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## Press Clause and 3D Printing

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# Press Clause and 3D Printing

By Jasper L. Tran<sup>1\*</sup>

## ABSTRACT

*Judges and scholars have argued that the “freedom . . . of the press” not only protects the press as an industry, but also protects the use of the printing press and its modern equivalents as a technology. This paper argues that the Constitution’s Framers intentionally used the phrase “the press,” rather than “journalism” or “communication” in the Press Clause, to protect technologies unknown at the time, which necessarily include the 3D printer—the modern equivalent of the printing press.*

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\* Policy Fellow at University of Minnesota, former Google Policy Fellow at George Mason University. Sincere thanks to Eli Dourado and Brent Skorup for their comments on earlier drafts. I’d also like to thank Google Inc. and Mercatus Center for funding this paper’s research. The views expressed herein are solely those of the author, not his employer or affiliation. Email him at tran4lr@gmail.com. Copyright © 2015 by Jasper L. Tran.

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“Progress of human civilization in the area of defining human freedom is not made from the top down. No king, no parliament, no government ever extended to the people more rights than the people insisted upon.”<sup>2</sup>—Terence McKenna.<sup>3</sup>

Technology is progressing at an extraordinary speed.<sup>4</sup> New disruptive technologies are emerging every year.<sup>5</sup> The government has attempted to regulate many emerging technologies, but many forgot to ask whether the government actually has the authority to regulate these new emerging technologies in the first place. This paper looks at one emerging disruptive technology that would soon be a common appliance in every household—the 3D printer.<sup>6</sup> The 3D printer eliminates the manufacturer as the middleman and lets people “print” out whatever they want—*e.g.*, food,<sup>7</sup> a car,<sup>8</sup> or even a kidney<sup>9</sup>—from the comfort of their own home.

This paper argues that 3D printing belongs to the public under the Press Clause’s constitutional manufacturing right. This paper proceeds in five parts. Parts 1 and 2 discuss the printing press and 3D printing in detail. Part 3 applies the Press Clause to 3D printing and synthesizes the constitutional manufacturing right to 3D print. Part 4 rebuts counterarguments. Part 5 concludes with potential implications.

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<sup>2</sup> TERENCE MCKENNA, *TRUE HALLUCINATIONS: BEING AN ACCOUNT OF THE AUTHOR’S EXTRAORDINARY ADVENTURES IN THE DEVIL’S PARADISE I* (1993).

<sup>3</sup> Terence Kemp McKenna (Nov. 16, 1946 – Apr. 3, 2000) was an American philosopher, author and ethnobotanist known for his work on psychedelic drugs. *See generally* David Jay Brown & Rebecca McClen, *The High Times Interview: Terence McKenna*, *High Times* (Apr. 1992), [https://www.erowid.org/culture/characters/mckenna\\_terence/mckenna\\_terence\\_interview\\_hightimes.shtml](https://www.erowid.org/culture/characters/mckenna_terence/mckenna_terence_interview_hightimes.shtml) [<https://perma.cc/CQ24-WUP9>].

<sup>4</sup> *See, e.g.*, Christopher S. Yoo, *The Rise and Demise of the Technology-Specific Approach to the First Amendment*, 91 *GEO. L.J.* 245, 280–83 (2003). For instance, the fastest growing technology in the 21st century has been the software industry. *See generally* Jasper L. Tran, *Software Patents: A One-Year Review of Alice v. CLS Bank*, 97 *J. PAT. & TRADEMARK OFF. SOC’Y* 532, 539–40 (2015). Other sectors are not lagging behind either, for example, the pharmaceutical industry. For a discussion on pharmaceutical litigation, see Jasper L. Tran, *Timing Matters: Prior Art’s Age Infers Patent Nonobviousness*, 50 *GONZ. L. REV.* 189, 207–08 (2015).

<sup>5</sup> *See, e.g.*, Yoo, *supra* note 3, at 280–83.

<sup>6</sup> Steven Kurutz, *The 3D Printer May Be the Home Appliance of the Future*, *N.Y. TIMES*, Feb. 20, 2013, <http://www.nytimes.com/2013/02/21/garden/the-3-d-printer-may-be-the-home-appliance-of-the-future.html?pagewanted=all>; *see also* Mark A. Lemley, *IP in a World Without Scarcity*, 90 *N.Y.U. L. REV.* 460, 474–75 (2015) (“[a] world in which everyone has advanced 3D printers at home or available in a public facility”).

<sup>7</sup> *See 3D Printing: Food in Space*, NASA (May 23, 2013), [http://www.nasa.gov/directorates/spacetech/home/feature\\_3d\\_food.html#.VVYTi5NViko](http://www.nasa.gov/directorates/spacetech/home/feature_3d_food.html#.VVYTi5NViko) (discussing NASA’s investment in 3D-printed food to feed its astronauts when they are in space).

<sup>8</sup> *See* Aaron Kessler, *A 3-D Printed Car, Ready for the Road*, *N.Y. TIMES* (Jan. 15, 2015), [http://www.nytimes.com/2015/01/16/business/a-3-d-printed-car-ready-for-the-road.html?\\_r=0](http://www.nytimes.com/2015/01/16/business/a-3-d-printed-car-ready-for-the-road.html?_r=0).

<sup>9</sup> *See Anthony Atala: Printing a Human Kidney*, TED (Mar. 2011), <http://ed.ted.com/lessons/printing-a-human-kidney-anthony-atala> (demonstrating a 3D printer using living cells to output a transplantable kidney).

## I. THE PRINTING PRESS

¶3 Printing, or 2D printing,<sup>10</sup> entails reproducing texts and images from an original template onto papers using a printing press.<sup>11</sup> The law protects 2D printing through copyright and the First Amendment’s protection of freedom of speech and of the press: “Congress shall make no law . . . abridging the freedom of speech, or of the press.”<sup>12</sup>

## II. 3D PRINTING

¶4 3D printing<sup>13</sup> simply adds another dimension to 2D printing.<sup>14</sup> That is, 3D printing essentially stacks multiple layers of 2D printing on top of one another to reproduce a three-dimensional object following an electronic blueprint called a “Computer-Aided Design file” (or “CAD file”).<sup>15</sup> Like Star Trek’s Replicator,<sup>16</sup> current 3D printers can print in materials like plastic, metal, ceramic, cement, wood, food, and human cells.<sup>17</sup> What once was science fiction is now commercially available for as low as \$600.<sup>18</sup>

## III. APPLYING THE PRESS CLAUSE TO 3D PRINTING: A CONSTITUTIONAL MANUFACTURING RIGHT

¶5 Interestingly, the Constitution’s Framers used the phrase “the press” rather than “journalism” or “communication” in the First Amendment’s Press Clause.<sup>19</sup> Judges<sup>20</sup> and

<sup>10</sup> I use the term “2D printing” to distinguish regular printing from 3D printing.

<sup>11</sup> For a discussion on the history of printing, see generally WARREN CHAPPELL & ROBERT BRINGHURST, *A SHORT HISTORY OF THE PRINTED WORD* (2000) (covering printing’s history from the earliest alphabets, through the printing press’s evolution, to great printers and typographers, and twentieth century graphic technology).

<sup>12</sup> U.S. CONST. amend. I.

<sup>13</sup> People sometime refer to 3D printing as “additive manufacturing.” See Jasper L. Tran, *The Law and 3D Printing: A Bibliography and Commentary*, 31 J. MARSHALL J. INFO. TECH. & PRIVACY L. 505, 505 n.1 (2015).

<sup>14</sup> Jasper L. Tran, *To Bioprint or Not to Bioprint*, 17 N.C.J.L. & TECH. 123, 133 (2015) [hereinafter Jasper Tran, *To Bioprint*].

<sup>15</sup> See generally *id.* at 134 & nn. 53–55. For a discussion on CAD files, see Lucas S. Osborn, *Of PhDs, Pirates and the Public: Three-Dimensional Printing Technology and the Arts*, 1 TEX. A&M L. REV. 811, 814 (2014) [hereinafter Osborn, *3D Printing & Arts*].

<sup>16</sup> In Star Trek, the Replicators originally synthesized meals on demand, but took on other uses in the later series. See *Star Trek: The Original Series* (NBC television broadcast Sept. 8, 1966–June 3, 1969) (referred to as “food synthesizer”); *Star Trek: The Next Generation* (NBC television broadcast Sept. 28, 1987–May 23, 1994); *Star Trek: Enterprise* (NBC television broadcast Sept. 26, 2001–May 13, 2005) (referred to as “protein resequencer” and “bio-matter resequencer”).

<sup>17</sup> HOD LIPSON & MELBA KURMAN, *FABRICATED: THE NEW WORLD OF 3D PRINTING* 68–75 (2013); Osborn, *3D Printing & Arts*, *supra* note 14, at 813–14. 3D printing that prints in human cells is called “bioprinting.” For a discussion on bioprinting, see Jasper Tran, *To Bioprint*, *supra* note 13, at 137–40.

<sup>18</sup> See Richard Baguley, *Best 3D Printers 2015*, TOM’S GUIDE: TECH FOR REAL LIFE (May 26, 2015), <http://www.tomsguide.com/us/best-3d-printers,review-2236.html> (last visited June 2, 2015) [<http://perma.cc/44J4-PH9V>] (discussing the best budget 3D printer costs \$599 on Amazon).

<sup>19</sup> But the texts of the Constitution, including the Amendments, do not contain the terms “journalism” or “communication” either. See generally U.S. CONST.

<sup>20</sup> See, e.g., *Citizens United v. Fed. Election Comm’n*, 558 U.S. 310, 350 (2010) (“[w]e have consistently rejected the proposition that the institutional press has any constitutional privilege beyond that of other speakers”).

scholars<sup>21</sup> have argued that the “freedom . . . of the press” not only protects the press as an industry, but also protects the use of the printing press and its modern equivalents as a technology.<sup>22</sup> Furthermore, during the Framing era, the Framers understood the printing press as a technological innovation and existing rights as being adaptable to technological innovations.<sup>23</sup> Perhaps the Framers intentionally used the phrase “the press” for technologies unknown at the time,<sup>24</sup> which necessarily include the 3D printer—the modern equivalent of the printing press.<sup>25</sup>

¶16 Courts have traditionally applied freedom of the press as the freedom to communicate.<sup>26</sup> However, 3D printing has transformed how we had traditionally understood “printing”: printing now includes not only disseminating ideas, but also manufacturing objects. If the “freedom . . . of the press” expansively applies to 3D printing, each individual has an implied right to manufacture objects through 3D printing without governmental interference—*i.e.*, the right to 3D print. This suggests that the government cannot regulate 3D printing without violating the U.S. Constitution.

#### IV. REBUTTING COUNTERARGUMENTS

¶17 Some might argue that the First Amendment intentionally places the Free Speech Clause next to the Press Clause,<sup>27</sup> implying that the Press Clause only applies to publication and communication rights.<sup>28</sup> This is one way to interpret the Clauses’ placement, but another interpretation could be that the Framers meant our freedom to be expansive—to cover more ground, including a manufacturing right—and thus placed the Clauses next to each other.

¶18 Others might say that the 3D printer is not a modern equivalent of the printing press because the Framers limited the Press Clause’s “the press” to the printing press and its modern equivalent as a communications technology.<sup>29</sup> Admittedly, 3D printing is not a communications technology like the printing press but is rather a manufacturing technology. Still, the Framers did not explicitly limit “the press” to communication

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<sup>21</sup> See, e.g., Eugene Volokh, *Freedom for the Press As an Industry, or for the Press As A Technology? From the Framing to Today*, 160 U. PA. L. REV. 459, 459–540 (2012); David A. Anderson, *Freedom of the Press*, 80 TEX. L. REV. 429, 446–47 (2002) (“[t]o the generation of the Framers of the First Amendment, ‘the press’ meant ‘the printing press.’ It referred less to a journalistic enterprise than to the technology of printing and the opportunities for communication that the technology created. ‘Freedom of the press’ referred to the freedom of the people to publish their views, rather than the freedom of journalists to pursue their craft”).

<sup>22</sup> Volokh, *supra* note 20, at 462.

<sup>23</sup> *Id.* at 462 n.10.

<sup>24</sup> *Id.*

<sup>25</sup> See CHAPPELL & BRINGHURST, *supra* note 10 (discussing printing’s history and the printing press’s evolution).

<sup>26</sup> See, e.g., *First Nat’l Bank of Boston v. Bellotti*, 435 U.S. 765, 800 n.5 (1978) (“[i]t is not strange that ‘press,’ the word for what was then the sole means of broad dissemination of ideas and news, would be used to describe the freedom to communicate with a large, unseen audience”).

<sup>27</sup> See U.S. CONST. amend. I. (“Congress shall make no law . . . abridging the freedom of speech, *or* of the press.”) (emphasis added).

<sup>28</sup> See, e.g., Volokh, *supra* note 20, at 521–38 and the cases cited therein.

<sup>29</sup> See *id.* at 462 n.10 (the Press Clause applies to “communications technologies that today serve the role the printing press did in the 1700s, not just of the printing press . . . even using new technologies that were not known to the Framers”).

technologies alone.<sup>30</sup> It is important to note that 3D printers simply added another dimension to the printing press, stacking multiple layers of 2D printing on top of one another. Because the Framers used the phrase “the press” instead of “journalism” or “communication,”<sup>31</sup> the qualification of limiting the Press Clause to only communication technologies is a groundless assertion.

## V. CONCLUSION AND IMPLICATIONS

¶9 The interesting question becomes how sweeping this constitutional manufacturing right is. An immediate implication of the Press Clause’s manufacturing right is that the government cannot regulate 3D printing, or else the government violates the U.S. Constitution. But does the Press Clause applies to 3D printing technology overall (*i.e.*, anything related to 3D printing as a manufacturing technology), to only the 3D printing activity (*i.e.*, 3D printing’s process, but not products) or to only the 3D printer<sup>32</sup> (*i.e.*, anything involving the 3D printer’s use)? The answer could affect the ongoing debate in Congress about how to regulate 3D-printed guns, and end in no regulation of 3D printing whatsoever.

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<sup>30</sup> See U.S. CONST. amend. I.

<sup>31</sup> See *id.* (“Congress shall make no law . . . abridging the freedom . . . of the press.”).

<sup>32</sup> A literal read of the Press Clause’s application to the modern equivalent of the printing press would be to only apply the Press Clause to the 3D printer.