3d printed guns in the modern world

This paper covers three dimensional (3D) printing, originally created as additive manufacturing, specifically about downloadable weapon blueprints that can be printed on private machines that any individual consumer can buy. The issues of current and future legislature, security threats, and the dangers and non-dangers of the weapons for both the user and the public will be covered.

3D Printing, or then known as Rapid Prototyping (RP), technology was originally created in the 1980’s as a way to create faster and cheaper prototype models for product development within industrial fields. Until the mid 2000’s 3D printing technology stayed focused mainly on industrial use and prototyping. This soon changed as the industry split focuses to high-end complex industrial parts for things such as airplanes or automobiles, and the other side was for smaller use prototyping machines which would be precursors to today’s office and home use machines. Finally in 2012, 3D printing technology was cheap enough for normal individuals to buy and popularity soared as online personalities acquired the technology.

3D printing is a relatively new technology but that doesn’t stop it from being widely used. Its current major applications are industrial use for creating large scale complex parts, and home use for creating many things, some of which can be downloaded off the internet for free. With its recent ease of access 3D printing has been the head of controversies due to 3D printed weapons, especially fully functioning guns, being distributed as blueprints on many websites with no legal parameters to follow. In its current early state of public access there has been little time to examine and research the effects of 3D printing weapons for personal use and due to that there is almost no

current legislature restricting or limiting access to what kind of objects can be shared as blueprints. As a consequence of this Defense Distributed, the company responsible for the first free 3D printed firearm blueprint, enacted the Wiki Weapon

Project and were able to place their first blueprint for the “ Liberator” 3D printed . 308 ACP single-shot pistol on their website available for download with no restriction, which caused concern within the nation.

One of the many issues that has arisen with the release of 3D printed weapons is how they should be controlled. Anyone who owns a 3D printer can download a digital blueprint and create a fully operational 3D printed firearm while avoiding any federal firearms control laws. Since these weapons are yet to be properly regulated and courts have not addressed the legal implications of 3D printed weapons, many people are concerned with the ability to effectively ignore the law using these weapons. As the current United States firearm laws stand, owning, assembling, and creating your own guns is completely legal and the outcome of any case would not change how an individual could use and create 3D printed firearms but rather how they could be distributed such as by blueprint or physical transfer. Although there are a small amount of laws regarding access to 3D printed firearms, Jessica Berkowitz clarifies that there is some attempt to control their distribution without infringement of constitutional rights in her journal paper saying “ very few laws exist that regulate the possession or manufacture of 3D-printed firearms, as long as an individual does not sell, trade, share, or cross state lines with such weapons.” (Berkowitz 54). As for constitutional defense of the distribution of these 3D printed firearms blueprints, lawmakers against

these weapons have had trouble overcoming the barriers of the first, second, and fifth amendments. The first amendment, regarding freedom of speech, argument was that restricting downloads was a direct violation of the First Amendment, as explained by Defense Distributed, in their legal case regarding the motion to remove their blueprints from the internet only days after they were posted, stating " that the export restrictions constituted a prior restraint on and censorship of expression in violation of the First Amendment" (State of Washington v. United States Department of Defense 2). The second amendment, the right to bear arms, is much more simple case to defend since stopping people from legally acquiring weapons is a direct violation of the amendment. As for the fifth amendment, creating then registering a weapon could get an individual arrested since they technically own an unregistered weapon as stated by Berkowitz, " this became a Fifth Amendment self-incrimination issue and made the [law] unenforceable" (70). These amendment violations create much discourse within the community and further legislature will decide how this issue with end. With legislature still sorting itself out, the potential risks of 3D printed weapons still exist.

Another prominent issue with 3D printed guns is their potential to threaten national and personal security. Due to the fact that 3D printed weapons are almost completely made of plastic, many people, including law enforcement, are understandably concerned over threats to national security and public safety. One of the two main concerns of the government regarding 3D printed weapons is their availability, making it easier and faster for criminals or individuals with malicious intent to acquire a weapon using 3D printed weapons. The second is their undetectability, as Gerald Walther explains in

his article about security issues of 3D printed weapons, “When disassembled, it [the Liberator] consists of 16 parts, 15 of which can be printed by a 3D printer. The only non-plastic part thus far is a common hardware store nail, which is used as the firing pin.” (Walther 1436), highlighting the potential for these weapons to be created and hidden to almost all methods of detection making assassination attempts or terrorist attacks easier to perform. Besides the most popular 3D printable weapon available, Defense Distributed also offers a wide array of printable armaments and the tools to create them. One of these items is the fully functional 3D printed AR-15 receiver. An AR-15 can be fully customized except for the lower receiver, responsible for most major firing components of the gun, which is standard on all AR-15’s and has the traceable serial number printed on it but, if you print your own, there is no serial number for tracking. Kyle Rankin expresses the reason this is so worrisome to countries and law enforcement when he states “The concern is that people will buy a 3D printer and create an AR-15 rifle that can’t be traced.” (Rankin). With the threat of undetectable terrorism looming over the world people should be worried, but there may not be much to worry about.

- Despite fears of undetectable and untraceable weapons being created in one’s home these weapons might not be as threatening as you believe. https://3dprintingindustry. com/3d-printing-basics-free-beginners-guide#02-history – used this for the history
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- “ restrictions on the export of technical data that is indispensable to the creation of guns and their components through a 3-D printing process was an essential part of its efforts to ensure that articles useful for warfare or terrorism do not proliferate and threaten United States interests and security”
- https://assets. documentcloud. org/documents/4802128/Washington-v-US-TRO. pdf.
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