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## **“GUNBA CONTROL” THE CONSTITUTIONALITY OF SEMI- AUTONOMOUS ROBOTIC WEAPONS**

*Major Steven P. Szymanski\**

### A Guiding Hypothetical

Marion, a 76-year-old man, lives alone in his home. One night, an armed intruder breaks into his house. Marion is startled by the commotion, locks the door to his bedroom, and calls the police. Unfortunately, he knows that help will not arrive for at least eight minutes. Luckily, Marion owns a new remotely controlled armed robot that resembles a contemporary robotic vacuum. As Marion locks himself in his bedroom, the “Gunba” moves into position to view the intruder. It sends a high-definition live feed image of the trespasser to Marion’s cell phone. Marion does not recognize the intruder and sees that he is carrying a knife. Fearing for his life, Marion presses a button on his phone that

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commands the robot to fire a well-aimed 9mm round into the intruder, killing him. The police arrive soon thereafter to process the scene. Marion shows the officers the recorded footage saved on his phone. A responding officer remarks, “Thank goodness for those Gunbas, another life saved.”

Commercial robots and drones are becoming increasingly common in modern society. From household chores to healthcare, automated robots are revolutionizing society by competently performing functions previously relegated to humans.<sup>1</sup> Flying drone delivery systems may soon fill the skies to offer same-day delivery.<sup>2</sup> Indeed, the world is entering a new era of extraordinary innovation that promises to substantially improve the human condition.

As with any new technology however, the prospect exists that it will be misused for harmful purposes. Increasingly, commercial drones have been utilized as tools for privacy invasion.<sup>3</sup> “Peeping Toms” need not climb a tree to get a prurient peek into a second-floor window.<sup>4</sup> Intrusive paparazzi have employed so-called “dronerazzi” to snatch photos and footage of celebrities to meet the public demand for gossip and intrigue.<sup>5</sup> More troubling is the potential risk that these robots could be weaponized: unlawfully used by criminals or terrorists to fire small arms or drop explosives onto civilian targets.

The proof of concept has been demonstrated on overseas battlefields.<sup>6</sup> Terrorist groups have employed inexpensive commercial drone technology to

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<sup>1</sup> Natalia Galvis, *4 Industries that Robots Are Revolutionizing*, ROBOTLAB (June 4, 2021) (explaining that certain surgical robots are considered the “standard of care” for minimally invasive prostatectomies. Robots also assist in hysterectomies, lung surgeries, and other types of procedures).

<sup>2</sup> Annie Palmer, *Amazon Wins FAA Approval for Prime Air Drone Delivery Fleet*, CNBC (Aug. 31, 2020), <https://www.cnbc.com/2020/08/31/amazon-prime-now-drone-delivery-fleet-gets-faa-approval.html>.

<sup>3</sup> Patti Dozier, *Drone Peering into Windows under Investigation*, THOMASVILLE TIMES-ENTERPRISE (Aug. 10, 2020), [https://www.timesenterprise.com/news/local\\_news/drone-peering-into-windows-under-investigation/article\\_12750873-b36a-50e3-bb62-ad7184c891d7.html](https://www.timesenterprise.com/news/local_news/drone-peering-into-windows-under-investigation/article_12750873-b36a-50e3-bb62-ad7184c891d7.html). See also *Peeping Tom Uses Drone to Look into Woodbridge Woman’s Bedroom Window*, INSIDE NOVA (Mar. 18, 2021), [https://www.insidenova.com/headlines/peeping-tom-uses-drone-to-look-in-woodbridge-womans-bedroom-window/article\\_2ca064b4-8813-11eb-980d-5b0cf04f6b37.html](https://www.insidenova.com/headlines/peeping-tom-uses-drone-to-look-in-woodbridge-womans-bedroom-window/article_2ca064b4-8813-11eb-980d-5b0cf04f6b37.html) [hereinafter INSIDE NOVA].

<sup>4</sup> INSIDE NOVA, *supra* note 3.

<sup>5</sup> Jon Pfeiffer, *Paparazzi by Drone: Is this Legal?*, ABOVE THE LAW (Apr. 27, 2016), <https://abovethelaw.com/2016/04/paparazzi-by-drone-is-this-legal/>.

<sup>6</sup> Joby Warrick, *Use of Weaponized Drones by ISIS Spurs Terrorism Fears*, WASH. POST (Feb. 21, 2017), [https://www.washingtonpost.com/world/national-security/use-of-weaponized-drones-by-isis-spurs-terrorism-fears/2017/02/21/9d83d51e-f382-11e6-8d72-263470bf0401\\_story.html](https://www.washingtonpost.com/world/national-security/use-of-weaponized-drones-by-isis-spurs-terrorism-fears/2017/02/21/9d83d51e-f382-11e6-8d72-263470bf0401_story.html).

drop explosives on service members, allies, and civilian targets.<sup>7</sup> Unfortunately, it may only be a matter of time before a nefarious actor attempts such an attack in the homeland. Moreover, it is not difficult to envision an assassin attempting an attack on a prominent political figure via a remote-controlled drone.

Predictably, both Congress and the state legislatures have enacted laws regulating the various uses for commercial flying drones.<sup>8</sup> In 2018, Congress passed the Federal Aviation Reauthorization Act, proscribing the unauthorized operation of “an unmanned aircraft or unmanned aircraft system that is equipped or armed with a dangerous weapon.”<sup>9</sup> An offender may receive a civil fine up to \$25,000 per infraction.<sup>10</sup> However, no such comparable legislation yet exists for terrestrial drones or remote-controlled robots designed for home defense.

This article addresses the question of whether certain remotely operated robotic weapons would be protected under the Second Amendment.<sup>11</sup> Part I will analyze the landmark Supreme Court decision, *District of Columbia v. Heller*, and its progeny.<sup>12</sup> Specifically, it will highlight *Heller’s* framework for determining the constitutionality of gun control legislation and the derivative tests that have been adopted by the majority of federal and state jurisdictions.<sup>13</sup> Part II will outline the general legal and policy arguments for and against the use of remotely controlled weapons. Finally, Part III will apply the majority judicial test to three foreseeable remote-controlled weapons systems to forecast whether the Second Amendment would protect those systems from legislative bans. First, it will analyze an armed flying drone designed to patrol the outdoor perimeter of one’s property from the sky. Second, it will consider an armed version of the “Digidog,” a controversial robot that had been recently employed for reconnaissance purposes by the New York City Police Department.<sup>14</sup> The

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<sup>7</sup> *Id.*; see also David Verdun, *DOD Developing Small, Unmanned Aerial Systems for Warfighters*, U.S. DEP’T OF DEFENSE (Aug. 20, 2020), <https://www.defense.gov/Explore/News/Article/Article/2318919/dod-developing-small-unmanned-aerial-system-for-warfighters/> (detailing DOD’s developmental small, unmanned aerial system/drone program).

<sup>8</sup> See generally *Drone Laws in the United States of America*, UAV COACH, <https://uavcoach.com/drone-laws-in-united-states-of-america/> (last visited Nov. 18, 2021) (providing summaries and links to laws and regulations for each state. Common requirements include restrictions on where they can be flown and different licensure requirements for hobbyist and commercial users).

<sup>9</sup> FAA Reauthorization Act, Pub. L. No. 115-254, § 363, 132 Stat. 3308 (2018) (codified as 49 U.S.C. § 44802 note (2018)).

<sup>10</sup> *Id.*

<sup>11</sup> U.S. CONST. amend. II (“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.”).

<sup>12</sup> See generally *District of Columbia v. Heller*, 554 U.S. 570 (2008).

<sup>13</sup> See generally *id.* (discussing the important limitations on gun ownership adopted by courts and legislatures).

<sup>14</sup> Emma Bowman, ‘Creepy’ Robot Dog Loses Job with New York Police Department, NPR (Apr. 30, 2021), <https://www.npr.org/2021/04/30/992551579/creepy-robot-dog-loses->

specific question is: could an armed Digidog, equipped with significant safety features and designed to act as a bodyguard or sentry outside of the home, receive Second Amendment protection?<sup>15</sup> Finally, it will examine the hypothetical “Gunba.” As depicted in the guiding hypothetical, the Gunba is designed to work exclusively inside of one’s home and includes a myriad of safety features to ensure that it will not operate outside of in-home defense. This work concludes that the armed flying drone and Digidog would most likely *not* be protected by the Second Amendment. However, an armed remotely controlled robot like the Gunba, specifically designed for in-home self-defense, would be safeguarded.

## I. SELF DEFENSE AND SECOND AMENDMENT JURISPRUDENCE

Prior to analyzing specific remotely controlled weapons, this section reviews the legal parameters for the lawful use of deadly force in self-defense and the legal test(s) that courts use when determining whether legislative weapon bans violate the Second Amendment.<sup>16</sup> Together, this analysis provides the foundation used to determine whether: (1) certain remotely controlled weapons would be shielded by the Second Amendment; and (2) the lawful parameters of their use.

### A. The Inherent Right of Self-Defense

The inherent right of self-defense has been a touchstone of U.S. law since its founding.<sup>17</sup> Historian Joyce Lee Malcom writes, “[t]he Second Amendment was meant to accomplish two distinct goals, each perceived as crucial to the maintenance of liberty. First it was meant to guarantee the individual’s right to have arms for self-defense and self-preservation. . . . The second and related objective concerned the militia,” as the clause concerning the militia was not intended to limit ownership of arms to militia members.<sup>18</sup>

In keeping with this principle, courts have historically respected the right of

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job-with-new-york-police-department.

<sup>15</sup> This work will purposefully scope the subject to remote-controlled weapons, not fully autonomous weapons. I assess the legality of remote-controlled weapons will be the first to be encountered and the analysis will provide a baseline for future analysis into how the Second Amendment would treat autonomous weapons legislation. *Id.*

<sup>16</sup> See U.S. CONST. amend II.

<sup>17</sup> See *id.*; see also Ronald S. Resnick, *Private Arms as the Palladium of Liberty: The Meaning of the Second Amendment*, 77 U. DET. MERCY L. REV. 1, 14 n.27 (1999) (citing several Founding Fathers views that the Second Amendment is premised on self-defense).

<sup>18</sup> JOYCE LEE MALCOLM, *TO KEEP AND BEAR ARMS: THE ORIGINS OF AN ANGLO-AMERICAN RIGHT* 162–63 (1994).

individuals to defend themselves with deadly force if they are confronted with the threat of lethal force.<sup>19</sup> Further, the common law did not limit the right or impose an obligation to flee rather than exercise self-defense.<sup>20</sup> In the 1896 case of *Beard v. United States*, the Supreme Court stated:

[I]f the accused . . . had at the time reasonable grounds to believe, and in good faith believed, that the deceased intended to take his life, or do him great bodily harm, he was not obliged to retreat, nor consider whether he could safely retreat, but was entitled to stand his ground, and meet any attack made upon him with a deadly weapon, in such a way and with such force as, under all the circumstances, he, at the moment, honestly believed, and had reasonable grounds to believe, were necessary to save his own life, or to protect himself from great bodily injury.<sup>21</sup>

While courts have consistently held that the use of deadly force in self-defense is justified when a reasonable belief of great bodily injury exists, the right to use such force significantly diminishes when mere property interests are at stake.

#### B. The Spring Gun Case

Upon reading the guiding hypothetical, law students and attorneys may immediately recall their Torts class during their first year of law school. *Katko v. Briney*, also known as “the spring gun case,” remains one of the most fascinating and memorable reads in legal education.<sup>22</sup> Germane to this work, the case also informs the rules and parameters of civil liability when defending one’s property with deadly force.<sup>23</sup> In that regard, it is worth revisiting.

In *Katko*, one of the defendants inherited an unoccupied farmhouse.<sup>24</sup> For ten

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<sup>19</sup> See *State v. Misch*, No. 19-266, 2021 WL 650366, at \*3 (Vt. Feb. 19, 2021) (generally discussing and rejecting the argument that the Second Amendment does not contain an individual right of self-defense). *But see* *District of Columbia v. Heller*, 554 U.S. 570, 646–47 (2008), (Stevens, J., dissenting) (arguing that the origin of the term “bear arms” in the Second Amendment most likely was in relation to the military defense of the collective).

<sup>20</sup> *Heller*, 554 U.S. at 632–35.

<sup>21</sup> *Beard v. United States*, 158 U.S. 550, 551–52, 564 (1895) (noting that Mr. Beard’s land was trespassed by three armed men who sought to steal a cow and take his life. To protect himself, Beard struck one man in the head with a rifle, causing death); *see also* *Brown v. United States*, 256 U.S. 335, 343 (1921) (affirming the common law recognition of the inherent right of self-defense when reasonably necessary to protect one’s life); *United States v. Peterson*, 483 F.2d 1222, 1236 (D.C. Cir. 1973) (finding that there is no duty to retreat from an assault producing imminent danger); *Silas v. Bowen*, 277 F. Supp. 314, 318 (D.S.C. 1967) (stating that the use of a deadly weapon in self-defense is justified if a reasonable person would anticipate serious bodily harm).

<sup>22</sup> See generally *Katko v. Briney*, 183 N.W.2d 657 (Iowa 1971).

<sup>23</sup> *Id.* at 659–61.

<sup>24</sup> *Id.* at 658.

years, trespassers periodically accessed the building.<sup>25</sup> Although the Brineys boarded up the windows and posted no trespassing signs, the trespassers persisted.<sup>26</sup> Eventually, the defendants set a spring gun: a 20-gauge shotgun rigged with a wire from the doorknob in one of the rooms to the gun's trigger.<sup>27</sup> No signs or other warnings about the gun were posted.<sup>28</sup>

The plaintiff, a scavenger looking for old bottles and jars, had previously trespassed into the farmhouse prior to the spring gun's installation.<sup>29</sup> When the plaintiff opened the door in this instance, the shotgun was triggered and severely injured his leg.<sup>30</sup> To add insult to injury, the plaintiff was also criminally punished by a fine of \$50 and a 60-day jail sentence for the underlying trespass.<sup>31</sup> However, despite the fact that the plaintiff entered the premises with a criminal purpose, he prevailed in his civil action against Briney.<sup>32</sup>

The Iowa Supreme Court rejected the defense that spring guns were permissible means of defending property on the grounds that human life and limb supersede property interests.<sup>33</sup> The court explained: "[T]he law has always placed a higher value upon human safety than upon mere rights in property, it is the accepted rule that there is no privilege to use any force calculated to cause death or serious bodily injury to repel the threat to land or chattels, unless there is also such a threat to the defendant's personal safety as to justify self-defense."<sup>34</sup> In so finding, the Court also affirmed rationale offered in the Restatement (Second) of Torts § 85, "Use of Mechanical Device Threatening Death or Serious Bodily Injury."<sup>35</sup>

The *Katko* decision supports the notion that people are privileged to use deadly traps (i.e. "mechanical devices") to protect themselves and others against

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<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> *Id.* at 659.

<sup>32</sup> *Id.* at 658.

<sup>33</sup> *Id.* at 667.

<sup>34</sup> *Id.* at 660 (quoting WILLIAM PROSSER, PROSSER ON TORTS 116–18 (3d ed. 1964)); see also Randy Maniloff, *Meet the Lawyer*, 93, *Who Tried the Torts Spring-Gun Case*, LAW.COM (Jan. 30, 2017), <https://www.law.com/sites/almstaff/2017/01/30/meet-the-lawyer-93-who-tried-the-torts-spring-gun-case/>.

<sup>35</sup> RESTATEMENT (SECOND) OF TORTS § 85 (AM. L. INST. 1965) ("The actor is so far privileged to use a device intended or likely to cause serious bodily harm or death for the purpose of protecting his land or chattels from intrusion that he is not liable for the serious bodily harm or death thereby caused to an intruder whose intrusion is, in fact, such that the actor, were he present, would be privileged to prevent or terminate it by the intentional infliction of such harm.").

deadly force if their use is otherwise reasonable under the rules for self-defense.<sup>36</sup> If the deadly force is used to protect against “mere trespass,” the proponent of that force will most likely be held liable for damages.<sup>37</sup> Thus, if the facts of *Katko* were slightly modified, and the Brineys were present in the barn at time Mr. Katko trespassed, the court may have found that the use of the spring gun was lawful *if* the Brineys could demonstrate that they possessed a reasonable belief that Mr. Katko would pose an imminent risk of great bodily injury.

Clearly, target identification is a major distinction between foreseeable modern remote-controlled weapons and the spring gun employed in *Katko*. The capacity of live feed cameras to project images and video to a user’s phone permits a more informed decision about whether the person is a “mere trespasser” or someone that poses a threat to the extent that lethal force may be used in self-defense. However, the *Katko* scenario does raise an inference of liability if a mechanical weapon system were to be employed merely to protect property, and not injury to life or limb.

Now that the general self-defense parameters for use of deadly force have been reviewed, we next shift to how Courts analyze the constitutionality of gun control legislation.

### C. The Heller Framework

In 2008, Justice Antonin Scalia authored the 5-4 majority opinion in the landmark case *District of Columbia v. Heller*.<sup>38</sup> The consummate originalist highlighted that the case provided an opportunity to conduct an “in-depth examination of the Second Amendment.”<sup>39</sup> The opinion sought to answer two crucial questions. First, does the Second Amendment recognize an *individual* right or one that is tied to militias for collective protection? Second, how should courts analyze gun control legislation?

In *Heller*, the Supreme Court considered a D.C. law that categorically banned possession of handguns in the home and required that all other firearms in homes (e.g., registered long guns) be disassembled and unloaded or bound by a trigger lock.<sup>40</sup> A suit was filed after a District of Columbia police officer was denied a

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<sup>36</sup> DAN B. DOBBS ET AL., *DOBBS’ LAW OF TORTS* § 87 (2d ed. 2021).

<sup>37</sup> *Id.*; *Katko*, 183 N.W.2d at 662.

<sup>38</sup> *District of Columbia v. Heller*, 554 U.S. 570, 572, 636 (2008).

<sup>39</sup> *Id.* at 635. *See* *United States v. Sprague*, 282 U.S. 716, 731 (1931) (“In interpreting this text, we are guided by the principle that “[t]he Constitution was written to be understood by the voters; its words and phrases were used in their normal and ordinary as distinguished from technical meaning.”).

<sup>40</sup> *Heller*, 554 U.S. at 574–75.

permit to possess a semiautomatic handgun in his home.<sup>41</sup> As Scalia notes, the litigants presented starkly different interpretations of the Second Amendment.<sup>42</sup>

The District of Columbia and Justice Stevens argued that the Second Amendment “protects only the right to possess and carry a firearm in connection with militia service.”<sup>43</sup> In contrast, Mr. Heller argued that the Second Amendment “protects 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.”<sup>44</sup> After conducting a thorough review of the Second Amendment’s plain meaning at the time its drafting, Justice Scalia and the majority rejected Justice Stevens’ position and found that Second Amendment bestows an individual right to keep and bear arms.<sup>45</sup> Recognizing that “the right secured by the Second Amendment is not unlimited,” Scalia emphasized that “the right was not a right to keep and carry any weapon whatsoever in any manner whatsoever and for whatever purpose.”<sup>46</sup>

Upon finding an *individual* right to bear arms, the Court struck down the D.C. statute, reasoning that the handgun ban “amounts to a prohibition of an entire class of ‘arms’ that is overwhelmingly chosen by American society” for self-defense, and that the requirement that firearms be kept inoperable in the home made it “impossible for citizens to use them for the core lawful purpose of self-defense.”<sup>47</sup> While acknowledging that the Second Amendment can certainly be regulated, the Court declined to specify the standard that applied to Second Amendment protections.<sup>48</sup> Instead, the Court stated that “[u]nder any of the [heightened] standards of scrutiny that we have applied to enumerated constitutional rights, banning from the home ‘the most preferred [commonly used] firearm in the nation to “keep” and use for protection of one’s home and family,’ would fail constitutional muster.”<sup>49</sup>

In the conclusion, Scalia acknowledged the country’s gun violence problem and offered that the Constitution leaves the District of Columbia with many tools and regulations by which to address the problem.<sup>50</sup> However, “the enshrinement of constitutional rights necessarily takes certain policy choices off the table.”<sup>51</sup>

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<sup>41</sup> *Id.* at 575–76.

<sup>42</sup> *Id.* at 577.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> *Id.* at 578–95 (reviewing different interpretations of the Second Amendment).

<sup>46</sup> *Id.* at 626.

<sup>47</sup> *Id.* at 628–30.

<sup>48</sup> *Id.* at 626–27.

<sup>49</sup> *Id.* at 628–29 (quoting *Parker v. District of Columbia*, 478 F.3d 370, 400 (D.C. Cir. 2007)).

<sup>50</sup> *Id.* at 636.

<sup>51</sup> *Id.*

Though the *Heller* decision left room for legislative and judicial interpretation on specific standards to apply to gun control legislation, the Court established two guiding principles for analysis. These rules will also serve useful when considering remotely controlled weapons.

**Rule 1.** Like other constitutional rights, the Second Amendment “is not unlimited.”<sup>52</sup> It protects arms “in common use” —those that are typically possessed by law-abiding citizens for lawful purposes, like self-defense.<sup>53</sup> Conversely, the Second Amendment does not protect arms which are “dangerous and unusual,” like certain military service weapons.<sup>54</sup> Additionally, certain longstanding gun control measures such as registration requirements, restrictions on the mentally ill or felons from owning firearms, are “presumptively lawful.”<sup>55</sup>

**Rule 2.** The “core” Second Amendment right concerns the ability to exercise self-defense in one’s home.<sup>56</sup> The majority observed that “whatever else [the Second Amendment] leaves to future evaluation, it surely elevates above all other interests the right of law-abiding, responsible citizens to use arms in defense of hearth and home.”<sup>57</sup> Thus, gun control legislation that infringes upon a citizen’s ability to use a common-use weapon for self-defense in the home will likely face maximum scrutiny.<sup>58</sup>

#### D. The Federal and State Tests for Gun Control Legislation

##### 1. *The Federal Approach and Application:*

Following *Heller*, federal and state jurisdictions have adopted differing approaches to gun control legislation.<sup>59</sup> Federal courts have largely embraced a two-pronged analysis, referred to as the “*Marzzarella* two-step” analysis, named after a Third Circuit case decided two years after *Heller*.<sup>60</sup> The Third, Fourth, Fifth, Sixth, Seventh, Ninth, Tenth, Eleventh, and D.C. Circuits have adopted

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<sup>52</sup> *Id.* at 626.

<sup>53</sup> *Id.* at 625 (quoting *United States v. Miller*, 307 U.S. 174, 179 (1939)).

<sup>54</sup> *Id.* at 627.

<sup>55</sup> *Id.* at 627 n.26.

<sup>56</sup> *Id.* at 630.

<sup>57</sup> *Id.* at 635.

<sup>58</sup> See *McDonald v. City of Chi.*, 561 U.S. 742, 767–68, 791 (2010) (invalidating a similar ban on handguns in the home and reiterating the *Heller* principles and holding that the Fourteenth Amendment makes the Second Amendment’s right to keep and bear arms for the purpose of self-defense applicable to the states).

<sup>59</sup> See *id.* at 752–53, 791; *United States v. Marzzarella*, 614 F.3d 85, 87, 89 (3d Cir. 2010).

<sup>60</sup> *Marzzarella*, 614 F.3d at 89.

this standard.<sup>61</sup>

The *Marzzarella* two-step first asks whether the statute/activity at issue burdens a Second Amendment right.<sup>62</sup> If the court determines that a burden exists, it moves to the second prong and applies “heightened scrutiny” to the law that varies in intensity based on the severity of the burden.<sup>63</sup> It is not universally understood whether the “heightened scrutiny” is akin to intermediate or strict scrutiny used in other constitutional contexts.<sup>64</sup> For instance, the Seventh Circuit has avoided the traditional standard of review monikers, and instead requires that the government establish a “strong public interest justification” for the law to be upheld.<sup>65</sup>

The 2015 case of *New York State Rifle & Pistol Association. v. Cuomo* provides a useful illustration of the test’s application.<sup>66</sup> In that case, the Second Circuit considered whether New York and Connecticut’s ban on so-called “assault rifles” and “high-capacity” magazines were lawful.<sup>67</sup> In determining whether the statutes placed a burden upon the Second Amendment, the court first asked if the items were (1) in “common use” and (2) “typically possessed by law-abiding citizens for lawful purposes.”<sup>68</sup>

To answer the “in common use” question, both parties offered statistics to make their respective claims. The plaintiffs offered evidence that millions of “assault rifles” and “large-capacity magazines” have been sold in the United

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<sup>61</sup> See *GeorgiaCarry.Org, Inc. v. U.S. Army Corps of Eng’rs*, 788 F.3d 1318, 1322 (11th Cir. 2015); *United States v. Chovan*, 735 F.3d 1127, 1136 (9th Cir. 2013); *NRA v. Bureau of Alcohol, Tobacco, Firearms & Explosives*, 700 F.3d 185, 194 (5th Cir. 2012); *United States v. Greeno*, 679 F.3d 510, 518 (6th Cir. 2012); *Heller v. District of Columbia (Heller II)*, 670 F.3d 1244, 1252 (D.C. Cir. 2011); *Ezell v. City of Chi.*, 651 F.3d 684, 703–04 (7th Cir. 2011); *United States v. Chester*, 628 F.3d 673, 680 (4th Cir. 2010); *United States v. Reese*, 627 F.3d 792, 800–01 (10th Cir. 2010).

<sup>62</sup> *Marzzarella*, 614 F.3d at 89. See *N.Y. State Rifle & Pistol Ass’n. v. Cuomo*, 804 F.3d 242, 254 (2d Cir. 2015) (explaining that if the statute does not burden the Second Amendment, the analysis ends, and the legislation stands).

<sup>63</sup> *Cuomo*, 804 F.3d at 257, 258–59.

<sup>64</sup> See generally, *Craig v. Boren*, 429 U.S. 190 (1976) (detailing intermediate scrutiny standards for sex-based classification statutes); *Brown v. Bd. of Ed.* 347 U.S. 483 (1954) (detailing strict scrutiny standards for race-based classifications statutes).

<sup>65</sup> *Ezell*, 651 F.3d at 708.

<sup>66</sup> See generally *Cuomo*, 804 F.3d at 254 (demonstrating the application of the public interest test).

<sup>67</sup> *Id.* at 252. The New York legislation, known as the Secure Ammunition and Firearms Enforcement (SAFE) Act, defined a semiautomatic firearm as a prohibited “assault weapon” if it contains any one of an enumerated list of military-style features, including a telescoping stock, a conspicuously protruding pistol grip, a thumbhole stock, a bayonet mount, a flash suppressor, a barrel shroud, and a grenade launcher. “High-capacity” magazines were defined as magazines that can hold more than ten rounds of ammunition. S. Assemb. 2388, 236th Leg., Sess. (N.Y. 2013).

<sup>68</sup> *Cuomo*, 804 F.3d at 254–55.

States since 1986.<sup>69</sup> Further, they produced evidence that most of the weapons and magazines were purchased by civilians as opposed to law enforcement personnel.<sup>70</sup> The defendants countered with statistics showing that assault weapons constitute a small percentage of overall guns in circulation in the U.S.<sup>71</sup> However, the court found that the items were in “common use.”<sup>72</sup>

The court then considered whether the weapons were “typically possessed by law-abiding citizens for lawful purposes.”<sup>73</sup> Again, the plaintiffs offered statistical evidence demonstrating that the vast percentage of gun-related crimes do not involve an assault rifle.<sup>74</sup> The defendants countered with evidence that most mass shootings in the United States were perpetrated using assault weapons.<sup>75</sup> The court opined that looking at crime statistics alone was insufficient, and it must also consider whether the weapons and magazines were “dangerous and unusual” in the hands of ordinary citizens.<sup>76</sup> Ultimately, the court concluded that it could not clearly answer whether the items were typically used by law-abiding citizens for lawful purposes.<sup>77</sup> Consequently, it proceeded to the balancing test prong of the analysis based on the assumption that the law burdened a Second Amendment right.<sup>78</sup>

In determining the level of scrutiny to apply to the laws, the court considered two factors: (1) “how close the law comes to the core of the Second Amendment right” and (2) “the severity of the law’s burden on the right.”<sup>79</sup> It reasoned that laws that neither implicate the core protections of the Second Amendment, nor significantly burden their exercise will receive heightened scrutiny.<sup>80</sup> However, the court determined that the ban on assault rifles and high-capacity magazines would extend into the home, “where the need for defense of self, family and property, is most acute.”<sup>81</sup> Yet, the court determined that assault rifles were not nearly as commonly used or popular for in-home self-defense as the handguns at issue in *Heller*.<sup>82</sup>

The court further distinguished the assault rifle and magazine proscription from *Heller* by noting that the law was not as sweeping as *Heller*’s ban on an

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<sup>69</sup> *Id.* at 255, 260.

<sup>70</sup> *Id.* at 255.

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> *Id.* at 256 (citing *District of Columbia v. Heller*, 554 U.S. 570, 625 (2008)).

<sup>74</sup> *Id.* at 256.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> *Id.* at 257; *United States v. Marzzarella*, 614 F.3d 85, 89 (3d Cir. 2010).

<sup>79</sup> *Cuomo*, 804 F.3d at 258.

<sup>80</sup> *Id.*

<sup>81</sup> *Id.* (quoting *District of Columbia v. Heller*, 554 U.S. 570, 628 (2008)).

<sup>82</sup> *Id.* (citing *District of Columbia v. Heller*, 554 U.S. 570, 628 (2008)).

“entire class” of semiautomatic handguns.<sup>83</sup> Rather, the New York law related more to style or features of a certain subset of semiautomatic firearms.<sup>84</sup> Thus, residents had viable alternatives to retain their ability to protect themselves in their homes with other semiautomatic weapons or with magazines with a capacity of ten rounds or less.<sup>85</sup> As a result, the court concluded that the burden placed on the Second Amendment was not sufficiently severe to warrant strict scrutiny, and thus applied intermediate scrutiny.<sup>86</sup>

The final step in the court’s process was to apply intermediate scrutiny to the legislation. The District Court determined the statutes were “substantially related to the achievement of an important governmental interest.”<sup>87</sup> The court noted that, unlike strict scrutiny, statutes can survive intermediate scrutiny even if they are not narrowly tailored or crafted using the “least restrictive means.”<sup>88</sup> All that is necessary is that the statutes be substantially related to the important governmental interest. Consequently, the court found that the government’s interest in preventing mass casualty events like the Sandy Hook Elementary School shooting and the protection of law enforcement officers were sufficient to overcome intermediate scrutiny.<sup>89</sup>

## 2. *The State Approach*

In contrast to the two-pronged analysis used by the Federal Circuits, most state courts apply a much less stringent “reasonable regulation” test, which offers greater deference to legislatures and state police powers.<sup>90</sup> Over half of the forty-three states with “right-to-bear-arms” provisions protecting an individual’s right have explicitly adopted a reasonable regulation test, with several others implicitly adopting such a standard.<sup>91</sup> Under the reasonable regulation test, courts “analyze[ ] whether the statute at issue is a ‘reasonable’ limitation upon the right to bear arms.”<sup>92</sup> In application, if the government can demonstrate that a weapon poses a risk to law enforcement or the public, and

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<sup>83</sup> *Id.* at 260 (quoting *District of Columbia v. Heller*, 554 U.S. 570, 628 (2008)).

<sup>84</sup> *Id.* at 260.

<sup>85</sup> *Id.*

<sup>86</sup> *Id.* at 260–61.

<sup>87</sup> *Id.* at 261.

<sup>88</sup> *Id.*

<sup>89</sup> *Id.* at 263.

<sup>90</sup> *Id.* at 261–62.

<sup>91</sup> Bruce D. Black & Kara L. Kapp, *State Constitutional Law as a Basis for Federal Constitutional Interpretation: The Lessons of the Second Amendment*, 46 N.M. L. REV. 240, 250–52, n.57–58 (2016) (explaining each state’s regulations).

<sup>92</sup> *Bleiler v. Chief, Dover Police Dep’t*, 927 A.2d 1216, 1223 (N.H. 2007).

that its actions are reasonable, the state legislation will most likely be upheld.<sup>93</sup>

#### E. The Kavanaugh Dissent in *Heller II*.

Before returning to the discussion of remote controlled weapons, it is important to note Justice Kavanaugh's dissent in *Heller II*.<sup>94</sup> Similar to the Second Circuit's approach to the New York assault rifle ban analyzed above, the D.C. Circuit majority used the same two-step analysis to uphold a similar "assault rifle" ban.<sup>95</sup> In his dissent, Judge Kavanaugh argued that the two-step balancing test, as employed in *Marzzarella*, is based on a complete misreading of *Heller*, which he contends plainly prohibited the use of balancing tests when the core right of self-defense in one's home was burdened.<sup>96</sup> Rather than a balancing test weighing the government's interest in such scenarios, Judge Kavanaugh argued that *Heller*'s "common use" test permitted legislative bans only on classes of weapons, "that have been banned in our 'historical tradition'—namely guns that are 'dangerous and unusual' and thus are not 'the sorts of lawful weapons that' citizens typically possess at home."<sup>97</sup>

With regard to emerging technology, Judge Kavanaugh conceded that applying a historical tradition approach may be difficult, since the new weapons will not be of "common use."<sup>98</sup> He also acknowledged the inherent circularity within the approach; that is, if the government swiftly outlaws emerging weapons technology, the citizenry will be robbed of the opportunity to develop "common usage."<sup>99</sup> However, he reasoned that the challenge in analyzing modern technological advances "is hardly unique to the Second Amendment . . . [and] an essential component to rigorous judicial decision-making [sic] . . ."<sup>100</sup>

Since Kavanaugh's dissent in *Heller II*, the "historical tradition" approach has garnered judicial support in at least one instance. In *Gowder v. City of Chicago*, the Northern District of Illinois considered a law prohibiting certain convicted misdemeanants from possessing firearms.<sup>101</sup> Rather than employing the *Marzzarella* two-step balancing test, the judge looked to the historical record

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<sup>93</sup> *Id.*; see also *State v. Misch*, 256 A.3d 519, 546 (Vt. 2021) (applying the reasonable regulation standard to a Vermont law banning "high capacity" magazines).

<sup>94</sup> See *Heller v. District of Columbia (Heller II)*, 670 F.3d 1244, 1269–96 (D.C. Cir. 2011) (Kavanaugh, J., dissenting).

<sup>95</sup> *Id.* at 1252.

<sup>96</sup> *Id.* at 1271 (Kavanaugh, J., dissenting). See *United States v. Marzzarella*, 614 F.3d 85, 89 (3d Cir. 2010).

<sup>97</sup> *Heller II*, 670 F.3d at 1271 (Kavanaugh, J., dissenting) (quoting *District of Columbia v. Heller*, 554 U.S. 570, 630 (2008)).

<sup>98</sup> *Id.* at 1275 (Kavanaugh, J., dissenting).

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> *Gowder v. City of Chi.*, 923 F. Supp. 2d 1110, 1114 (N.D. Ill. 2012).

and found that while felons were traditionally disqualified from gun ownership, misdemeanants were not.<sup>102</sup> Thus, he found that the law was unconstitutional.<sup>103</sup>

While the *Marzzarella* two-step remains the predominant judicial test for federal courts to analyze gun control legislation, Justice Kavanaugh's elevation to the Supreme Court since his dissent in *Heller II* may be intriguing if/when the High Court hears its next Second Amendment case, especially if that case concerns legislation that directly burdens the core right of self-defense in one's home.

## II. THE CASE FOR & AGAINST REMOTELY CONTROLLED WEAPONS FOR SELF-DEFENSE

### A. Arguments in Favor of Remotely Controlled Weapons

Though the idea of armed robots ubiquitously rolling, walking, or flying around may conjure images of dystopian 1980s movies, there are valid reasons why the technology should not be reflexively dismissed. This section highlights the benefits of legalizing remotely controlled weapons.

In 2013, Dan Terzian published an article entitled, *The Right to Bear (Robotic) Arms*.<sup>104</sup> His work primarily centered on the question of whether the Second Amendment's use of the word "bear" imposed a requirement for arms to be "wearable."<sup>105</sup> If there were such a requirement, robotic or remote-controlled weapons would likely be categorically eliminated from the Second Amendment's protection.<sup>106</sup> Terzian contends that imposing such a "wearable" requirement is not only unsupported by history and contrary to the core of the *Heller* decision (self-defense), but is also imprudent.<sup>107</sup>

The article suggests that technological advances will soon make weaponized robots safer than the traditional use of arms.<sup>108</sup> He cites declining numbers of gun owners and a diminishing societal value placed on proper weapons training.<sup>109</sup> According to a study conducted between 1973 and 2018, the

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<sup>102</sup> *Id.* at 1122; *United States v. Marzzarella*, 614 F.3d 85, 89 (3d Cir. 2010).

<sup>103</sup> *Gowder*, 923 F. Supp. 2d at 1123.

<sup>104</sup> *See generally* Dan Terzian, *The Right to Bear (Robotic) Arms*, 117 PENN ST. L. REV. 755 (2013).

<sup>105</sup> *Id.* at 757.

<sup>106</sup> *Id.* Interestingly, Terzian highlights that Justice Scalia remarked on a television interview that arms needed to be wearable by implication of the term "bear." However, he admitted that the sole basis for his opinion was a Black's Law Dictionary definition. *Id.*

<sup>107</sup> *Id.* at 758.

<sup>108</sup> *Id.*

<sup>109</sup> *Id.* at 781–82.

percentage of American households that reported having any guns in the home dropped by 32%.<sup>110</sup> In the 1970s the number of households that reported owning a firearm was between 46% and 50%.<sup>111</sup> Meanwhile, in 2018, that percentage dropped to the low 30s.<sup>112</sup>

Terzian posits that the declining numbers of weapons is indicative of a society that does not value the utility or recreational value of firearms as it once did for hunting and sport shooting.<sup>113</sup> Accompanying the decline in firearm ownership has been a reduced societal emphasis on proper training and safety.<sup>114</sup> In other words, when firearm ownership was more common, there was a greater societal emphasis on safety and proper training. Paradoxically, personal arms reduction has led to an increased safety risk.

Building on Terzian's points, armed robots may provide a viable self-defense option to those who are unfamiliar with firearms or even fearful of them.<sup>115</sup> Referencing the guiding hypothetical at the beginning of this piece, Marion may be unfamiliar with weapon safety or may have physical limitations, like arthritis, that prevents him from handling a firearm in a proficient or safe manner. Remotely controlled weapons could provide a life-saving option for people who are uncomfortable or untrained in handling weapons, but who otherwise want to protect themselves and their families.<sup>116</sup>

Further, even if Marion were in his early thirties and an expert in firearms, he still risks grave personal harm or injury by confronting the armed intruder. A 2019 study of the Dallas Police Department revealed that in more than 130 police shootings, the officers hit their intended target only 35% of the time.<sup>117</sup> Other

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<sup>110</sup> *The Long-Term Decline in Gun Ownership in America: 1973 to 2018*, VIOLENCE POL'Y CTR. (2020), <https://www.vpc.org/studies/ownership.pdf> [hereinafter VIOLENCE POL'Y CTR.].

<sup>111</sup> *Id.* Terzian also explores the concept of Second Amendment "auxiliary rights." He argues that the Second Amendment protects more than just arms, but also elements necessary to ensure that the core right (self-defense) is protected and practicable. Thus, legislation banning bullets, or gun ranges would presumably be barred by the Second Amendment. Similarly, he proposes that right to own an armed robot is analogous to the presumably protected *auxiliary* right to hire an armed bodyguard from protection. Terzian, *supra* note 104, at 790.

<sup>112</sup> VIOLENCE POL'Y CTR., *supra* note 110.

<sup>113</sup> Terzian, *supra* note 104, at 782.

<sup>114</sup> *Id.*

<sup>115</sup> *Id.* at 781. See Bruce N. Eimar & Alan Korwin, *Is Hoplophobia Real?* GUNLAWS.COM (2013), <https://www.gunlaws.com/Hoplophobia-GunFear.htm> (describing hoplophobia, a morbid fear of firearms).

<sup>116</sup> Terzian, *supra* note 104, at 789.

<sup>117</sup> Scottie Andrew, *Why Police Shoot So Many Times to Bring Down a Suspect*, CNN (Aug. 26, 2020), <https://www.cnn.com/2020/08/26/us/why-police-shoot-so-many-rounds-trnd/index.html>; see Christopher M. Donner & Nicole Popovich, *Hitting (or Missing) the Mark: An Examination of Police Shooting Accuracy in Officer-Involved Shooting Incidents*, 42 POLICING: AN INT'L J., No. 3, 474–89.

studies have shown various department “miss rates” to be even lower.<sup>118</sup> If trained police officers miss at such an alarming frequency, one can only presume what the accuracy rates of people not trained in firearm use may be.

The factors contributing to the inaccuracy of trained police officers pertain to physiological effects that come from being involved in life-or-death scenario.<sup>119</sup> As a result of involuntary physiological responses, people often experience a loss of fine motor skills, auditory exclusion, time-space distortion, loss of peripheral vision, memory gaps, and intrusive thoughts.<sup>120</sup> Accordingly, a loss of fine motor skills degrades one’s ability to draw, reload, and manipulate a weapon.<sup>121</sup> These effects are magnified in poorly-trained firearm handlers.<sup>122</sup> Simply put, even when homeowners are trained and relatively comfortable with their weapons, they incur significant risk when confronting an armed intruder. The prospect of mitigating that risk using technologically advanced robots is tremendous.

#### B. Arguments Against Robotic Arms and Responses

As with any weapon, remotely controlled arms could be used for criminal purposes. While such weapons could provide homeowners the ability to defend themselves without being forced to confront an intruder, the same weapons could also be used against police officers executing lawful warrants or innocent members of the population. When ruling on the legality of weapon bans, courts have considered the enhanced risk that specific types of firearms pose to the public and law enforcement officers.<sup>123</sup> Thus, the legality of remotely controlled weapons may depend on the installation of design features that ensure robotic weapons are only used for lawful purposes.

The initial legal hurdle for remotely controlled weapons lies with the common use test.<sup>124</sup> As noted in *Heller* and *Cuomo*, courts consider statistics to ascertain the volume of sales and whether they were sold to civilian or law enforcement entities to determine if the subject weapon is in “common use” for lawful purposes.<sup>125</sup> If legislatures were to preemptively ban the manufacture and

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<sup>118</sup> Andrew, *supra* note 117. See Donner & Popovich, *supra* note 117, at 474–89.

<sup>119</sup> DAVID G. BOLGIANO, *COMBAT SELF-DEFENSE: SAVING AMERICA’S WARRIORS FROM RISK-AVERSE COMMANDERS AND THEIR LAWYERS* 75 (Little White Books 2007).

<sup>120</sup> *Id.* at 75–76.

<sup>121</sup> *Id.* at 75.

<sup>122</sup> *Id.*

<sup>123</sup> See *District of Columbia v. Heller*, 554 U.S. 570, 623 (2008); *N.Y. State Rifle & Pistol Ass’n. v. Cuomo*, 804 F.3d 242, 262 (2d Cir. 2015).

<sup>124</sup> *Heller*, 554 U.S. at 627.

<sup>125</sup> *Heller v. District of Columbia (Heller II)*, 670 F.3d 1244, 1258–59, 1287 (D.C. Cir. 2011); *Cuomo*, 804 F.3d at 255.

proliferation of remotely controlled weapons before they become commercially available, an appellate court may be compelled to uphold such a ban based on the weapon's failure to obtain common usage.

However, the common use test could be overcome if manufacturers exclusively installed firearms that have already been deemed to be in common usage and comport with all available legal and regulatory requirements (e.g., the semiautomatic handguns at issue in *Heller*).<sup>126</sup> If remotely controlled robots simply contained an internal semiautomatic handgun that fired the same ammunition as conventional handguns, courts may find that the specific remotely controlled weapon is "in common use at the time," notwithstanding the uncommon robotic delivery platform.<sup>127</sup>

If the common use test were to be satisfied, opponents would then argue that robotic weapons are "dangerous or unusual."<sup>128</sup> Challengers would contend that they are uniquely dangerous because they are designed to operate without the owner asserting physical control. This feature makes it easier for bad actors to use remote-controlled weapons to commit crimes without being co-located with the weapon. This issue could inhibit law enforcement efforts to find and arrest violent criminals. Moreover, the physical separation between the owner and weapon may make remotely operated weapons susceptible to theft or tampering by nefarious actors or curious children.

Opponents may also modify this work's guiding hypothetical scenario to portray a tragic outcome. For instance, imagine if Marion, via confusion or discomfort with operating the remote-control application, accidentally employed the weapon against a friend or family member. While undeniably tragic, instances of mistaken identity are an unfortunate occurrence in traditional home defense encounters.<sup>129</sup> A recent study found that between 2015 and 2018, "at least 47 Americans shot friends, loved ones, roommates, or emergency responders that they mistook for home intruders."<sup>130</sup> A little more than half of those cases led to criminal charges against the shooter.<sup>131</sup> While remote controlled weapons' high-definition video feed may not mitigate mistaken-identity shootings, manufacturers could take other measures to prevent these tragedies. For instance, the robots could contain speakers, thereby enabling an operator to remotely confront the suspected intruder before discharging the weapon.,

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<sup>126</sup> See *Heller*, 554 U.S. at 629.

<sup>127</sup> See *id.* at 627 (quoting *United States v. Miller*, 307 U.S. 174, 179 (1939)).

<sup>128</sup> See *id.* at 623.

<sup>129</sup> See, e.g., Albert Samaha & Sean Campbell, *She Thought She'd Shot a Burglar. Then She Realized It Was Her Roommate*, TRACE (Mar. 23, 2018), <https://www.thetrace.org/2018/03/mistaken-identity-shooting-self-defense/>.

<sup>130</sup> *Id.*

<sup>131</sup> *Id.*

Thus, it seems clear that specific technological features on robotic devices may sway courts in determining whether they are in “common use” and are “unusual or dangerous.” We next turn to examining three foreseeable remotely controlled weapons and how they courts are likely to analyze them considering recent Second Amendment jurisprudence.

### III. APPLICATION TO SPECIFIC FORESEEABLE REMOTELY CONTROLLED WEAPONS

Relying on the standards articulated above, this section prospectively examines how federal and state courts would view bans on three conceivable remotely controlled weapon systems: an armed flying drone designed to guard the exterior of a home, an armed “Digidog,” designed to patrol exterior property grounds, and the “Gunba,” designed strictly for in-home use.<sup>132</sup> The following analysis presumes that the weapons have been invented and are in the early stages of marketing. Further, it presumes concerned state legislatures have enacted statutes proscribing their use or possession. In response, the weapon’s manufacturer has petitioned a court of competent jurisdiction to strike down the legislation on Second Amendment grounds.

#### A. Armed Flying Drone

##### 1. *Description*<sup>133</sup>

The armed flying drone is programmed to patrol the exterior perimeter of a user’s property. The drone, programmed to fly within specified grid coordinates, detects trespassers and alerts users by sending an alarm to their cell phone. Once alerted, the user may access the drone’s high-definition live camera feed and speaker system. A common commercial 9mm semiautomatic handgun is built into the interior of the unit. A small hole in the robot’s frame allows the round to be discharged towards an intended target. The interior compartment is made with the same material as a protective gun safe. The weapon can only be accessed for reloading and maintenance using a special key possessed by the user.

Once alerted, the user has multiple options. He may notify the police, communicate with the trespasser using the two-way speaker system, or

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<sup>132</sup> United States v. Marzzarella, 614 F.3d 85, 97–98 (3d Cir. 2010).

<sup>133</sup> The weapon system descriptions offered in this section, while foreseeable, are entirely hypothetical and solely based on the author’s imagination.

discharge the firearm using the robot's advanced targeting technology. Upon pressing the "fire" button, the user is prompted to input a personalized four-digit pass code on their smart phone. Once the user is authenticated, he must press the "fire" button again to discharge one round. The process must be repeated for each subsequent round.

Image 1-1<sup>134</sup>



## 2. Analysis

The *Marzzarella* two-step analysis first asks whether the statute at issue burdens a Second Amendment right.<sup>135</sup> To make its initial determination, the court considers whether the weapon is in "common use" – typically possessed by law-abiding citizens for lawful purposes, like self-defense.<sup>136</sup> It will also ask whether the weapon is "dangerous and unusual."<sup>137</sup> Additionally, certain long standing gun control measures, such as registration requirements and prohibitions on the mentally ill or felons from owning firearms, are "presumptively lawful."<sup>138</sup> If the court determines that a burden exists, it will move to the second prong and apply appropriate heightened scrutiny to match the severity of the burden.

In determining whether the weapon is in "common use" the court must first evaluate whether it considers the entire flying unit as a weapon or just the semiautomatic handgun inside. The manufacturer will argue that the internal

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<sup>134</sup> Photograph of Golden Eagle Drone, in *Golden Eagles by Teal Drones*, FIZUAS, <https://fizuas.com/teal-drones-golden-eagle/> (last visited Oct. 14, 2021).

<sup>135</sup> *Marzzarella*, 614 F.3d at 89.

<sup>136</sup> *District of Columbia v. Heller*, 554 U.S. 570, 624–25 (2008).

<sup>137</sup> *Id.* at 627.

<sup>138</sup> *Id.* at 626–27 n.26.

semiautomatic weapon is the same type that can be lawfully purchased at any retail gun store. The only difference is that it has been modified to synchronize with the user's specific cell phone and aimed using its advanced targeting technology. In contrast, the government will contend that the degree to which the weapon has been modified renders it an entirely new species of firearm. The drone, they will contend, cannot be divorced from the handgun.

The government will also argue that the drone exceeds the *Heller* "unusual and dangerousness" threshold.<sup>139</sup> The government would argue that legalizing weaponized drones will create a society where firearms literally hover over communities and neighborhoods every day. Additionally, since they are designed to operate outdoors, they are more likely to be captured or confiscated in the event they run out of batteries or are otherwise grounded. Thus, there is an increased risk that the weapons could be "found" and carried away. Additionally, the threat of firing rounds outdoors is inherently more dangerous than indoors. In an outdoor context, missed rounds are more likely to ricochet into unintended bystanders or become propelled through the walls of a nearby domicile. The manufacturer would likely counter each assertion, arguing that its advanced targeting system will make "misses" anomalous, and that, since the drone's internal compartment is essentially a gun safe, the weapon component will not be easily accessible to a bad actor.

Finally, the government will cite the Federal Aviation Reauthorization Act, which has prohibited arming aerial drones since 2018.<sup>140</sup> While the prohibition is relatively new, the government will contend that it constitutes a historical regulation and should therefore be afforded "presumptive validity" under *Heller*.<sup>141</sup>

If the court finds the weapon to be in common use, it will then apply a balancing test to determine whether the drone poses a substantial risk to a governmental interest. To determine the degree of heightened scrutiny, the court will look at how close the burden hits the "core" Second Amendment right: self-defense in the home.<sup>142</sup> In this regard, a critical factor is that the armed drone is designed to operate *outside* of the home. Consequently, since the burden on the right is not as strong as it would be *inside* of the home, the court would likely apply intermediate scrutiny. If so, it will uphold the statute if it is substantially related to an important government interest.<sup>143</sup>

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<sup>139</sup> *Id.* at 627.

<sup>140</sup> FAA Reauthorization Act, Pub. L. No. 115-254, § 363, 132 Stat. 3308 (2018) (codified as 49 U.S.C. § 44802 note (2018)).

<sup>141</sup> *Heller*, 554 U.S. at 627.

<sup>142</sup> *See id.* at 630.

<sup>143</sup> *N.Y. State Rifle & Pistol Ass'n. v. Cuomo*, 804 F.3d 242, 253 (2d Cir. 2015).

### 3. Conclusion

The court would likely uphold the blanket ban on the aerial defense drone for multiple reasons. First, it may offer presumptive validity to the statute since it comports with the established Federal Aviation Authority's ban on arming drones.<sup>144</sup> If so, the court need not proceed to the two-pronged analysis.

If the court does not afford presumptive validity, determining whether the weapon is commonly used is a tossup. If the court examines the entire armed drone and determines that it, as a whole, constitutes a new species of weapon, it may conclude that it is not in common use. However, if the court narrowly analyzes only the internal 9mm, it may determine it to be in common use. Even if the court finds that the internal handgun is sufficiently in common use, the weapon will likely fail the "dangerous and unusual" analysis.<sup>145</sup> The government's position that firing rounds outdoors is inherently dangerous will be compelling. It is also likely that the court will find that a robotic weapon designed for remote outdoor use will increase the risk to public safety. For instance, if the device runs out of batteries or is grounded by inclement weather, there is an increased likelihood that a passerby could abscond with the weapon.

Finally, in the unlikely event that the court advances to the balancing test, the ban would survive intermediate scrutiny. Similar to the conclusion in *Cuomo* regarding "assault weapons" and high-capacity magazines, the court would find that citizens have many more viable options for self-defense and that avoiding conditions where armed drones ubiquitously hover over society is in furtherance of an important governmental interest.<sup>146</sup>

## B. The Digidog

### 1. Description

The armed "Digidog" is substantially similar to the aerial drone in its technological features, except that it patrols a designated area on the ground as opposed to the air.<sup>147</sup> Other than patrolling property, the Digidog is capable of walking close to its designated user(s) to perform bodyguard functions.

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<sup>144</sup> See § 363, 132 Stat. 3308.

<sup>145</sup> See *Heller*, 554 U.S. at 627.

<sup>146</sup> *Cuomo*, 804 F.3d at 269. Since the "reasonable regulation" standard employed by states is less severe than the federal test, it would be redundant to analyze the statute's viability under the standard more deferential to the government.

<sup>147</sup> See, E.g., Tony Aiello, *New NYPD 'Digidog' Robot Raising Questions Among New Yorkers*, CBS N.Y. (Apr. 16, 2021), <https://newyork.cbslocal.com/2021/04/16/nypd-robot-dog-digidog/>.

Image 2-2<sup>148</sup>

## 2. Analysis:

An analysis of the Digidog is largely analogous to that of the aerial drone. It is designed for self-defense *outside* of the home and, therefore, it is debatable whether or not the handgun contained internally should be analyzed by itself or as part of the entire robot, rendering it a new species of weapon that cannot be deemed in common use.

However, the Digidog differs from an aerial drone in two meaningful ways. First, there is no current statutory regulation or prohibition on the armed walking robot like the FAA restriction.<sup>149</sup> Consequently, there will be no presumptive validity option for the court to rely upon. Secondly, the Digidog could be effectively analogized to a human armed bodyguard, triggering the assertion that it is protected as a Second Amendment auxiliary right.<sup>150</sup> If the court wrestles with the bodyguard analogy, the government would likely argue that armed bodyguards differ in that they are licensed entities and possess independent agency to analyze threats based on their experience and unique education. In contrast, a Digidog would possess no such independent agency, but would rather be subject solely to its operator's will.<sup>151</sup>

Additionally, the proliferation of armed Digidogs could cultivate a world in which citizens could be under constant threat of being shot by robotic companions without warning.<sup>152</sup> The court would likely weigh and balance the

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<sup>148</sup> Photograph of NYPD Digidog, *in id.*

<sup>149</sup> See § 363, 132 Stat. 3308.

<sup>150</sup> Terzian, *supra* note 104, at 759.

<sup>151</sup> *Armed Security Guard Training Requirements*, SECURITY GUARD TRAINING HQ, <https://www.securityguardtraininghq.com/armed-security-guard-training/> (last visited Oct. 14, 2021) (listing armed security guard requirements in each state).

<sup>152</sup> While admittedly armed humans can discharge firearms without warning, they must

right of self-defense against the omnipresent threat created if such a weapon were permitted to accompany citizens during their daily activities. Further, the court would examine whether the Digidog constitutes an unusual or dangerous weapon.

### 3. Conclusion

Like the aerial drone, the armed digidog ban would likely be upheld. The weapon itself would likely be deemed unusual or dangerous since it would be virtually impossible for members of the public to discern whether a nearby Digidog was benignly accompanying its user or whether it was aimed and primed to engage with lethal force.<sup>153</sup> Consequently, members of society would not know whether to flee, seek cover, or otherwise defend themselves when encountering a Digidog in the street. If the court advanced to the second prong's balancing test, the fact that the weapon is designed for self-defense *outside* the home would trigger intermediate scrutiny of the proscriptive legislation. Provided the reduced judicial scrutiny level, the court would find that legislation banning such a weapon is substantially related to an important governmental interest in preventing the creation of an environment in which citizens could be engaged by a Digidog at any moment.

#### C. "The Gunba" Home Defense Robot

In contrast to the relatively simple analysis that the aerial drone and Digidog present, the Gunba is more complex and may be more likely to receive Second Amendment protection.

#### *Description*

As demonstrated in the guiding hypothetical, the Gunba is designed strictly for in-home defense against intruders. Operationally, the Gunba functions much like the aerial drone. Upon owner activation, it patrols the interior of the domicile. If the Gunba assesses that an intruder has entered the house, it will alert the owner and send a live high-definition video feed to their phone. Like the aerial drone, the owner will have a menu of options available, including notifying the police, using the Gunba's speaker to warn the intruder and demand that they leave the premises, or firing lethal or non-lethal munitions. Users must

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generally remove the firearm from a holster and raise their arms to aim the weapon. This action provides those around the individual with some chance to take life-saving evasive measures.

<sup>153</sup> See *District of Columbia v. Heller*, 554 U.S. 570, 627 (2008).

be schooled on the reasoning behind the *spring gun* case and be aware of instances in which they may be held liable if they fire on an intruder who steps into an empty house.<sup>154</sup>

The Gunba will be designed with numerous safety features intended to prevent human error or criminal misuse. To prevent an accidental discharge, the owner must input a 4-digit personalized pass code. Gunbas will be required to be registered with the state and monitored by “Gunba Incorporated.” The robots will be designed to function only inside a specified and programmed domicile. If the unit is removed from the home, it will self-deactivate and alert the owner, Gunba Inc., and the police. Additionally, the video feeds from the robots will be stored by Gunba Inc., to facilitate law enforcement investigations, if necessary.

In order for the Gunba to function, the owner must consent to Gunba Inc. storing video feeds when a “shoot” order has been issued in support of likely criminal investigation. Prior to use, owners will be required to visit a Gunba outlet and receive a tutorial and training on how to safely operate it. The training will specifically focus on the targeting system to reduce the likelihood of fired rounds missing their targets. Finally, as part of the cost of its service, Gunba Inc. will employ state-of-the-art cybersecurity protections to prevent hacks, malware, or other intrusions.

Fundamentally, the Gunba is intended to provide a defense weapon and service to citizens who would entertain owning a traditional weapon for self/home defense but who may be inexperienced, uncomfortable, or unable to do so. It also offers a novel capability for owners to defend vulnerable family members that may be inside of the home even if the owner is located elsewhere. In other words, a parent who works late nights will have the ability to defend their sleeping children.

Image 3-3<sup>155</sup>

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<sup>154</sup> See generally *Katko v. Briney*, 183 N.W.2d 657 (Iowa 1971).

<sup>155</sup> Photo of iRobot Vacuum, in Dan Seifert, *iRobot Roomba i7+ review: smarter than the average Robot vacuum*, VERGE (Nov. 20, 2018), <https://www.theverge.com/2018/11/20/18104679/irobot-roomba-i7-plus-robot-smart-vacuum-review-price-specs-features>.



### *Analysis*

Like the preceding weapons, the same common use question will present itself to the court. Although, since the Gunba is specifically designed for internal home use, the court may be persuaded to find that the 9mm handgun functions in the same manner as it would be had someone fired it by hand indoors. However, proponents of the legislation will surely invest themselves into arguing that the weapon is novel and not in common use.

The Gunba will likely hurdle the “dangerous and unusual” factors as well.<sup>156</sup> Not only is the risk attendant with discharging a weapon outdoors not applicable, but the manufacturer will doubtlessly produce data demonstrating that its advanced targeting system is more accurate and safer than trained humans when operating firearms under extreme stress. Further, the deactivation features on the Gunba make it so that it can only be operated in a predetermined area. As opposed to a traditional semi-automatic handgun, an owner will not have the option to remove it from the home for a criminal purpose. Consequently, the Gunba should be able to pass the first prong of the *Marzzarella* balancing test.<sup>157</sup>

In contrast to the aerial drone and Digidog, the government would be proscribing a weapon specifically designed for in-home self-defense. Such action may offend the “core” Second Amendment right, even more so than the handgun ban at issue in *Heller*.<sup>158</sup> Consequently, the manufacturer will argue that a balancing test of any kind is prohibited by *Heller*, or at least, the strictest

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<sup>156</sup> See *Heller*, 554 U.S. at 627.

<sup>157</sup> *United States v. Marzzarella*, 614 F.3d 85, 89 (3d Cir. 2010).

<sup>158</sup> *Heller*, 554 U.S. at 628, 630.

judicial scrutiny should be applied to the legislation.<sup>159</sup>

Nevertheless, presuming a court applies a judicial balancing test, the best argument in favor of the ban is that criminals will use the robots, thereby increasing the danger posed to police officers in the execution of lawful raids or warrant-based searches.<sup>160</sup> In fact, the existence and proliferation of remote-controlled weapons could prompt universal reluctance to enter homes to effectuate lawful arrests, which could make the community less safe. However, this concern may be overcome by the required registration with Gunba, Inc. If the government seeks to execute a search warrant, it could coordinate with Gunba, Inc., to disable the registered Gunba during the specific time of the raid, thereby increasing officer safety and preserving the tactical element of surprise that is crucial to law enforcement operations.

### *Conclusion*

If safety features exist and the court follows *Heller* and the *Marzzarella* two-step analysis, the Gunba ban will almost certainly succumb to strict scrutiny review.<sup>161</sup> The Gunba's only foreseeable vulnerabilities lie with the common use test. If the federal or state governments proactively prohibit remote controlled weapons before they are developed, they could successfully argue that these weapons are not in common use and/or have been subject to historic proscription.<sup>162</sup> Thus, time may be of the essence. If the manufacture and proliferation of Gunba-like robots predate a legislative ban, the new technology may increase its odds of receiving Second Amendment protection.

## IV. CONCLUSION

Perhaps predictably, the answer to whether remotely controlled weapons are protected by the Second Amendment prompts the classic lawyerly response: "it depends." *Heller* and its progeny have carved out a test that grants judges significant flexibility to determine the relative lawfulness of the weapon.<sup>163</sup> However, amidst the legal murkiness, it is relatively clear that the Second Amendment is at its maximum protection when being applied for the purpose of

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<sup>159</sup> See *id.* at 635; but see *Marzzarella*, 614 F.3d at 89.

<sup>160</sup> See *Marzzarella*, 614 F.3d at 89.

<sup>161</sup> See *Heller*, 554 U.S. at 628–29; *Marzzarella*, 614 F.3d at 89.

<sup>162</sup> While proscriptive state legislation may pass the deferential "reasonable regulation" standard applied in state courts, such laws would most certainly be challenged in federal circuit courts. When those challenges would be brought, the federal circuits would apply the more stringent *Marzzarella* two-step analysis. *Marzzarella*, 614 F.3d at 89.

<sup>163</sup> See *Heller*, 554 U.S. at 628–29.

self-defense inside one's home.<sup>164</sup> That stipulation offers an opportunity for a remotely controlled weapon, such as the Gunba, to be constitutionally protected. Though many will be disheartened by the further proliferation of weapons, advances in technology could conceivably make them operationally safer, while enhancing Americans' ability to defend themselves and their families in their hearth and home.

It is clear that a robust discussion about how Second Amendment jurisprudence will intersect with robotic technology is on the horizon.<sup>165</sup> Perhaps, this piece will serve as an opening salvo in a greater dialogue that encourages proactive legal analysis of technologically advanced weapon systems that may test the Second Amendment's scope.

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<sup>164</sup> U.S. CONST. amend. II.

<sup>165</sup> *Id.*

