PRINT, LOCK, AND LOAD:
3-D PRINTERS, CREATION OF GUNS,
AND THE POTENTIAL THREAT TO
FOURTH AMENDMENT RIGHTS

Julian J. Johnson*

TABLE OF CONTENTS

I. Introduction ................................................................. 338
II. Background ................................................................. 340
   A. 3-D Printing: A Primer .................................................. 340
   B. 3-D Printing and Firearms ............................................. 341
   C. Regulation of Firearms .................................................. 343
   D. Constitutional Rights ................................................... 346
      1. The Second Amendment ............................................. 346
      2. The Fourth Amendment ............................................. 347
      3. Concerns and Implications ....................................... 353
III. Analysis ........................................................................ 353
   A. Current Firearms Regulation May Prove to Be Insufficient in the Future Regarding 3-D Printed Guns ............. 353
   B. The Supreme Court’s Interpretation of the Second Amendment’s Providing an Individual Right Creates Tension with Its Jurisprudence Regarding Fourth Amendment Rights .... 354
   C. The Trend Indicates the Supreme Court Will Favor the Continued Weakening of Fourth Amendment Rights ........ 356
IV. Recommendation ............................................................. 357
   A. A Regulatory Approach .................................................. 357
      1. Criminalizing the Manufacture or Possession of 3-D Printed Guns ...................................................... 357
      2. Criminalizing Prohibited Individuals from Manufacturing and Possessing 3-D Printed Firearms .................. 358
   B. An Interest-Balancing Inquiry Test .................................. 358
V. Conclusion ........................................................................ 360

* J.D., University of Illinois College of Law, 2014 (projected); B.S., Neurobiology, University of Washington, Seattle, 2006. I would like to thank the JLTP editors and Professor Janice Pea for their valuable feedback. Most importantly, I would like to thank Masako Johnson for her infinite wisdom and unconditional love.
I. INTRODUCTION

“I woke up this morning, got myself a gun . . . .”

A technological and manufacturing revolution is under way\(^2\) that will allow citizens with a design, a computer, and a printer to arm themselves. Through the use of three-dimensional (3-D) printers, individuals who lack technical proficiency will have the ability to produce firearms with a simple click of a mouse.\(^3\) With this technology, the influence of personal manufacturing is heightened, bringing the power of production from the factory to the user’s home.\(^4\)

3-D printing technology utilizes additive manufacturing, a “process of joining materials to make objects from 3-D model data, usually layer upon layer, as opposed to subtractive manufacturing methodologies;”\(^5\) 3-D printers have the capacity to create a wide range of objects, from simple items such as jewelry,\(^6\) gears,\(^7\) brackets,\(^8\) and toys,\(^9\) to more complex objects such as prosthetic hands,\(^10\) human organs,\(^11\) airplanes,\(^12\) and potentially even a lunar base.\(^13\) As President Obama stated in his 2013 State of the Union address, “3-D printing has the potential to revolutionize the way we make almost

---

1. Alabama 3, Woke Up this Morning, on Exile on Coldharbour Lane (One Little Indian Records 1997). See also Nas, Got Ur Self a Gun, on Stillmatic (Columbia Records 2001) (sampling parts of “Woke Up This Morning” by Alabama 3).
   PersonalFabrication-v3.pdf.
5. Id. at 12.
7. Id.
8. Id.
everything.”

Some have focused their attention on making a fully functional gun with this technology. The reality of being able to print firearms conveniently from one’s home is only a matter of time.

Certain areas of the law have been caught off guard with the rapid development of 3-D printing technology. Concerns involving intellectual property laws—such as trademark, patent, and copyright—have been raised. Another area of law that is implicated is firearms regulation, where there is uncertainty regarding where 3-D printed guns would fall under the current regulatory scheme. Looming even larger are the potential constitutional implications that 3-D printed guns may have.

The United States Supreme Court has held that a citizen has a guaranteed individual right to possess a firearm within their home under the Second Amendment. The recognition of this individual right may protect production of a firearm in the home as well. The individual privacy and security rights protected by the Fourth Amendment may be threatened under this interpretation of the Second Amendment, as the Supreme Court has increasingly expanded the scope of the exceptions to Fourth Amendment requirements due to the concerns of gun violence, especially toward police officers. The production of guns and easy access to them by citizens through the use of 3-D printers will only serve to underscore this dilemma.

This Note will provide an in-depth analysis of the interplay between 3-D

15. See Brown, supra note 3 (discussing 3-D printing technology, the ability to print guns, and potential legal questions).

I believe that 3-D printers can change the world for the better . . . . What I am concerned with is the proliferation of weapons and weapons components made by 3-D printers which can be easily brought onto airplanes and other high-security environments and do grave damage . . . . The technology is proceeding so rapidly that when I talk about three-dimensional guns, people think I’m talking about a ‘Star Trek’ plot . . . . When I show them how easy it is to make, most people are shocked. When I tell them the law that would stop these plastic guns from getting onto planes is expiring in just a few months, people are appalled.


17. WEINBERG, supra note 6.
23. Id. at 19.
printers, the production of firearms, and the Fourth Amendment. Part II provides background on the technology of 3-D printing, the creation of 3-D printed guns, the regulations in place with respect to firearms, and what constitutional rights are at stake. Part III examines the impact Second Amendment rights with regards to guns produced from 3-D printers will have on Fourth Amendment rights. Part IV offers a recommendation for how courts and law enforcement agencies can reconcile the tension that exists between Second and Fourth Amendment rights amidst the rising prominence of 3-D printing technology.  

II. BACKGROUND

A. 3-D Printing: A Primer

3-D printing is a process that manufactures tools, functional prototypes, and other objects from computer models. 3-D printing is able to create parts through a layered printing process. This process, known as additive manufacturing, involves systematically depositing a given raw material in layers until the desired object is formed. This is in contrast to subtractive manufacturing, used by more traditional manufacturers, which involves taking away material to create the product’s final shape.

3-D printing technology has been analogized to a “pastry chef mak[ing] baklava with sheets of phyllo dough.” To initiate the process, the user selects an electronic design blueprint on his desktop computer. Design blueprints are usually created with computer-aided design programs—widely used by architects, designers, and engineers—to imagine physical objects before they are actually created. The design is sent to a 3-D printer loaded with the appropriate raw material, where the machine begins its work. The “print head” of the machine operates similarly to an inkjet printer on paper, depositing layer upon layer on an object until its three-dimensional structure is formed. The layering specifically entails deposition of tiny strands or

24. This Note does not demonize the Second Amendment or those who support the right to own a gun. Rather, the Note attempts to take a rational approach to balancing individual security and privacy rights with firearm ownership, while avoiding the pitfall of stifling a potentially valuable technology in 3-D printing.
26. Id.
28. See Albert, supra note 27 (showing examples of subtractive manufacturing including electrical discharge machining, milling, grinding, and turning).
29. Vance, supra note 2.
30. WEINBERG, supra note 6, at 2.
31. Id.
32. LIPSON & KURMAN, supra note 4, at 12.
33. Id.
droplets of the raw material. The machine is capable of switching between various print heads to work with multiple materials and form shapes with a variety of colors and textures. The final object is formed after numerous sweeps of layering.

3-D printing has several advantages as a production tool. One is its flexibility. It allows for the creation of parts of any geometry in many types of material, including ceramics, metals, and polymers. Another advantage is the inexpensiveness of 3-D printers and their relative ease of use. All this leads to cheaper and more efficient designing and production of objects and prototypes, making 3-D printing a very attractive option for architects, engineers, everyday do-it-yourself types, and firms looking to limit capital spent on tooling costs, prototypes, and raw materials. The rapid proliferation of this technology continues to worm its way into almost every conceivable industry. As a result, 3-D printing technology has been heralded as a technological game-changer, similar to that of the computer in the 1980s and the automobile in the early twentieth century.

B. 3-D Printing and Firearms

With the rise and use of 3-D printing technology, the goal of ultimately printing guns has increasingly begun to be realized. Thingiverse, a website dedicated to the sharing of user-created digital design files for 3-D printers, among other machines, has plans for working gun parts posted on its site.

34. Id.
35. Id.
36. Id.
38. Id.
39. Fountain, supra note 16.
42. See Oliver Wainwright, Will 3-D Printed Houses Stand up as Architecture?, GUARDIAN (Jan. 22, 2013, 10:28 AM), http://www.guardian.co.uk/artanddesign/architecture-design-blog/2013/jan/22/first-3d-printed-house-janjaap-raaijeman (discussing use of 3-D printing technology to build homes).
In fact, a user reported successfully test-firing a gun using the receiver component made from acrylonitrile butadiene styrene plastic on a Stratasys FDM 1600 3-D printer. In addition, a group by the name of Defense Distributed aims to create a design file to produce a completely functional 3-D printed firearm (Defense Distributed refers to the weapon as a “Wiki Weapon”). Defense Distributed has recently begun to conduct test-firing experiments with 3-D printed firearm components and ammunition. The experiments were initially met with varying levels of success.

Those developments, however, have not deterred those striving to create such a weapon. Cody Wilson, a University of Texas law student and co-founder of Defense Distributed, sees the project as “represent[ing] total liberation of access to firearms.” With the cost of 3-D printers dramatically

http://www.thingiverse.com/thing:11636. In a note to readers, in recent months, Thingiverse has forced users to remove files that “contribute to the creation of weapons” as part of its terms of service. Fountain, supra note 16. Therefore, the links listed in this footnote still have available the description of the files once posted, with the actual downloadable files removed.

50. Stratasys is one of the leading companies in the area of 3-D printing technology. About Stratasys, STRATASYS, http://objet.com/company/about (last visited Sept. 10, 2013).

51. gunsmit}


52. The group’s main goal is to “disrupt the concept and mechanisms of firearms regulation” by achieving its goal of “designing and distributing the plans for a functioning plastic gun that anyone can make with a $500 3-D printer.” Rich Brown, The Undetectable Firearms Act and 3-D-Printed Guns (FAQ), CNET (Dec. 10, 2012, 1:49 PM), http://news.cnet.com/8301-11386_3-57558213-76/the-undetectable-firearms-act-and-3d-printed-guns-faq. The group states it was founded on the following principles:

The specific purposes for which this corporation is organized are: To defend the civil liberty of popular access to arms as guaranteed by the United States Constitution and affirmed by the United States Supreme Court, through facilitating global access to, and the collaborative production of, information and knowledge related to the 3-D printing of arms; and to publish and distribute, at no cost to the public, such information and knowledge in promotion of the public interest.


54. see supra notes 54, 55 (demonstrating that the gun falls apart after a couple rounds, but the printed ammunition appears to be fine); see also Cyrus Farivar, “Download This Gun” : 3-D-Printed Semi-Automatic Fires Over 600 Rounds, ARS TECHNICA (Mar. 1, 2013, 8:00 AM), http://lastECHNIQU.com/technology/2013/03/download-this-gun-3-d-printed-semi-automatic-fires-over-600-rounds (“[L]ast year, [Defense Distributed] famously demonstrated that it could use a 3-D printed ‘lower’ for an AR-15 semi-automatic rifle—but the gun failed after six rounds. Now, after some re-tooling, Defense Distributed has shown that it has fixed the design flaws and a gun using its lower can seemingly fire for quite a while.”).

55. Nissebaum, supra note 47.
falling—from $20,000 to $1000 or less—as part of the normal technology curve, the realization of this “liberation” may not be farfetched. In May of 2013, Wilson appeared to successfully test fire the world’s first gun made completely from 3-D printing technology. This has led to the concern that 3-D printers could lead to the proliferation of guns and amateur gun makers in communities and homes across the nation. Hod Lipson, an associate professor and the director of the Creative Machines Lab at Cornell University, states:

The threat is not of 3-D printing military-grade weapon components from standard blueprints on industrial 3-D printers... the challenge is that [do-it-yourself] 3-D printers can be used by anyone to print rogue, disposable and shoddy guns that could be used to fire a few rounds, then be recycled into a flower vase.

C. Regulation of Firearms

Currently, the federal government has a sprawling regulatory system in place pertaining to the manufacturing and possession of firearms. The Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) is the law enforcement agency primarily responsible for enforcing the federal firearms laws. Residing within the United States Department of Justice, the ATF focuses on protecting communities from the illegal use and trafficking of firearms, the illegal use and storage of explosives, and various other criminal activities. The ATF relies upon various regulatory mechanisms to achieve its goals.

The Gun Control Act of 1968 (GCA) focuses mainly on regulating interstate commerce of firearms by generally prohibiting interstate firearms transfers except among licensed manufacturers, dealers, and importers. An individual or a company that engages in a business pertaining to the

58. Bilton, supra note 46.
59. Rosenwald, supra note 16.
63. Rosenwald, supra note 16.
64. Brown, supra note 3.
manufacture of firearms and ammunition or the interstate and intrastate sale of firearms must obtain a Federal Firearms License (FFL). 68 An FFL, however, is not required if the weapon is for personal use. 69

Depending on the type of weapon made, different regulations apply. Crafting a Title I-class weapon, as defined by the GCA, generally requires no preliminary paperwork. 70 Under the GCA:

(3) [t]he term “firearm” means

- (A) any weapon (including a starter gun) which will or is designed to or may readily be converted to expel a projectile by the action of an explosive;
- (B) the frame or receiver of any such weapon;
- (C) any firearm muffler or firearm silencer; or
- (D) any destructive device. Such term does not include an antique firearm. 71

While state and local laws may apply, federally, an individual is free to craft such weapons without prior permission. 72

Title II-class weapons fall under the regulatory scheme of the National Firearms Act (NFA). 73 The NFA imposes a statutory excise tax on the manufacture and transfer of certain firearms and mandates the registration of those firearms. 74 Title II-class weapons include the following examples:

- Machine guns;
- The frames or receivers of machine guns;
- Any combination of parts designed and intended for use in converting weapons into machine guns;
- Any part designed and intended solely and exclusively for converting a weapon into a machine gun;
- Any combination of parts from which a machine gun can be assembled if the parts are in the possession or under the control of a person;
- Silencers and any part designed and intended for fabricating a silencer;
- Short-barreled rifles;
- Short-barreled shotguns;
- Destructive devices; and,
- “Any other weapon.” 75

---

69. Brown, supra note 3.
70. Id.
72. Brown, supra note 3.
73. Id.
These firearms are the more heavily regulated type under federal law.\textsuperscript{76} Once a Title II-class weapon is created, the individual must fill out ATF Form 5320.1 (Application to Make and Register a Firearm—also known as “Form 1”), as required by federal law.\textsuperscript{77} The ATF must then approve the application.\textsuperscript{78}

Another interesting, yet fairly obscure gun law is the Undetectable Firearms Act of 1988 (UFA).\textsuperscript{79} The UFA states:

\begin{quote}
It shall be unlawful for any person to manufacture, import, sell, ship, deliver, possess, transfer, or receive any firearm —
(A) that, after removal of grips, stocks, and magazines, is not as detectable as the Security Exemplar, by walk-through metal detectors calibrated and operated to detect the Security Exemplar; or
(B) any major component of which, when subjected to inspection by the types of x-ray machines commonly used at airports, does not generate an image that accurately depicts the shape of the component. Barium sulfate or other compounds may be used in the fabrication of the component.\textsuperscript{80}
\end{quote}

The UFA, however, allows exceptions:

(3) Under such rules and regulations as the Secretary shall prescribe, this subsection shall not apply to the manufacture, possession, transfer, receipt, shipment, or delivery of a firearm by a licensed manufacturer or any person acting pursuant to a contract with a licensed manufacturer, for the purpose of examining and testing such firearm to determine whether paragraph (1) applies to such firearms. The Secretary shall ensure that rules and regulations adopted pursuant to this paragraph do not impair the manufacture of prototype firearms or the development of new technology.\textsuperscript{81}

The UFA was originally conceived in response to the Glock 17, a handgun with plastic gun composites forming certain components.\textsuperscript{82} The main purpose of the UFA is to make it a federal offense to possess a weapon that can defeat airport metal detection.\textsuperscript{83}

Surprisingly, amidst the complex regulatory scheme in place, the only component of a gun considered to be a firearm is the frame or receiver.\textsuperscript{84} This designation is based on the frame or receiver being the integral component to the functionality of a given firearm.\textsuperscript{85} Thus, a 3-D printed lower receiver, such

\begin{itemize}
\item \textsuperscript{76} Brown, supra note 3.
\item \textsuperscript{77} Brown, supra note 3.
\item \textsuperscript{79} Id.
\item \textsuperscript{80} Id.
\item \textsuperscript{81} Brown, supra note 52.
\item \textsuperscript{82} Id.
\item \textsuperscript{83} Id.
\item \textsuperscript{84} 18 U.S.C. § 921(a)(3) (2006).
\item \textsuperscript{85} See Brown, supra note 3 (noting that the receiver is the crucial part of the gun containing its vital operating parts such as the trigger group and magazine port). See also Farivar, supra note 56 (“The lower . . . 
as those used in test firings, would be considered “the highly-regulated component that serves as the body of the gun onto which the barrel, stock, magazine and other elements are attached.”

D. Constitutional Rights

1. The Second Amendment

The Second Amendment of the United States Constitution guarantees the right of the people to keep and bear arms. It specifically reads: “A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.”

Prior to the 2008 case of District of Columbia v. Heller, the Supreme Court took a collectivist approach to the Second Amendment’s right to keep and bear arms, which the lower federal courts uniformly followed. Before Heller, the last time the Supreme Court considered the meaning of the Second Amendment was in the 1939 case of United States v. Miller. In Miller, the Supreme Court, in its interpretation of the Second Amendment, stated the “obvious purpose” of the amendment was a collectivist aim to “assure the continuation and render possible the effectiveness of [the militia] . . . .”

Many legal scholars and commentators had urged the Supreme Court to interpret the Second Amendment’s right to bear arms as an individual right. The Supreme Court heeded their call in Heller. In the case, Dick Heller sued in federal court on Second Amendment grounds when he was denied registration for a handgun to keep at home. The District of Columbia enforced strict gun restrictions, which included limiting licensing of firearms and criminalizing the carrying of unregistered firearms. In addition, it required residents to keep lawfully owned firearms “unloaded and dissembled or bound by a trigger lock or similar device” in many situations. Under these provisions, the District of Columbia generally prohibited the possession of

86. See supra Part II.B (describing test firings with 3-D printed gun components).
87. Greenberg, supra note 54.
88. U.S. CONST. amend. II.
89. Id.
90. See United States v. Cole, 276 F. Supp. 2d 146, 149 (D.D.C. 2003) (“The Miller decision was the last time the Supreme Court considered the meaning of the Second Amendment, and for over six decades since, the lower federal courts have uniformly interpreted the decision as holding that the Amendment affords ‘a collective, rather than individual, right’ associated with the maintenance of a regulated militia.” (quoting Love v. Pepersack, 47 F.3d 120, 124 (4th Cir. 1995))).
92. Id. at 178.
93. See Dery, supra note 22, at 4–5 (highlighting analysis and comments from various historical and modern legal scholars and commentators).
95. Id. at 574.
96. Id.
97. Id.
handguns. The government and Heller brought forward two contrasting interpretations of the Second Amendment. Heller argued that the Second Amendment protected an individual right “to possess a firearm unconnected with service in a militia, and to use that arm for traditionally lawful purposes, such as self-defense within the home.” In contrast, the government argued that the Second Amendment protected a collective right to bear arms “in connection with militia service,” rather than an individual right. The Supreme Court ultimately sided with Heller, stating that “individual self-defense is ‘the central component’ of the Second Amendment right” and thus holding that the amendment conferred an individual right to own firearms. The Supreme Court struck down the District of Columbia’s ban on handguns, allowing individuals to possess them for defensive use within the home.

In *McDonald v. City of Chicago*, an individual filed a federal suit against the city, which was consolidated with two related actions, seeking a declaration that two Illinois cities’ handgun bans and several related city ordinances violated the Second and Fourteenth Amendments. Otis McDonald, one of the petitioners, lived in Chicago and wanted to possess a handgun in his home for self-defense due to being an older gentleman and living in a high-crime neighborhood. The Supreme Court in *McDonald*, drawing on its decision in *Heller*, reaffirmed the individual right to own firearms in the home for self-defense through the Second Amendment, thereby making it applicable to the states and local government by virtue of the Fourteenth Amendment.

The *Heller* and *McDonald* decisions were hailed as landmark decisions, leading some scholars to write about the implications of interpreting the Second Amendment as an individual right and its impact on Fourth Amendment rights. To appropriately comprehend the potential impact, a basic understanding of the Fourth Amendment is essential.

2. *The Fourth Amendment*

The Fourth Amendment of the United States Constitution protects all Americans from unreasonable searches and seizures:

The right of the people to be secure in their persons, houses, papers,

98. *Id.*
99. *Id.* at 577.
100. *Id.*
102. *Heller*, 554 U.S. at 635.
103. *McDonald*, 561 U.S. at 3025.
104. *Id.* at 3026–27.
105. *Id.* at 3050 (plurality opinion) (relying on the Due Process Clause); *Id.* at 3077–88 (Thomas, J., concurring in part and concurring in the judgment) (relying on the Privileges or Immunities Clause).
107. *See, e.g., Dery, supra* note 22 (providing an in-depth analysis of the potential effects of the *Heller* decision and Supreme Court’s interpretation of the Second Amendment on Fourth Amendment rights).
and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.  

The Fourth Amendment was established to prevent the government from carrying out unreasonable, oppressive investigations. To realize the protections guaranteed by the Fourth Amendment, the Supreme Court utilizes two key procedural devices: the warrant requirement and the exclusionary rule. Under the warrant requirement, law enforcement authorities must obtain a warrant from a neutral magistrate before conducting a search. The purpose of the search warrant is to “protect an individual’s privacy interest in his or her home and possessions against unjustified police intrusions.” In *Johnson v. United States*, the Supreme Court stated:

> The point of the Fourth Amendment . . . is not that it denies law enforcement the support of the usual inferences which reasonable men draw from evidence. Its protection consists in requiring that those inferences be drawn by a neutral and detached magistrate instead of being judged by the officer engaged in the often competitive enterprise of ferreting out crime.  

The warrant requirement is considered “the bulwark of Fourth Amendment protection.” The other key procedural device, the exclusionary rule, bars evidence obtained from an unlawful search or seizure to be used in subsequent prosecution. The exclusionary rule prevents the government from using most evidence gained in violation of the United States Constitution. It applies to evidence gained from an unreasonable search or seizure in violation of the Fourth Amendment. If a police officer during the course of his or her action “exceed[s] the scope of a search warrant, the seized evidence may be suppressed.” The exclusionary rule is currently seen as a court-created remedy and deterrent, not an independent constitutional right.

---

108. U.S. CONST. amend. IV.  
111. *Id.*  
113. *Johnson v. United States*, 333 U.S. 10, 13–14 (1948); *see also* Steagald v. United States, 451 U.S. 204, 212 (1981) (explaining that a warrant was necessary because law enforcers “may lack sufficient objectivity to weigh correctly the strength of the evidence supporting the contemplated action against the individual’s interests in protecting his own liberty”).  
costs of exclusion outweigh its deterrent or remedial benefits, courts will not apply the rule to exclude illegally gathered evidence.\textsuperscript{119}

Therefore, “the most basic constitutional rule in this area is that ‘searches conducted outside the judicial process, without prior approval by [a] judge or magistrate, are per se unreasonable under the Fourth Amendment . . . ‘”\textsuperscript{120}
The Fourth Amendment jurisprudence, however, does recognize “a few specifically established and well-delineated exceptions” to the warrant requirement.\textsuperscript{121} “If the search comes within one of these exceptions, it still, generally, is reasonable only if supported by probable cause.”\textsuperscript{122} With these exceptions, however, the Supreme Court has increasingly expanded the scope of them in addition to limiting the application of the exclusionary rule.\textsuperscript{123} This has led to certain rights protected under the Fourth Amendment becoming “shrunken.”\textsuperscript{124} The following is a recitation of some of the exceptions to the warrant requirement and the subsequent expansion of them.

a. Stop and Frisk

“Stop and frisk” is a phrase that refers to a brief, non-intrusive police stop of a suspect.\textsuperscript{125} The Fourth Amendment requires that the police have a reasonable suspicion that a crime has been, is being, or is about to be committed before stopping a suspect.\textsuperscript{126} If the police reasonably suspect the person is armed and dangerous, they may, without a warrant, conduct a “frisk,”\textsuperscript{127} which is described by the Supreme Court as “feel[ing] with sensitive fingers every portion of the [individual’s] body . . . [including the] arms and armpits, waistline and back, the groin and area about the [groin area], and entire surface of the legs down to the feet.”\textsuperscript{128}

The Supreme Court in \textit{Terry v. Ohio} adopted the rule allowing police officers to perform stop and frisk searches of an individual for weapons if the

\textsuperscript{119} Stone, 428 U.S. at 486.
\textsuperscript{120} Coolidge v. New Hampshire, 403 U.S. 443, 454–55 (1971) (quoting Katz v. United States, 389 U.S. 347, 357 (1967)). In \textit{Coolidge}, the Supreme Court ruled that the warrant issued upon determination of probable cause by the chief enforcement agent of state, the Attorney General, who was actively in charge of investigation and later was to be key prosecutor at trial, was invalid. \textit{Id.} See also \textit{Terry v. Ohio}, 392 U.S. 1, 20 (1968) (“[P]olice must, whenever practicable, obtain advance judicial approval of searches and seizures through the warrant procedure . . . .”).
\textsuperscript{121} Katz, 389 U.S. at 357 (1967).
\textsuperscript{123} See generally \textit{id.} (describing how the Supreme Court has shrunk Fourth Amendment protections over time).
\textsuperscript{124} \textit{id.}
\textsuperscript{125} \textit{See WAYNE R. LAFAVE, SEARCH AND SEIZURE: A TREATISE ON THE FOURTH AMENDMENT § 9.1(a) (4th ed. 2011)} (“It is a time-honored police procedure for officers to stop suspicious persons for question and, occasionally, to search these persons for dangerous weapons.”).
\textsuperscript{126} \textit{id.} § 9.1(b).
\textsuperscript{127} \textit{See Terry v. Ohio}, 392 U.S. 1, 30 (1967) (holding that evidence seized during a stop and frisk is admissible if the police officer has reasonable suspicion that the individual was armed and dangerous and restricts his search to the pat-down of outer clothing for weapons).
\textsuperscript{128} \textit{id.} at 17 n.13 (quoting Priar & Martin, \textit{Searching and Disarming Criminals}, 45 J.CRIM. L.C. & P.S. 481 (1954)).
officer had a reasonable belief that the person was an “armed and dangerous individual, regardless of whether [the officer] has probable cause to arrest the individual for a crime.”

The Supreme Court’s rationale for its decision rested on the concern for officer safety against gun violence, stating:

Certainly it would be unreasonable to require that police officers take unnecessary risks in the performance of their duties. American criminals have a long tradition of armed violence, and every year in this country many law enforcement officers are killed in the line of duty, and thousands more are wounded. Virtually all of these deaths and a substantial portion of the injuries are inflicted with guns . . . .

The Supreme Court further added, “[w]hatever the merits of gun-control proposals, this fact is relevant to an assessment of the need for some form of self-protective search power.” Since Terry, the Supreme Court has used the rationale of the threat of gun violence against officers to expand the scope of a search during police stop and frisks in subsequent cases.

b. Search Incident to Arrest

Another long-recognized exception to the warrant requirement is a search incident to a lawful arrest. The rule allows an officer to perform a warrantless search during or immediately after a lawful arrest. This search is limited to only the person arrested and the area immediately surrounding the person where he or she may gain possession of a weapon, hide or destroy evidence, or in some way perform an escape.

The Supreme Court again specified the concern for firearms and the potential for danger in broadening the permissible scope of a search incident to arrest. In the seminal case of Chimel v. California, the Supreme Court

129. Id. at 27.
130. Id. at 23–24.
131. Id. at 24 n.21.
132. See Maryland v. Wilson, 519 U.S. 408, 414–15 (1997) (holding that a police officer making a traffic stop may order passengers to get out of a car pending completion of a stop). The Supreme Court was concerned with denying passengers “access to any possible weapon that might be concealed in the interior of the passenger compartment.” Id. at 414. See also Michigan v. Long, 463 U.S. 1032, 1049 (1983) (holding that a protective search of the passenger compartment of a motor vehicle during a lawful investigatory stop of the occupant of a vehicle was reasonable); Pennsylvania v. Mimms, 434 U.S. 106, 112 (1977) (holding that a bulge in the jacket of the defendant driver, who was ordered out of his automobile following a traffic stop violation, “permitted the officer to conclude that [the defendant] was armed and thus posed a serious and present danger to safety of officer,” therefore justifying a “pat-down” search of the defendant); Adams v. Williams, 407 U.S. 143, 148 (1972) (holding that an officer acted justifiably in going to a vehicle to investigate and reaching in to remove a loaded gun from the driver’s waistband).
133. LaFAVE, supra note 125, at § 7.1.
134. Id.
135. Id.
136. Id.
137. See Chimel v. California, 395 U.S. 752, 763 (1969) (“A gun on a table or in a drawer in front of one who is arrested can be as dangerous to the arresting officer as one concealed in the clothing of the person arrested.”).
delineated the scope of this police search, holding that:

When an arrest is made, it is reasonable for the arresting officer to search the person arrested in order to remove any weapons that the latter might seek to use in order to resist arrest or effect his escape. Otherwise, the officer’s safety might well be endangered, and the arrest itself frustrated.

Once again, the fear of firearms and the concern for safety, in particular that of police officers, led to subsequent expansion of the search incident to arrest.

c. Exigent Circumstance

An exigent circumstance is a situation that requires an immediate response. It serves as another exception to the general prohibition on a warrantless arrest or search. This normally occurs when a police officer believes that probable cause exists and that there is no time to obtain a warrant due to high risk of imminent danger to themselves or others or the possibility of evidence being destroyed or removed.

The threat of guns has further led the Supreme Court to broaden searches, allowing legal police intrusions into the home under the doctrine of exigent circumstances. The case that best exemplifies this is *Warden v. Hayden*, in which police pursued a defendant who had committed robbery and fled to his home. After entering the home and arresting Hayden, the police conducted a thorough search of the home and recovered weapons and ammunition. The Supreme Court, in an opinion written by Justice Brennan, found the search to be reasonable due to concerns of officer safety under “exigencies of the situation.”

The Fourth Amendment does not require police officers to delay in

---

138. *Id.* at 762–63.
139. See *Thorton v. United States*, 541 U.S. 615, 617 (2004) (holding that the Fourth Amendment allows an officer to search a vehicle’s passenger compartment as a contemporaneous incident of arrest, even when the officer “does not make contact until the person arrested has left the vehicle”); see also *New York v. Belton*, 453 U.S. 454, 460 (1981) (holding that an officer after making a lawful custodial arrest of the occupants of a vehicle, “may, as a contemporaneous incident of that arrest, search the passenger compartment of [a vehicle]” and examine the contents of any container found within the compartment); *United States v. Robinson*, 414 U.S. 218, 234 n.5 (1973) (citing a study that showed that an officer approaching a vehicle accounted for thirty percent of shootings against them and ultimately holding that the search of a defendant without a search warrant and ensuing inspection and search was permissible). In the aforementioned cases, the threat of the gun is presumably what has accounted for the expansion of search incident to arrest. *Dery, supra* note 22, at 31.
140. 79 C.J.S. Searches § 70 (2013).
141. *Id.*
142. 3A CHARLES ALAN WRIGHT & SARAH N. WELLING, FEDERAL PRACTICE AND PROCEDURE § 678 (4th ed. 2010).
143. See *Warden v. Hayden*, 387 U.S. 294, 297–99 (1967) (holding that a warrantless search of the house and the defendant, who was suspected of carrying a shotgun and a pistol during a robbery minutes before the search, was valid due to concerns of officer safety).
144. *Id.*
145. *Id.* at 298.
146. *Id.* at 298.
the course of an investigation if to do so would gravely endanger their lives or the lives of others . . . and only a thorough search of the house for persons and weapons could have insured . . . that the police had control of all weapons which could be used against them or to effect an escape.\textsuperscript{147}

The Supreme Court has continued to use the justification of officer safety from guns and other weapons in exigent circumstances to broaden police search powers in an individual’s home.\textsuperscript{138}

d. Limitation of the Exclusionary Rule

\textit{Mapp v. Ohio} is the seminal case in which the Supreme Court adopted the exclusionary rule, establishing that evidence collected in violation of the warrant requirement is to be excluded.\textsuperscript{149} The rule was initially perceived as a constitutional right, with the Supreme Court stating that it was “an essential part of both the Fourth and Fourteenth Amendments.”\textsuperscript{150} However, in \textit{United States v. Calandra}, the Supreme Court re-characterized the exclusionary rule as a “judicially created remedy . . . rather than a personal constitutional right of the party aggrieved.”\textsuperscript{151} This characterization laid the ground work for establishing exceptions to the exclusionary rule, rather than a strict application of it.\textsuperscript{152}

The Supreme Court in \textit{Stone v. Powell} reiterated that the exclusionary rule is “not a personal constitutional right.”\textsuperscript{153} Furthermore, the Supreme Court stated the rule should not be implemented if societal costs outweighed the deterrent effect.\textsuperscript{154} The threat of gun violence to officers has been one of the biggest societal costs to effectively outweigh the deterrent effect of the exclusionary rule. As one scholar has noted, “the [Supreme] Court has become both increasingly hostile toward the exclusionary rule and increasingly indulgent toward the police.”\textsuperscript{155} The limitation of the exclusionary rule, in conjunction with the expansion of various exceptions to the Fourth Amendment warrant requirement,\textsuperscript{156} has potentially dramatic effects.

\footnotesize
\begin{itemize}
\item \textsuperscript{147} \textit{Id.} at 298–99.
\item \textsuperscript{148} See \textit{Muehler v. Mena}, 544 U.S. 93, 100 (2005) (discussing how the combination of weapons and multiple occupants in a home posed an increased danger to officers).
\item \textsuperscript{149} \textit{Id.} at 657.
\item \textsuperscript{150} \textit{Mapp v. Ohio}, 367 U.S. 643, 657 (1961).
\item \textsuperscript{152} See Dery, supra note 22, at 11–12 (discussing the \textit{Calandra} decision and the reasoning behind it).
\item \textsuperscript{153} \textit{Stone v. Powell}, 428 U.S. 465, 486 (1976). In \textit{Stone}, a prisoner convicted of murder in state court, in part on the basis of testimony concerning a revolver found on his person when he was arrested for violating a vagrancy ordinance, sought habeas corpus relief. \textit{Id.}
\item \textsuperscript{154} \textit{Id.} at 487–89.
\item \textsuperscript{155} Wasserstrom, supra note 122, at 259.
\item \textsuperscript{156} In addition to the previously mentioned exceptions, certain administrative inspections utilized to enforce regulatory schemes related to items such as alcohol and firearms are also exempt from the Fourth Amendment warrant requirement and may be authorized simply by statute. \textit{United States v. Biswell}, 406 U.S. 311 (1972); \textit{Colonnade Catering Corp. v. United States}, 397 U.S. 72 (1970). \textit{Colonnade}, involving liquor, was based on the long history of close supervision of the industry. \textit{Biswell}, involving firearms, introduced factors that were subsequently to prove significant.
\item Thus, while the statute was of recent enactment, firearms constituted a pervasively regulated
\end{itemize}
3. Concerns and Implications

Recently, the concern over easier access to weapons—in particular firearms by means of digital fabrication tools—has increased. This concern potentially puts the Second and Fourth Amendment rights in direct tension with each other. The Second Amendment arguably guarantees a right to produce and own a gun within an individual’s home, yet it may come at a cost as the Supreme Court has allowed exceptions to Fourth Amendment rights to be broadened by allowing officers to conduct expansive searches when the potential danger of gun violence is in play. The Supreme Court has noted “that ‘the need for defense of [one’s] . . . self, [as well as one’s] property, is most acute’ in the home.” Individuals who attempt to create and possess a firearm from 3-D printing technology will more than likely do so within the confines, comfort, and privacy of their homes. This may increase the need for officers to conduct more expansive searches for their safety and well-being. Appropriately analyzing and reconciling these competing interests will be crucial.

III. Analysis

A. Current Firearms Regulation May Prove to Be Insufficient in the Future Regarding 3-D Printed Guns

The firearms regulatory scheme, as it is currently set up, does not require an individual to obtain an FFL if he is making a gun strictly for his private use (as opposed to selling his services as a gunsmith). Therefore, the standard regulations of administrative inspections do not apply. An assessment of the current regulatory landscape of firearms suggests that the creation of 3-D printed guns for personal use would not be illegal. However, many considerations remain.

A key issue is whether a 3-D printed firearm is classified as a Title I-class weapon under the GCA or Title II-class weapon under the NFA. Currently, using a consumer-grade 3-D printer to create a Title I-class weapon

---

industry, so that dealers had no reasonable expectation of privacy, inasmuch as the law provides for regular inspections. Further, warrantless inspections were needed for effective enforcement of the statute.


157. Fountain, supra note 16.

158. See supra Part I (stating Heller may have implicitly created this right).

159. See supra Part II.D.2 (providing background for expansion of exceptions to Fourth Amendment protections).


is extremely difficult and unlikely. A successfully designed and produced 3-D printed firearm is more likely to fall under a Title II-class weapon designation (as an “Any Other Weapon”), requiring the individual to register the firearm under the NFA. However, as the technology of 3-D printers progresses and designs become consistently successful, what happens when a Title I-class 3-D printed firearm is capable of being made in the future? A 3-D printed gun under this distinction would generally require no preliminary paperwork or prior permission. Such a scenario creates a possible loophole within the regulatory scheme regarding 3-D printed guns.

Some have suggested that the creation of a fully functional, all plastic 3-D printed gun would fall under the UFA and, therefore, be illegal. However, the law does make exceptions for “the military and the CIA, and also provides some room for manufacturers that want to test whether a certain design falls within the requirements of the law.” Again, these exceptions may serve as loopholes and potentially be exploited, allowing for the unimpeded testing, firing, and creation of 3-D printed guns. In addition, there is concern that the UFA and its suggested renewal may be an attempt to inhibit 3-D printing technology in a broad manner, well beyond trying to simply regulate firearms produced from it.

This all leads to a dilemma of an inability to account for personal inventories of firearms. Law enforcement’s worst nightmare would be to imagine an individual using a 3-D printer to print a stockpile of firearms that goes unlicensed and unnoticed. The danger of gun violence, as firearms become even more readily accessible, may increase as the regulations in place may be insufficient to encompass 3-D printed firearms.

B. The Supreme Court’s Interpretation of the Second Amendment’s Providing an Individual Right Creates Tension with Its Jurisprudence Regarding Fourth Amendment Rights

The Supreme Court in Heller held that a citizen may own and possess a handgun in their home. This is a nod to more individual rights through the

---

165. Brown, supra note 3.
166. 26 U.S.C. § 5845(e) (2006); Brown, supra note 3.
168. Brown, supra note 52.
169. Id.
170. Id. (noting how Defense Distributed registered as a firearms manufacturer to attain exemption from the UFA).
171. See Cory Doctorow, Congressman Calls for Ban on 3D Printed Guns, BOING BOING (Dec. 9, 2012, 11:37 AM), http://boingboing.net/2012/12/09/congressman-calls-for-ban-on-3.html (questioning how legislatures would go about regulating what can be printed with 3-D printing technology).
172. John Lott, Why Gun Control Just Got Even More Difficult, FOX NEWS (May 31, 2013) http://www.foxnews.com/opinion/2013/05/31/gun-control-just-got-even-more-difficult/ (“Unfortunately, the initial regulatory proposals will likely increase crime. As usual, new technology is hard to stop, and the Department of Homeland Security last week declared: ‘Limiting access [to 3D-printing to make guns] may be impossible.’”).
Second Amendment, but how does this mesh with Supreme Court jurisprudence regarding the Fourth Amendment? Specifically, how does the Supreme Court reconcile its interpretation of the Second Amendment with its concern over gun violence, particularly to police officers, and the impact on the Fourth Amendment? The recognition of the right to keep and bear arms as an individual right may create practical limits on the government’s ability to control guns. A recent press conference by Representative Steve Israel regarding the renewal of the UFA to combat 3-D printed firearms offered a revealing insight into police officers’ concerns:

Other officials at the news conference included Suffolk County Police Chief of Department James Burke, who said 3-D printers could bring about the proliferation of guns ‘in our children’s bedrooms, in basements and in dorm rooms. With the prices of these printers under $1,000, I think anyone can imagine the rise of an amateur gun maker in our community.’

This potentially calamitous outcome establishes a noticeable tension between the Supreme Court’s interpretation of the Second and Fourth Amendments. The characterization of the Second Amendment as providing a right to have (and potentially produce) a gun within an individual’s home acknowledges one set of rights, yet it may come at the expense of another—individual security and privacy rights under the Fourth Amendment.

The Supreme Court has allowed exceptions to Fourth Amendment requirements by allowing officers to conduct warrantless searches under certain reasonable circumstances—at the potential expense of individual security and privacy—stemming from the potential danger of gun violence. Professor George Dery compellingly states Heller’s impact on Fourth Amendment protections:

Thus, a practical consequence of Heller might be a limitation of the government’s options to address gun violence. As a result, police officers, finding themselves less protected by gun control legislation, may resort to self-help by committing more frequent or more intrusive searches or seizures. Therefore, the Court, mindful of the danger to officers posed by firearms, may hesitate in the future to maintain current Fourth Amendment protections.

In the future, citizens may be subjected to even more intrusive and expansive searches (and seizures). The ability of potential citizens to print firearms conveniently within their home will further test this tension.

174. Id.
175. See Dery, supra note 22, at 2 (discussing how case law has justified a weakening of Fourth Amendment protections in order to protect officers from increasing gun violence).
176. Id at 3.
177. See Dery, supra note 22 (providing an in-depth analysis of the potential effects of the Heller decision and Supreme Court’s interpretation of the Second Amendment on Fourth Amendment rights).
179. Id. at 3.
C. The Trend Indicates the Supreme Court Will Favor the Continued Weakening of Fourth Amendment Rights

As 3-D printers become less expensive and more prevalent, the combination of this development along with the individual right to possess firearms within the home creates a perfect storm. The convergence of these two factors may force the Supreme Court in the future to decide which right suffers—the individual right to own a firearm under the Second Amendment or individual security and privacy rights under the Fourth Amendment due to concerns over gun violence, particularly to officers.

As indicated in Part II of this Note, the trend suggests the Fourth Amendment rights of individuals will likely continue to be weakened as the Supreme Court may attempt to protect police officers. This results in more leeway given to law enforcement to conduct warrantless searches as fear of dangerous individuals possessing manufactured guns within the privacy of their residences increases. The Supreme Court appears satisfied with this trend as evidenced by its jurisprudence, which is driven by the danger of gun violence, especially to law enforcement officials. Often times, courts erroneously assess the danger to officers by strongly deferring to their judgment at the expense of the Fourth Amendment right to personal security. However, this may seem odd since “the central meaning of the Fourth Amendment is distrust of police power and discretion.” As one professor pointedly notes, “[i]f mistrust of police power was the impetus for passage of the Fourth Amendment, then interpreting the Fourth Amendment to strongly further law enforcement interests makes no sense.”

Time and time again, the Supreme Court has allowed the application and gradual expansion of Fourth Amendment exceptions, weakening the protections that should be afforded to citizens. The printing of 3-D firearms may potentially exacerbate

---

180. See Brown, supra note 3 (noting that preassembled 3-D printers can go for approximately $500 and a spool of ABS plastic printing material for $50); Cyrus Farivar, California’s First 3D Printer Retail Store to Sell $600 Model, ARS TECHNICA (Sept. 21, 2012, 5:45 PM), http://arstechnica.com/business/2012/09/californias-first-3d-printer-retail-store-to-sell-600-model.

181. See Farivar, supra note 180 (“Various online 3D printer retailers have been around for some time, but these two stores are the first brick-and-mortar versions. Some 3D printing-related companies have already raised decent amounts of venture capital in recent months.”).

182. See U.S. CONST. amend. II (“The right of the people to keep and bear Arms, shall not be infringed.”).

183. See U.S. CONST. amend. IV (“The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated.”).

184. See Dery, supra note 22, at 2, 23–24, 30, 35 (detailing how gun violence has been the impetus for the Supreme Court in limiting Fourth Amendment protections and allowing expansive searches and seizures).

185. See supra Part II.D.2 (reciting the history of the expansion of exceptions to Fourth Amendment requirements).

186. Id.

187. Dery, supra note 22, at 3.


190. Urbonya, supra note 188, at 694.
IV. RECOMMENDATION

A. A Regulatory Approach

The reduction of both crime and the threat of gun violence are of utmost importance. As mentioned by the analysis, current gun regulations may prove insufficient to adequately deal with 3-D printed guns in the future. Reasonable solutions will be needed that deter the easy access to guns, thereby easing concerns of gun violence that lead to intrusive searches, while avoiding the general restricting of 3-D printing technology for non-firearm purposes. Two regulatory approaches should be considered—one focusing on the end product and the other on the individual attempting to create and obtain the end product. The ultimate goal under both would be to deter the homemade manufacturing of 3-D printed firearms and minimize the risk of increased gun violence.

1. Criminalizing the Manufacture or Possession of 3-D Printed Guns

One broad approach would be to criminalize the creation or possession of guns by 3-D printers. A modified version of this approach would be to ban weapons undetectable by security screening, such as an all-plastic 3-D printed firearm. A good start to this approach would be to renew and update the language of the UFA. While an undetectable gun may not exist yet, renewing the UFA would provide the federal government a valuable enforcement tool to prospectively address the possible scenario of the creation of an undetectable firearm—whether it be 3-D printed or otherwise. Concerns over whether the UFA is a covert attempt to restrict 3-D printing technology in general should be quelled. Nothing in the UFA imposes pro-active restrictions on 3-D printing, and there appears to be no attempt by those urging the renewal of the UFA to change the technical language of the law. The approach of renewing and updating the language of the UFA should be retained in order to avoid stifling a potentially valuable technology while making a genuine effort to prevent easy access to firearms created by 3-D printing.

An even narrower approach would be to ban firearms made by specific processes or certain materials. This would specifically target guns that utilize additive manufacturing (the main process behind 3-D printing) in

191. See supra Part III.A (describing potential shortcomings of firearms regulations with respect to 3-D printed guns).
192. See supra Part II.D.2 (providing background for expansion of exceptions to Fourth Amendment protections driven by fear of gun violence).
193. Fountain, supra note 16.
194. Brown, supra note 52.
195. Id.
196. Jensen-Haxel, supra note 18, at 469.
197. LIPSON & KURMAN, supra note 4, at 11.
their creation. A variation of this approach would be to control gunpowder as a way to deter dangerous, illegal usage of 3-D printers.\textsuperscript{198} This approach once again would strike the balance of dissuading the creation of firearms while not overburdening those using 3-D printing technology for non-firearm purposes. The result would be the minimized threat of increased gun violence toward police officers due to some form of regulations in place to control the existence and circulation of 3-D printed guns.

2. Criminalizing Prohibited Individuals from Manufacturing and Possessing 3-D Printed Firearms

Another approach to consider is to enact new laws that prohibit certain individuals, such as convicted felons, from manufacturing 3-D printed firearms or possessing 3-D printed firearm components.\textsuperscript{199} This individualized approach targets criminals while avoiding the consequence of stifling the potential of 3-D manufactured weapons and those who may legally possess them. The end goal of this approach is to reduce the likelihood that guns end up in the hands of criminals and allay the fears of the Supreme Court, along with the general public, of the threat of increased gun violence. Moreover, the development and advancement of 3-D printing technology would be able to continue in a relatively uninhibited manner. This individual-centric approach is more sympathetic to Second Amendment rights, as it would allow law-abiding citizens to possess 3-D printed firearms.

Ultimately, the goal of the regulatory recommendations presented would be to reduce the likelihood that police officers, believing that they are less protected by a perceived lack of gun control legislation, would resort to self-help assessments and strategies leading to intrusive searches and seizures.\textsuperscript{200} The regulations would serve to provide reassurance to officers that they are not at an increased risk of gun violence at an individual’s home, during a traffic stop, and so forth, and, therefore, need not turn to actions that would violate Fourth Amendment rights.

B. An Interest-Balancing Inquiry Test

While new regulations may help to address the problem, a nuanced interpretation of constitutional amendments may alternatively or additionally be required to alleviate the tension between Second Amendment rights and the exceptions to Fourth Amendment requirements. Resolution of this issue will hinge on how to appropriately assess danger to police officers and the public at large, while respecting an individual’s right to personal security and privacy.\textsuperscript{201}

To accomplish this goal, the Supreme Court should adopt an “interest-

\begin{footnotes}
\item\textsuperscript{198} Rosenwald, supra note 16.
\item\textsuperscript{199} Jensen-Haxel, supra note 18, at 469.
\item\textsuperscript{200} Dery, supra note 22, at 3.
\item\textsuperscript{201} Urbonya, supra note 188, at 625.
\end{footnotes}
balancing inquiry" test as proposed by Justice Breyer in his *Heller* dissent.202 The aim of the test would be to safeguard constitutionally protected interests—individual security and privacy rights—assured under the Fourth Amendment.203 The approach would mirror the balancing test already used in *Terry*, “focus[ing] upon the governmental interest which allegedly justifies official intrusion upon the constitutionally protected interests of the private citizen”204 to determine its reasonableness. This would involve assessing “the need to search (or seize) against the invasion which the search (or seizure) entails.”205 Ultimately, the balancing would occur with “interests protected by the . . . Amendment on one side and the governmental public-safety concerns on the other. . . .”206

Additionally, rather than using the test to restrict Fourth Amendment protections and arguably weaken rights, as the Supreme Court has done,207 it should use the test to protect those rights. Therefore, in applying the inquiry-balancing test, the Supreme Court should show deference to private citizens and their constitutionally protected and fundamental rights under the Fourth Amendment.208 This would honor and stay true to the original intent of the passing of the Fourth Amendment—mistrust of police power, along with the fear of being subjected to unreasonable governmental intrusions.209 Just as importantly, this deference to privacy rights would appropriately scale back the degree of deference to police searches, which runs against the principal purpose of the Fourth Amendment.210

In using the interest-balance inquiry test, it is crucial that the scope of the assessment of danger be appropriately defined. An assessment of danger should not be misperceived as being analogous to an assessment of reasonableness of a search or seizure.211 Justice Stevens’s approach in *Maryland v. Buie*212 is instructive of the application of the test in this specific manner. In *Buie*, Justice Stevens gave less consideration to the presence of danger due to a strong privacy interest in the home and due to alternative measures being available to an officer.213 This approach would offer courts a sensible, workable framework to operate with.

With a strong regulatory schema in place, such as the one offered in Part

203. In *Heller*, Justice Breyer’s primary focus was Second Amendment rights. *Id.*
205. *Id.* at 21.
207. See Dery, *supra* note 22, at 37–42 (providing various examples of the Supreme Court using the balancing test to limit Fourth Amendment protection).
208. See Maclin, *supra* note 189, at 197 (stating that the Fourth Amendment is fundamental and, more than any other provision of the Bill of Rights, stipulates that the tactics of the police state are not to be tolerated).
210. See Maclin, *supra* note 189, at 249 (stating that distrust of discretionary police power is the central reason for the Fourth Amendment).
211. Uurbonya, *supra* note 188, at 628.
213. *Id.* at 338 (Stevens, J., concurring).
IV.A, officers’ fears of increased gun violence from 3-D printed firearms should be alleviated.214 In addition, a reasonable assessment should not lead to conclusions that the prevalence of 3-D printing technology or ownership of 3-D printers amongst citizens automatically results in an increased risk of gun violence toward officers, thus justifying expansive searches and seizures. The interest-balance inquiry test, outlined in Part IV.B, with deference to the security and privacy rights of the citizen, would obviate the need to threaten either Second or Fourth Amendment rights. The test would continue to respect the individual right to own a firearm,215 while putting the onus on police officers to bring forth enough evidence to overcome the deference toward the privacy rights of citizens.216 In determining the reasonableness of the search, the “[Supreme Court] should consider that danger is only one factor, which may be outweighed by the [individual]’s right to personal security and privacy.”217 The presence of danger should be based on actual evidence rather than being hypothetical. If the officer cannot bring forth a compelling reason or substantial justification to defeat the deference, the warrantless search or seizure should be declared unreasonable.218

The cumulative effect of the recommendations put forward would be to aid police officers in minimizing the risk of increased gun violence from 3-D printers,219 respect Second Amendment rights,220 preserve protections provided under the Fourth Amendment,221 and un-impede a valuable technology in 3-D printing.222

V. CONCLUSION

“There’s a war going on outside, no man is safe from . . .”223

The Supreme Court has laid down the foundation through Heller and

214. See supra Part IV.A (recommending ways to regulate 3-D printed firearms to reduce the threat of gun violence from them).
215. Law-abiding citizens would still be able to possess firearms. In fact, the deference shift suggested in this Note, from police officers to citizens, would provide more protection under both the Second and Fourth Amendment, as officers would need to meet a higher standard to carry out warrantless searches and seizures. See supra Part IV.B (recommending officers bring forth compelling reason or substantial justification to conduct warrantless searches and seizures).
216. The overwhelming deference shown to police searches and seizures has been misguided, neglecting the importance of the privacy expectation of the citizen. See Maclin, supra note 189, at 249 (stating that distrust of discretionary police power is the central reason for the Fourth Amendment).
217. Urbonya, supra note 188, at 705.
218. See Maclin, supra note 189, at 201–202 (stating what the Fourth Amendment at the minimum requires).
219. See supra Part IV.A (discussing regulatory approaches to aid law enforcement with respect to 3-D printed firearms).
220. See supra Part IV.B (outlining a balanced approach that involves maintaining respect for Second Amendment rights).
221. See supra Part IV.B (discussing the need for the Supreme Court to show deference to security and privacy rights of citizens under the Fourth Amendment).
222. See supra Part IV.A (stating that the regulatory measures recommended are simply to curtail 3-D printing technology for firearms purposes and not beyond).
223. MORB DEEP, Survival of the Fittest, on THE INFAMOUS (Loud Records 1996).
McDonald in upholding an individual right to own a firearm under the Second Amendment.\textsuperscript{224} The decisions lay the potential groundwork for citizens to have a constitutionally protected right to print firearms for their own private use in the name of self-defense.\textsuperscript{225} As 3-D printers become more affordable and prevalent, they potentially create an environment of rampant gun ownership. In the aftermath of the tragic shootings in Newtown, Connecticut, and the passionate debate over gun control that has ensued, the concern over easier access to weapons by means of digital fabrication tools has increased.\textsuperscript{226} This could lead to the threat of increased likelihood of gun-related violence. The concern of gun violence has been one of the main impetuses for the Supreme Court to weaken protection of Fourth Amendment rights.\textsuperscript{227} This trend will only be exacerbated as individuals possess the ability to print firearms privately.

New approaches to balancing Second and Fourth Amendment rights will be needed. Moreover, new regulations may need to be implemented to appropriately address firearms created by 3-D printing technology. In the end, there must be a renewed sense of urgency to resist the continued erosion of the Fourth Amendment, lest it becomes a shell of its once glorious, former self.

\textsuperscript{225} Jensen-Haxel, supra note 18, at 449.
\textsuperscript{226} Fountain, supra note 16. In the wake of the debate over gun control, the National Rifle Association, interestingly, has remained mum on its position regarding 3-D manufacturing. \textit{Id}.
\textsuperscript{227} Dery, supra note 22, at 2.