Brief to the Government of Canada

Consultation on a Modern Framework for Artificial Intelligence and the Internet of Things

Submitted by:
Canadian Federation of Library Associations, and Canadian Association of Research Libraries

September 2021
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Introduction

The Canadian Federation of Library Associations (CFLA), and the Canadian Association of Research Libraries (CARL) jointly submits this response to the Government of Canada’s Consultation on a Modern Framework for Artificial Intelligence and the Internet of Things.

Libraries have a societal role to provide equitable access to information and preserve knowledge. In Canada, the Copyright Act recognizes the unique function of libraries to achieve the government’s public policy objectives around research, innovation and lifelong learning through the Act’s exceptions and limitations.

CFLA and CARL recognize the cultural importance of Canadian creators, the need to support Canadian heritage, and to provide access to their works. Canadian libraries support Canadian authors and publishers with significant annual purchases and promotion of their print and digital content. Canadian libraries, archives and museums (LAMs) have consistently demonstrated a clear commitment to Canadian heritage.

Further consultation may be needed on related issues

Despite the many benefits to the public of artificial intelligence (AI), as the consultation paper noted, several public interest issues surrounding AI that are of concern to LAMs go well beyond copyright concerns. All of these issues need further examination and public consultation, including machine learning bias, machine learning transparency and explainability, informed consent for use of data, privacy by design, data breaches of biometric data, and protection of freedom of expression. Safeguarding the public interest and privacy and other human rights considerations must be foundational to all policy and legislative changes.

The library community believes that more effective public consultation on the important and complex issues surrounding AI, is in order: it is crucial to have wider consultations involving public interest groups and the broader public that may be unaware of the implications of potential legislation relating to AI. Copyright concerns surrounding AI must not be addressed in isolation or in a market-focused bubble. Now is the time for the Government to undertake specific outreach for public interest consultations with a broad range of stakeholders about protection of privacy rights, personal information, and other human rights. Precipitous decisions about what is good public policy can result in unintended consequences that have a negative impact on the public good.

LAMs are society’s safe havens, where access to information is ensured and facilitated for all. Because of their distinct and essential public service roles they are the trusted repositories of our cultural heritage. LAMs support both the creators whose works are represented in our holdings, and the users to whom we make these works available both in person and online. LAMs serve the public interest without discrimination and operate outside many of the pressures of vested interests, but consider the common good and enhancement of global access to Canada’s diverse cultural heritage.

As David Fewer pointed out more than 20 years ago, the Canadian government should not base changes to intellectual property laws on industry pressures and ignore the public interest:
Alternatively, it is possible that public interest concerns have not made their way into legislative reforms because they have not found their way before legislative deliberations. On this model, the developments in Canadian IP over the past ten years can be seen as the product of industry capture: governments are subject to a number of inputs, and commercial interests with powerful financial motivations can mobilize powerful and persuasive lobbying activities. This second possibility is less fatal to public interest concerns, although it is certainly more problematic from a political perspective: it reflects not an abandonment of the public interest, but a failure of the political process."¹

This additional consultation would be consistent with Open Government objectives and should follow the Open Government methodologies that ensure both wide and targeted participation.

As trusted and accessible institutions, libraries can play an important role in public education and engagement with AI. Libraries have a history of helping patrons develop digital competencies² and are well placed to help patrons understand AI and participate in policy discussions about the positive and negative implications of adopting AI technologies in the wider Canadian society.

**Text and Data Mining**

**Context**

Libraries facilitate a wealth of text and data mining (TDM) research, and amendments should be introduced in the Copyright Act that clarify how copyright applies to TDM activity. As CARL and Portage outlined in their submission to the Copyright Review on TDM in 2017, TDM has a wide variety of crucial research applications, many of which, as the Association of European Research Libraries states:

> ...will increase the progress of science exponentially. It has the potential to facilitate the discovery of cures for diseases such as cancer and Parkinson’s. It has already been used to discover new applications for existing drugs and will act as a foundation for innovation and new industry. For libraries, it means that the researchers we support will be able to fully realise the value of our growing collections of scientific content. This will, in turn, ensure a more rigorous approach to research, including more thorough reviews of the literature.³

Examples of research uses of TDM include mining newspapers to find textual indicators of economic uncertainty, political shifts, or social trends; and mining of large-scale library catalogues, other online knowledge repositories, or social media aggregations to understand changes in technologies, publishing, and consumer behaviours. Researchers are increasingly using TDM and text analytics across several computational research methods, and curating the

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output of this work has the potential to result in novel discoveries within and across diverse bodies of research.

**Challenges in current copyright legislation for TDM research and innovation**

Conducting TDM research requires making non-consumptive copies of works, copies that may be considered infringements. The Canadian LAM community is familiar with its users’ efforts to engage in innovative research and the chilling effect of copyright uncertainty and licensing restrictions around TDM. Challenges that users encounter under the current legal regime include licenses that are vague regarding TDM research or limit TDM in such a way as to stymie the needs of researchers. The current formulation of sections 29 and 30.71 lacks the clarity required for researchers and leads to each individual TDM project requiring significant copyright analysis to ensure copyright compliance.

For example, a Canadian-led group of researchers was forced to retract a paper that had been accepted for publication on vaccine hesitancy and COVID-19 because they had not secured a license to mine a database of news articles used in the study. Researchers are unable to mine many digitized public domain materials due to license restrictions from the database providers.

Other jurisdictions, such as the US, have recognized the solid legal basis for non-consumptive research on copyrighted materials. As a consequence, US organizations, such as the HathiTrust Research Center, are able to provide “access to the text of the complete 16.7-million-item HathiTrust corpus for non-consumptive research, such as data mining and computational analysis, including items protected by copyright.” This access is based on US jurisprudence that non-consumptive research use, such as TDM, does not impinge upon or change the legal status of items protected under copyright.

Many of the questions in the discussion paper relate to how a licensing model may enable TDM. Libraries do not support licensing as an appropriate solution for TDM. As stated by the International Federation of Library Associations:

> [T]he right to read ... content should encompass the right to mine. Further, the sheer volume and diversity of information that can be utilised for text and data mining, which extends far beyond already licensed research databases, and which are not viewed in silos, makes a licence-driven solution close to impossible.  
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With this context in mind, the Canadian library community supports the following recommendations.

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6 IFLA. IFLA Statement on Text and Data Mining (2013).  
Recommendations

1. Make fair dealing purposes illustrative. The library community supports recommendations in the 2019 Copyright Review related to the enumerated list of purposes under section 29 of the Act. The Review recommends that fair dealing adopt an illustrative rather than an exhaustive list of purposes, through the addition of the words ‘such as’. Creating an illustrative list would provide the flexibility sought by both industry and the education communities. An illustrative approach would be consistent with copyright jurisprudence from the Supreme Court of Canada and follow Canada’s approach to technological neutrality.7

2. Create a specific exception for TDM. The library community supports the creation of a new exception to infringement that would “facilitate the use of a work or other subject-matter for the purpose of informational analysis”.8 As noted in the discussion paper, a number of Canada’s key trading partners do already have a specific exception for TDM, including Japan, the United Kingdom, France, and Germany. The library community supports an exception that applies to both commercial and non-commercial research.9 Canada should consider a more open approach that is similar in scope to the Japanese exception, rather than a more narrow exception that is limited to non-commercial research like the UK and the EU. Libraries do not support licensing as an appropriate solution for TDM.

3. Other changes to the Act that would facilitate TDM. Many resources that are used in TDM research are databases with terms of use that are negotiated between libraries and publishers or between users and publishers. In fact, rights holders often use licenses “to override copyright exceptions that were created through transparent legislative processes, at the expense of users and at the cost of the spread of knowledge, discovery and innovation.”10 In addition, many of these license terms are technologically enforced using technological protection measures (TPMs).

If the Government of Canada modifies the Copyright Act to facilitate TDM through either a specific exception or by modifying fair dealing so that it includes an illustrative list of purposes, rather than exhaustive one, there are two other changes that will benefit researchers conducting TDM. The first change would be to make it clear that no exception to copyright can be overridden by contract and the second would be to allow the circumvention of TPMs for any non-infringing purpose.11

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8 Ibid. Recommendation 23.
11 These two additional modifications are in other library submissions to the government, such as the CARL, Portage and CFLA submissions to INDU as part of the Copyright Review. Circumvention of Technological Protection measures is also included as a recommendation in the “Right-to-Repair” section of this document.
AI Authorship

Context
Copyright in Canada protects the expression of human creativity that includes skill and judgement. The AI consultation forces the consideration of the characteristics of originality, creativity, data, and computation. The outputs of computation, from processes that are mechanical and routine, may not reach the originality bar, set out in CCH\textsuperscript{12}. Carys Craig points out that “authorship entails expressive agency—an intention to communicate, to engage in dialogic relations with others—that AI simply cannot possess.”\textsuperscript{13} Without expressive agency, and without underlying intellectual effort, AI process outputs should not be afforded the same level of protection that copyright affords to human creators.

The term ‘author’ is used in Berne, while WIPO treaties and TRIPS, which incorporate entire elements of Berne, also use the terms rightsholder, natural author and legal author. Ballardini says “opening the door for AI to become author/inventor would make a non-human a rightholder... and should be answered in the negative.”\textsuperscript{14} AI expansion into intellectual property rights unbalances the scope of protection and disincentivizes other stakeholders.

The output of AI processes are mechanical exercises whereas the development of an algorithm is an exercise of skill and judgement. Therefore, copyright protection is already afforded to the AI algorithm, as a computer program, and incorporates the incentive to create. Consequently, the answer to the question “Should the law provide additional incentives (via copyright law) for machines to execute code?” is “no”; AI processes, unlike human authors, do not need incentives to create.\textsuperscript{15}

When considering AI authorship, it must be kept in mind that one intent of copyright is to “maintain a balance between the rights of authors and the larger public interest, particularly education, research and access to information.”\textsuperscript{16} AI processes can be trained to create works in a faster-and more systematic way than human authors. The mass output that AI makes possible can cause an economic reordering - disadvantaging human authors and privileging machine outputs over human creations. Protected by the full range of copyright protections, this kind of volume-based, what one could call “autoship”, will crowd out human authors and enclose the space of the public domain.

On the important and complex issue of authorship, CFLA and CARL take the position that the outputs of AI processes should remain unenclosed and in the public domain. Providing full copyright protection for AI outputs threatens copyright’s balance, and the value Canada places on human expression as Craig and others warn.\textsuperscript{17} For example, Obeebo, an AI firm that specializes in the composition and production of music, noted in their submission to recent

United States Patent and Trademarks Office consultations on AI, that the sheer volume of output from AI processes could potentially carve out swathes of creative space, if afforded full copyright protection:

Similarly, in the case of copyright it is conceivable that an AI could rapidly produce all permutations in a given space (e.g., all melodies having N notes or all images having X pixels) and effectively secure copyright thereof without ever pursuing the vast majority of such permutations in any meaningful way. 18

AI brings with it a host of opportunities for misuse and the exploitation of the power of AI to pursue illegal endeavours such as privacy intrusions, large scale copyright infringement, illegal collection of data and other actions. These issues are significant from a public policy perspective, and they must be addressed in tandem with the copyright implications of AI. The question of liability for AI assisted or AI created works must be taken into account, determining whether or not an autonomy threshold has been crossed by the AI process.

When an AI process is insufficiently autonomous to create outputs without human creative intervention, the human responsible for the intervention would be the author of the output. The owner of the copyright in that author’s AI assisted creative work will be liable for any infringement, libel or other illegal act arising out of the creation of the work. But what happens when an AI process autonomously creates a work with no, or very minimal, human intervention? If Canada adopts a paradigm which protects autonomous AI output with copyright vested in the programmer, user, or owner of the AI process, then the copyright owner must accept all liability associated with the AI output. As Daniel Gervais pointedly states “No copyright should be granted to an author who is not also responsible for the work’s meaning and content, whether it be libel or copyright infringement.” 19 Without copyright in the AI output, no person can be held liable. If copyright is not granted for AI output, mechanisms must be in place to address the publication and dissemination of illegal content.

Whatever regime is adopted for the recognition of AI creations will affect creators and society. Equating human and machine creation would have a deleterious effect on creators and how society values their work and their contribution to the public good, and it would affect the incentive to create. The self-image of creators will be affected in direct relation to the degree and type of recognition that is accorded to AI authorship. The regime adopted will ultimately have an effect on creators and creation, and its significance must be addressed as a matter of important public policy with potentially disruptive unintended consequences.

If the outputs of AI processes have any protection at all, they should have less protection than human authors currently hold under the Copyright Act. While AI outputs may not achieve originality, the exploration of computation, intellectual labour, and exchange value, invites consideration of a thinner protection, as illustrated in sui generis rights in other jurisdictions for database protection, with shorter non-renewable terms of protection. The parameters of

19 Gervais, supra 15, 2087.
“thinner copyright”\textsuperscript{20} remain to be determined and should be the subject of thorough consultation and deliberation.

The mass output that AI makes possible could cause an economic reordering - disadvantaging the output of human authors, privileging machine outputs over human creations, and disrupting copyright balance. Affording full protection to AI output would have deleterious effects on creator incentive.

**Recommendations**

1. AI authored works should not be protected by copyright. For the reasons cited above, if there is any protection, it should be less protection, a newly established “thinner copyright”.\textsuperscript{21}
2. AI authored works that infringe copyright should be removed from distribution and any circulation of the output ceased by the person or organization that owns the AI process that created the work.

**Right to Repair, Interoperability and Technical Protection Measures**

**Context**

Libraries support the right of our users to repair and ensure the interoperability of the software-enabled products that they purchase. Libraries also provide access to many of these objects and devices. These objects and devices facilitate access to our collections (printers, scanners, digitization equipment) and enable innovators (makerspaces, tool lending libraries). Our collections increasingly include software-enabled products, such as video games and consoles, computers, tablets, Wi-Fi-hotspots, and more.\textsuperscript{22}

The ability to repair and modify is under threat for both LAMs and users, as products increasingly require computer technology to operate, and these products are sold to end-users with licenses that limit the use and modification of their internal software.

**Challenges for libraries regarding the right to repair**

LAMs should have the ability to repair, maintain, and preserve the items that they own in their collections and to use them in concert so that they best meet user needs. The ability to repair for LAMs and end-users should also be autonomous: they should not be held hostage by the willingness or capability of a single vendor or company to authorize or provide repairs to the software-enabled products in our collections or to make changes that enable multiple products to be used together. In addition, LAMs also have the mandate to preserve and maintain access over time to our collections, and if the companies and vendors that LAMs depend upon either stop updating or stop providing service for a specific product and the product breaks, they need to be able to circumvent these measures in order to maintain access.

\textsuperscript{20} For example see Feist Pubs., Inc. v. Rural Tel. Svc. Co., Inc., 499 U.S. 340 (1991)
\textsuperscript{21} Ibid.
\textsuperscript{22} INDU (2018), Evidence, 1635 (Petricone, CTA).
Maintaining hardware and software for library services should be transparent and mainstream. The ability to repair the technology that is increasingly necessary for access to information or to use it in conjunction with other equipment to meet user needs should not be prohibitive and should not cost more than the replacement of the device or software. For example, some Canadian academic libraries have purchased Espresso Book Machines (print-on-demand technology) for over $100,000. As a result of licensing terms restricting repair of the physical equipment, these machines have been rendered useless and sold for parts because of prohibitive software licensing costs and the inability to fix/adapt software for continued use. Products must be repairable and must come with a statement of level of repairability and access to repair related information. This information should be openly available.

Libraries believe that all Canadians should be able to circumvent technological protection measures for all legal purposes, including the ability to repair products. The right to repair should be a user right in Canada as it is essential for preserving the balance in the law. TPMs should not prevent anyone from exercising their legal rights.

**Challenges of current interoperability exceptions**

As noted in the consultation paper, the Act already includes exceptions that allow users to circumvent TPMs for certain interoperability purposes, but these exceptions are too restrictive and do not provide library users with sufficient certainty regarding their user rights.

Specifically, the exceptions are limited to measures protecting computer programs. This is problematic insofar as: i) “where the computer program ends and the hardware begins is also difficult to delineate in today’s world of embedded systems”; and ii) this does not address the issue of data interoperability (i.e. it may be necessary to access data produced by the program and/or device in order to achieve interoperability). Some of these shortcomings may be addressed by adopting the recommendation mentioned in section 3.31 of the consultation paper so that a broad definition of interoperability is incorporated into the Act: “the ability of a system, software or product to exchange and make use of information and services with other systems.”

In addition, the exception is too specific as it is restricted to individuals who own or have a license to use the computer program in question. This creates some uncertainty in a library setting where users have access to software-enabled products outside of these parameters.

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23 Such language includes: “Upon termination of the License, customer shall promptly cease using the EBM software and ExpressNet on the Purchased EBM and shall cease all use of SelfExpress.” Earlier in the same contract: “customer agrees that it shall not […] use or attempt to use the Purchased EBM in connection with any other software or service similar to any or all the functions of ExpressNet or the EBM Software…”


**Recommendations**

In their discussion of TPM circumvention in the recent Statutory Review of Copyright Act Report, the Standing Committee on Industry, Science and Technology agreed:

that the circumvention of TPMs should be allowed for non-infringing purposes, especially given the fact that the Nintendo case provided such a broad interpretation of TPMs. In other words, while anti-circumvention rules should support the use of TPMs to enable the remuneration of rights-holders and prevent copyright infringement, they should generally not prevent someone from committing an act otherwise authorized under the Act. ([https://www.ourcommons.ca/Content/Committee/421/INDU/Reports/RP10537003/indurp16/indurp16-e.pdf pg. 71-72](https://www.ourcommons.ca/Content/Committee/421/INDU/Reports/RP10537003/indurp16/indurp16-e.pdf)).

The corresponding recommendation in that report emphasized that the Government of Canada should modernize Canadian Copyright policy with digital technologies in mind, and that all Canadians should have the right to repair their lawfully acquired devices for non-infringing purposes.

With these comments in mind, CFLA and CARL recommend that the Government of Canada:

1. Amend section 41 of the Copyright Act so that Canadians and LAMs can circumvent a technical protection measure in order to diagnose, maintain or repair their products.
2. Amend section 41 of the Copyright Act so that Canadians and LAMs can circumvent technical protection measures for any non-infringing purpose.
3. Amend the Copyright Act so that no exception to copyright can be overridden by contract.
4. Incorporate a wider definition of interoperability into the Copyright Act: “the ability of a system, software or product to exchange and make use of information and services with other systems.”
5. Remove the part of section 41.12 (1) of the Copyright Act that limits the exception to individuals who own or have a license to use the computer program in question.

Recommendations 2 and 3 listed in this section mirror those that we recommend for Text and Data Mining and would have broad benefits for the entire library sector.

**Conclusion**

While the issues discussed in this brief respond primarily to artificial intelligence, we note that these recommendations will pertain to an increasingly broad range of situations as the Internet of Things continues to expand. CFLA and CARL are available to discuss the issues and recommendations detailed above. It is important to the library community that all concerns that affect our ability to deliver services within our public service mission must be taken into account in any changes to the copyright regime.
Summary of Recommendations

In summary, in order to address the issues raised by CFLA and CARL, we recommend that the Government of Canada:

1. Amend the Copyright Act to make fair dealing purposes illustrative rather than exhaustive.
2. Amend the Copyright Act to create a specific exception for TDM that applies to both commercial and non-commercial uses.
3. Ensure that AI authored works are not protected by copyright.
4. Put mechanisms in place to ensure that AI authored works that infringe copyright are removed from distribution and any circulation of the output ceased by the person or organization that owns the AI process that created the work.
5. Amend section 41 of the Copyright Act so that Canadians and LAMs can circumvent a technical protection measure in order to diagnose, maintain or repair their products.
6. Amend section 41 of the Copyright Act so that Canadians and LAMs can circumvent technical protection measures for any non-infringing purpose.
7. Amend the Copyright Act so that no exception to copyright can be overridden by contract.
8. Incorporate a broad definition of interoperability into the Copyright Act: “the ability of a system, software or product to exchange and make use of information and services with other systems.”
9. Remove the part of section 41.12 (1) of the Copyright Act that limits the exception to individuals who own or have a license to use the computer program in question.

The Canadian Federation of Library Associations/Fédération canadienne des associations de bibliothèques (CFLA-FCAB) is the united, national voice of Canada’s library community. Our purpose is to advance library excellence in Canada, champion library values and the value of libraries and influence national and international public policy impacting libraries and their communities. Our membership includes national, provincial, regional, special and territorial library associations across Canada.

The Canadian Association of Research Libraries (CARL) is the voice of Canada’s research libraries. Our members include Canada’s twenty-nine largest university libraries and two federal institutions. CARL enhances its members’ capacity to advance research and higher education; promotes effective and sustainable knowledge creation, dissemination, and preservation; and advocates for public policy that enables broad access to scholarly information. CARL’s two federal member institutions contribute to Canada’s research enterprise and collaborate in coordinated efforts with the academic library community, but do not engage in CARL’s federal advocacy.