

8-2014

Guns Don't Kill People, 3D Printing Does? Why the Technology is a Distraction from Effective Gun Controls

Rory K. Little

Follow this and additional works at: https://repository.uchastings.edu/hastings_law_journal



Part of the [Law Commons](#)

Recommended Citation

Rory K. Little, *Guns Don't Kill People, 3D Printing Does? Why the Technology is a Distraction from Effective Gun Controls*, 65 HASTINGS L.J. 1505 (2014).

Available at: https://repository.uchastings.edu/hastings_law_journal/vol65/iss6/3

This Symposium is brought to you for free and open access by the Law Journals at UC Hastings Scholarship Repository. It has been accepted for inclusion in Hastings Law Journal by an authorized editor of UC Hastings Scholarship Repository.

Guns Don't Kill People, 3D Printing Does? Why the Technology is a Distraction from Effective Gun Controls

RORY K. LITTLE*

3D printing is technology that allows three-dimensional physical objects to be created by using a relatively small and inexpensive machine that looks much like a desktop paper printer. 3D printers have already been used to create guns and shotgun cartridges (but not ammunition), and the prospect that criminals will be able to "print" operational weapons at home has regulators in a tizzy. Some argue that 3D printing should be highly regulated to avoid such dangers.

In this Essay invoking Bewitched as the theoretical example of instantaneous 3D printing, Professor Little argues that gun control advocates should focus primarily on regulating criminal use of guns, and not on the technology used to manufacture them. Paper printers can be used to create instruments of fraud, but we do not ban paper printing at home. New technology has always stimulated fears. But criminal law properly focuses on the products of technology and their criminal uses. We should celebrate technological innovation and attempt to regulate its misuse without inhibiting creative development.

* Professor of Law, UC Hastings College of the Law. I am grateful to the Editors of the *Hastings Law Journal* for their invitation to present a version of this Essay at their February 21, 2014, Symposium on "The Legal Dimensions of 3D Printing." Thanks also to Professor Dan Richman; to Allen Dreschel (UC Hastings '15) for fast and reliable research assistance and editorial assistance; and to Nelson Lam and Emily Goldberg Knox (UC Hastings '15) for their careful editing assistance. If the tongue-in-cheek nature of this Essay's title is not immediately apparent to the reader, please see *infra* note 45 and accompanying text.

The United States has a long-term love-hate relationship with guns. Our citizens have long depended on firearms for securing food, safety, and liberty. The Second Amendment to the U.S. Constitution confers a “right . . . to keep and bear [a]rms,” which the Supreme Court has held is individual and fundamental.¹ Dirty Harry with his handgun—“Do [you] feel lucky?”—is our hero.² The fact is, large segments of the American population love guns.³

At the same time, large segments of the American population hate guns. Handgun violence is pervasive around the country and has been described by some as an “epidemic.”⁴ As of 2008, there were “approximately 25,000 gun-deaths [in the United States] each year.”⁵ Schoolroom gun massacres repeatedly horrify us. Most Americans no longer need guns to survive and many fear their misuse; they would like to see guns restricted to only select, responsible owners.⁶

Thus, while the Bill of Rights enshrines a right “to keep and bear [a]rms,” the Supreme Court’s recent rulings acknowledge that “the right secured by the Second Amendment is not unlimited.”⁷ The 2008 *District of Columbia v. Heller* majority noted that “nothing in our opinion should be taken to cast doubt on longstanding [regulatory] prohibitions,” “conditions,” and “qualifications.”⁸ Thus, reasonable “gun control” measures are not prohibited, and are in fact endorsed, by *Heller*.⁹

1. U.S. CONST. amend II; see *McDonald v. City of Chicago*, 130 S. Ct. 3020, 3037, 3042 (2010) (“the true palladium of liberty” (quoting St. George Tucker, 1 BLACKSTONE’S COMMENTARIES, Editor’s App. 300 (S. Tucker ed. 1803))); *id.* (“fundamental right[] necessary to our system of ordered liberty”); *District of Columbia v. Heller*, 554 U.S. 570, 595 (2008) (“[T]he Second Amendment confer[s] an individual right to keep and bear arms.”). This Essay assumes at least a passing familiarity with these two Supreme Court rulings, holding that some degree of handgun possession is an individual constitutional right under the Second Amendment, *id.*, and that this right is “incorporated” against the States under the Fourteenth Amendment, *McDonald*, 130 S. Ct. at 3050.

2. See *DIRTY HARRY* (Warner Bros. 1971) (closing monologue by actor Clint Eastwood).

3. The Congressional Research Service estimated that there were some 310 million firearms in the United States in 2009, excluding military firearms. WILLIAM J. KROUSE, CONG. RESEARCH SERV., RL32842, GUN CONTROL LEGISLATION 8 (Nov. 14, 2012). See, e.g., *Staples v. United States*, 511 U.S. 600, 610 (1994) (“[T]here is a long tradition of widespread lawful gun ownership by private individuals in this country.”).

4. *Printz v. United States*, 521 U.S. 898, 940 (1997) (Stevens, J., dissenting).

5. Justice Breyer cited a number of such statistics in *Heller*. See 554 U.S. at 694–99 (Breyer, J., dissenting).

6. For example, although statistical polling is imprecise at best, a 2014 poll reported that fifty-four percent of Americans surveyed would favor “more strict” controls on gun sales. *Guns*, POLLING REPORT.COM, <http://www.pollingreport.com/guns.htm> (last visited Aug. 1, 2014).

7. U.S. CONST. amend. II; *Heller*, 554 U.S. at 626.

8. *Heller*, 554 U.S. at 626–27.

9. See *id.*; *McDonald v. City of Chicago*, 130 S. Ct. 3020, 3046 (2010) (The Second Amendment “limits (but by no means eliminates) [the States’] ability to devise solutions to social problems [S]tate and local experimentation with reasonable firearms regulation will continue.”);

Because of the United States' unique revolutionary and frontier history—when our country was wide open, sparsely populated, and full of game and dangers—the American “spirit” has incorporated a historical reliance on guns. This history and spirit generated a powerful 20th century “gun lobby,” which has opposed recent state and federal efforts to regulate guns.¹⁰ The political lobbying power of our domestic “gun lobby” is huge, and the Second Amendment also places some as-yet-undefined limits on the extent of gun controls. Thus the likely constitutional, as well as real-politik, contours and limits of “gun control” are as yet unknown. In the six years since *Heller* (and less than four since *McDonald*¹¹), lower courts have struggled to determine what sort of gun regulations are and are not constitutional, producing a number of not-entirely-consistent decisions.¹² No one yet knows the precise limits that the Second Amendment requires.¹³

As a consequence of these bipolar attitudes toward guns, the history of gun control in this country is inconsistent and incomplete. There are gaps in federal firearms laws that allow guns to be sold or exchanged in untraceable ways, and the laws of the fifty states are markedly divergent.¹⁴ Moreover, persons who use firearms illegally or in furtherance of illegal enterprises are, by definition, inclined to ignore regulatory laws. Thus, the supply of illegal firearms in the United States

see also Rory K. Little, *Heller and Constitutional Interpretation: Originalism's Last Gasp*, 60 HASTINGS L.J. 1415, 1419 (2009).

10. By “gun lobby” I am referring to a shorthand term for well-organized and well-financed groups that generally oppose restrictions on gun sales and ownership, the National Rifle Association (“NRA”) being perhaps the best known of the genre.

11. In *McDonald*, the Supreme Court ruled that the Second Amendment right is “fundamental” and therefore restricts the States via the Fourteenth Amendment’s “incorporation” doctrine, and not just the federal government that was technically the defendant in *Heller* (the District of Columbia being a federal enclave). 130 S. Ct. at 3026, 3046, 3050. Thus, there has been a relatively short time to test numerous state and local regulations affecting firearms by litigation.

12. See, e.g., *Peterson v. Martinez*, 707 F.3d 1197 (10th Cir. 2013) (upholding a ban on concealed guns outside the home); *Moore v. Madigan*, 702 F.3d 933 (7th Cir. 2012) (striking down a ban on concealed guns outside the home); *GeorgiaCarry.Org, Inc. v. Georgia*, 687 F.3d 1244 (11th Cir. 2012) (upholding a ban on guns in houses of worship); *Ezell v. City of Chicago*, 651 F.3d 684 (7th Cir. 2011) (enjoining a ban on gun shooting ranges and restrictions on transporting guns to such training ranges); *Ill. Ass’n of Firearms Retailers v. City of Chicago*, 961 F. Supp. 2d 928 (N.D. Ill. 2014) (striking down a ban on virtually all sales and transfers of firearms within city limits).

13. Compare *Peruta v. County of San Diego*, 742 F.3d 1144 (9th Cir. 2014) (striking down a local “good cause” permit requirement for carrying a concealed weapon), with *Kachalsky v. County of Westchester*, 701 F.3d 81 (2d Cir. 2012) (upholding a permit requirement for carrying a concealed weapon that requires demonstrating need for self-defense greater than that of the general public). As of this writing, the 2-1 panel decision in *Peruta* is not yet final and may be further reviewed.

14. See, e.g., Jeff Glor, *Gun Control Advocates Take on “Patchwork” of State Laws*, CBS News (Apr. 7, 2013, 7:51 PM), <http://www.cbsnews.com/news/gun-control-advocates-take-on-patchwork-of-state-laws>.

today seems to be both adequate and largely unrestrained.¹⁵ Guns in the United States are not “controlled” so much as episodically regulated.

Now add to this already complicated mix an inexpensive method of manufacturing handguns at home. Rapidly developing technology allows three-dimensional objects to be manufactured, or “printed,” by machines no bigger than a large home printer or fax machine.¹⁶ Such machines can be purchased now for less than \$1000.¹⁷ “3D printing” is shorthand for this ability;¹⁸ the “digitization of things” is another (phrase courtesy of Professors Deven R. Desai and Gerard N. Magliocca).¹⁹ While the technology is far from perfect or complete, the fact is that operational handguns have, allegedly, been 3D printed.²⁰ Bullets too.²¹ The most significant limitation on 3D printing a fully operational handgun at home seems, at this time, to be making the chemicals needed for the explosive reaction (i.e., gunpowder). At our February 2014 Symposium, Andrew Hessel of Autodesk told me that they cannot do that, yet, and that it is scientifically very difficult.²²

But experts also tell us that the technology will only improve, and rapidly. Consequently, I think it best to address gun control in this context by imagining that the technology has become perfect: home 3D printers will only have to wiggle their noses and the objects they imagine—guns and all—will quickly appear. This is, of course, how the

15. See *Homicide*, HARVARD INJURY CONTROL RESEARCH CTR., <http://www.hsph.harvard.edu/hicrc/firearms-research/guns-and-death> (last visited Aug. 1, 2014).

16. See Deven R. Desai & Gerard N. Magliocca, *Patents, Meet Napster: 3D Printing and the Digitization of Things*, 102 GEO L.J. (forthcoming 2014) (manuscript at 8–10), available at <http://georgetownlawjournal.org/files/2013/10/Desai-and-Magliocca-3D-Printing-Draft.pdf>.

17. See Peter Jensen-Haxel, Note, *3D Printers, Obsolete Firearm Supply Controls, and the Right to Build Self-Defense Weapons Under Heller*, 42 GOLDEN GATE U. L. REV. 447, 452 (2012) (the \$1000 figure is for “printing” in plastic; printing in metal, which may be necessary for firearms, is more expensive); see also Tom Owad, *When Less is More: The Takeaway on Milling vs. 3D Fabrication*, MAKE, Winter 2013, at 10 (discussing desktop “milling,” i.e. using the mechanical shaving away of larger blocks of materials to craft 3D objects).

18. See MICHAEL WEINBERG, PUBLIC KNOWLEDGE, IT WILL BE AWESOME IF THEY DON’T SCREW IT UP: 3D PRINTING, INTELLECTUAL PROPERTY, AND THE FIGHT OVER THE NEXT GREAT DISRUPTIVE TECHNOLOGY I (2010); Davis Doherty, Note, *Downloading Infringement: Patent Law as a Roadblock to the 3D Printing Revolution*, 26 HARV. J.L. & TECH. 353, 356–358 (2012) (surveying the technological literature) (earliest use of “3D printing” in a law review title I have found).

19. See Desai & Magliocca, *supra* note 16 (manuscript at 1).

20. Doug Gross, *Texas Company Makes Metal Gun with 3-D Printer*, CNN (Nov. 8, 2013, 7:06 PM), <http://www.cnn.com/2013/11/08/tech/innovation/3d-printed-metal-gun> (showing an allegedly 3D-printed gun being fired).

21. See Robert Beckhusen, *Watch 3-D Printed Shotgun Slugs Blow Away Their Targets*, WIRED (May 22, 2013, 2:55 PM), <http://www.wired.com/2013/05/3d-printed-bullets>.

22. Interview with Andrew Hessel, Distinguished Researcher, Autodesk Inc., in S.F., Cal. (Feb. 21, 2014). For information on Autodesk Inc., see AUTODESK, <http://www.autodesk.com> (last visited Aug. 1, 2014).

television witches did it, a half-century ago, in the series *Bewitched*.²³ The “thought experiment” of effective gun controls in the age of 3D printing is best furthered by assuming *Bewitched* to be the final costless model for producing operational guns at home. Assuming that the 3D home printing process is as instantaneous as the home paper printer today, the question is: How should regulators respond to the prospect of 3D printed, homemade guns?

When considering the impact that 3D printing may have on gun control, I think it is vital to keep the two aspects conceptually separate. The existence of 3D printing is one aspect—a fascinating and largely unanticipated technological development that, having now permeated the popular consciousness, leads to creative and amazing flights of fancy. Such flights—total freedom in thought—are the joy that a new idea can bring before the tedium of logistical realities sets in.

The other aspect of the debate is reasonable gun control—and that issue seems to be entirely separate from the *means* of manufacturing guns. That is, if one believes that effective controls of the manufacture, possession, and misuse of firearms are necessary, one must confront that question based on whatever the realities of the gun “market” may be at any given moment. One must “control” guns, not 3D printing—or at least, not control 3D printing more so than any other aspect of gun production, possession, and use; or more than any other technology that facilitates crime.

Professors Desai and Magliocca have described the issue of 3D printing vis-à-vis guns as a “red herring.”²⁴ I would make the point slightly differently: the technology of 3D printing is a distraction, albeit a relevant and fascinating one, from the question of whether and how best to regulate guns generally. The prospect of easily homemade guns is similarly a distraction from the question of how best to address the realities of 3D printing. The two topics are connected only in the way that all technology is connected to all conduct, including crime, that technology may facilitate.

Thus, when automobiles were invented—and have you stopped to consider the origins of the word “auto-mobile,” a fascination that something could move independently, without a living thing attached?—some jurisdictions enacted laws to criminalize robbery-by-auto.²⁵ The

23. See, e.g., *Bewitched: I'd Rather Twitch Than Fight* (ABC television broadcast Nov. 17, 1966), visual available at <https://www.youtube.com/watch?v=LoZ6PdtXEvC> (Elizabeth Montgomery, playing the protagonist witch, effortlessly and instantly produces a suit jacket.).

24. See Desai & Magliocca, *supra* note 16 (manuscript at 17–22).

25. WILLIAM C. BONI & GERALD L. KOVACICH, I-WAY ROBBERY: CRIME ON THE INTERNET 24 (1999); see R.C. Saunders, *Part I: Syndicated Bank Robbery*, 23 AM. INST. CRIM. L. & CRIMINOLOGY 797, 801 (1933) (discussing new felony criminal laws in the 1910s addressing interstate automobile theft and interstate theft from railroads).

concept seems antiquated today: the problem is robbery, not automobiles. Cars just made robbery a little easier.

Similarly, when electrical wires began to span the country, Congress enacted a “wire fraud” statute.²⁶ Wires, however, were simply new technology enabling age-old fraud. Electrical wires themselves were, of course, not prohibited or restricted in any way. The problem was (and is) fraud, not wires—and the *means* by which fraud is committed are largely irrelevant to criminalizing the unwanted conduct.

Similarly, if the danger and misuse of guns is the problem, then gun control must focus on those issues. The means by which guns are manufactured and distributed are relevant, but are not the central concern. Effective gun control must take into account whatever the means of production are—but the focus must be on preventing unlawful possession and uses of guns, not on banning or restrictively inhibiting a particular manufacturing technology.²⁷

As others have recognized, the ability to inexpensively produce homemade guns has the potential to undermine some current firearm regulations.²⁸ But, as Professors Desai and Magliocca have argued, this prospect ought not to lead to efforts to “shackle 3D printing.”²⁹ Rather, as has always been true in the face of new and surprising technological leaps, the challenge is to control dangerous guns and the people who use, or now make, them for criminal purposes—not to fear or inhibit the innovation itself.

3D printing of firearms raises two distinct problems. First, it makes it possible, or at least easier and cheaper, to make guns at home. Second, it can facilitate home manufacturers in evading whatever controls a legislature might place on commercial manufacturers. The second aspect is more threatening to the new technology. If we assume that criminals will ignore the legal and regulatory requirements (such as “you cannot print an operational firearm at home”), then placing such requirements on homemade guns will do no good. Because we cannot completely “control” what is manufactured in the privacy of one’s home, a simpler solution might be viewed as banning the home manufacture of guns entirely.

26. An Act To Further Amend the Communications Act of 1934, ch. 879, sec. 18, 66 Stat. 711, 722 (1952) (codified as amended at 18 U.S.C. 1343 (2011)).

27. See Jensen-Haxel, *supra* note 17, at 493–96 (“The problem is not that the [gun control] ship . . . is sinking. It’s that we, as a nation, need to learn how to swim.”).

28. See *generally* Kevin J. O’Neill, Is Technology Outmoding Traditional Firearms Regulation? 3-D Printing, State Security, and the Need for Regulatory Foresight in Gun Policy 5–7 (May 3, 2012) (unpublished manuscript), available at <http://ssrn.com/abstract=2186936> (noting issues without arguing for any particular position); Jensen-Haxel, *supra* note 17, at 493–96.

29. Desai & Magliocca, *supra* note 16 (manuscript at 6).

Thus, the simplest regulation would be one that entirely bans the 3D printing of guns at any location other than a licensed (and regulated) manufacturer. Another approach would be to ban possession of 3D printed guns entirely. However, one scholar has carefully argued that if, as *Heller* holds, the Second Amendment enshrines a right to possess a handgun in the home, then a *Heller* analysis must necessarily encompass a constitutional “right of individuals to manufacture their own firearms” at home as well.³⁰ This might be right: if the Second Amendment protects a right to keep “arms” in the home for self-defense, then protecting a right to create such arms—just as protecting a right to purchase and transport them—would seem a logical corollary.³¹ On the other hand, so long as guns are available for purchase without too much governmental interference, perhaps home manufacture is unnecessary to the home possession right.

But less restrictive (or less “overbroad”) regulations can also be imagined. It is not difficult to envision more regulatory controls being placed on *all* gun manufacturers, including 3D printers at home. For example: requiring that any gun made, including by a 3D printer, be “traceable” through a unique serial number engraved on the gun itself (the numbers will be obtainable from a central registry website), with the manufacturer’s name and address registered in a national or statewide directory.³² Political obstacles aside, such a regulatory structure is easily imagined.³³ Whether such regulatory measures could actually be adopted, given the strong emotions and powerful lobbying forces of the “pro-gun” lobby, is a different question.

Here is a sampling of other imagined, less-restrictive regulations:

1. It shall be unlawful to post, transmit, or distribute a useable plan to 3D print a gun.³⁴
2. It shall be unlawful to transmit the plans for a 3D printable gun (or ammunition) without sending a duplicate to the central Printable

30. See Jensen-Haxel, *supra* note 17, at 474–75; see also Nicholas J. Johnson, *Administering the Second Amendment: Law, Politics, and Taxonomy*, 50 SANTA CLARA L. REV. 1263, 1275 (2010).

31. Compare *Stanley v. Georgia*, 394 U.S. 557 (1969) (protecting a constitutional right to possess “obscene” materials in the home), with *Osborne v. Ohio*, 495 U.S. 103 (1990) (holding this right does not encompass a right to possess child pornography).

32. Cf. 26 U.S.C. § 5842(a) (2011) (requiring many firearms to be identified “as the Secretary . . . may prescribe”).

33. Cf. 26 U.S.C. § 5841(a) (2011) (creating a national registry “of all firearms in the United States which are not in the possession or under the control of the United States”).

34. See, e.g., *United States v. Progressive, Inc.*, 467 F. Supp. 990 (W.D. Wisc. 1979) (enjoining the publication of a magazine explaining how to manufacture a hydrogen bomb); John Hinderaker, *Bombs and the First Amendment: The Anarchist Cookbook*, POWERLINE (Dec. 17, 2013), <http://www.powerlineblog.com/archives/2013/12/bombs-and-the-first-amendment-the-anarchist-cookbook.php> (discussing WILLIAM POWELL, *THE ANARCHIST COOKBOOK* (1971) and its controversy); see also Eugene Volokh, *Crime-Facilitating Speech*, 57 STAN. L. REV. 1095, 1197–1204 (2005) (listing and discussing cases and statutes).

Weapon & Ammunition Board (“PWAB”) or the Bureau of Alcohol, Tobacco, and Firearms (“ATF”).³⁵

3. All 3D-printed guns must be registered. Any sale or distribution of a homemade gun must be registered, just like any transfer of title for a registered vehicle.

4. All firearms *ammunition* and sales of ammunition must be registered. (It is more difficult, so far, to 3D print ammunition as opposed to a gun. But it is not impossible.³⁶ Moreover, if the Second Amendment protects a right to keep “arms” in the home for self-defense, then “arms” must mean weapons that are operational, or “usable,” for that purpose.³⁷ That would seem necessarily to include operational ammunition for the gun.)

5. “Gunpowder” shall be a “controlled substance” and regulated as other controlled substances (e.g., you cannot possess without a license or registration; you cannot manufacture gunpowder without registration; or you cannot distribute it without registration).³⁸

The point has been made before:³⁹ *If a society or community really believes that guns are as dangerous as cars, or as narcotic substances, then why not regulate them as closely as cars or narcotics, without banning possession or manufacture due to whatever constraints the Second Amendment imposes?*⁴⁰ Registration for all guns, just like cars. Licenses for all gun users, just like drivers. Written titles for guns just like cars. And so on.

Of course, none of these ideas will prevent the possibility of “secret gun factories.” Imagine an organized criminal gang inclined toward violence, setting up a factory of 3D printers—or Elizabeth Montgomerys⁴¹—and producing “homemade” guns without regard to

35. The Bureau of Alcohol, Tobacco, Firearms, and Explosives (“explosives” added in 2002 after the World Trade Center attacks). 6 U.S.C. § 531 (2002). The agency still goes by its “ATF” acronym. See ATF, <http://www.atf.gov> (last visited Aug. 1, 2014). By contrast, I hope it is obvious that the PWAB exists, so far, only in my imagination.

36. See Beckhusen, *supra* note 21.

37. See *Peruta v. County of San Diego*, 742 F.3d 1144, 1181, n.2 (9th Cir. 2014) (Thomas, J., dissenting) (“[N]early every other circuit that has addressed this question has similarly identified the Second Amendment’s core guarantee as the right of responsible, law-abiding adults to possess *usable* firearms in their homes.”) (emphasis added).

38. See Robert Beckhusen, *3-D Printing Pioneer Wants Government to Restrict Gunpowder, Not Printable Guns*, WIRED (Feb. 19, 2013, 6:30 AM), <http://www.wired.com/2013/02/gunpowder-regulation>.

39. See generally David B. Kopel, *Treating Guns like Consumer Products*, 148 U. PA L. REV. 1213 (2000) (comparing regulatory treatment of guns to automobiles and alcohol); see also Carl Gibson, *Regulate Guns like Cars*, HUFFINGTON POST (July 26, 2012, 1:25 PM), http://www.huffingtonpost.com/carl-gibson/gun-regulations_b_1703778.html; David B. Kopel, *Taking It to the Streets: Why Treating Cars like Guns Might Not Be Such a Bad Idea*, REASON, Nov. 1999, at 45.

40. Peter Jensen-Haxel argues that, in addition to having historical support, maintaining a right to the personal manufacture of guns has the positive effect of extending the right of self-defense to “those who cannot afford to purchase a reliable gun and the disabled.” Jensen-Haxel, *supra* note 17, at 494.

41. The Emmy award-winning, nose-twitching, 3D-printing star of *Bewitched*. See *supra* note 23; see also *Elizabeth Montgomery*, IMDB, <http://www.imdb.com/name/nm0000548> (last visited Aug. 1, 2014).

any legal requirements or restrictions. Is such an operation possible? Sure it is. Is such an operation preventable? It seems unlikely, given the persistence of violent criminal gangs in general. Just as the fictional Walter White was willing to manufacture methamphetamine unlawfully in an RV in the desert,⁴² criminals will manufacture guns if they have the tools and the cost is lower than buying them.

But is 3D printing responsible for the particular evil of criminals secretly manufacturing guns? Not really. Only in the sense that 3D printing makes it slightly easier or less expensive (since, of course, a violent criminal gang could establish a secret factory to produce guns today *without* 3D printing, if it assembled the necessary expertise and equipment). But isn't that the point (or at least one point) of technology—to make our lives easier and less expensive? Printing presses and photocopiers make fraud easier, and yet we do not ban or even regulate them. I have a scanner and copier on my desk at home, and can print or copy any two-dimensional thing I want, including illegal things. Criminal law properly focuses on the *products* of technology and their criminal uses. With every technological advance, we normally accept the good with the bad—and celebrate the creativity while attempting to address its misuse. Nuclear fusion has its dangers (and is controversial to say the least), but we haven't banned it—we have simply tried to regulate its negative aspects as closely as we can agree is necessary.⁴³

Thus, while I am certainly conscious of the criminal possibilities that 3D printing of guns can engender, I urge a legal regulatory focus primarily on the guns and not the technology.⁴⁴ Of course, the technology must be understood, and regulatory measures must take into account and address its unique aspects as they may relate to criminal misuse. But to end with the tongue-in-cheek paraphrase with which I began, 3D printers don't kill people—guns do.⁴⁵

42. *See Breaking Bad: Pilot* (AMC television broadcast Jan. 20, 2008).

43. This is not to say that there are not powerful arguments for banning nuclear fusion entirely. The immense dangers of nuclear fusion, and the increasing availability of what are perceived to be better alternatives—not to mention the absence of Second Amendment protection—may well differentiate this analogy from that of 3D printing.

44. Or as Michael Weinberg put it, “[i]t is critical that those who fear [3D printing] not stop those who are inspired.” WEINBERG, *supra* note 18, at 4.

45. “Guns don’t kill people. People kill people,” is said by some to be “[t]he unofficial slogan of the National Rifle Association.” *See Some People Say “Guns Don’t Kill People.” Other People Say . . .*, QUOTE/COUNTERQUOTE.COM, <http://www.quotecounterquote.com/2011/03/guns-dont-kill-people-people-kill.html> (last visited Aug. 1, 2014).
