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Algorithms, Expression and the Charter: A Way Forward For Canadian Courts

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Abstract
As a result of rapid advances in technology and computer programming, algorithms are increasingly able to generate expressive material. In light of these advances, it is inevitable that courts will be asked to determine whether this algorithmically generated content is protected expression under section 2(b) of the *Canadian Charter of Rights and Freedoms*. Although algorithmically generated content can serve many of the same constitutionally-protected purposes as human expression, this paper explains why the Supreme Court of Canada's current framework is inadequate for use in the context of algorithmically generated content. This paper offers a proactive and principled solution that is consistent with the fundamental principles of freedom of expression articulated by the Court in *R v Keegstra*. This solution allows content that upholds the *Keegstra* principles to be protected despite the fact that the algorithm's creator may not have contemplated the specific content.

Keywords
Algorithm, Section 2(b), Expression, Google

ALGORITHMS, EXPRESSION, AND THE *CHARTER*: A WAY FORWARD FOR CANADIAN COURTS

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INTRODUCTION

Siri can speak. Google can search. Watson can argue. Should their words, search results, and arguments be protected by section 2(b) of the *Canadian Charter of Rights and Freedoms*?[1] The Supreme Court of Canada (heretofore, the Supreme Court) has yet to address this question. Although the Supreme Court's current framework for adjudicating section 2(b) claims is workable in the context of assessing human speech and conduct, it is inadequate for addressing the novel constitutional issues raised by algorithmically generated content. A clear, principled approach to these issues is needed in light of rapid advances in computer programming, concerns about the biases within search engine rankings,[2] recent discussion on whether the European "Right to Be Forgotten" can find application in the Canadian context,[3] and the Supreme Court's decision to hear the appeal in *Google Inc v Equustek Solutions Inc et al.*[4]

In this paper, I propose a way forward. Algorithmically generated content should be accorded section 2(b) protection pursuant to a two-stage test. First, courts should examine whether the algorithmically generated content is sufficiently connected to preferences instituted by the algorithm creator. Second, courts should determine whether the algorithm was designed for a purpose connected to any of the values underpinning section 2(b). When both stages of this test are satisfied, the state should bear the burden of justifying restrictions on the content pursuant to the reasonable limit inquiry in section 1 of the *Charter*.

My proposed test is not a radical departure from current section 2(b) principles. On the contrary, it is based on an implicit assumption at the heart of section 2(b) jurisprudence: an activity should not be entitled to section 2(b) protection if it undermines, or is unconnected to,

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[1] Canadian Charter of Rights and Freedoms, Part I of the Constitution Act, 1982, being Schedule B to the Canada Act 1982 (UK), 1982, c 11 [Charter].

[2] Benjamin Edelman, "Bias in Search Results? Diagnosis and Response" (2011) 7 The Indian Journal of Law and Technology 16.

[3] Office of the Privacy Commissioner of Canada, "Online Reputation: What Are They Saying About Me?" by the Policy and Research Group (Gatineau, Quebec: OPC, January 2016) at 5; Christopher Berzins, "Can the Right to be Forgotten Find Application in the Canadian Context?", Submission to the Office of the Privacy Commissioner of Canada's Consultation on Online Reputation, August 2016, online: < https://www.priv.gc.ca/en/about-the-opc/what-we-do/consultations/consultation-on-online-reputation/submissions-received-for-the-consultation-on-online-reputation/or/sub_or_06/>.

[4] 2015 BCCA 265, leave to appeal to SCC granted, 36602 (18 Feb 2016) [*Equustek*]. On appeal, Google Inc. argued, *inter alia*, that the courts below had not properly assessed the impact of a worldwide injunction in respect of certain search result listings on freedom of expression. See *Equustek* (Factum of the Appellant at paras 35-50).

the values on which freedom of expression is based. My approach emphasizes the values underpinning section 2(b) and avoids mechanical deference to the standard established in *Irwin Toy Ltd v Quebec (Attorney General)*[5] in situations where it is ill-suited for upholding those values.

This paper proceeds in four parts. In Part I, I explain the unique dilemmas that algorithmically generated content poses for Canadian constitutional law. In Part II, I consider potential solutions proposed by other academics to resolve these dilemmas and to situate them within the Canadian legal landscape. In Part III, I outline my proposed approach and address objections to my argument. In Part IV, I apply my framework to the dilemmas presented in Part I. I conclude by highlighting the broader implications of my work.

I. DILEMMAS

What Is Algorithmically Generated Content?

The phrase "algorithmically generated content" covers a broad range of material, from computerized car alarms to online search result listings. For the purposes of this paper, I adopt Tim Wu's definition in his "Machine Speech" article.[6] Algorithmically generated content is produced when "a computer, following a program or algorithm, decides among several alternatives, and expresses that choice in a manner understandable to a human."[7] The absence of active human involvement in an algorithm's decision-making process is a vital feature of this type of content.[8]

What Unique Challenges Are Posed By Algorithmically Generated Content?

Algorithmically generated content should not be categorically excluded from protection under section 2(b). However, it may not be easy to distinguish algorithmically generated content that does deserve *Charter* protection from content that does not. Consider the following two scenarios:

> **Scenario 1:** A burglar attempts to break into my car. A passer-by notices this and yells, "Someone is trying to steal your car!"
>
> **Scenario 2:** A burglar attempts to break into my car. My car alarm goes off. I have a custom, computerized alarm that produces a loud robotic voice saying "Someone is trying to steal your car!"

[5] [1989] 1 SCR 927 at 969 [*Irwin Toy*]. As I explain further below, the *Irwin Toy* standard confers section 2(b) protection to expression which "conveys or attempts to convey" a meaning.
[6] Tim Wu, "Machine Speech" (2013) 161 U Pa L Rev 1495.
[7] *Ibid* at 1499.
[8] For example, Google does not hire interns to search and index the trillions of web pages on the Internet in response to individual search queries—its search engine algorithm is programmed to make those decisions without active human involvement.

The expression in Scenario 1 is virtually certain to be constitutionally protected.[9] Does this lead to the inescapable conclusion that the car alarm's "expression" is also safeguarded by section 2(b)? The message being conveyed in both scenarios is identical. However, as Tim Wu rightly argues**,** any theory of expressive rights that accords constitutional protections to electronic annoyance devices like car alarms should be viewed with scepticism.[10]

One potential solution to this dilemma is to exclude algorithmically generated content from the scope of section 2(b) altogether. While straightforward, this approach would unduly exclude *Charter* protection of fundamentally expressive activities. Consider the following examples:

> **Example 1:** Tim is concerned about the ballooning national debt in Canada. He creates a computer program that, without any further involvement on his part, keeps a running tally of the national debt. He posts this program on a webpage. The Canadian government discovers his webpage and lowers the debt figure on a daily basis.
>
> **Example 2:** Sophia discovers that Google is systematically under-representing female content creators in its search rankings.[11] She creates a rival search engine that prioritizes web content created by women in response to any search query. The Canadian government passes a law mandating that search result rankings must be "gender-neutral."

Tim and Sophia are both engaged in fundamentally expressive endeavours. A "categorical exclusion" approach would permit government interference with their online activities without *Charter* scrutiny. This is not a just result.

However, if the categorical exclusion theory must be rejected, are we consigned to extending constitutional protection to car alarms, microwaves, and other common machines? I do not think so. My goal is to propose a mechanism by which algorithmically-generated content can be accorded *Charter* protection where it is appropriate, without unduly widening the scope of section 2(b). In other words, I will attempt to provide a cogent constitutional theory that accords section 2(b) rights to Tim and Sophia but not to the car alarm manufacturers.

II. POSSIBLE SOLUTIONS

In this section, I canvass academic literature for potential solutions to the aforementioned dilemmas. Drawing upon these proposed solutions, I identify a range of possible solutions that

[9] A law that limits a person's ability to communicate in public would almost certainly violate section 2(b). See *Reference re ss 193 and 195(1)(C) of the Criminal Code* (Man), [1990] 1 SCR 1123 (restricting communication for the purpose of prostitution was held to be a violation of section 2(b)), and *Montréal (City) v 2952-1366 Québec Inc*, 2005 SCC 62, [2005] 3 SCR 141 (a loudspeaker communicating content that could be heard in public was held to be a violation of section 2(b)). However, in both cases, the violations were held to be constitutional under section 1 of the *Charter*.

[10] Wu, *supra* note 6 at 1496.

[11] This is not actually true, to the best of my knowledge.

Canadian courts could adopt for the purpose of determining whether algorithmically-generated content falls within the scope of section 2(b).

Literature

The bulk of the academic discussion on this topic has taken place in the United States. There has been a spirited debate by several authors on the question of extending First Amendment safeguards to algorithmically generated content. This debate has yielded three potential solutions to the dilemmas identified in this paper. While First Amendment jurisprudence is distinct in many respects from the Supreme Court's approach to section 2(b),[12] several arguments raised in the American debate are applicable to the Canadian context and worth considering.

Theory 1: Substantive Communication

Stuart Benjamin argues that algorithmically generated content deserves First Amendment protection if it involves substantive communication (i.e., a message that can be sent and received, and that has been sent).[13] Benjamin excludes algorithms that are "designed to speed transmission, or make a network operate more efficiently" from his definition.[14] He also excludes situations where algorithm creators "attribute [their] own private meaning to some action and communicate that meaning to no one."[15] Finally, Benjamin concedes that content that is sufficiently divorced from the preferences of a human creator, such that the results no longer represent human decision-making, should not be accorded constitutional protection.[16]

Theory 2: The Functional Approach

Tim Wu argues that Benjamin's theory of substantive communication produces results that are "both absurd and disruptive."[17] Wu's theory emphasizes the importance of "functionality," a doctrine that assesses a tool or activity's relationship with expression.[18] Where that relationship is purely "functional" (e.g., courier services that convey the expression of others), constitutional protection is inappropriate. In Wu's view, algorithmically generated content should not be accorded constitutional protection if a "communicative tool" produces it.[19] Communicative tools, such as car alarms or other routine machines, perform a function unrelated to the communication of ideas.[20] Under this approach, expression derived from functions that are

[12] See *R v Keegstra*, [1990] 3 SCR 697 at 743 [*Keegstra*].
[13] Stuart Benjamin, "Algorithms and Speech" (2013) 161 U Pa LR 1445 at 1483.
[14] *Ibid* at 1482.
[15] *Ibid* at 1484.
[16] *Ibid* at 1482.
[17] Wu, *supra* note 6 at 1496.
[18] Ibid.
[19] *Ibid* at 1524.
[20] *Ibid* at 1525.

unrelated to the communication of ideas (i.e., algorithmically generated content produced by communicative tools) should not be afforded protection. Wu concludes that, as a general rule, expression flowing from non-human choices should not be granted full First Amendment protection and should often not be considered expression at all.[21]

Theory 3: Social Norms

Oren Bracha expresses support for Tim Wu's functional theory but argues that a robust definition of functionality requires an examination of social practices associated with the expressive activities that are restricted by law or regulation.[22] Under his approach, constitutional protection would be denied to expression that primarily involves functional activities or purposes and "that is not more than trivially connected to the realization of any free speech values..."[23] Thus, Bracha extends Wu's theory by emphasizing the importance of the specific social practices in which the speech is embedded and using these social practices as a means of distinguishing between functional and non-functional speech.[24]

The Canadian Legal Context: Options for Canadian Courts

The Supreme Court has been clear that section 2(b) of the *Charter* is to be interpreted in a "large and liberal" fashion.[25] Any activity that "conveys or attempts to convey a meaning" falls within the scope of the guarantee.[26] Assessments of the value, weight, and importance of expression are typically conducted through the *Oakes* test.[27] That said, the government is not required to justify every exclusion or regulation of expression under section 1.[28] While all expressive *content* is *prima facie*[29] worthy of protection, the *method* of expression or the *location* where it is undertaken may bring it outside the scope of section 2(b). In order to exclude expressive content from *Charter* protection, a court must find that the method or location of expression undermines at least one of the values protected by section 2(b): the search for truth, facilitating social or political participation, and individual self-fulfillment.[30]

[21] *Ibid* at 1497; Tim Wu, "Free Speech for Computers?", *The New York Times* (June 19, 2012), online: <www.nytimes.com>. Wu acknowledges that where a human does make a specific choice about specific content, the question is different.
[22] Oren Bracha, "The Folklore of Informationalism: The Case of Search Engine Speech" (2014) 82 Fordham L Rev 1629 at 1634.
[23] Ibid.
[24] Ibid.
[25] *Ford v Quebec*, [1988] 2 SCR 712 at para 59 [*Ford*].
[26] *Irwin Toy*, *supra* note 5 at 969.
[27] Kent Roach & David Schniederman, "Freedom of Expression in Canada" (2013) 61 SCLR (2d) at 429-430.
[28] See Baier v Alberta, 2007 SCC 31 at para 20; Greater Vancouver Transportation Authority v Canadian Federation of Students, 2009 SCC 31 at para 28.
[29] Canadian Broadcasting Corp v Canada (AG), 2011 SCC 2 at para 34.
[30] *Ibid* at para 37.

Further, parties alleging a breach of section 2(b) must demonstrate that their rights were infringed upon by government action.[31] In situations where the *purpose* of government action is to restrict freedom of expression, infringement is established and the analysis proceeds immediately to the section 1 *Oakes* test. In situations where restriction of expression is only the *effect* of government action, the party alleging *Charter* infringement must further demonstrate that their expression fulfills at least one of the three purposes underpinning the section 2(b) guarantee.[32]

Algorithmically Generated Speech and Section 2(b): Possible Approaches

In this section, I consider five possible approaches to the constitutional dilemmas presented by algorithmically generated content: (1) protection of the algorithm itself; (2) categorical inclusion; (3) categorical exclusion; (4) the *Irwin Toy* standard; and (5) Tim Wu's "functional" approach. Since the Supreme Court has yet to address whether algorithmically generated speech falls within the ambit of section 2(b), each approach will be carefully considered and evaluated. As I hope to demonstrate, none of these methods presents a satisfactory solution to the dilemmas presented by algorithmically generated content.

(1) Protecting the Algorithm Itself

This approach would accord section 2(b) protection only to the computer code that composes the algorithm.[33] The principal difficulty with this position is that it does not necessarily protect the algorithm's *output*. While proprietary rights could be used to protect the algorithm from some types of interference, these rights do not necessarily affect the state's ability to restrict expression flowing from that algorithm. As Stuart Benjamin argues in the American context, "the question [of] whether the First Amendment applies to regulation of search engine results is different from the question [of] whether the algorithms used by those search engines are speech."[34]

(2) Categorical Inclusion

The position that algorithmically generated content should *always* fall within the scope of section 2(b) cannot be justified. Even content that is directly produced by humans does not receive such a wide grant of protection: human content must "convey or attempt to convey" a meaning in order to secure protection under the *Charter*. Likewise, some algorithmically generated content may be wholly disconnected from the values animating section 2(b).

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[31] *Irwin Toy*, *supra* note 5 at 971-972.
[32] *Keegstra*, *supra* note 12 at 730, 762-764.
[33] See Alex Colangelo & Alana Maurushat, "Exploring the Limits of Computer Code as a Protected Form of Expression: A Suggested Approach to Encryption, Computer Viruses and Technological Protection Measures" (2006) 51 McGill LJ 47.
[34] Benjamin, *supra* note 13 at 1449.

(3) Categorical Exclusion

Under this approach, algorithmically generated content would *never* attract section 2(b) protection. Categorical exclusion is notionally justified by the lack of direct human involvement in generating algorithmic content. Tim Wu provides support for this position in his "Machine Speech" article, where he argues that "the fact that an algorithm makes the decisions in software cases is in tension with the requirement of knowing selection or intimate identification."[35] On this view, since the algorithm creator is not aware of the content being generated by the algorithm, the strength of an argument for *Charter* protection is diminished. Further, the Supreme Court has not yet been required to answer whether someone can "convey a meaning" without ever contemplating the specific content that is being generated. The categorical exclusion approach should be rejected for two reasons.

First, the categorical exclusion approach is inconsistent with the Court's current approach to section 2(b). Unlike violent expression, which is a method of expression categorically excluded from section 2(b), an algorithm is not a method of expression that conflicts with the values protected by section 2(b). Further, *society's* interest in accessing certain forms of algorithmically generated content militate against a categorical exclusion approach. The Supreme Court has been clear that the *Charter* protects listeners as well as speakers.[36]

Second, the categorical exclusion approach ignores the expressive value in some forms of algorithmically generated content. Algorithms serve as proxies for the preferences of their creators, or, as Stuart Benjamin might say, for the message their creators would like to communicate. This does not deprive the content they generate of its expressive force. Each and every list of search results generated by Sophia's search engine, as described in Part I, reflects and furthers her commitment to increasing the visibility and raising the profile of female web content creators. Even though she does not personally contemplate any individual ranking, her search engine nonetheless conveys an underlying message about bias in mainstream search engines. Tim's debt clock is also a stark example, because there is a realistic possibility that he could manually perform the task his algorithm executes. Had he done so, he would have generated the same sequence of numbers, but only after considerably more time and effort. The fact that Tim chose a more efficient and precise method of expressing the national debt should not be fatal to his section 2(b) claim.[37] Put simply, section 2(b) does not, and should not, impose an obligation on content creators to forsake expedient and convenient methods of conveying meaning. Unnecessary labour should not be a prerequisite for constitutional protection.

Section 2(b) principles support this conclusion. None of the values underpinning the section 2(b) guarantee require a person to specifically contemplate content to gain *Charter*

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[35] Wu, *supra* note 6 at 1497.

[36] *Edmonton Journal v Alberta (AG)*, [1989] 2 SCR 1326 at 1339-1340 [*Edmonton Journal*]; *Ford*, supra note 26 at 767. Justice Cory was referring to public information about the courts. The Supreme Court has also applied this principle in the context of commercial expression in *Ford v Quebec* (at para 59), on the basis that such expression helps consumers make informed economic choices.

[37] As the Supreme Court held in *Irwin Toy*, the *Charter* extends protection to an "infinite variety of forms of expression," as long as some attempt is made to convey meaning (*Irwin Toy*, *supra* note 5 at 969-70).

protection. From the perspective of the algorithm creator, neither the search for the truth nor the pursuit of democratic discourse are affected because the specific output of the algorithm had not been contemplated by a human. A debt clock's ability to spur debate and inform the public is not diminished because it is generated by a computer program. Specific contemplation is also unnecessary to further individual self-fulfillment. Even if some people might be fulfilled by personally contemplating each and every detail of their expressive content, this is not necessarily true of all people. For example, Sophia's self-fulfilment is unaffected by any specific search result listing generated by her algorithm in response to a search query. However, she may nonetheless derive considerable self-fulfilment from the enterprise of creating an expressive algorithm in order to develop, articulate, and convey a message about gender inequality in mainstream search engine rankings. This broader form of self-fulfilment is no less deserving of constitutional protection.

(4) The Irwin Toy standard

A middle route between categorical inclusion and exclusion is clearly needed. The *Irwin Toy* standard is one possible option. The key inquiry under this approach is whether the *content* generated by the algorithm conveys or attempts to convey a meaning, which is a similar standard to Stuart Benjamin's "substantive communication" theory. This approach is simple, clear, and familiar. However, it risks trivializing the section 2(b) guarantee by expanding its scope to all mechanical utterances. The customized car alarm mentioned in Part I is an illustrative example. An examination of the *content* generated by the car alarm ("Someone is stealing your car!") clearly shows that a meaning is being conveyed. Given that the *method* of expression (a computer program) does not conflict with the values underpinning section 2(b), the Supreme Court's current approach seems to provide no way to exclude predominantly mechanical products and tools from *Charter* protection.[38] In addition to potentially trivializing the section 2(b) guarantee when applied to algorithmically generated content, the *Irwin Toy* standard is inconsistent with a purposive approach to section 2(b). I develop this point in greater detail in Part III when justifying my proposed approach.

(5) The Functional Approach

Tim Wu's functional approach excludes car alarms and navigational systems from constitutional protection by categorizing these products as "communicative tools." However, his theory does not delve deeply enough into the distinction between "speech products" and "communicative tools" to be of significant assistance. In particular, Wu is unable to explain why human speech that is spoken with the sole intention of achieving some functional outcome (e.g., the passerby warning you of car theft) should be treated differently than algorithmically

[38] The consequences of extending section 2(b) protection to mechanical products and tools are admittedly less serious in Canada than in the United States, given the presence of section 1 of the *Charter*. However, the Supreme Court has cautioned that the section 2(b) guarantee must not be "trivialize[d]" (see *Lavigne v Ontario Public Service Employees Union*, [1991] 2 SCR 211 at 269).

generated speech that is designed for the same task. This question is most effectively answered through recourse to the values underpinning section 2(b), a point I address in the following section.

III. THE WAY FORWARD

Algorithmically generated content should be afforded section 2(b) protection pursuant to a two-stage test. First, the content must be sufficiently connected to a clear set of preferences instituted by the algorithm creator. Second, the algorithm must be designed for a purpose that is connected to any of the values underpinning section 2(b). I elaborate on each prong of this test below, addressing objections to my argument throughout.

Step 1: Sufficient Connection to the Preferences of an Algorithm Creator

Substantive Requirements

The first step of the test is satisfied if the resulting content is sufficiently connected to a set of preferences the algorithm's creator has incorporated into the program.[39] This inquiry will be straightforward where a creator contemplates the precise content that will be generated by the algorithm. The test's first step is also satisfied when the algorithm creator incorporates his or her preferences into the algorithm via clear criteria from which the computer program does not deviate. Consider Tim's debt calculator: Tim has not specifically contemplated any of the numbers or any combination of numbers that his calculator generates. However, he has instituted clear criteria for how those numbers are to be generated (i.e., in accordance with the fluctuation of national debt). His computer program does not deviate from those criteria. Consequently, his rankings are "sufficiently connected" to a clearly defined set of human preferences.

Why Include a "Sufficient Connection" Requirement?

Content that has been either written or spoken by a human bears an obvious connection to intent in order to convey a certain meaning. This connection is less obvious in the context of algorithmically generated content. In particular, advances in artificial intelligence and machine learning could considerably complicate judgments regarding freedom of expression. Stuart Benjamin considers the possibility that machines "may at some point demonstrate a level of choice or volition that is indistinguishable from that of humans."[40] He would not accord

[39] This criterion is designed to address future developments in algorithmic technology. For example, significant developments in artificial intelligence may give rise to a scenario where the technology has the capability to generate its own preferences. The precise level at which an algorithm's self-generated preferences are sufficiently divorced from those of its creator so as not to attract section 2(b) protection will be for a future court to determine.
[40] Benjamin, *supra* note 13 at 1481-1482. Toni M. Massaro and Helen Norton also consider this possibility in "Siri-ously? Free Speech Rights and Artificial Intelligence" (2016) 110:5 Northwestern L Rev 1169 (see especially, the author's discussion of "strong AI speakers" at 1171-1172, n 7).

constitutional protection to content generated by machines that were "choosing their own goals and [deciding] what substantive communications will achieve those goals."[41]

I agree with Benjamin's caveat. The *Charter* was not enacted to provide constitutional protection to machines. The rights and protections it guarantees are generally restricted to natural or legal persons.[42] However, my test is designed to allow courts flexibility in reconsidering the expressive interests at stake in a potential case where a machine displays a level of choice or volition more akin to that of a human. In practice, the first prong of my test is likely to be satisfied by most current algorithms. For example, many algorithms currently in use are designed to quickly manipulate complex data in a way that would be practically impossible for humans to achieve. These algorithms would clearly meet the first step of my test because a specific line of reasoning synthesizes the output.

On a related note, it is neither possible nor desirable to specify the exact point at which expression ceases to be "sufficiently connected" to the preferences of an algorithm creator. That inquiry will depend on the specifics of each algorithm, which will vary from case to case and over time. In general, courts should avoid conferring section 2(b) protection where there is no identifiable connection between algorithmically generated content and human preferences, or where the connection is insufficient to demonstrate a human's clear preferences. However, courts should take a broad and generous approach to the issue of "sufficient connection."

The broad and generous approach is supported for two reasons. First, this position is consistent with the Supreme Court's "large and liberal" approach to section 2(b), first articulated in *Ford v Quebec*.[43] Second, society has an interest in gaining access to algorithmically generated expression, and this interest must be considered when analysing the "sufficient connection" step of the test. Two of the three values underpinning the section 2(b) guarantee involve social interests (i.e., the search for the truth and facilitating social and political participation).[44] The Supreme Court has also recognized that freedom of expression promotes values relevant to listeners as well as speakers, such as informed economic choice and information about the court system.[45] While these interests do not justify safeguarding expression with a non-existent or weak connection to human preferences, they support an expansive approach to the question of "sufficient connection."

Step 2: Connected to the Values Underpinning Section 2(b)

Substantive Requirements

[41] *Ibid*.
[42] *Irwin Toy*, *supra* note 5 at 967 (section 2(b) covers commercial expression) and 1004 (section 7 only applies to humans).
[43] *Ford*, *supra* note 26 at para 59.
[44] *Keegstra*, *supra* note 12 at 762-64.
[45] *Edmonton Journal*, *supra* note 36 at paras 1339-40; *Ford*, *supra* note 26 at para 59.

Under my proposed test's second branch, claimants must show that their algorithm was designed for a purpose connected to one or more of the values underpinning section 2(b) identified in *Keegstra*. With one important difference, the procedural requirements upon a claimant will be similar to cases where the effect, as opposed to the purpose of a law is to restrict freedom of expression. In cases where the purpose of a law is not to infringe upon expression, a claimant must "state her claim with reference to the principles and values underlying [freedom of expression]."[46] Similarly, under my test, claimants must state their case for protecting algorithmically generated content "with reference to the principles and values" underlying section 2(b): the search for the truth, democratic discourse, and individual self-fulfillment.

Crucially, given the lack of direct human involvement in generating algorithmic content, the analysis regarding individual self-fulfillment will focus on the creator's intent in designing the algorithm as a whole.[47] The intent of the creator is less important, however, with respect to the search for the truth and the promotion of democratic participation. In those situations, the focus will remain on the algorithmically generated content itself: when the content furthers the search for the truth or enhances democratic discourse, it should be presumed that the author intended those results.

Why Look to the Values Underpinning Section 2(b)?

I begin with a simple premise that is essential to Canadian *Charter* jurisprudence: the scope of a *Charter* right must be determined in accordance with its *purpose*.[48] Section 2(b) is no different.[49] Accordingly, any standard for including and excluding activities from section 2(b) protection (i.e., determining its scope) must accord with the purpose of section 2(b).

The purpose of section 2(b), like other fundamental *Charter* rights, is to protect a certain set of interests from state interference. Three interests within the scope of section 2(b) protection were identified in *Irwin Toy* and *Keegstra* and have been briefly referenced above. First, expression is protected in recognition of common good attained by scientific and artistic endeavours.[50] Section 2(b) also protects expressions that allow citizens to critically assess political options and to ensure that the political process is accessible.[51] Finally, expression is safeguarded "as a means of ensuring individuals the ability to gain self-fulfilment by developing and articulating thoughts and ideas as they see fit."[52]

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[46] *Irwin Toy*, *supra* note 5 at 976.
[47] For example, Sophia could not realistically point to any individual set of search result listings and say that they furthered her "self-fulfillment" She could point to her broader intention in designing the algorithm and show that it involved her "developing and articulating an idea" regarding gender biases in search results.
[48] See *Hunter et al v Southam Inc*, [1984] 2 SCR 145 at 156; *R v Big M Drug Mart Ltd*, [1985] 1 SCR 295 at para 116; *R v Brydges*, [1990] 1 SCR 190 at 202, *R v Grant*, 2009 SCC 32 at paras 15-17.
[49] *Ford*, *supra* note 26 at para 57.
[50] *Keegstra*, *supra* note 12 at 762.
[51] *Ibid* at 764.
[52] *Ibid* at 763.

At first glance, the Supreme Court's section 2(b) jurisprudence appears inconsistent with the purposive approach to *Charter* interpretation.[53] Once a plaintiff can show that the purpose of a government act or law is to restrict an activity that conveys meaning, there is no further burden on her at the section 2(b) stage to show that her activity is connected to the values on which freedom of expression is based.[54] While the Court has recognized that methods of expression that undermine freedom of expression are not protected by the *Charter*, it has provided no explicit metric for excluding activities that are unconnected to the three freedom of expression interests from the scope of section 2(b). On its face, this appears inconsistent with the purposive approach outlined above.

However, the Supreme Court's framework can be reconciled with the purposive approach if we assume one fact: all activities that convey or attempt to convey meaning are connected to at least one of the interests protected by section 2(b). This assumption, unstated in the Court's section 2(b) rulings, reconciles the current section 2(b) framework with the purposive approach to *Charter* interpretation.

Yet, this assumption raises complications. Certainly, the Court has never explicitly articulated a theory that explains why the Charter should protect all "expressions of the heart and mind."[55] After all, Canadians routinely convey expression that bears no connection to the search for the truth, democratic discourse, or their own "self-fulfillment." However, in each of these cases, there is a non-trivial possibility that any such expression will relate to one of those values, particularly given the near-infinite multitude of ways in which individuals find self-fulfillment.[56] Consequently, the Court seems willing to assume a connection between all activities that "convey meaning" and the values underpinning section 2(b), on the grounds that there is the non-trivial possibility of such activities furthering one of those values.[57]

Regardless of its suitability for assessing human expression, this assumption cannot be sustained for algorithmically generated content. There are conceivable situations where there is little to no possibility that an algorithm that "conveys a meaning" is meaningfully linked to the search for the truth, democratic discourse, or the individual self-fulfillment of the algorithm creator. For example, when my navigation system tells me to turn left en route to the airport, it is not furthering the need to ensure that truth and the common good are attained, nor does it contribute to democratic discourse. The process of designing the navigation system may be

[53] See also Richard Moon, "Justified Limits on Free Expression: The Collapse of the General Approach to Limits on Charter Rights" (2002) 40 Osgoode Hall LJ 337 at 341.

[54] Roach & Schniederman, *supra* note 27 at 429-430. This inquiry is usually deferred to section 1, where the value of the speech is balanced against the social interest in regulation.

[55] In *Irwin Toy*, *supra* note 5 at 967-969, the Court provides an explanation for protecting unpopular expression, but never explicitly justifies why routine, everyday speech should always be safeguarded. The closest justification comes from *Keegstra*, *supra* note 12 at 805-806, where Justice McLachlin references Frederick Schauer's rationales for why governments have historically been poor censors of speech.

[56] *Irwin Toy*, *supra* note 5 at 976. The Court has lent implicit support to this view with its references to the "diversity" of ways in which individuals find self-fulfillment. See also, *R v Sharpe*, 2001 SCC 2 at para 107.

[57] This interpretation of the Court's section 2(b) jurisprudence reflects my own attempt (with some guidance from prior rulings) to reconcile existing case law with the purposive approach. My theory is one possible way to achieve this reconciliation; I acknowledge that there might be other plausible justifications.

linked to the self-fulfilment of the algorithm creator, but this link is not necessarily meaningful. Justice Dickson's definition of the "self-fulfillment" interest in *Keegstra* provides a crucial response: "Another component central to the rationale underlying s. 2(b) concerns the vital role of free expression as a means of ensuring individuals the ability to gain self-fulfilment *by developing and articulating thoughts and ideas as they see fit*."[58]

This definition clarifies that section 2(b) does not safeguard *all* methods of individual self-fulfilment; rather, it is specifically concerned with the ability of individuals to gain self-fulfilment by developing and articulating thoughts and ideas as they see fit. Consequently, unless an algorithm is written for the purpose of "developing and articulating thoughts and ideas," the government can freely restrict the program's output without engaging the individual self-fulfillment rationale under section 2(b).[59] Likewise, the concept of "the search for truth" was described by the Court as "promoting a 'marketplace of ideas' in which competing ideas vie for supremacy to the end of attaining the truth."[60] Accordingly, the mere fact that algorithmically generated content conveys a meaning does not establish a connection to section 2(b) values. Canadian courts should reject the "conveying meaning" standard in this context and instead directly rely on the three underlying values from *Keegstra* that the *Irwin Toy* standard is supposed to uphold.[61]

IV. APPLYING THE TEST

At the outset of this paper, I stated that I was seeking a theory that accorded section 2(b) rights to Tim and Sophia, but not to car alarm manufacturers. I will now demonstrate that this test is appropriate.

The Car Alarm

Step 1: Sufficient Connection to Human Preferences

In this example, the algorithm creator has encoded within the program the precise words used by the alarm, the rate at which the words are transmitted, and the event that triggers the alarm. Each of these steps represents the creator incorporating a specific set of instructions in the

[58] *Keegstra*, *supra* note 12 at 762 [emphasis added].
[59] Contrast this with the act of speaking. While speaking does not always further self-fulfillment, all speaking involves "developing and articulating thoughts as one sees fit." Consequently, there is always a *possibility* that speaking is connected to the kind of individual self-fulfillment that section 2(b) protects.
[60] *Keegstra*, *supra* note 12 at 803.
[61] My approach is similar to Oren Bracha's theory, with one important difference. Bracha, *supra* note 22 at 1666, argues that 'a specific practice is outside the coverage of the First Amendment when the speech practice, understood in light of the specifics of the social interactions involved, has little or no significance for freedom of speech values.' I agree that assessing whether or not a particular activity has 'little or no significance' for freedom of speech values is a helpful exercise. However, I do not support an independent examination of prevailing social norms surrounding particular interactions or activities. Canadian social norms surrounding expression are already reflected in the three values outlined in *Keegstra*, *supra* note 12. Any further role for such an inquiry could entrench traditional modes of expression and deprive content creators of deserved *Charter* protections.

program. If the creator had different preferences, the content produced by the algorithm would be identifiably different. The content generated by the computerized car alarm is therefore sufficiently connected to a clear set of human preferences.

Step 2: Free Expression Values

The car alarm example fails on the second step of my test. The car alarm algorithm is unrelated to the three rationales underpinning the section 2(b) guarantee. The car alarm does not facilitate the search for the truth or improve democratic discourse. Indeed, the output of the alarm does nothing to contribute to the "marketplace of ideas." While the process of designing the algorithm may have been fulfilling to the car alarm manufacturer in some ways, it was not fulfilling for any reason protected by section 2(b). As explained above, section 2(b) does not safeguard all methods of individual self-fulfilment—it only protects the ability of individuals to gain self-fulfilment by developing and articulating thoughts and ideas as they see fit. It is true that the message communicated by the alarm could literally be described as an idea that is articulated, and indeed, it even conveys a meaning. But the ideas being communicated have no room to be developed. The ideas being communicated do nothing to facilitate democratic discourse. In this scenario, there is no opportunity or capability for critical analysis. The creator's intent was to construct a mechanical tool to insert into a car.

The Debt Clock and Search Engine

Step 1: Sufficient Connection

Tim has encoded within his program a particular source of data. He has also encoded how this data is to be represented. The output of his program is strictly constrained by the criteria he has implemented. In Sophia's case, the arrangement of the data produced by the search engine represents her preference regarding which authors should be displayed more conspicuously. The debt clock and search engine are both sufficiently connected to a set of clearly defined preferences and satisfy the first step of my test.

Step 2: Free Expression Values

At this stage, the debt clock and search engine diverge from the car alarm example. Tim and Sophia's algorithms are both connected to the values underpinning section 2(b). Tim's debt clock aids in the search for the truth by drawing attention to national debt levels and facilitates democratic discourse about the state of the economy. Further, as Tim is concerned about the national debt, he designed this algorithm for the purpose of articulating a set of ideas related to the importance of the national debt and drawing attention to the output. Implicit in Tim's decision to release this program is a suggestion that others should also consider the debt a source of concern. This implicit suggestion undoubtedly contributes to the "marketplace of ideas." It

invites criticism and contrary viewpoints as opposed to being a repetitive series of sound transmissions.

Sophia's pursuit of self-fulfilment involved counteracting gender biases against female content creators that were apparent in the search engine domain. Some of those content creators could be writing about social and political issues, further facilitating democratic discourse. By developing her own search engine with a counter-bias, she developed and articulated her set of ideas and similarly invited critique. Furthermore, the results generated by her search engine contributed to the "marketplace of ideas," both literally by giving exposure to underrepresented content-creators and figuratively by suggesting that female content-creators are being treated unfairly. Finally, the ideas developed and articulated by Sophia can be critically analysed and debated by the public, promoting the very essence of democratic discourse. Protecting this type of content from state interference is precisely the reason the protections in section 2(b) exist.

CONCLUSION

This paper has two important implications for Canadian constitutional law. First, it provides a method for jurists to take a logical and principled approach to the inevitable question of how the *Charter* applies to algorithmically generated content. Lower courts across the United States have already confronted the constitutional implications of algorithmically generated content in lawsuits brought against Google for tortious interference with trade through perceived interference with search engine rankings.[62] The ground-breaking decision of the European Court of High Justice in *Google Spain v Gonzalez* has important implications for the expressive rights of search engine operators like Google.[63] It is only a matter of time before Canadian courts tackle similar questions. As mentioned earlier, the Supreme Court will address a related issue in *Equustek*.[64]

Second, this paper has broad implications for section 2(b) jurisprudence. My proposed test highlights certain unstated assumptions that seem to underlie the Supreme Court's section 2(b) rulings, and it is hoped that this paper encourages a discussion on ways in which these assumptions might be more explicitly addressed in future judgments. Even if these assumptions are ultimately rejected, the process of refuting them should bring significant clarity to an area of *Charter* jurisprudence that needs renewed direction if it is to cope with the novel legal challenges presented by rapidly evolving methods of expression.

[62] *Search King v Google Technology* (13 January 2003), Civ-02-1457-M (WD Okla) (WL); *KinderStart.Com v Google Technology* (16 March 2007), C 06-2057 JF (ND Ca) (WL).
[63] Google Spain v AEPD and Mario Consteja González (13 May 2014), C-131/12 (ECJ) (InfoCuria).
[64] *Equustek*, *supra* note 4.