

**Evaluating Why Intellectual Property Cannot be *Stolen*, and Why *Violation* is a Better Replacement Term**

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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## **Introduction:**

“Take it from me: I learned firsthand that having a patent doesn’t stop someone from stealing your idea” is how Stephen Key (2020) describes his lawsuit with LEGO in 2003 on a utility patent for a spinning label that could reveal more information (n.p.). There has been an increasing concern of intellectual property theft with around 12,000 intellectual property cases filed each year (Lazic, 2021, “Intellectual Property Facts (Editor’s Choice)”). Despite the vast number of claims of *stolen* IP, there are concerns on whether intellectual property can be *stolen* because is not physical. While multiple people can share ownership of an idea or process simultaneously, only one person can have possession of physical property such as bicycles or computers.

The formulation of drugs can be protected as intellectual property in a variety of ways, one of which is the patent. Patents are licenses given out by the government designed to protect intellectual property by offering exclusive rights to processing and production. The concept of the patent system is complex and subject to moral and ethical debates. While patents are intended to incentivize entities for the risks and steep capital costs ensued by research and development, these exclusive rights to production can result in increased prices that limit accessibility to the consumer. In the pharmaceutical industry, brand name drugs may be up to three to four times more expensive than they would be if competitor generic drugs were available (Sterckx, 2005, p. 89).

This paper provides a general overview of the intellectual property system, and use both analogies and philosophical frameworks to better understand the justifications for and against protecting patents. This research will use Adam Moore and Ken Himma’s (2018) article on intellectual property in the Stanford Encyclopedia of Philosophy as a foundational source because of its descriptive analysis on the common critiques of the patent system. Based on the

philosophical frameworks questioning the patent system, I argue in this paper that *violation* is the best term to replace intellectual property *theft* on the grounds that information should not be considered property and that the protection of intellectual property serves the greater good based on utilitarian ethics.

**Problem Definition: What is the Patent System, What Are the Ethical Assumptions Made About Intellectual Property, and Can It Truly be *Stolen*?**

The first documented evidence of intellectual property suggests it originated in ancient Greece around 500 B.C.E. to grant chefs monopolies for new dishes they constructed (Moore & Himma, 2018, “History of Intellectual Property”). More than 2,500 years later, the justifications (and controversies) behind preserving intellectual property have persisted and evolved to protect all types of technical innovation ranging from toy dolls to 3D printer designs.

*The Basics of Intellectual Property*

There are several protections offered such as the copyright, trademark, and trade secret, but one of the most prominent for protecting the intellectual property of drugs is the patent. Pistilli (2021) describes that the government can provide a patent to protect the processing and production rights of a drug if it clears three criteria: the drug must achieve its designed purpose, it must separate itself from currently available drugs, and it is not an obvious addition to another patent (“Intellectual Property Protection in the Pharmaceutical Industry”). Furthermore, part of the patent application requires the composition of the drug and processing methods to be fully documented and available to the public. Patents have the option to be rented through the form of royalties, or they can be outright purchased from the owner. While patents are only supposed to provide twenty years of protection, secondary patents may be filed if a new distinct function is added to the drug, potentially extending the protection lifetime by another 20 years.

There are a few key distinctions that separate protected intellectual property from a mere idea. Ideas are informal, can be either written or unwritten, and are not granted clear distinct protection from the government. Even though they are not explicitly protected by the government, they can be defended in court if there is an expectation that the idea would be paid for, as was the case for *Buchwald v. Paramount Pictures*. Paramount Pictures produced the movie *Coming to America* based off of Buchwald's idea and failed to compensate him (Moore & Himma, 2018, "Protecting Mere Ideas"). On the other hand, intellectual property is formally and directly protected by the government. It is a lengthy approval process that can take between 22 to 25 months and can cost the owner legal fees ranging from \$5,000 to over \$16,000 (UpCounsel, 2020a, n.p.; UpCounsel, 2020b, n.p.). All forms of protection limit the use of a process, product development, design, or name to the owner of the intellectual property.

#### *Ethical Justifications and Concerns of Intellectual Property*

Drug patents have the ability to both increase and limit the accessibility of pharmaceuticals for patients. From one perspective, the patent rewards the research and development of new drugs, and with more money spent on R&D, there should be more drugs brought to the market that would otherwise not be invented. On top of this, the requirement to publicly disclose all information of patented designs increases collective knowledge and further stimulates research and development after the patent expires. However, Sterckx (2005) notes that the exclusive rights from patents allow brand name drugs to be charged at a price 200-300% more than they would be without patent protection (p. 89). This price difference could be a barrier for some low-income households' access to treatment. He also questions whether patents incentivize drugs that have the most life changing impact, or merely those with the most potential for financial gain. At the time of writing his paper, Sterckx notes that more money was

invested in treating baldness than curing all tropical diseases, even though the latter would save lives (p. 91).

The rewards patents offer also offset the risks and capital required for the research and development of a new drug. According to a report from the Congressional Budget Office (2021), the capital required for R&D and obtaining FDA clearance for one drug can range from one to two billion dollars, which is much higher than the production costs of the drug. In total, pharmaceutical companies spent \$83 billion on research and development in 2019, and the amount of money spent on R&D is directly correlated to the expected return of the drug (Swagel, “Trends in R&D Spending and New Drug Development”). Conor Hale (2018) also cites that only “14 percent of all drugs in clinical trials eventually win approval from the FDA” (n.p.). For a high risk market, patents are a way of ensuring financial success for the drugs that do manage to get approved. While the costs for research and development are high, Sterckx brings up the point that many pharmaceutical companies receive R&D grants to offset these costs, and only the pharmaceutical companies reap the financial rewards from successful patents (p. 87). Cassier & Sinding (2008) use the example of the development of insulin at the Connaught labs at the University of Toronto. Due to the “complexity of the operation”, they transferred the development of insulin to Eli Lilly who later placed a patent on it (p.153). In 2021, Eli Lilly brought in nearly \$2.5 billion in revenue from their insulin product Humalog® (Bishop, 2022, “Selected Revenue Highlights”). This case of insulin production raises the question of how much risk pharmaceutical companies are truly incurring.

#### *Gaps in Knowledge of the Patent System*

It is known that patents exist to incentivize R&D and offset the risks involved with developing a new drug, and that many counter arguments to protecting intellectual property

exist. However, there are still two key unsolved questions about the patent system that will clarify how IP *theft* should be described: 1) is information property and 2) is the patent system ethical? For the first question, there is still debate on whether one can own non-physical ideas, or if they are experienced and shared instead. In a broader sense, can one truly *own* knowledge, or is it something that we experience and pass along to others? Property has typically been used to describe physical possessions, but its definition could apply intangible objects as well. While it may not initially seem important to determine whether information is property, the traditional physicality of property is directly tied with the physical connotation of stealing.

The second unknown aspect about the patent system is whether it is ethical. Ethics are broad and can encompass different beliefs for different people, but I believe fairness is the core component towards being ethical. While many have made claims on the ethics and morals of IP, there is still no distinct conclusion on whether it is ethical. There are also still questions on whether protecting intellectual property promotes or inhibits the spread of ideas. Straus (2015) and many others have noted there should be some sort of reward for those who develop new ideas and technologies (p. 57). Sterckx (2005) acknowledges that the current system requires the intellectual property owner to publicly disclose all of the information on the protected technology, thus increasing society's knowledge (p. 88). On the other hand, protecting intellectual property actively prevents others from acting on the patented designs during the time it is protected.

The ultimate question I have is whether *stealing* is truly the best word to describe the unauthorized use of intellectual property. If someone were to copy an excerpt from an author's novel, we would deem it as plagiarism, not *theft*. If we have different terminology to describe stealing others words, should we also change our terminology on stealing other's ideas?

Variations of the word *steal* and *theft* are consistently used to describe intellectual property. Figure 1 presents a frequency check on these words since 1800. While usage of intellectual property has been declining, the frequency of terms like *steal* and *theft* has increased. I have personally read several sources that loosely use the term *steal* to describe the unauthorized use of intellectual property, such as Dave School’s 2016 article on “The Truth About Idea Stealing”. Edith Penrose even recognizes this problem by stating “[T]he loose use of the word ‘stealing’ remains in most patent discussions to remind us of the natural property right conception of patents” (Sterkx, 2005, p. 85). In order to determine if *stealing* is the correct word to use, research will have to determine whether information can be considered property and if protecting intellectual content is ethical.

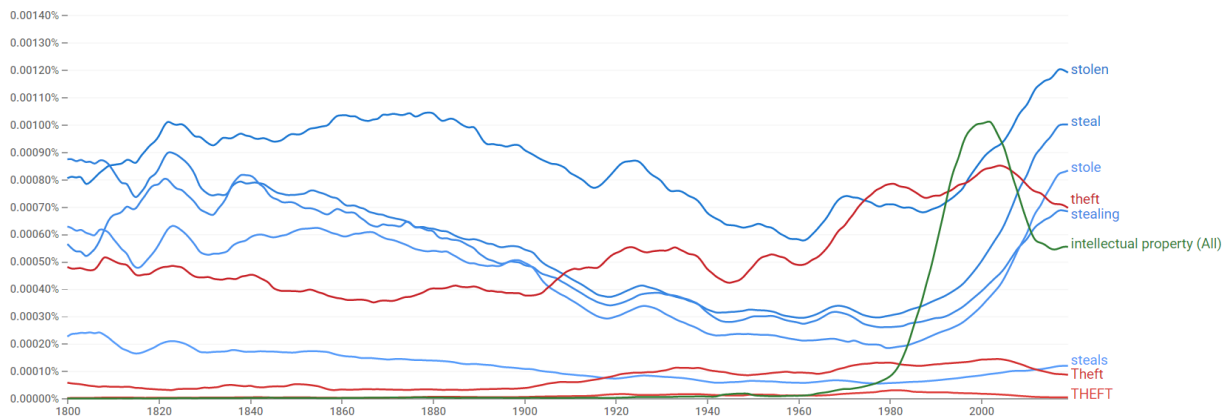


Figure 1: Frequency of Using Variations of the Word *Steal* to Describe IP (Created by Author). This graph conveys the scope on how frequently words such as *steal* and *theft* are used to describe IP

### **Methods: Using Analogies and Philosophical Frameworks to Understand the Ethics of Intellectual Property and Whether it can be *Stolen***

The ethics behind intellectual property involve complex subjects such as whether ownership of non-physical property is possible, if ideas can be *stolen*, or when the rights to own the products of one’s labors cease. Because this subject is so complex, it is important that we use

supporting language to adequately reflect the meaning of intellectual property. Otherwise, we are at risk of creating further confusion in an already complicated field.

### *The Power of Analogies*

In order to make sense of the complex themes of intellectual property, I use analogies of real-life scenarios to better understand the ethical dimensions of protecting patents. “The Power of Analogies for Imagining and Governing Emerging Technologies” by Claudia Schwarz-Plaschg (2018) provides the framework model for my analysis. This article illustrates the significance of creating a series of analogies to describe emerging technology and ideas. I chose this framework because it allows me to relate abstract concepts of the patent system to commonly understood scenarios.

Schwarz-Plaschg (2018) makes the point that an analogy on its own is weak; instead, a series of analogies should be made continuously to highlight specific aspects for comparison. Schwarz-Plaschg specifically warns the reader to “not succumb to the idea that one single analogy can or should guide debates or policy-making, but that the power of analogies lies in generating open-ended, explorative discourse” (p. 11). Making multiple analogies also adds the benefit of providing different perspectives and allowing the reader to examine the idea from several angles. Using a set of analogies can be useful by leading the reader to “collective exploration and anticipation processes” (p. 3). Relating the technology or idea of interest to commonly shared experiences among the audience can establish this “collective exploration”. For more complex ideas, it becomes increasingly important that the analogy is made to something well known, for otherwise it might confuse the reader more.

On top of the ability to explain complex topics better, analogies provide a good foundation of estimates of future outcomes for an unknown process or idea. Schwarz-Plaschg



(2018) suggests that instead of making baseless projections for the future of a novel process, it is better to make comparisons with previous technologies, even if they are not completely analogous (p. 5).

*Philosophical Frameworks*

I use three philosophical frameworks that Moore & Himma (2018) identify as supporting the protection of intellectual property (“Justifications and Critiques”). These frameworks are personality theory, utilitarianism, and Lockean theory. Table 1 provides an overview of the basis of each theory as well as how they can be used to support or contend against the protection of intellectual property.

Table 1: Justifications and Counter Arguments to the Patent System through a Philosophical Lens (Created by Author). This table describes the three philosophical theories used in this paper, how they can be used to justify the protection of intellectual property, and counter points based on each philosophy.

<b>Philosophical Belief</b>	<b>Personality Theory</b>	<b>Utilitarianism</b>	<b>Lockean Theory</b>
<b>General Overview</b>	Humans have innate attachment to their ideas	The ends justify the means	Humans have the right to be autonomous and own their own property
<b>Justification for IP based on theory</b>	Ideas are an extension of humans	Incentivized R&D serves the greater good	Humans have the right to profit from their own labor
<b>Counter Argument to IP in response to theory</b>	Ideas cannot be owned	Increased costs hurt society more than incentivized R&D	Labor of ideas is built off of collective knowledge of others

Personality theory claims that people have an inherent right to their own ideas and feelings. Lily Yuan (2020) writes in her web article on personality theory that humans can only be considered autonomous, if they have “property rights over their creations” (n.p.). Yuan continues to point out that in the EU, patent law is supported by the fact that ideas are “an extension of oneself and one’s personality” (n.p.). Personality theory is closely connected to the

relationship of people and ideas, and understanding it can better determine whether information is property.

The central utilitarian claim is that the ends justify the means. According to Julia Driver (2014), the utilitarian belief is that the “morally right action is the action that produces the most good” (n.p.). In the case of the patent system, it can be analyzed whether the benefits of incentivized research and development outweigh the costs of increased product prices. Sterckx (2005) summarizes the two key utilitarian justifications as incentivizing R&D and encouraging the spread of knowledge, but realizes that there are debates on whether these arguments are true (p. 88). While the utilitarian perspective takes group dynamics into account well, it does tend to neglect individuals by focusing on the net positives.

Lockean theory focuses on the individual and the right to his or her labor. Locke argues that people should be autonomous and free from rule under a monarchy. According to Tuckness (2020), the Lockean belief is that “one can only have property in what one has personally labored on” (“Property”). Sterckx (2005) notes that Locke’s theory typically describes the right to own land, but his idea has been extended to support the ownership of intellectual property (p. 84). The Lockean argument can be used to determine whether labor is property if one has rights to his or her labor.

To develop a new word to replace *stealing*, I must identify whether information can be considered property and whether the patent system is ethical. Personality theory will be used to understand the former, while utilitarian and Lockean views will be used to analyze the latter. Analogies will be used with all three philosophical lens to help convey the argument. The chosen word will have to reflect the results on whether information is property and whether the protection of intellectual property can be morally justified.

Moore & Himma's article "Intellectual Property" (2018) was used as the foundational source for understanding the ethical assumptions and justifications made for protecting intellectual property. On top of providing a background on the different forms of intellectual property, this source provides both critiques and justifications against the protection of it. While this source does not frequently use variations of the word *steal* or *theft*, it does provide context on how non-physical ideas can be protected, making it a valuable source to this research.

**Results: Intellectual Content Cannot be *Stolen*, but It Can be *Violated***

Terms such as *steal* and intellectual property *theft* should not be used to describe the unauthorized use of IP because they convey a sense of physicality. Instead, intellectual property theft should be described as *a violation of intellectual rights* because: 1) information is not property, and *violation* removes the sense of physicality and 2) the protection of intellectual rights is ethical, so *violation* maintains the same sense of wrong-doing that *stealing* does. Figure 2 walks through my thought process in the development of this new word.

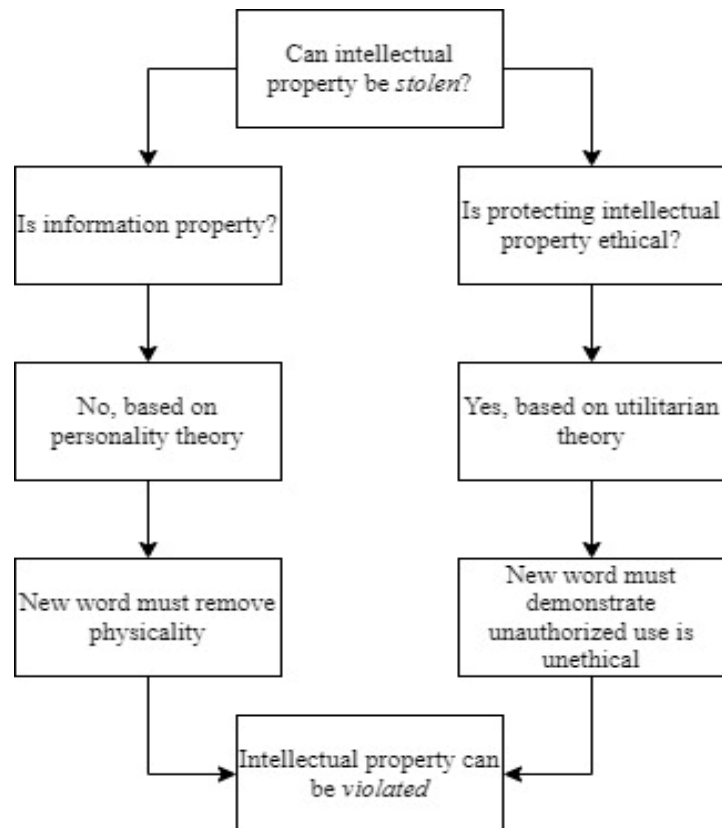


Figure 2: Mind Map for Developing an Alternative Word to *Stealing* (Created by Author). This figure describes the steps performed to arrive at the conclusion that *violation* is the best way to characterize intellectual property misuse.

### *Distinguishing Ideas and Property*

In order to justify that *violation* is the best replacement for *theft*, it is important to prove that information is not property. Personality theory has been used as one of the main reasons to support the ownership of ideas and patents. Moore & Himma (2018) state that according to personality theory, “intellectual property is an extension of individual personality” (“Justifications and Critiques”). Personality theorists would argue that humans not only have an attachment to their ideas, emotions, and experiences, but that they also have ownership. This

philosophy suggests that simply by controlling ideas and emotions, humans inflict their will on them and gain ownership. Control may be established by driving a toy car to go in a certain direction or simply sitting in a chair. Likewise, when authors control their thoughts into a paper, the writing is considered their own. Personality theory claims that any sort of control establishes ownership, even if it is over words, ideas, or emotions.

The other personality-based justification highlighted by Moore & Himma (2018) is that personality can be fused with both physical and intangible objects (“Personality-Based Justifications of Intellectual Property”). An artist may fuse their personality into their painting or a baker might translate their emotions in a cake they are crafting. For this reason, an engineer should also be able to fuse their own personality into an idea they had. The key point made by personality theory is that infusing personality with ideas makes the idea an extension of the body.

The counter arguments to personality-based justifications revolve around whether humans truly have ownership and possession of their own feelings. While people certainly experience emotions, that does not necessarily mean the emotions belong to them. Moore & Himma (2018) also bring up the question that if people did have ownership of their own feelings, do they lose this connection once it becomes fused with an idea or object (“Problems with Personality-Based Justifications of Intellectual Property”)? Moore & Himma use the example of shedding hair to describe the potential pathway of an idea becoming dehumanized. The final argument against the personality-based justification is that not all intellectual property is infused with personality. The example that Moore & Himma use is a list of clients, which is protected, but does not involve the personality of the inventor in its creation.

While some may suggest that ideas are property because the owner holds power to exclude others from acting upon their ideas, this power is more representative of a right. The

owner is given the *right* to exclude others from using their idea, and when the patent expires, everyone else now has the *right* to act upon it. De George (2005) explains why information cannot be property based off of the following statement:

unlike other property, intellectual property is infinitely shareable. It can be stolen, borrowed, copied, and one still has it. Intellectual property refers to some products of the mind. But arguably the most important products ideas cannot be claimed as one's property. Only the expressions of ideas or their embodiment in some product or process can with any plausibility be said to constitute property in any sense (p. 571).

If information cannot be considered property, then it cannot be *stolen* by others due to the physicality of the term. *Violation* describes information not as an object that can be taken or possessed, but instead as an intangible object that can be protected through law and rights.

### *Justifying the Ethics of the Patent System*

*Violation* is the best term to replace *intellectual property theft* because it manages to maintain the same sense of wrong-doing. However, in order to prove that the new word must convey wrong-doing, it must also be proven that it is ethical to protect one's idea in the form of a patent. The two main ethical justifications for the protection of intellectual property are utilitarian and Lockean beliefs.

The utilitarian belief for protecting intellectual property is that this protection provides an overall net benefit for society. Moore & Himma (2018) draw attention to the fact that every inventor takes a risk when developing an idea, and that "although success is not ensured by granting [intellectual] rights, failure is inevitable if those who incur no investment costs can seize and reproduce the intellectual effort of others" ("The Utilitarian Incentives-Based Argument for

Intellectual Property”). The primary motive behind pharmaceutical companies is to maximize profits off of drugs. While it is true that prices of drugs would be lower without the exclusive rights to production offered by patents, the net positive is the encouragement of the development of life changing (and also profitable) drugs that would not have otherwise been created. Without protection over intellectual property, many inventors would stop inventing and engage in more lucrative businesses that are less beneficial to society. Petra Moser (2013) notes that innovators in countries without patent laws rely on “secrecy and lead-time” to protect their inventions (p. 24). While some may claim that the patent system limits information by excluding others to the access ideas, utilitarians would point out that all of the information on the patented idea becomes publicly available as part of the process, as well as the fact the patent expires after 20 years. Moore & Himma (2018) note that there are also some instances where it can be beneficial for society to limit information such as personal financial and health information (“Information is Non-Rivalrous”). From the utilitarian perspective, the patent system provides the most positive outcome for society, even if it comes at the cost of higher drug prices for patients.

The counter argument to the utilitarian support for protecting IP is that having lead-time on an invention is enough of an incentive to reward innovators and recover costs of research and development. There are also other forms of incentives besides offering exclusive production rights, such as holding governments responsible for funding most of the research and development for technologies and making the results open to the public. Another solution would be for governments to provide an upfront financial reward to the inventor instead of a patent. Of course, both of these options would increase the amount of tax dollars spent on research. Sterckx (2005) acknowledges that patents incentivize research and development, but questions whether they serve the greater good. As mentioned earlier, more money was spent on treating baldness

than curing all tropical diseases (p. 91). This shows that patents incentivize R&D for technologies that are the most profitable, not the most beneficial to society.

The Lockean argument is more focused on the individual than the greater good of the society. Locke's theory is that humans are entitled to the work they produce and deserve fair compensation. Moore & Himma (2018) describe the Lockean perspective as "when an individual labors on an unowned object, her labor becomes infused in the object and for the most part, the labor and the object cannot be separated" ("Lockean Justifications of Intellectual Property"). This labor can be physical such as a potter crafting a vase, or it can be a service such as an accountant filing taxes. In both scenarios, Lockean theory argues that the individual has a right to be compensated for the work they have done. Therefore, when an innovator labors their thought into a new invention, they should have the rights to their idea.

The main counterargument to the Lockean belief is the question of what happens in the paradoxical scenario when someone infuses their labor into the labor of another. For example, what happens when the inventor of the car combines the inventions of the motor and the wheel? Do these previous inventors have a right to all future designs involving their previous labors? Knowledge is considered a construct that people share and build off each other, so how can one get exclusivity of an invention that is based off of the knowledge of others? Tuckness (2020) brings to light Robert Nozick's contention that if someone were to mix tomato juice with the sea, would they have rights to it ("Property")? With regards to patents, Sterckx (2005) questions Locke's theory and whether the amount of labor that is added to obtain a secondary patent on a drug is worthy of protection (p. 86). Therefore, counters to Locke's theory would suggest that small tweaks in processing methods should not be enough to grant rights to labor and a secondary patent



While it is clearly an on-going debate on whether the current intellectual property system is ethical, the current patent system provides the best-known solution to encouraging R&D of new drugs. Sterckx (2005) argues that patents do not encourage drugs that are the most beneficial to society, but he offers limited information on alternative solutions and even agrees that patents are effective in incentivizing R&D (p. 92). By utilitarian grounds, the increased prices of drugs and other inventions are a justified means to achieve the end goal of more available drugs. Improvements can certainly be made so that entities don't abuse their exclusive production rights, but the system as a whole is designed to maximize good. It is more difficult to justify the protection of IP based on Locke's theory. While Locke's theory supports a valid justification in the rights to being paid for one's labor, considering labor as something that can be owned is similar to considering an idea as property. Because the utilitarian argument justifies the ethics behind protecting intellectual property, the new term to replace *stealing IP* must still convey some sort of wrong doing, and *violation* does just that.

#### *A New Word*

I determined *violation* to be the best term to replace IP *theft* based on the following results: 1) information is not property and 2) protecting intellectual content is ethical. *Violation* both removes physicality from the connotation but also maintains the sense that using another's intellectual property without consent is unethical. Christophe van Zyl (2022) tries to take away the physicality of *stealing* by using the word *infringement* instead ("What Is "IP Theft", and Is This the Proper Term?"). *Infringement* does respect the two findings that information is not property and protecting intellectual content is ethical, but it feels lengthier when used as a verb: *infringe upon intellectual rights*.

For the same reasons that a new word should replace *stealing*, the term *intellectual property* should likely be changed based on the results that information is not property. A potential replacement term could be *intellectual rights* or *intellectual protection*. However, the term *intellectual property* is much more common than *stealing*, which would make it more difficult to change. For now, changing the words surrounding intellectual property is a start, and future research may be done to change the term *intellectual property*.

### **Conclusion:**

The purpose of this research was not to change one's beliefs on the morality and ethics of the patent system, but instead perform an analysis on the ethics of protecting intellectual content in order to determine a word that is more appropriate than *stealing*. Ethics and morals are multidimensional subjects that can be viewed from many perspectives, and only three philosophical frameworks were used to justify the implementation of a new word. It is possible for someone to use additional philosophical lens or a different framework entirely to arrive at the conclusion that *stealing* is the best way to characterize the unauthorized use of intellectual property. The research performed by this paper merely adds one more perspective to a long, ongoing debate.

In the scientific world, it is important to be precise about the words we choose to describe complex technologies and systems, especially abstract constructs like intellectual property. The words *steal* and *violate* may seem interchangeable at first, but there is a vast difference between the two that can affect one's perception on IP. By reevaluating the words we use to describe intellectual content, inventors and those looking to file a patent can have a better understanding of the system as a whole.

## References:

- Bishop, J. (2022, February 3). Lilly reports solid fourth-quarter and full-year 2021 financial results, recent late-stage pipeline successes set up next wave of innovative medicines for patients. *Eli Lilly and Company*. <https://investor.lilly.com/news-releases/news-release-details/lilly-reports-solid-fourth-quarter-and-full-year-2021-financial>
- Cassier, M., & Sinding, C. (2008). 'Patenting in the public interest:' administration of insulin patents by the University of Toronto. *History and Technology*, 24(2), 153–171. <https://doi.org/10.1080/07341510701810948>
- De George, R. T. (2005). Intellectual Property and Pharmaceutical Drugs: An Ethical Analysis. *Business Ethics Quarterly*, 15(4), 549–575.
- Driver, J. (2014). The History of Utilitarianism. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2014). Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/archives/win2014/entries/utilitarianism-history/>
- Hale, C. (2018, February 5). New MIT study puts clinical research success rate at 14 percent. *Center Watch*. <https://www.centerwatch.com/articles/12702-new-mit-study-puts-clinical-research-success-rate-at-14-percent>
- Key, S. (2020, June 4). Why patents don't stop people from stealing your invention. *Forbes*. <https://www.forbes.com/sites/stephenkey/2020/06/04/why-patents-dont-stop-people-from-stealing-your-invention/>
- Moore, A., & Himma, K. (2018). Intellectual property. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2018). Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/archives/win2018/entries/intellectual-property/>
- Moser, P. (2013). Patents and innovation: evidence from economic history. *Journal of Economic Perspectives*, 27(1), 23–44. <https://doi.org/10.1257/jep.27.1.23>
- Pistilli, T. (2021, January 29). Pharmaceutical patent regulation in the United States. *The Actuary Magazine*. <https://theactuarmagazine.org/pharmaceutical-patent-regulation-in-the-united-states/>
- Schools, D. (2019, July 3). The truth about idea stealing. *Medium*. <https://entrepreneurshandbook.co/the-truth-about-idea-stealing-47bcb8a0106a>
- Schwarz-Plaschg, C. (2018). The power of analogies for imagining and governing emerging technologies. *NanoEthics*, 12(2), 139–153. <https://doi.org/10.1007/s11569-018-0315-z>
- Sterckx, S. (2005). Can drug patents be morally justified? *Science and Engineering Ethics*, 11(1), 81–92. <https://doi.org/10.1007/s11948-005-0059-3>

- Straus, J. (2015). Medicine between ethics and scientific progress: how much ethics needs medicine, how much ethics can it afford? Some considerations from patent law perspectives. *Medicine, Law & Society*, 8, 47–76. [https://doi.org/10.18690/8.47-76\(2015\)](https://doi.org/10.18690/8.47-76(2015))
- Swagel, P. L. (2021, April). Research and development in the pharmaceutical industry. *Congressional Budget Office*. <https://www.cbo.gov/publication/57126>
- Tuckness, A. (2020). Locke’s political philosophy. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2020). Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/archives/win2020/entries/locke-political/>
- UpCounsel. (2020a, October 27). How long does it take to get a patent? <https://www.upcounsel.com/how-long-does-it-take-to-get-a-patent>
- UpCounsel. (2020b, June 18). How much does a patent cost: everything you need to know. <https://www.upcounsel.com/how-much-does-a-patent-cost>
- van Zyl, C. (2020, September 30). What is intellectual property “theft” and how to avoid it? *Lexology*. <https://www.lexology.com/library/detail.aspx?g=e149bbd2-b58d-4b76-8295-272acf7c8ca1>
- Yuan, L. (2020, February 3). Personality theory and intellectual property. *Personality Psychology*. <https://personality-psychology.com/personality-theory-intellectual-property/>