on property law. Zhao (2012) states "the shareholders are owners of the company and elect the directors to run the business on their behalf and hold them accountable for its progress" (p. 16). Proponents of shareholder primacy models further constrain this argument by stating that shareholders are the only providers of capital to the corporation and thereby the only "proper" stakeholders. However, proponents do not acknowledge that employees also provide human capital to the corporation and are also stakeholders. This property-based approach is problematic because corporate law establishes a corporation as a separate legal entity that cannot be owned by anyone. Shareholders are widely dispersed with limited rights that do not control corporate assets, and limited liability which alleviates them of responsibility to creditors and responsibility for corporate actions. Indeed, shareholders do not decide what to take from the corporate purse, and rather receive payment from profits (i.e., dividends if and only when the corporation has acquired sufficient profit and/or the directors decide to declare the profit) (Stout, 2002).

Stout (2013) offers persuasive arguments as to how shareholder primacy causes greater problems than the ones it seeks to resolve. Firstly, shareholder primacy has created a new problem between creditors and shareholders. Debt contracts cannot account for all actions of the board of directors. Creditors' remedies need to be expanded against third parties by creating notice procedures such as those used by secured creditors (Stout, 2012; Stout, 2013). Additionally, shareholders are residual claimants only within the realm of bankruptcy law. This means that shareholders have the right to residual assets available only after all other costs have been paid. Outside of this realm, the corporation is a legal entity and it is its own residual claimant with legal title to its own profits where shareholders are only legally entitled to the dividends that the board of directors might declare (Stout, 2013).

Secondly, Stout (2013) argues that shareholder primacy cannot address the different interests of shareholders themselves because as a group they are neither fixed nor static. Shareholders hold shares for different time periods depending on their goals. By solely focusing on share price, directors may be negatively targeting long-term shareholders because the short-term shareholders sell their shares before damage in the corporation becomes apparent. Shareholder primacy may also be disadvantageous for individual investors who are overpowered by institutional investors that actively manage large pools of capital such as hedge funds and mutual funds. In addition, by paying managers based on how the stock performs, there is personal incentive to focus on short-term share prices rather than being concerned with the company's long-term goals. This causes managers to think like short-term investors and make decisions that they would not have made otherwise. For instance, a Chief Financial Officer (CFO) might reject a project that would produce profit in the long term if she or he were required to meet certain expectations for next quarter (Stout, 2012; Stout, 2013).

Finally, Stout (2012; 2013) effectively demonstrates that shareholder primacy cannot be both efficient and equitable. It was found that shifting to a shareholder-centric model only increases shareholder wealth once while eroding the long-term ability of the corporation to produce profit. Several studies now reveal the correlation between the increase in shareholder primacy doctrine and the growth of wealth inequality (Ireland, 2005; Lazonick, 2009; Lysandrou, 2011).

Courts in both Canada and the United States are also ruling against shareholder primacy as they see its drawbacks. In the case of Peoples Department Store v. Wise (2004), as discussed below, shareholder-focused legal duty is not necessary since shareholders can replace the board of directors and ensure that the board focuses on their interests. Although proponents of shareholder primacy assert that the interests of non-shareholders may be adequately protected through contractual specifications or extended regulations, it has not been proven (Lee, 2005). Some scholars believe, however, that while the Supreme Court of Canada had an opportunity to clarify directors' duties in Peoples v. Wise (2004), much ambiguity remained (Waitzer &

Jaswall, 2009). What is evident, however, is that there is no clear mandate that demands that directors act to maximize shareholder value at the expense of the corporation or other constituents.

In Peoples v. Wise (2004), the Court acknowledged that directors owe duties to more than just the corporation. Section 122(1)(a) of the Canada Business Corporations Act of 1985 (2015) establishes a duty to the corporation. This case expanded the beneficiaries to include creditors under section 122(1)(b). The court recognized other relevant factors in determining what directors should consider in managing the best interests of the corporation (Lee, 2005). Canadian law has been seen as focusing on the duty to the corporation whereas advocates of shareholder primacy argue that American law focuses on shareholder primacy. This is a contested claim, however, as some legal scholars have begun pointing to a long history of director-centric rulings in Delaware, where the majority of Fortune 500 corporations are incorporated (Bainbridge, 2006).

Peoples v. Wise (2004) also established an objective standard of care for directors while rejecting the subjective standard. Previously, the director's standard of care was subject to the individual capabilities and competence. Peoples v. Wise (2004) established a tougher objective standard of care that applies to directors. The two-pronged business judgment rule focuses on results and the process, which is similar to the Delaware two-pronged test. Firstly, the court analyzed whether the director followed a reasonable decision-making process. Secondly, the court analyzed whether the result of the decision was reasonable. There are many aspects of the process to analyze such as whether the directors spent an adequate amount of time on the decision; whether they understood the issue; whether the information was tested or accepted at face value; whether the issues were debated openly and candidly (Koehnen, 2004).

Ian Lee (2005) explains that the only discussion the court failed to acknowledge was the normative debate with regard to shareholders. Firstly, as a conceptual debate, proponents of shareholder primacy see shareholders as owners entitled to expect their assets to be used solely for the purposes of furthering their interests. This argument is easily dismissed because shareholders only own shares that give them rights determined by corporate law and the corporate charter and assets of the corporation. Secondly, the debate is centred on whether the power of managers is better channeled by imposing legal duties to serve only the interests of the shareholders or by considering the broader impact of their activities (Lee, 2005). The one-dimensional goal of shareholder primacy can hurt other stakeholders. On the other end of the spectrum, managerialism can allow for managers to get away with mistakes as they are trying to find the right balance between everyone's interests.

Although shareholder primacy proponents advocate that directors have less leeway to escape responsibility when they solely focus on share price, there are already attempts to quantify the exact value of other stakeholders. Corporate

directors and managers should not focus solely on the interests of shareholders but rather find a way to balance the interests of all stakeholders. Thomas Smith argues for the expansion of the concept of shareholder value to investor value by including the market value of a firm's debt in empirical measures of firm value (Fisch, 2006). Michael Jensen also proposes to include "the sum of the values of all financial claims on the firm—debt, warrants, preferred stock and equity" (as cited in Fisch, 2006, p. 669). Additionally, Jeffrey Gordon is working on finding a method of incorporating employee value into the corporation's value (Fisch, 2006, p. 669). These methods suggest that we can find ways of measuring the value of different stakeholders to the firm in order to establish a more objective method for directors to account for stakeholders in their decision-making, not just dismissing other stakeholders because share price is the easiest to measure.

Today we see that methods of firm management are shifting. For instance, sharing economy corporations such as Airbnb and Uber have a fundamentally different set of stakeholders, and thus cannot be managed in the same way that older multinational companies have run in the past. These companies often tend to be transparent about the way they are run with the public, and media exposure ensures that the public is more interested in the way they are run. If they are funded by investors or crowdfunded, they have the dual obligation of catering to the interests of both shareholders and customers. As the sharing economy expands, and new companies evolve from small startups to multi-million-dollar corporations, a new body of scholarship will be necessary to examine whether there are shifts in the shareholder primacy doctrine, and what the consequences of these shifts might be on broader social welfare.

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LISA CLARK

Ditchin' the Cafeteria

The culture of eating lunch out
for high school students

Studies involving young people and food consumption have focused predominately on the "barriers" to accessing "good" food and its effect on health and/or the poor food choices of young people. Although relevant to young people's lives, they tend to ignore the broader social, cultural, symbolic, and emotional roles involved in eating practices.

This research explores these broader sociocultural influences on food choice among high school students, and takes an ethnographic and exploratory research approach in order to examine the everyday food encounters of two high school students. A total of 2 participants aged 16 and 17 from separate high schools in the East Toronto area took part in this study. This research provides a unique insight into the ways in which these participants construct and mediate identity through food. Data was collected based on the accounts retrieved through an audio-recorded focus group session with the two participants. Additional data was collected through anonymous survey results, participant observation insights, and a scholarly literature review. The analysis found that three patterns emerge; space/place, social relationships, and social mobility.

Keywords: youth culture, qualitative research, identity, consumption, space and place, social capital

BACKGROUND

Research involving young people and food tends to focus on the "poor" food choices made (Beaulieu & Godin, 2012; Bezerra, Curioni, & Sichieri, 2012; Yeung, 2010; Miles, Cliff, & Burr, 1998; Patrick & Nicklas, 2005). Emphasis on the social and economic barriers to healthy eating can result in neglecting the emotional, social, and symbolic role that food can play in young people's lives (Bugge & Lavik, 2010; Ioannou, 2009; Lupton, 1994; Nukaga, 2008; Stead, McDermott, Mackintosh, &

Adamson, 2011; Stok, de Ridder, Adriaanse, & de Wit, 2010; Stok, de Ridder, de Vet, & de Wit, 2014). There are a multitude of complex influences that can affect a person's food choices. Food is not just for banal consumption, it is something that creates meaning for people and groups, projects identity formation, expresses values and beliefs, and represents social affiliation (Cronin, McCarthy, & Collins, 2014; Miles et al., 1998). The activity of choosing what to eat is shaped by the "situation," including social context, food availability, time constraints, and habit (Bell & Pliner, 2003; Hetherington, Anderson, Norton, & Newson, 2006; Jaeger, Bava, Worch, Dawson, & Marshall, 2011).

High school students tend to spend more time with friends away from parental and adult influence (Miles et al., 1998; Wills, Bracket-Milburn, Gregory, & Lawton, 2005). The physical change in location experienced by young people who dine off campus can demonstrate ways in which young people construct their independence (Hall, Coffey, & Williamson, 1999; Ioannou, 2009). Space and place not only aid in fostering social independence, but money and mobility are also factors that influence a young person's ability to experience a particular form of financial independence. High school students are more likely to have more disposable income and physical independence than younger elementary school students, resulting in visiting fast food restaurants more often (Bruening et al., 2014; Miles et al., 1998). Although these aspects of mobility and income influence one's desire and choice of food, it is important to examine even broader constructions that can act as barriers and/or entrances into groups.

Financial costs greatly impact adolescents' decisions on where they eat out and/or if they eat out for lunch at all (Bruening et al., 2014; Wills, Bracket-Milburn, Lawton, & Roberts 2009). Pedrozo's (2011) research on consumption in Rio de Janeiro explores the contentions associated with Brazil's push toward an advanced economic development while the basic needs of the population are not met. This example illustrates not only the under-theorized intersection between youth and globalization (Maira & Soep, 2005), but also how young people are subjected to limitations of all kinds due to cultural expectations created and reinforced through globalization (Pedrozo, 2011). The social pressures that encourage young people to become savvy consumers can be contradictory to their economic realities, which results in groups becoming either oppressed or empowered by the contradictions of consumer society (Pedrozo, 2011; Edwards, 2000). The act of consumerism not only influences group inclusion and exclusion on a global scale, but also affects the inclusion and exclusion of young people's peer groups locally (see Cronin et al., 2014; Pedrozo, 2011).

Friends and peer groups have a strong influence on development and behaviours in adolescents (Bruening et al., 2014; Stok et al., 2014). Research indicates that young people valued social eating with peers, even if they were negatively influenced through this social act of eating (Absolom & Roberts, 2011; Hutchinson

& Rapee, 2007). Examining peer-group influence can help one to understand and to explore young people's construction of status, social belonging, agency, and identity (Brown, McIlveen, & Strugnell, 2000; Cronin et al., 2014; James, Tingstad, & Kjørholt, 2009; Miles et al., 1998; Stead et al., 2011). This research will move away from the dominant research involving young people, food, and health (Beaulieu & Godin, 2012; Yeung, 2010; Miles et al., 1998; Patrick & Nicklas, 2005), and in so doing will examine the pivotal role that food plays as an identity marker and social tool, and the symbolic dynamics that it holds in young people's lives (Absolom & Roberts, 2011; Delormier, Frohlich, & Potvin, 2009; Lupton, 1994; Neely, Walton, & Stephens, 2014).

PURPOSE

The purpose of this research is to identify the intersecting factors that influence high school students' choices in where they eat off campus during lunch. It also aims to gain insight into the social and symbolic role that lunch plays in the identity construction of students and its effects on social interactions. The two participants, aged 16 and 17 years, greatly informed this research. It is important to note that this research is based on the experiences and knowledge of these two participants and that the findings cannot be applied to every high school student who eats off campus, for "both youth and childhood have had and continue to have different meanings depending on young people's social, cultural and political circumstances" (Wyn & White, 1997). There is a variety of experiences that one can have based on social, cultural, and political circumstances. This research will help to underscore the importance of doing research with young people in order to understand a broader social, cultural, and political perspective.

METHODOLOGY
Participants and recruitment

The recruitment method for this research included a convenience sample and randomized recruitment from food businesses located in walking proximity to a high school. The participants who took part in this project included two high school students that attended different schools, one aged 17 who identified as male (Pat) and one aged 16 who identified as female (Tammy).[1] These participants were chosen on the basis of how often they go off campus (three to five times a week) for lunch during the school lunch period, which made them appropriate participants to take part in this project. Due to the small scale of this research, those who dined at school for lunch were excluded. The second set of participants was a sample of 6 anonymous high school students ranging from 15 to17 years of age. These participants took part in a randomized survey that was conducted at a food vendor within walking proximity to a high school during the lunch period. The high school location was not released to the two participants in order to maintain anonymity.

The randomized survey showed the frequency at which the participants dined off campus, which helped in analyzing the survey responses. All participants, including the anonymous participants, were given information of the intentions of the investigator and were told that the research was about their experience and knowledge. Informed voluntary consent forms, as well as information leaflets and discussion about the research, were provided to all participants.

CONTEXT

There was one focus group session conducted with the two participants, which involved a semi-structured interview that was audio recorded. This took place in the staff room where both participants are employed. This space was recommended by Pat and Tammy, which made it a relaxed environment for both participants and for the investigator. The group method was used in order to give space to the possibilities of group analysis (Maira & Soep, 2005). The following example demonstrates a small group analysis about the participants' ideas and attitudes toward leaving their schools' campuses:

> **Investigator:** "Do you think people's behaviours change being on school campus, and then, whenever you leave?"
> **Pat:** "Yes. One hundred percent!"
> **Tammy:** "Well at mine. Everyone just does everything. This morning there was literally a drug deal this morning in front of my locker."
> **Pat:** "I just think like if you're off school property you can just do more."

The two participants demonstrate a personal reflexive analysis when they criticize the other participant's response. This conversation also created a space for confirmation and reassurance of their ideas, which were both shared and challenged. This form of reassurance was also prevalent with the anonymous participants' interactions while completing the survey.

Six anonymous participants were recruited to complete a survey on an iPad. The participants were approached in groups of two, and each pair completed the survey together, resulting in three responses in total. Observational research was conducted in a fast food restaurant within proximity of a high school during lunch hours. The investigator's participant observations helped to compare and contrast common themes found in the discussions with the two participants. This observational method resulted in a contextual understanding of the space and spatial mapping of dining out during lunch hours. The anonymous survey responses were also used to initiate discussion with the two participants and were used to compare and contrast their own ideas with the ones on the survey completed by other high school students. It is important to mention that there was only one focus group session completed. This did not allow for the data to be analyzed by the participants themselves. Additionally,

it did not allow for the investigator to discuss inconsistencies found in the audio recordings with the participants.

ANALYSIS AND DISCUSSION

Three themes emerged with regard to the sociocultural significance of going out for lunch within the participants' lives. Initially all the participants stated that the main reason for leaving school at lunch was for food. When the participants were asked what was "important" about going off campus, the survey results and the focus groups shared similar findings of space/place, social relationships, and mobility/income influences. Most apparent was the absent discussion around health and food. This raises the concern about the vast amount of existing research surrounding young people and "poor" choices, which pays little attention to the sociocultural element of food choice. It is important to be critical of previous theoretical frameworks, as they tend to focus primarily on ideas about health. The definition of "health" can change depending on context. The participants in this study did not refer to their health or "poor" choices in food. In examining the social and cultural role of food, one can begin to deconstruct notions of health and "healthy" food.

The importance of dining off campus for the participants ranged from the school cafeteria being too crowded, to the value of getting a break from school, or to being able to spend time with friends. All of these responses suggest that the importance of a lunch break was not necessarily for food, but for a change in space. The decision to leave campus gave these participants the ability to socialize differently with their peers from how the school cafeteria did. These new social spaces were deemed important as they were referred to as offering a "break." This "break" can suggest that there is a particular freedom being offered off campus that allows students to assert themselves differently in this new atmosphere. Pat and one of the anonymous participants both physically opened their arms as if they were about to embrace someone in order to describe the need to "get away" from school. The dramatic physical use of their bodies can be interpreted as their feeling confined within the physical school space. It could be suggested that the change of space is important to these young people in demonstrating their localized and individual citizenship (Hall, Coffey, & Williamson, 1999). For example, two of the anonymous participants said during the time they filled out the survey that on particular days, they go to certain places because of the lunch deals offered there. This social aspect within food practices demonstrates the participants' agency and independence in determining where and when to eat, based on financial and time factors (Delormier, Frohlich, & Potvin, 2009).

Social relationships became the prominent topic of discussion in the focus group. The participants used food practices as a way to manage their social relationships. In order to do so, the participants explained negotiation strategies that were often

tacit and non-verbal in deciding where to eat out for lunch (Neely et al., 2014). Pat stated, "it just sort of happens" when deciding on where to eat lunch. The negotiating that takes place is not a long process, from what the participants explained; rather, it entailed influence, acceptance, or negation from peers, and what "deals" existed on that day. In deciding where to go, the participants also voiced that some of their peers may lack money. In order to maintain the social relationship, trust was used as a tool (Neely et al., 2014). Only a select few friends in Tammy's peer groups were said to be trustworthy. She stated, "I only spend money on my one friend Jane, 'cause she's worth it." Tammy's statement helps to establish group inclusion based on who the participant deems valuable. This statement did change throughout the discussion when Tammy used a different name instead of Jane. This was only caught when reviewing the audio recordings, which does not allow for the assumption to be made that Jane is the only friend for whom Tammy buys lunch. It also should have been further explored as to why she is "worth it." When she was asked, Tammy said, "all my friends are ungrateful little children." A second discussion should have been arranged with Tammy in order to determine the qualities that make her other friends not "worth it." Pat on the other hand did not name any specific friends but referred to his peers as an entire group, and if one needed money he would lend it. With a larger sample of participants, it would be beneficial to compare and contrast the influence that gender can play in managing social relationships within the lunchtime context.

Pat often made it clear throughout the discussion that he is very generous with treating his friends to lunch, demonstrating a form of empathy for his friends. Pat also showed care in a different form with regard to the students who stayed at school for lunch: "then I look at other people and they're like sitting there and eating a sandwich or something, and I'm like, I dunno know, that sucks." It is interesting to note that Pat demonstrated empathy as a way to manage his social relationship with his "friends," but also exhibited empathy in comparing himself to "other" students at school. The ways in which the participants compared themselves to the students that stay in for school speaks to issues of status and belonging to groups within the school environment.

In research of the youth subculture described as emo, Peters (2010) points out that words like emo denote identification and represent who is acceptable and who is not. This gives insight into how social groups are organized according to "membership" and managed by these participants (Stead et al., 2011). The management of groups is also seen in creating distinctive identities amongst "hipster" groups (see Cronin et al., 2012). The "other" group that was not included in this research seemed to hold a lower social status than those who went out for lunch. Pat said, "people that go out tend to think of themselves higher than people that stay in." The management of social relations by the participants within the lunchtime outing helps in understanding the communicative and symbolic role "lunchtime" can play

in peer group organization. The sociocultural element of food choice needs to be addressed in research because it can demonstrate cultural expectations and its limitations, how people have different access to certain spaces, and how these spaces can act as markers of difference, maintain and create relationships, and form identity. Due to the limited sample of this study there are weaknesses, and it would be beneficial to analyze behaviours of high school students who tend to stay in for lunch in order to get a richer analysis of peer group organization.

Both participants agreed that those who are seen leaving campus for lunch are assumed by others to have money. A Bourdieusian framework in understanding individuals' status within an organization can help to highlight how the participants ranked going out for lunch as "better" than staying in (Jenkins, 2014). Within the school setting, the participants displayed their "social capital" by taking part in the process of going out for lunch by leaving school campus. It is important to think about who is able to take part in this cultural act of eating out, and the economic barriers that may exclude young people from becoming a part of certain groups. The negative discussions around those who did not purchase, or those who stayed on campus for lunch, symbolize social hierarchies within the school. It is important to reiterate the fact that this conclusion has been reached on the basis of responses from two participants who both enjoy going out for lunch. This research does not include schools whose policy does not allow students to leave campus for lunch, but it would be an interesting topic to explore in future research.

RECOMMENDATIONS AND LIMITATIONS

The space in which the focus group was conducted was beneficial with regard to creating a relaxing environment, but there were many interruptions. The participants' co-workers would pass by and chime in about the topic, which could have swayed the participants in terms of what they wanted to discuss. This was a good first meeting place, but in order to achieve a more complete analysis, a one-on-one session along with more focus group sessions in a less distracting space would have been beneficial. It would also be advisable to give the participants an information pamphlet about the research they were to be involved in, as well as information about the research findings. Lastly, a larger sample group with participants from diverse backgrounds would have created a broader framework in understanding the multitude of factors that can create and influence lunchtime culture in high school.

CONCLUSION

This research revolves around a particular time (lunch period), place (away from school), and space (choice in food vendor) that make up lunchtime culture. It sheds light on a range of situational factors that influence the participants' decision in choosing where to eat and demonstrates how eating lunch off school grounds can create a space for students to negotiate boundaries between peer groups outside of

the school space. It highlights the complexities involved in lunchtime culture including the change in place/space, the negotiations made within peer groups, and the significance that mobility/income plays in group exclusion. While it only sheds light on some of the sociocultural factors that influence the participants' decision to dine out for lunch, this research contributes to the emerging field of understanding young people's social and cultural lives and stresses the relevancy of examining the influence that food plays in social meaning and identity construction.

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[1] Pat and Tammy are the pseudonyms chosen by the participants.

Abstracts

Résumés

The following abstracts accompanied posters presented at the third annual multidisciplinary Undergraduate Research Fair held at York University (Toronto, Canada) in February 2015. The poster images can be viewed by clicking on the abstract titles or by visiting the Revue YOUR Review *website:*

http://yourreview.journals.yorku.ca

Ces résumés accompagnent les affiches qui ont été présentées lors de la troisième foire annuelle de recherche pluridisciplinaire des étudiants de premier cycle de l'Université York (Toronto, Canada), qui a eu lieu en février 2015. Pour voir les affiches, veuillez cliquer sur le titre du résumé ou bien visiter le site Web de la Revue YOUR Review *:*

http://yourreview.journals.yorku.ca

DEBORA ALCIDE

St. Lazare, Autun

A conundrum in stone

The Cathedral of St. Lazare (Autun, France), with work by the celebrated sculptor Gislebertus, is one of the most scrutinized and misunderstood Romanesque cathedrals in Europe. Since the last century, art historians have almost unilaterally come to similar conclusions about the church, and their theories have garnered little, if any, debate. Gislebertus is considered to be the artist responsible for the superlative figurative sculpture on the exterior and interior of the Romanesque church. This essay challenges these conclusions, and suggests an unconventional interpretation of the cryptic statement carved on the tympanum, "Gislebertus hoc fecit" or "Gislebertus made this," and questions the veracity of the iconic signature. The sculpture in the cathedral is renowned for its artistry and for the moral and enigmatic messages imparted. Rational alternatives are given for deciphering the implications of three of the most studied column capitals. New findings with scientific measurements can now link the artist's knowledge to a precise and intelligent understanding of advanced astronomy.

    Past scholars have been unable to formulate a precise rationale for the building of a new church constructed only a stone's throw away from a viable cathedral. The building's atypical orientation and axis further complicate its purpose and demand further explanation. New information and research suggest alternative explanations for its unusual positioning and the identity of its famed sculptor. By examining the design, the patrons, and the politics of the twelfth-century church, the author challenges accepted hypotheses and applies unorthodox processes to help solve the mysteries of the 900-year-old cathedral.

CHIZARA ANUCHA

The Black Girl's Burden

Sexualized stereotypes and the reproductive health of Black women

Women of colour fare worse than white women on almost every health outcome. This disparity is particularly pronounced with respect to reproductive health outcomes (Augustine, 2004). Current research identifies cultural competency as a crucial concept for creating effective sexual health programs for racialized and queer youth. Studies show that culturally competent sexual educational programming reduces risky behaviours that lead to poor reproductive health outcomes. My research focuses on three questions: Why do African Americans have lower reproductive health outcomes compared to their Caucasian counterparts? How is current programming on sexual and reproductive health inadequate for the needs of young women of colour?

Can reproductive justice and culturally competent education programs help bridge the divide? Using a photo essay and a comprehensive review of the literature, I analyze historical and contemporary sexual representations of black women and examine the impact that shouldering the "burden" of these stereotypes has on the reproductive health of African-American women. The project analyzes selected sexual health curriculums and programming available to young women of colour through critical and reproductive justice frameworks. I use the Native Youth Sexual Health Network (NYSHN) as a case study and model for how sexual education and sex positivity programming, rooted in a reproductive justice framework, can help young people of colour challenge colonial sexual legacies and express their sexuality in empowering ways.

This research demonstrates the importance of culturally competent reproductive justice education as a means of empowering and improving reproductive health outcomes for African-American women.

RENEE BRUCE

Medical Pluralism

This research project examines whether or not cultural factors influence an individual's decision to use alternative medicine. Potential participants were new Canadians with close ties to their home cultures, and access to information concerning western biomedicine and folk medicine. I questioned what influenced them to use one approach over another and why they would combine treatments. A 50-year-old Black woman, a Canadian citizen with Jamaican heritage, was interviewed for this study. Following the interview, I examined the data and found that the respondent was influenced by her Jamaican culture, where she learned to rely on folk remedies, and by her Christian faith for healing. She was also influenced by the recommendations of peers dealing with similar health issues (e.g., migraine headaches).

HALIME CELIK

Nunavut Youth Suicide Prevention

"If the populations of 'mainland' Canada, Denmark and the United States had suicide rates comparable to those of their Inuit populations, national emergencies would be declared" (Upaluk Poppel, 2005). Nunavut has the highest rate of youth suicide in Canada, and yet there are very few resources allocated to solving this problem. From 1993 to 1997, the suicide rate in Nunavut was 88 people per 100,000, compared with 13 for the rest of Canada. The suicide rates for Inuit men in Nunavut are ten times higher than the national rate in Canada. Inuit youth end their lives for various reasons, some of which are preventable. This research investigates the potential causes of suicide in Nunavut and analyzes various factors such as colonization, residential schooling, poor parenting, violence, and alcohol abuse. Initiatives by both government and non-governmental organizations have been aimed at lowering suicide rates by, for example, limiting the means of suicide. Suicide rates in the UK were drastically reduced when the government replaced the use of toxic coal with non-toxic natural gas for domestic use, so people could no longer poison themselves by putting their heads in the gas ovens. I argue that, although this may be a way to reduce suicide rates, it is a temporary solution which does not address the root causes of the problem. I make policy recommendations for some of the problems that the Nunavut population currently faces.

MARISSA CHASE

Faith–Based Non–Governmental Organizations

Motivations and impacts

Non-governmental organizations (NGOs) are often seen as the best way in which to pursue development, and are commonly thought to be objective third parties in international relations. However, NGOs are far from objective parties, and have private agendas they seek to pursue. This paper explores the growing role of faith-based NGOs in developing nations through a literature review of relevant sources. The definition of a faith-based organization is examined in terms of the aid given and how it is distributed. Examples of the various roles of faith-based NGOs, whether in working closely with local peoples to deliver more efficient aid, or in situations where the distribution of aid was impacted based on religious views of those in need. Special consideration is given to the ways in which faith-based NGOs impact the HIV/AIDS crisis in Uganda and Kenya, as religious beliefs may come into play in determining which forms of prevention may be used. The need for new and better methods of development is discussed, through consideration of post-development theories in determining what is development and how to pursue it, and how these theories impact faith-based NGOs.

VICTOR CHOI

Asserting Canadian Arctic Sovereignty

Is the best offence a good defence?

The Canadian Arctic has always occupied a space within our identity as a nation. However, propelled by a changing climate, the expanding search for natural resources, and the actions of international actors, the Arctic has recently assumed a position of political prominence as well. Canada's Northern Strategy, introduced in 2009, outlines four areas of priority: exercising Canadian Arctic sovereignty, protecting environmental heritage, promoting social and economic development, and the devolution of Northern governance. Furthermore, 2010 saw the announcement of the National Shipbuilding Procurement Strategy (NSPS)—a $36.6 billion initiative that at once asserts Canadian Arctic sovereignty as a priority for the present government, and displays the Defence-heavy approach that will realize this goal. In light of the growing significance of the Canadian Arctic region, is such an emphasis on Defence initiatives advantageous for the assertion of Canadian Arctic sovereignty? Through the analysis of Cold-War-era Defence memoranda, a juxtaposition of the past and present political environment of the Arctic region is presented. The economic precariousness of the $3.1 billion plan to procure Arctic/Offshore Patrol Ships is explored through consideration of the October 2014 budget analysis released by the Office of the Parliamentary Budget Officer. Finally, the social implications of the current government's Defence-heavy approach are framed by the narrow definition of human security that they imply. The current NSPS initiative is found to be incompatible with the existing political environment of the Arctic circumpolar region, not only for economic reasons, but because of social implications that threaten Canada's Arctic sovereignty itself.

ARTHUR CHUNG

Globalization on Trial

Globalization, capitalism, and Greece

"If we cannot pay today, we can pay tomorrow." Is debt our friend? This research project investigates contemporary globalization led by a neoliberal economic system. Taking modern-day Greece as a case study, the author examines the relationship between consumerism and consumer debt. Greece has always been held accountable for its national debt, and must endure fierce austerity measures to receive its bailout funds. Using a collection of real-world statistics, interviews, and video captured during the Greek riots (2012), the author shares feedback from both Greeks and non-Greeks with respect to the Greek debt crisis. The dilemma in Greece illustrates the devastating effects of consumerism, and how the accrual of debt within financial capitalism is a tragedy waiting to unfold, because globalization will accelerate and spread debt crises. The global community could learn from Greece's debt plight.

JESSICA CLEMENT

Looking at the 2008 "Great Recession"

What did we learn from the Great Depression?

This project compares the causes of and government responses to the Great Depression of 1929 with the "Great Recession" of 2008 to answer the question, "What did we learn from the Great Depression?" Results show that the causes of the Great Depression were strikingly similar to the causes of the 2008 recession. Deregulation, income inequality, a belief in free market ideology, and a financial market bust all contributed to both the Great Depression and the 2008 recession. Government responses to the recession suggest that we did in fact learn something after all. The "Great Recession" of 2008 could have turned into a new Great Depression as the decline in manufacturing was just as severe, and global stock markets and world trade fell even faster than during the 1929 depression. Clearly, governments were able to learn something from the Great Depression that allowed them to better cope with the effects of a potential crash by using fiscal and monetary policy to stimulate the economy, preventing it from spiralling downward. It would appear that we have learned how to prevent crises from becoming depressions, without learning how to avoid crises in the first place.

STEPHANIE D'AMATA

Perspectives on the Physical Signs of Aging in Later Life

This project explores how the physical signs of aging and current social pressures affect people's self-image as they approach seniorhood. Receding hairlines, wrinkles, and grey hair are a few identifiers of aging. These physical traits often affect the way a person is treated in society and are associated with ageist stereotypes that suggest older people are less physically and mentally competent compared to younger citizens. I interview one male and one female participant of different generations on their outlooks towards aging. My interview questions include the following: How has your outlook towards looking older changed since your youth? Which aspects of your appearance would you alter and why? What pressures, if any, do you feel to look more youthful? In your opinion, are anti-aging products at fault for the social standards on aging, the media's portrayal of the senior population, and/or peer pressure to look younger? I analyse the results through the sociological framework of life course perspectives, successful aging, and feminism. My findings differ significantly from my initial predictions in that the male participant felt more pressured by peers to mask the physical signs of aging more than the female participant. I attribute these conclusions to the generation gap between the participants and their individual upbringings. I also conclude that aging is an individual journey that does not necessarily follow theoretical trends.

ALICIA EDWARDS

Irish Costume and the Construction of Anglo-Irish Identity

This project relies on select theories of identity formation (e.g., Benedict Anderson's "imagined communities"; Judith Butler's "gender performativity") in order to better understand how "Celticness" is [re]produced in numerous cultural artifacts. This interdisciplinary project examines fashion, mediaeval bridal costume, Celtic knots, and representations of the shamrock in the Anglo-Irish culture in order to understand how specific images become complex signs of Celtic Identity, from the Celtic Revival Period to the present. Gaps in scholarship are suggested.

CHRISTOPHER ELCOMBE

Untraceable

A videogame designed to teach programming terms and concepts

The "Untraceable" project is designed to teach students the concepts, themes, and terminology of computer programming within the Ontario high school curriculum. It does this through a series of logic puzzles designed to teach students in grades nine through twelve the syntax and structure of a programming language in a visual setting with an enjoyable narrative. Students are placed in a futuristic world, and guide a protagonist with psychic abilities. Players are captured by the government, and forced to develop their powers through a series of programming puzzles as they team up with another captive psychic to try to escape. The game is created using Python, Cocos2D version 0.6.0, Pyglet, and other software to generate a game with graphical and musical content. The game will be tested with computer science students in an Ontario high school to evaluate the efficacy of gaming as a teaching tool, as well as to explore the effects of graphics, sound, narrative, and gameplay as components in a learning environment. The final iteration of the project will address any flaws found by students, and a user study will offer project reflections as well as suggestions to future researchers.

RACHEL ENGLAND

Rising from the Ashes of a Western Blaze

A review of research confirms that the neoliberal model of globalization in agricultural trade undermines food sovereignty and food-sharing practices in indigenous Ecuadoran fishing societies. This project examines the interrelated factors involving the displacement and poverty forced upon Ecuadorians in response to the lack of acknowledgement of their presence in and dependence on the mangrove ecosystem in Manabi, Ecuador (Latorre, 2013). It explores how food regimes are forged from historical thinking and emerge through neoliberal language (Fairbairn, 2010). Further, this project associates the fear of hunger in the homes of Western people (Bello, Walden, & Baviera, 2010) with the ignorance and displacement of the Manabi people, who are driven into greater hunger, poverty and consumption of unwanted chemicals (Altieri, 2010). I suggest that indigenous peoples maintain their eco-philosophies in order to regain their identities, which are synonymous with the cultural lands the corporate world has privatized (Morrison, 2011).

DENISE ENRIQUEZ

SECRET BODY

An interactive art installation using galvanic skin response and heart rate sensors

"SECRET BODY" is an interactive art installation that explores themes of stigma and social interaction. The piece attempts to display human emotion through data visualization. It measures emotion through affective science methods, using bioinformatic data to create a light pattern within ten human-shaped models and an interactive platform between the piece and the audience. By measuring human emotion through bioinformatic data and visualizing the meaning behind these implications, it explores the reasons for these untold stories. The interactivity of the piece encourages people to challenge the concept of stigma and to develop a more empathetic approach to others. These models have their own personal backstories, with emotion data taken from the backstories to create patterns of light to express those emotions. There are three ways in which emotional responses can potentially be measured: physiological reactivity, self-reports, and overt behaviours. Each model has five RGB LED regions that change colour according to the data gathered. Ten models, each with their own bodies, consist of a base, an interaction panel, and an internal insert to hold the LEDs laser cut out of acrylic sheets. Further research is needed on the accuracy of the bioinformatic measurements, the creation of clues to communicate the narrative, and the message the "SECRET BODY" attempts to express.

TARUN FERNANDEZ

Caffeine's Ergogenic Effects

Endurance exercise, resistance exercise, high–intensity exercise, and cognitive function/skill maintenance

Caffeine (1, 3, 7–trimethylxanthine) is a stimulant drug found in products such as coffee, chocolate, painkillers, and colas. Over 50% of people consume around 200 mg a day, which speaks to the importance of its effects. By increasing neurotransmitters such as dopamine, acetylcholine, glutamate, and norepinephrine, caffeine activates the pleasure centers in the brain, and increases heart rate and arterial constriction, which are hypothesized to be the cause of the ergogenic effects observed. This project delves into the literature on caffeine's effects on exercise and performance. Research on caffeine in sport has mostly been conducted on endurance-based exercise, which shows significant increases in performance. Caffeine has also shown to be ergogenic in the maintenance of skill and cognitive function following fatiguing protocols; increases in energy, alertness, accuracy, and clear-mindedness are common. The literature for caffeine and high-intensity exercise remains limited; however, it shows a positive correlation between caffeine intake and improved anaerobic performance. The doses producing ergogenic effects also have the potential of producing side effects such as insomnia, jitters, and nausea, which is why caution is advised for high intake. In terms of resistance training, studies remain scarce and more clarity is required to explain both significant and insignificant results. In order to address these gaps, future research recommendations include a focus on resistance training, a study of the effects of various modes of caffeine supplementation on reaction time and skill maintenance, and a review of the different modes of caffeine ingestion.

CHRISTOPHER FORD

Section Seven and the Right to Die

A critical analysis of the issue of doctor–assisted suicide in Canada

This research project attempts to answer the question of whether or not those who are terminally ill, of sound mind, and have a physical disability preventing them from taking their own life should have the moral and legal right to assisted dying in Canada, if they so choose. The study reviews how the Canadian Charter of Rights & Freedoms (1982) and the Criminal Code of Canada affect the right to die and provides a summary and analysis of two of the most prominent legal cases in Canada related to assisted dying: Rodriguez v. Canada (Attorney General) & British Columbia (Attorney General) [1993], in which ALS sufferer Sue Rodriguez was denied the right to assisted dying, and Carter v. Canada (Attorney General) [2012], in which plaintiff Gloria Taylor, also an ALS sufferer, was the only person in Canada to be granted a constitutional exemption to seek out assistance in dying—a case later referred to the Supreme Court of Canada. The research project also offers a moral analysis of assisted death from a variety of perspectives and scholarly backgrounds. It concludes by appealing to the Dutch example, in which assisted death is legalized and heavily regulated, and calls for a change to recognize the right to die.

PAOLO FORTINI

Investigating the Influence of Vegetation on the Habitat Choice of Various Bird Species in the Breeding, Mid-Summer, and Autumn Seasons

In this study, the influence of vegetation features on the habitat choice of various bird species was investigated. Counts of twelve bird species in Parry Sound were obtained for 49 plots of land for the breeding, mid-summer, and autumn seasons. In addition, the abundances of 25 different tree species were determined for these same plots. Using multivariate statistics, associations were found between each bird species and various plots for each season of interest. A correlation was found in the data for the breeding and mid-summer seasons (R=0.744, P=0), suggesting that the birds were responding to the vegetation in those plots in a similar way. A correlation was not found between autumn and either the breeding or the mid-summer season (R=0.278, P=0.09 and R=0.18, P=0.184). Each plot was designated either "coniferous," "deciduous," or "mixed," based on a ratio of the types of vegetation found in those plots. This would allow for the examination of preference. Results showed no overall preference for either plot type in the breeding and mid-summer seasons. The majority of the species preferred deciduous plots in the autumn. Stronger inferences about preference and about vegetation as a factor affecting habitat choice would require further investigation.

DANIEL FRIDMAR

Balancing Governmental Jurisdiction

The history of the division of legislative powers and its impact on Canadian unemployment insurance

This project aims to demonstrate how the division of jurisdictional powers between the federal and provincial governments prevented the implementation of unemployment insurance in Canada. The first section delineates a historic analysis by briefly expanding on the initial conflict in which "unemployment" and "insurance" were established in their respective jurisdictions. The second section focuses on the Great Depression as the instance of greatest need for unemployment insurance that influenced a more aggressive approach by the Federal government. The third section addresses R. B. Bennett's New Deal, in which he attempted to introduce the Employment and Social Insurance Act in 1935 as a means of establishing Federalist control over unemployment. The fourth section analyzes the legal arguments surrounding the New Deal that led to its ultimate failure. The last section focuses on how William Lyon Mackenzie King finally managed to implement a policy through the amendment of the British North American Act. Through this research, I discovered that, by assigning unemployment to the provinces and insurances to the Dominion, the division of powers in Canada prevented any impactful decision-making in aiding citizens suffering from unemployment. The fact that unemployment insurance was only implemented after constitutional amendment serves to demonstrate the importance of recognizing the division of powers. Once the division of powers was altered, all jurisdictional conflict pertaining to the matter ceased to exist between the two levels of government, suggesting that the governments had the physical means of addressing unemployment, but hesitated to do so, for political reasons.

JAY GAJIWALA

The Genetic Study of Genes Regulating Larva Foraging Behaviour in Drosophila Melanogaster

The study of animal behaviour from the perspective of genetics is essentially the study of how an organism interacts with its environment—that is, how genes interact with their environment. The task of studying behavioural genetics is difficult because most animal behavioural traits are expressed on a continuous spectrum and are polygenic. This research project uses the Drosophila melanogaster larvae foraging behaviour as a model in order to the study animal behaviour. Two genes are known to control the foraging behaviour of Drosophila melanogaster larvae: the foraging gene and the Chaser gene. The foraging gene has two forms: a "rover" allele (which causes the third instar larvae to move longer distances while foraging) and a "sitter" allele (which results in less movement during foraging). This study measures the longevity of sitter and rover flies, and found that rover flies live longer than sitter flies. The longevity patterns observed in this experiment were replicated with the use of transgenic Drosophila melanogaster containing Gal4/UAS and RNAi transgenes. The research project examines the Chaser gene, which is also able to modify the amount a larva moves during foraging. Although the location of this gene was previously mapped to the cytological region 95F7-96A1, this study proposes a modern deletion mapping to narrow the Chaser gene's candidate region to cytological band 95f8. The study was able to narrow the region where Chaser can exist to a region containing only three genes. Further experimentation is needed to determine which of the three is the Chaser gene.

EWAN GIBSON

Comfort Level with Technology and Perceived Support Among Community College Faculty

Technology has become prevalent in all aspects of the teaching and learning process, from communication to content delivery. The successful integration of technology appears to be mediated by several factors, including comfort level with technology and the quantity and quality of support available. However, the relationship between comfort level with technology and support has not been explored in detail. In this study, faculty from a community college in Toronto are surveyed on their attitudes toward technology and the type of technology support they receive at their institution. Results show a strong correlation between positive indicators of comfort level with technology and support tactics that centre on communication and the creation of environments conducive to experimentation and innovation. The findings demonstrate the need for institutions to engage with faculty in intentional, meaningful dialogue around technology, and to provide support and designate time to foster experimentation and innovation.

REBEKAH GOSYNE

The Effects of Globalization, Business, Corruption, and Culture on Human Trafficking

The trafficking of people across borders for the purpose of exploitation is a growing human rights concern. This project seeks to uncover the factors that encourage and reinforce the existence of human trafficking today, specifically in the areas of sexual exploitation and forced labour. This research project utilizes case studies and other academic secondary sources to determine the possible factors of human trafficking. An ethnographic content analysis is used to analyze all data. The analysis reveals that globalization, the business of human trafficking, corruption, and culture contribute to human trafficking. In order to stop human trafficking, the author suggests that the current conduct of economic globalization and the hearts and minds of people need to change.

MARIAM HAMAOUI

How Does Cutting Healthcare for Refugees Affect Refugees in Canada?

A literature review

This literature review examines the effects of Canada's healthcare cuts on refugees by analyzing five case studies—with qualitative and quantitative data gathered through surveys and in-depth interviews—and discussing results. All five case studies suggest that cutting healthcare for refugees is detrimental to the refugees, and will ultimately cost the government more than what it claims to be saving through cuts. Healthcare is essential for all members of society. In Canada, refugees and immigrants are entitled to receive free healthcare provided by the Canadian government for a period of time. This comes at no cost to the beneficiaries, and helps alleviate some of the pressures felt by people who must grow accustomed to new surroundings. From a moral standpoint, not only are healthcare cuts to refugees inhumane, but they also "violate Canada's international treaty obligations to be non-discriminatory in the provision of health services" (Stanbrook, 2014).

LUIGI IANTOSCA

Analyzing Woodstock as a Time of Peace, Love, Music, and Equality

This major research project deals with a single weekend in United States history—the Woodstock festival—August 15-17, 1969. I question whether or not the Woodstock festival truly was the time of peace, love, music, and equality that it is often portrayed to be. By analyzing primary documents (mainly newspaper articles from the era) as well as secondary sources, I explore the experiences of different groups at the festival and, when viewed through the lenses of race and gender, note that there were numerous social problems. Negative reactions to the event by political conservatives and local people are notable as well. I suggest that, seen from a contemporary perspective, the Woodstock festival was not entirely the idyllic event it is often depicted as.

JASON ISAACS

Cognitive Behavioural Therapy for Obsessive–Compulsive Disorder

Obsessive-Compulsive Disorder (OCD) is an anxiety disorder that causes one to have unwanted obsessions and compulsions. Obsessions are distressing thoughts that tend to arise spontaneously and regularly. Compulsions are repetitive actions and rituals that are executed in an attempt to control the obsessions. Individuals with OCD have little control over their thoughts and compulsions, so the unwanted thoughts and behaviours generate a significant amount of anxiety for these individuals. A common treatment for OCD is Cognitive-Behavioural Therapy (CBT). CBT is an active and behaviour-oriented treatment model. More specifically, treatment involves changing clients' mindsets as well as encouraging them to make physical changes to their environment. The purpose of this research project was to investigate the benefits and limitations of using Cognitive Behavioural Therapy to treat Obsessive Compulsive Disorder. Based on a review of the literature, the project outlines the benefits and limitations of three specific techniques used by cognitive behavioural therapists: Exposure plus Response Prevention (ERP), Thought Stopping, and Rational Emotive Behaviour Therapy. The general benefits and limitations of using CBT to treat OCD are discussed. Results show that all three specific CBT techniques have been proven effective in treating OCD. However, some limitations, such as failure to maintain therapy gains long-term, were noted. On a broader level, CBT was shown to be the optimal therapy for individuals with OCD. In particular, Exposure plus Response Prevention therapy has proven to be the best therapy technique for individuals with OCD. General limitations, such as the time-consuming nature of CBT for OCD, were also noted.

GIRE JONATHAN

TRIPS and India

A fight for seed freedom

After a brief overview of agriculture in India, this research project focuses on the World Trade Organization's Trade-related aspects of Intellectual Property Rights (TRIPS) agreement, and its role as a tool that, along with other economic actors, aids in the violation of articles 1 and 6 of the International Covenant on Economic, Social, and Cultural Rights— specifically, the right to quality food and traditional farming. The roles of the local regime, human rights, and the cultural significance of growing one's own food are considered, and potential solutions are proposed.

RAFFI KARAMANLIAN

To What Extent Has the Trade Embargo Against Cuba Been Effective in Fulfilling American Foreign Policy?

The United States trade embargo against Cuba was imposed in 1960, a year after the triumph of the Cuban Revolution, when Cuba nationalized American-owned properties and strengthened its ties with the Soviet Union. The embargo remained in effect after the end of the Cold War and the collapse of the Soviet Union. The United States tightened the embargo through the Cuba Democracy Act (1992) and the Helms-Burton Act (1996), widening the scope of the embargo to include foreign companies and subsidiaries of American companies conducting business with Cuba. The trade embargo remains in place. This project questions how effective the trade embargo has been in fulfilling American foreign policy goals. A review of the scholarly literature suggests partial answers and adds depth and complexity to understanding the mechanisms behind the embargo. Future data-driven research on the forces within the United States that influence Cuban policy, along with further studies within Cuba, may enable us to formulate a more comprehensive picture of the effectiveness of the embargo in fulfilling American foreign policy aims.

ARYA KHANA

Toronto's Financial District

A fieldwork assignment

This project explores the use of signage and place names in Toronto's Financial District, focussing first on how signs are used in the district (with specific examples and a discussion of implications), and second, on how people refer to the district (that is, the words used to describe the area and the meanings and implications of those words). The research methodology includes direct observation and interviews of four subjects. This study reveals that several types of signs—both formal and informal—are prevalent in Toronto's Financial District. Formal signs are those created by the government or businesses, and target both tourists and locals who work in the district. These signs suggest that the Financial District is an area for affluent workers and is supposedly a welcoming space for the international community (although English is the dominant language). Formal signs hint that those who work in the district are "successful," and may encourage others to work diligently and aim for a career in the district. Informal signs are less frequently found in the area, indicating the high degree of control businesses have over the district. An analysis of word use reveals that the Financial District is commonly referred to as "Bay Street" by passersby, but is more likely to be called the "Financial District" by people who work there. This is examined in light of macro-level concepts such as globalization and group identity.

KARAN KHANNA

Forced to Flutter

The Cold War and Washington's policy of containment

This research project outlines the causes of the Cold War and its philosophical, sociological, economic, and political foundations. The project sheds light on the leaders and thinkers who presided over that great glacial conflict, suggesting how their policies affected people around the world and how the conflict still defines our world today. I employ both primary and secondary sources: original works and memoirs of the leaders and thinkers of the time, and sociological, economic, and political works by historians. The project situates the Cold War in historical and philosophical context.

JOANNA KOTASINSKA

French–Language Education Policy at York University's Glendon College for Anglophone French–Specialist Students

A large percentage of students enrolled in French-language programs at Toronto's Glendon College (York University, Canada) are Anglophones, mastering the French language in order to use it in their professional lives. In order for these students to attain high proficiency in all aspects of the language—reading comprehension, writing, and oral communication—they take French second-language courses—specialized courses for Anglophones. The purpose of this study is to research different policy levels at Glendon College geared to administrators, students, and faculty, in order to understand their opinions and attitudes towards French second language learning, as well as language policy at the College. Key members of staff were interviewed, and student opinions were collected through an online survey distributed on social media. The bilingual policies of other colleges and the recommendations of the Canadian federal government were also analyzed. The study reveals current issues in French second-language education and proposes potential solutions. In general, results show that Glendon College students experience a lack of consistency in the progression of French second-language courses, and that courses lack a focus on oral production. The study outlines possible solutions for these issues, and proposes creating an official language policy for Glendon College programs.

SEAN LIOTTA

Control Shift

A puzzle–platformer videogame utilizing
multiple, unique control schemes

Control Shift is a puzzle-platformer videogame in which players utilize multiple, unique control schemes in concert with one another to solve challenges and overcome obstacles. The intent of Control Shift is to explore the areas of Human-Computer Interaction (HCI) and cyberpsychology in relation to videogames. This exploration is embedded into the game as players assume the role of a prototype robot tasked with navigating various environments that are intended to test the limits of the robot's endurance and capabilities. The player is encouraged to investigate the abilities at their disposal by exploring three different control schemes presented to them. The effects that the player triggers and the implications of these effects may not be readily understood, as the player can only discover how to master their abilities by continuing to explore and progress in the game. Players become Control Shift virtuosos as they begin to perceive the three different control schemes as one intricate interface. Control Shift is a unique project in that it fundamentally revolves around the notion that videogame controllers are meant to be transparent in the gameplay experience. Rather than being thoroughly utilized in videogames to create challenging and thought provoking gameplay puzzles, most videogames disregard the gameplay opportunities available through using a videogame controller in new and unconventional ways. It is from this situation that Control Shift developed: as a game that revolves completely around the controls. The authors suggest that Control Shift is a new type of gaming experience, one that draws upon creative use of physical interactive devices to produce a rewarding and entertaining experience for players.

CHRISTOPHER LOVELL

Change in Entomofauna Composition Across a Forest–Filed Transition and Kortright Conservation Area

Forest fragmentation is becoming increasingly common in today's anthropocentric world, pushing the study of ecotones and their interactions to the forefront of conservation biology. For this study, arthropods—ideal organisms for studying the environment—were sampled along three field-forest transitions at the Kortright Conservation Area in Woodbridge, Ontario (Canada) in order to investigate any changes in mean ordinal diversity or abundance. Various capture techniques are also examined in order to determine overall effectiveness. Results show that there is not a significant change in mean ordinal diversity over distance. However, there is a statistically significant negative linear relationship between arthropod abundance and distance. Results also show that yellow pan traps are the most effective method for capturing arthropods in this setting. This indicates that grasslands should be of primary concern when formulating a conservation strategy plan directed at arthropod biodiversity, and that painted pan traps are very important tools for entomological sampling.

CAMERON MATTICE & GHAZAL AGHVAMI

Oral L–Carnitine Supplementation and Exercise Performance

Carnitine is an endogenous compound essential for energy production, playing dual roles as a component of fatty acid translocation through the mitochondrial membrane and as a buffer for accumulating acetyl CoA. In addition, it has been shown to improve muscle recovery and up-regulate androgen receptors, and has various effects on the brain. In the absence of either primary or secondary deficiencies, it is rare for healthy individuals to become deficient in carnitine. Studies have found that chronic training causes decreases in muscle carnitine concentration below baseline; thus, supplementation is recommended to at least stabilize carnitine levels. In this project, we review clinical studies that assess the effect carnitine has on exercise performance and metabolism in aerobic, anaerobic, and resistance training. Although findings have been inconsistent, research has demonstrated carnitine's ability to improve exercise performance by increasing fatty acid oxidation, sparing glycogen, reducing lactate accumulation, increasing efficiency of glycogen utilization, decreasing rate of perceived exertion, and allowing a higher work output. We conclude that chronic ingestion of ~30 mg/kg/d of L-carnitine taken with carbohydrates can effectively increase muscle total carnitine concentration, enabling its ergogenic effects. More studies are necessary to determine optimal dosing of L-carnitine, the optimal dose of carbohydrates with L-carnitine, and the effect of L-carnitine on chronic training. No prior study has investigated the effect of chronic L-carnitine supplementation on chronic resistance training. We propose a 24-week parallel design, randomized, double-blind, placebo-controlled study. Participants will be healthy, resistance-trained men, observed to determine whether carnitine can be used to improve recovery, muscular endurance, and strength.

ANNE–MARIE MESSINIS

Self–Managed Teams

A self-managed team is defined as an autonomous group of individuals who carry forth a common goal in the absence of a formal leader. In this team configuration, members are given the collective authority to form their own practices and day-to-day processes. An effective self-managed team will have proactive coordination amongst their members to successfully take on the responsibility usually left to a leader. Like any team arrangement, self-managed teams have both benefits and challenges. Therefore, it is imperative for organizations to understand the fundamental functions of self-managed teams and how to utilize them to their greatest potential. This research project discusses the most prominent issues facing self-managed teams, and draws on various theoretical perspectives and empirical studies. These issues include: control, equal contribution, trust, and leadership. The study offers a list of recommendations detailing how organizations can effectively resolve and prevent those four issues from occurring in their own self-managed teams.

MATTHEW PANCER

The Certainty Paradox in Christopher Marlowe's "Doctor Faustus"

After the publication of Copernicus' revered work On the Revolutions of the Celestial Spheres *(1543), mankind experienced the first of three blows to its pride due to a scientific discovery (the other two came from works by Darwin and Freud). Copernicus (and, later, Galileo) proved that the Earth was not the centre of the universe, thus suggesting that the creation of mankind was perhaps not as important to God as previously thought. Through the character of Doctor John Faustus, playwright Christopher Marlowe captures this collective sense of despair in his 1604 play* The Tragical History of the Life and Death of Doctor Faustus. *Faustus's narcissistic thirst for knowledge about the certainty of the universe leads, ironically, to a certainty of despair. Faustus—like the devil before him who "fell" due to pride—metaphorically falls himself. Indeed, Marlowe's play is a warning to mankind about pride and how a desire for certainty (a desire for answers and validation) only leads to the certainty of despair. This project analyzes a speech in Marlowe's play* Doctor Faustus *whose syntax alludes to Faustus's uncertainty, echoes the theme of the play, and suggests that the narcissism of the intellectual is dangerous.*

IVY PHUNG

Multi-Layered Tissue Formation via Cell Surface Engineering and Liposome Fusion

The field of tissue engineering has grown in recent years as new uses for engineered tissues emerges These include model organ or organ substitutes, limited in quantity in our aging society with prevalent chronic diseases. Tissue engineering methods opens a door to the production and replacement of tissues and organs. Tissue engineering has always been done using scaffolds, but this is a slow process. The idea of my project was to create scaffold-free production of tissues based on cell sheets or cell aggregates. A bio-orthogonal approach was used for the agglutination of different cell populations into multilayers.

Liposome fusion is used to introduce ketone and oxyamine functional groups to the extra cellular matrix of two different cell populations. The formation of oxime bonds allows for the production of thick monolayers, creating aggregates and 3D structures. Complex multilayered mechanical tissues are able to be assembled and scaled, with the addition of collagen.

Collagen is incorporated in order to produce mechanically viable tissues. The ability to control the orientation of cells in collagen is extremely important in organ production because organs are a complex network of cells that work together while proliferating in their separate regions. The results of my project show great promise for the future of tissue assemblies. Using different types of skin cells, fabricating a skin graft would take no more than three days rather than weeks. Further research can include the creation of a liver chip for use in drug toxicity.

YANA PIKULAK

Turtle Poaching in Tortuguero

A need for holistic initiatives that consider social and cultural complexities of Costa Rica

Costa Rica is home to one of the highest concentrations of biodiversity in the world (Steinberg, 2001), including six species of sea turtles. Sea turtles are an integral part of marine ecosystems and play a fundamental role in nutrient cycling, maintaining habitats and balanced food webs (Wilson et al., 2010). Turtle poaching in Costa Rica is a critical problem, not only for the health of marine ecosystems, but also for the well-being of the human populations that rely on these ecosystems. Using the town of Tortuguero as a case study, this project investigates the root causes of turtle poaching and the impacts of poaching on the natural environment. Focussing specifically on education and ecotourism initiatives aimed at reducing turtle poaching in Tortuguero, I argue that, although these initiatives are effective in reducing poaching practices by instilling an appreciation for nature and providing an alternative source of income for local populations, they neither give sufficient consideration to the social, economic and cultural complexities which exist in Latin America, nor adequately address the tensions between the interests of local residents, government agents, and conservations groups. Thus, adopting a holistic approach to the poaching issue that considers specific social, historical, and cultural contexts and builds economic stability without jeopardizing local livelihoods or damaging vulnerable ecosystems is fundamental to sea turtle conservation in Tortuguero and the rest of Costa Rica.

HARSIMRAT RATAUL

Is Garlic Mustard (Alliaria Petiolata) Causing a Decline in Native Species's Richness?

A literature review and case study on long–term data sets from two parks in Southwestern Ontario

In the past two decades, research to identify the direct and indirect impacts of garlic mustard on the diversity and richness of native species present in North American forests has increased significantly. My literature review aims to assess the evidence for whether the presence of garlic mustard in a disturbed or an undisturbed area is likely to be the sole or major cause of declines in native plant species richness and diversity. I review the literature on the relative number of short-term and long-term research studies on garlic mustard ecosystem impacts, and note that only 11 studies out of a sample of 100 focus on the long-term impacts of garlic mustard. Findings from the literature review are applied to a case study, a long-term data set (1995-2009) examining the correlation between garlic mustard density and plant species richness in two parks in Southwestern Ontario: Point Pelee National Park and Rondeau Provincial Park. The goal of the case study is to compile previous field data and to assess whether garlic mustard density is negatively correlated with native plant species richness.

VLADYSLAVA REPLETE

Obesity Prevention for the Technological Generation

How to fuel a fitter world

The world today faces an obesity epidemic with serious health implications. Research shows that a variety of biological, sociological, and psychological factors underlie the obesity crisis. Much research suggests that lack of exercise and lack of energy expenditure are the key issues leading to obesity and weight gain. A radical solution addressing youth and encouraging them to be active must be implemented. This project proposes that exercise be promoted by combining it with current technological trends commonly used by today's youth. For example, electronic devices could be re-charged through physical exercise, such as machines or other external means. Further research is required into the implications of such a project, and should be developed together with other public education measures, such as nutritional advice and psychological support.

KUBRA SANSARLIOGLU

The Effect of Understanding Fetal Alcohol Syndrome on School Disciplinary Practices

Fetal Alcohol Syndrome (FAS) is a neuropsychological disorder caused by prenatal alcohol exposure and has serious consequences for the child, both in terms of physical and social deficiencies. The characteristics of children diagnosed with FAS include hyperactivity, poor attention span, cognitive and perceptual problems, school behaviour problems, and speech and language deficits (Short & Hess, 1995). Because the chain of developmental impairments begins early in life and causes serious problems for life adaptation later, a considerable proportion of these children remain dependent on support from a sensitive environment such as family and school (Steinhausen & Spohr, 1998). By displaying inappropriate behaviour, due to the syndrome, in a school setting, a child may incur frequent punishment and be stigmatized by others (Wilkins & Velicer, 1980). Furthermore, the reactions of others to inappropriate behaviour may cause these children to become ostracized or even to become the targets of peer abuse, increasing their emotional burden and lowering their self-esteem (Fausett, 2003). The purpose of our research project is to gauge whether people feel empathy for children with FAS and tolerate inappropriate behaviours when they lack detailed information about the disease, but know only a diagnosis. We hypothesize that people who understand the syndrome and its consequences would consider it inappropriate to punish a child with FAS, because they may empathize with the child and understand the reason for disturbing behaviours. Likewise, those who are aware of a diagnosis, but don't understand the syndrome and its consequences may be more likely to consider punishment to be appropriate.

SAMAR SHAIKH

The Role Grandparents Play in Fostering Children's Social Competencies

In a society and at a time when ageism reduces the value of grandparenting, research on grandparents is essential in order to sustain the significance of this role in the lives of children. This study examines the relationship children have with their grandparents and investigates a correlation between children who have daily access to their grandparents and the level of social competencies they display in their everyday lives. For the purposes of this study, social competencies in children are defined as empathy, a strong sense of self-concept, conversational skills, and relationship ties with others. The study employs a mosaic approach to data collection and includes interviews, drawings, surveys, role-playing exercises, and observational methods to determine the various social competencies children display. Participants include a five-year-old and two seven-year-olds, and called upon three parents and two grandparents to assist in the study. While findings are inconclusive due to the small sample size, a potential correlation between social support and social competencies in children is suggested. Moreover, the study offers insights into the ways grandchildren view their grandparents, an under-researched area in grandparent studies and points to potential avenues for future exploration.

RAAFIA SIDDIQUI

A Description and Exploration of the Potential Causes of Intra-Tropical Migration in the Neotropical Bird "Purple Martin" (*Progne Subis*)

*This study explores the potential causes of intra-tropical migration by neotropical songbirds, some of whom undertake extensive migrations greater than 100 km within their wintering rage in the Amazon. Using geolocator-retrieved data on Purple Martin (*Progne subis*) migration, the spatial and temporal aspects of the movements are described. After arrival at their initial winter roost in Northern Brazil, sixty percent migrated to a second site in the eastern Amazon, travelling a mean distance of 813 km. It was predicted that weather or insecticide-induced reductions in food availability drives this movement, mediated by individual factors such as sex, age, fall migration timing, and distance. Statistical analyses reveal a general movement toward agricultural landscapes, but no significant differences in temperature or rainfall patterns between initial and subsequent roost sites. Older, experienced birds and those arriving at their first roost sites later are more likely to be intra-tropical migrants than younger birds or early arrivals.*

KESHNA SOOD

Vitamins as Possible Ergogenic Aids

A focus on Vitamin D and antioxidants

Vitamins (namely A, C, E, and D) have not been widely established as ergogenic aids. Supplementing daily food intake with vitamins A, C, or E can be advantageous because of their anti-oxidizing properties. While excessive amounts of antioxidants lead to toxic effects on the liver and central nervous system, adequate levels may help clear the body of free radicals that accelerate cell damage. Antioxidant supplementation is important to athletes because of its perceived ability to lower levels of exercise-induced free radicals. However, current research suggests this is not the case; studies observing maximal oxygen uptake as a performance outcome show that supplementation can hamper training adaptations. That said, the impact of antioxidants on mitochondrial biogenesis and the cascading effect of that influence on reactive oxygen species are not fully understood. Research on the non-antioxidant vitamin D is particularly relevant to athletes because of the multi-functional role of this vitamin on overall fitness as well as on the muscle-related functions mobilizing calcium, which facilitate muscle movement and growth. Studies on vitamin D show that supplementation improves motor balance in the elderly, as well as endurance and resistance training performance, but experts are divided on the optimal levels of vitamin D supplementation. Thus, we propose a double-blind, randomized study to assess graded vitamin D supplementation in healthy individuals through a placebo-based, controlled trial with treatments of cellulose (2500 IU and 5000 IU of Vitamin D3 in resistance and endurance exercises). This study will help pinpoint the vitamin D serum levels needed for optimized athletic performance. Because vitamin D is fat-soluble, questions of toxicity will be addressed in this dose-dependent experiment.

UROOJ ZAMAN

"It Takes a Village to Raise a Child"

Early child development in relation to other social determinants of health

This project examines early childhood development in light of other key social determinants of health. A literature review of secondary sources shows that the social determinants of health are interrelated, and are shaped by broader social and local spheres—family, place of residence, and workplace. Of the fourteen social determinants of health, early child development is crucial because it influences adult health and involves irreversible changes, such as those brought about by mental or physical damage to the fetus, and the development of mental capacity by age two. Moreover, early child development is distinguished from other social determinants of health as it holds greater promise for change. While eradicating poverty at any life stage is difficult, minimizing the effects of poverty may be easiest during early childhood. This is because children interact with both the broader social and the local family spheres, allowing them to engage in other positive environments, even if their own parents are victims of poverty. Thus, health policy should prioritize early child development because it may contribute to ending the cycle of poverty.

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