Submission on Bills C-244 and C-294 (Amending the Copyright Act)

Submission to the Standing Senate Committee on Banking, Commerce and the Economy (BANC)

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I. Introduction

I am an assistant professor Law & Computer Science at Dalhousie University and member of the Law & Technology Institute at the Schulich School of Law. I am also a doctoral researcher in Law at the European University Institute where my research has focused primarily on the intellectual property dimensions of the right to repair.[1] The opinions and analyses in this brief are entirely my own and do not represent the views of my institution(s) or the faculties to which I am appointed. **I am writing in firm support of both Bills C-244 and C-294.**

Broadly, my research focuses on the intersection between intellectual property law, embedded computer systems, market competition, and open innovation. Much of this work focuses on the right to repair, innovation, and market-based concerns. My doctoral thesis explores the design, function, rationale, and implications of technological protection measures (TPMs) across the medical devices, consumer electronics, and agricultural equipment industries. In late 2020, Professor Alissa Centivany (Western University) and I founded the Canadian Repair Coalition (www.canrepair.ca) which is a federal Not-for-Profit organization that advocates for repair-friendly laws and policies throughout Canada. I am also the principal investigator of a research project "Unlocking Healthcare" which explores the technical and legal barriers (including those posed by copyright law) to the servicing and repair of medical devices by independent technicians in Canada (www.unlockinghealthcare.ca).

I have published several peer-reviewed articles on the Right to Repair, interoperability, and technological protection measures (TPMs), including an article in the *Berkeley Technology Law Journal* which analyses the Right to Repair in Canada, Bill C-244 and related regulatory issues.[2] In 2021, I published an article in the *Canadian Journal of Law*

[1] Anthony D. Rosborough, "Unscrewing the Future: The Right to Repair and Circumvention of Software TPMs in the EU" (2020) 11:1 JIPITEC 26-48. Available online: https://www.jipitec.eu/issues/jipitec-11-1-2020/5083/rosborough_pdf.pdf

[2] Anthony D. Rosborough, "Toward a Canadian Right to Repair: Opportunities and Challenges" (Forthcoming, 2023) *Berkeley Technology Law Journal*. Available on SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4236843

& Technology focusing specifically on the innovation bottlenecks in the agricultural technologies sector caused by Canada's TPM regime and the market harms which Bill C-294 intends to ameliorate. Open-access hyperlinks to these publications (and others) are appended to this brief at Schedule "A" for your review and inclusion in the Committee's file, should you find them helpful or instructive. In the following sections my support for both Bill C-244 and C-294 is outlined.

II. TPMs and the Purpose of Canadian Copyright Law

It is important to contextualise Bills C-244 and C-294 as part of a decades long quarrel between digital technologies and copyright law. In some ways, the challenges it seeks to overcome predate the public consciousness of the right to repair by many years.

Since their introduction into Canadian copyright law as part of the *Copyright Modernization Act,* SC 2012 c 20, TPMs have been the source of immense controversy and concern. These concerns include warnings that TPMs can curtail user privacy and enable spying by private entities[3], and that public-interest exceptions to copyright (such as fair dealing and exceptions for educational institutions) may be rendered irrelevant where TPMs are used to prevent access to digital works and materials.[4] Regardless of how one feels about these concerns, they stem from a more fundamental and doctrinal problem in enacting legal protections for '*technologies, devices, or components thereof*' as part of copyright law. As the Supreme Court of Canada (SCC) has articulated in a line of authoritative cases on the purpose of copyright in Canada[5], the policy goals of the *Act* are to balance the incentivization and dissemination of works in the public interest with a 'just

[3] Ian Kerr, ''To Observe and Protect?HowDigital Rights Management Systems Threaten Privacy and What Policy Makers Should Do About It" in Peter K Yu, ed, *Intellectual Property and Information Wealth: Issues and Practices in the Digital Age* (Westport, CT: Praeger Publishers, 2007).
[4] Carys Craig, ''Locking Out Lawful Users: Fair Dealing and Anti-Circumvention in Bill C-32" in Michael Geist, ed, *From Radical Extremism to Balanced Copyright: Canadian Copyright and the Digital Agenda* (Toronto: Irwin Law, 2010) at 188 —91. See also., Pamela Samuelson, ''Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to Be Revised" (1999) 14:2 BTLJ 519 at 543.
[5] *Théberge v. Galerie d'Art du Petit Champlain inc.*, 2002 SCC 34 ; *CCH Canadian Ltd v Law Society of Upper Canada.*, 2004 SCC 13; Society of Composers, Authors and Music Publishers of Canada v. Canadian Assn. of Internet Providers, 2004 SCC 45.

reward for the creator'. As the SCC noted in *SOCAN v CAIP*[6], encouraging the dissemination of works requires that copyright law also ensure that the *means of dissemination* (namely, the free flow of information and data necessary to access copyright works) is not unduly restricted simply because its architecture may enable infringement. In other words, the 'just reward for the creator' does not extend so far that it may police the architecture and design of the means of dissemination.[7]

Yet, TPMs fundamentally undermine this balance in applying copyright law, and instead grant rightsholders (or in many cases, hardware and device manufacturers) with the sole and absolute discretion of how and when the public may access and use works. This creates a number of social harms not only in the context of literary, scholarly, and educational materials, but also in the case of primarily utilitarian software and firmware needed to operate ubiquitous computing devices – everything from hairdryers to cars to agricultural combines to medical imaging equipment. It is this widespread computerisation of everything that surrounds us and the transformation into "smart technologies" that enables copyright governance (and restrictions imposed by TPMs) to infiltrate new domains that are entirely unrelated to the purposes and objectives of copyright law. As the 2017 Federal Court decision in *Nintendo v King*[8] reveals, TPMs do not need to present any barrier to copying a protected work in order to be "effective" and for their circumvention to be presumptively unlawful. TPMs therefore effectively grant rightsholders and device manufacturers with exclusive rights over how devices are used, accessed, or reverse engineered. My JD students learning intellectual property law often aptly point out in class that this is more akin to patent protection than it is copyright.

Causing further incoherence, the anti-circumvention provisions in the *Act* (ss.41 – 41.22) create inconsequential and isolated rules for TPMs and circumvention that operate independently from the general exceptions and limitations to copyright (e.g., fair dealing, private copying exception, etc.) This means that even if a lawful use of a work (including

[6] *Society of Composers, Authors and Music Publishers of Canada v. Canadian Assn. of Internet Providers*, 2004 SCC 45 at paras 129-132.
[7] This point is often understood as the principle of "technological neutrality".
[8] *Nintendo v King*, 2017 FC 246.

software in an embedded device) is permitted under general exceptions and limitations to copyright, this may be irrelevant in determining whether it is lawful. The anti-circumvention provisions of the *Act* are entirely self-contained. This further divorces TPMs from the public interest and just reward balancing that the SCC has identified as the core purpose and policy aims of copyright law.

III. Bill C-244 (diagnosis, maintenance or repair)

Bill C-244 is a small but crucial step in ameliorating the doctrinal incoherence between TPMs and copyright law outlined in Part II. It addresses activities (repair, maintenance, and diagnosis) entirely unrelated to the core economic rights copyright provides (reproduction, performance, and publication) and provides a clear exception permitting circumvention of TPMs for those purposes. Bill C-244 is the successor to the originally introduced Bill C-272 (43rd Parl, 2nd Sess), but retains much of the same wording and approach. The spirit and legislative intent behind this line of bills has been primarily to address the uncertainty of provincial policymakers in enacting amendments to consumer protection laws.

In 2019, ambitious right to repair legislation was proposed in Ontario but failed to receive majority support in the Ontario Provincial Parliament. This was partly the result of concerns of provincial jurisdictional overstepping into the intellectual property area held exclusively by the federal government. It became clear that federal legislative action in the intellectual property area was needed to clear a pathway for provincial governments to update their consumer protection and sale of goods frameworks to reflect the emerging right to repair – particularly in relation to consumer devices and home appliances. Bill C-272 and C-244 took up this task in the important area of technological protection measures under the *Copyright Act*. For these reasons, the bill was not intended (and nor is it capable) of being a comprehensive solution to the right to repair.

The right to repair

The right to repair is a public interest and legal reform movement that calls for greater access to the parts, tools, information, and software needed to repair and maintain the things that surround us. The rationale for the right to repair is based on at least four grounds.

The first addresses environmental sustainability and increasing product lifespan through repair. The second addresses consumer protection and empowering everyday people with greater choice over repairs and servicing. The third rationale is social or community-building in nature, focusing on the importance of decentralised technical knowledge and understanding that is facilitated through repair and sharing information. Finally, the right to repair is rationalised based on fair market competition. This aims to prevent manufacturers and vendors of various products and devices from confining the means of repair to exclusive distribution channels that negatively impact competition.

In order to achieve the right to repair, comprehensive reforms are needed to various intellectual property, consumer protection, and competition laws. Canada has moved forward with ambitious new amendments to the *Competition Act* as the result of Bill C-59, and the provinces appear willing to move ahead with amendments to their consumer protection legislation. Bill C-244 is a crucial first step in broader intellectual property reforms to facilitate the right to repair. Where TPMs act as a barrier to effective servicing and repair, the *Act* should not stand in the way.

To be clear, circumventing a TPM for the purposes of repairing, maintaining, or diagnosing a device with embedded computer software does not implicate the exclusive rights of copyright owners in any meaningful way. There is no viable commercial market for utilitarian firmware and software used in things like home appliances and agricultural equipment. This software has little (if any) independent commercial value apart from its functional use in devices. The assertion by device manufacturers that repair (and related activities) implicate their exclusive economic rights to control exploitation of this software is not supported by evidence and is best understood as a cynical invocation of copyright for anti-competitive purposes. It is a use of copyright to monopolise the downstream market for repair and servicing. As the United States' Federal Trade Commission reported in its 2021 report *Nixing the Fix,* there is "…scant evidence to support manufacturers' justifications for repair restrictions" in these situations.

With the increasing computerisation of seemingly every product or device, circumvention of TPMs is essential for repair and maintenance. This can come in the form

of a "service key" or password that must be entered to calibrate a device through software following a physical repair or change of components. Circumvention may also be necessary to access error logs or internal records on the device that allows the technician to find out what needs to be repaired or replaced. In my research and interviews with technical experts in various fields, I have learned that the presence of TPMs in various devices can create an enormous chilling effect and trepidation among independent repairers. The uncertainty as to whether a variety of repair and maintenance tasks constitute "circumvention" under the *Act* is often unclear, and technicians and repairers are not often well positioned to make this determination themselves. Manufacturers may well assert various reasons for wanting to restrict this information to private distribution channels and certified technicians, but these reasons find no basis in copyright law or policy. Bill C-244 is absolutely needed to provide independent repairers and technicians the assurances they need to carry out repair, maintenance, and diagnosis tasks without fear of legal action from manufacturers.

There is nothing provided by Bill C-244 that would make it lawful for repairers to reproduce, perform, or publish (in other words, "infringe") protected software (or other works) without the authorization of the rightsholder. In fact, this is made explicit in Bill C-244 itself, which provided at section 41.121(3):

> "A person acting in the circumstances referred to in subsection (1) is not entitled to benefit from the exception under that subsection if the person does an act that constitutes an infringement of copyright".

What C-244 clarifies is that it is lawful to circumvent a TPM for the purposes or repair, maintenance, or diagnosis, and nothing further. To use an analogy, allowing someone to attempt to break a lock is not the same thing as giving them the key, or allowing them free reign of whatever is behind the door. Bill C-244 only allows one to attempt to break a lock.

Remaining challenges

Despite the immense promise and step forward that Bill C-244 provides, there are remaining challenges that must be clarified in the future, including:

(1) Commercial repair services & tools

The anti-circumvention provisions in the *Act* prohibit three types activities in relation to TPMs. The first is the act of circumvention itself, which is to "avoid, bypass, deactivate,

remove…" a TPM. The second is to offer circumvention services for others. The third and final prohibited activity is in the manufacture, sale, distribution, or offering of the tools or means of circumvention. In practical terms, the latter may include specialised physical tools or software needed to circumvent TPMs for the purposes of repair. As the result of Canada's international trade obligations under Article 20.66 of the Canada-United States-Mexico Agreement, Canada may only enact new exception permitting the first of those acts listed above – the act of circumvention itself. These trade commitments prevent Parliament from introducing a broader set of reforms that would also allow for the offering of circumvention services or the sale, manufacture, distribution (etc) of circumvention tools.

In practice, the distinction between circumventing a TPM, offering a circumvention "service", and dealing in the manufacture, sale of circumvention tools or devices can be difficult to discern. Certainly if the intention of Bill C-244 is to provide independent repair technicians with legal assurances to do their work without the fear of copyright litigation, clarification as to when circumvention amounts to its own "service", and when the tools or means necessary to do amount to "sale", "offering", or "distribution" are sorely needed.

(2) Uncertainty whether purpose of an activity amounts to "diagnosis, maintenance or repair"

By confining the lawfulness of circumvention in Bill C-244 to "diagnosis, maintenance or repair" questions follow regarding the scope of those activities. There are some activities closely related to diagnosis, maintenance or repair that may fall outside of the Bill's scope. One example is in addressing remote feature rollbacks in internet-connected smart devices. In some instances, manufactures of products and devices will use over-the-air updates to limit their functionality over time and require certain features that were originally part of normal use to become paid services. If a user circumvents a TPM to restore features that were originally available when the product or device was sold, it is not clear that such acts of circumvention would be "repair, diagnosis, or maintenance". Yet, circumvention for these purposes is indistinguishable from physical repairs or maintenance.

IV. Bill C-294 (interoperability)

Bill C-294 addresses a related issue to repair, and that is with respect to the interoperability between two computerised devices or systems. As I outlined in a 2021 article[9], there is presently an exception in the *Act* permitting circumvention of TPMs for the purposes of "interoperability", but this characterisation of interoperability is narrowly construed as a relationship purely between two computer programs. This would, for example, enable the type of program-level interoperability that allows the Google Chrome browser to run on an Apple device, but it does not address *hardware* or the *tangible devices* in which computer programs are so often embedded. For these reasons, the existing exception in the *Act* does not go far enough. Bill C-294 addresses this shortcoming by enacting a new exception permitting circumvention of TPMs for device-level or component-level interoperability. Using another example, this is the type of interoperability that would allow your Toyota car to interoperate with a non-OEM (aftermarket) ABS brake module. There are at least two main public policy reasons why this Bill is needed.

The first is for reasons of innovation in the smart technologies space. In particular, Canada's agricultural technologies sector requires the ability to reverse engineer devices to develop their own marketable solutions.[10] It is important to understand that tractors and combines – the two main pieces of agricultural equipment – are not just standalone machines. They allow many things to plug into them to perform specific functions for certain crop varieties, soil types, and other specialised uses. The modern tractor or combine must allow third-party and non-OEM peripherals (known as "implements") to physically connect and mutually exchange data and information. There is a large and vital Canadian industry of innovators in this space that are developing these implements. This industry is responsible for thousands of jobs and billions of dollars in exports. But in order to continue developing new and interoperable products, they must be able to lawfully circumvent TPMs. Bill C-294 is crucial for giving these companies (and other industries engaged in similar types of innovation) the assurances they need to research, develop, and innovate without the fear of

[9] Anthony D. Rosborough, "If a Machine Could Talk, We Would Not Understand It: Canadian Innovation and the Copyright Act's Interoperability Framework" (2021) 19 J L & Tech 141-171. Available online: https://digitalcommons.schulichlaw.dal.ca/cgi/viewcontent.cgi?article=1288&context=cjlt

[10] See e.g., Anthony Rosborough & Carlo Dade, "What Now? Farming in the software age" (March 2024) *Canada West Foundation Policy Brief*, online: https://cwf.ca/research/publications/what-now-farming-in-the-software-age/

costly copyright litigation. This is essential not only for a vital Canadian industry, but for fair competition in the marketplace and to ensure that homegrown talent and research and development stays in Canada and can support our agrifood systems and food security nationally.

The second main public policy reason for Bill C-294 is in relation to "parts pairing". Many may be familiar with a phenomenon where a printer refuses to accept or use an "inauthentic" or non-OEM ink cartridge. Parts-pairing applies this logic across entire manufacturing industries where many parts of a device, machine, or product are assigned unique serial numbers and are recognised by the onboard software. If any physical component of a device is removed, changed, or modified, the onboard software detects this change and will effectively "brick" or "limp" the device so that it will not work properly unless the proper access controls needed to neutralise a TPM are present. In effect, this limits the scope of suitable replacement parts and components to only those made by the manufacturer or vendor, or limits who may modify or make changes to devices and products. This limits the choice and competition, while increasing prices.

Parts-pairing is becoming increasingly common in the automotive, consumer electronics, medical device, agricultural equipment, and other industries. In some cases, circumventing a TPM can allow a user to instruct the onboard software to approve the new part or component by recognising it as authentic. Circumventing a TPM for these purposes may only be incidental to "diagnosis, maintenance or repair" and not be covered by Bill C-244 where the component or part being added is considered its own device or distinct from the repair process. In these cases, further assurances are needed under the *Act* to ensure that neutralising parts-pairing is lawful.

Remaining ambiguity

One ambiguity left by Bill C-294 is in its description of the circumstances in which the new exception applies. The first clause of the new exception provides that:

> "Paragraph 41.1(1)(a) does not apply to a person who circumvents a technological protection measure that protects a **lawfully obtained** computer program for the purpose of…".

The notion of when a computer program has been "lawfully obtained" in the case of a device with embedded computer software is not entirely clear. For example, when a consumer purchases a farming combine, it is not clear that they have "lawfully obtained" the software that runs it (particularly if contractual terms at the time of sale say otherwise). To "obtain" software may be regarded as something less than having an explicit licence to use it, but this again is not entirely clear. The notion of "lawfully obtained" computer programs is alien to the *Act* and not defined anywhere else in federal legislation that could be used as an interpretive aid. It is likely that, to give effect to the spirit of Bill C-294, interpretive guidance will be needed to clarify when a computer program has been "lawfully obtained" where no explicit licence or assignment of copyright has been made. One approach would be for the *Act* to include clarification to the extent that, in the absence of any agreement to the contrary, the purchase of a device in which a computer program is embedded establishes an implied licence to use the program and that it has been "lawfully obtained".

V. Response to Critiques of both Bills

In the proposal and committee discussions about both Bills, industry groups and rightsholders have put forward several critiques of these amendments to the *Act*. My response to these critiques are articulated below.

A. Limiting the scope to certain products or devices

Critics of both bills have, on different occasions, called for industry-specific carveouts that would exempt certain products or devices from the application of Bills C-244 and C-294 (e.g., MedTech Canada, Global Automakers of Canada). Others have proposed that the scope of Bill C-244 be limited to "consumer products". Firstly, there is no reasoned basis to exclude certain industries other than to protect certain business models that are inherently anti-competitive. Secondly, to limit either bill to only certain types of products would result in significant ambiguity (requiring further interpretive guidance) Put simply, the justification for these industry-specific carveouts is also not adequately substantiated.

The *Copyright Act*'s purpose is to provide for a system of rights, incentives, exceptions, and limitations in relation to works**.** It is not the role of copyright law to create a system for regulating the design and manufacture of products and devices or discriminating based on the industry, business model, mode of manufacture, product design, or end-user.

B. The role of cybersecurity in TPM policy

Throughout the debates and deliberations for both bills, the role of cybersecurity and the importance of TPMs for safeguarding these interests has often been repeated. I disagree that cybersecurity concerns should form part of TPM policy or copyright law in any way shape or form. It is not the role or object of copyright to regulate or provide protections for cybersecurity. Likewise, Canadian copyright law should not allow device manufacturers to use cybersecurity as a blanket justification for restricting otherwise lawful uses of technologies.

If TPMs are as invaluable for safeguarding innovation as manufacturers attest, it should be incumbent on them to devise ways of protecting cybersecurity in a way that does not impede independent repair, servicing, and other lawful uses of technology. Cybersecurity concerns would be more appropriately addressed by Bill C-26 or under the *Telecommunications Act*.

C. Alleged health and safety risks

The importance of TPMs for protecting the health and safety of users and the public has been repeatedly referenced throughout the submissions and briefs provided to INDU and BANC throughout. Some have asserted that the only or primary reason anyone would wish to circumvent a TPM is to manipulate devices for unlawful purposes.

This fearmongering is predicated on the notion that a change in the law which no longer makes it unlawful to circumvent a TPM will somehow arm people with new capabilities or dangerous powers. The fact is that those who wish to manipulate devices and systems for unsafe or illegal activities can already do so. Any system can be hacked.

In the case of computerised devices, products, and systems, the health and safety of Canadians may actually be *improved* through wider access to repair and interoperability. Where circumvention is more widely accessible and available, this results in the production

and dissemination of knowledge that can reveal new insights about product design and user safety. It also allows third party innovators to develop new solutions. “Security through obscurity”, in other words, is a fallacy. Canadians are safer when the access to technical knowledge, innovation, and repairability is not kept secret, and the inner workings and functioning of devices can be discerned and understood lawfully by anyone. Manufacturers and vendors should devise ways of protecting their trade secrets and intellectual property through other means. The public interest should not pay this cost through anti-competitive markets and sub-optimal product design and manufacturing.

The fact that device manufacturers see copyright law as essential to the health and safety of Canadians should also cause for some concern. If their contention is that many devices and products are inherently dangerous and repair, reverse engineering, or innovation activities pose safety risks, we should ask more of manufacturers through amendments to the *Consumer Product Safety Act* or other legislation. Just as copyright law is not an appropriate framework for cybersecurity regulation, nor is it the appropriate forum for product safety.

VI. Conclusions

Bills C-244 and C-294 are crucial for pursuing the right to repair and ensuring a more competitive innovation landscape in Canada. These Bills recognise the need for legal reforms to anti-circumvention law that safeguards the public interest in access to technical information, reduced consumer costs, empowerment of remote communities, robust market competition, extending product lifespan, and reducing the ecological toll in manufacturing complex goods. While consumer protection and competition laws are also in need of revision, intellectual property rights are often the fulcrum that allow manufacturers to wage business practices and exclusivity models which undermine innovation and repair. In this way, Bills C-244 and C-294 rightly start at the *source* of the problem. I overwhelmingly support both Bills.