Ethics of Innovation and Intellectual Property

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Intellectual Property (IP) steadily impacts the way knowledge is generated and shared amongst society. Intellectual property rights are able to promote innovation by restricting the access of potentially socially beneficial information, which creates questions about ethical and moral implications that it can cause. Economists have been able to create arguments that explain the need for such protection and the potential implications that can occur by analyzing Lockean, utilitarian and deontological theories. Based on the notion that property rights are the foundation of individual and economic freedom, intellectual property rights (IPR) are necessary to promote the creation of new ideas. The ethics and morality of intellectual property are a conglomerate interchange between the rights of the innovator, the competitor and the access of knowledge to the public. Policies that are in place today can generate unintentional consequences like monopolies. Due to its complexity it requires a framework that maneuvers private ownership as well as societal impacts.

One of the earliest known examples of advocating for intellectual property can be found in ancient Greece. This occurs near the 6th century BCE in Sybaris, "it granted a yearlong exclusivity for bakers to make their culinary inventions." (Naja 2020) In ancient civilizations there were no institutionalized forms of intellectual property, it was primarily focused on protecting creative works and inventions. This demonstrates that there has been an evolution amongst rights for personal innovations, due to the prosperity that results from being able to reap the benefits of intellectuality. The growth of intellectual property in the United States can be seen during the transition from being a part of the Northern colonies, which primarily ran on agricultural revenue to a more industrial dependent economy like it was in the 18th century. After the succession from Britain, Congress passed its first CopyRight Act on May 31, 1790. What the act entitled was "the sole right and liberty of printing, reprinting, publishing and

vending such Map, Chart, Book or Books for the term of fourteen years." (Copyright act of 1790: U.S. Copyright Office) This reflects the Statute of Anne that was ratified in 1710 Britain, section I of the statute states "for therefore such practices for the future, and for the encouragement of learned men to compose and write useful books; may it please your Majesty that it may be enacted." (The Statute of Anne; April 10, 1710) Parliament wanted to ensure that ideas were able to be created without there being risks of others potentially interfering with their labor while also confining protections. Similarly to modern IP rights, there is a desire to limit the control of the innovator and an emphasis on the social value of sharing information.

In order to develop the conflicts regarding ethics and morality surrounding intellectual property rights, it is important to highlight the peculiarity of intellectual property. IP protects the creation of nonrival goods, meaning that a good can be used multiple times simultaneously. For example, in July 2021 a Proofpoint employee stole sales data and shortly after began working for a competing security company. Proofpoint then sued him for "inflicting incalculable long-term competitive harm" (Novinson 2021) In 2016 a Google employee downloaded company files that held information about self-driving vehicles that he planned to use to his advantage in his new job. This employee was also sued and admitted that the potential data loss would have cost Google up to \$1,500,000. (Former uber executive sentenced to 18 months in jail for trade secret theft from google 2020) The thefts would have impacted revenues if they were successfully leaked to competitors, but the thefts would not have prohibited Google or Proofpoint from continuing to use their data files. An attempt to use Locke's theory of acquisition can at times fail to support the ethics of what constitutes an equitable use of intellectual property. For example, the Google employee had worked to develop the software of the self driving vehicle, he had mixed his own labor to create a previously unowned system. One could argue that this

potentially creates property, and because data is a nonrival good he did not prevent anyone else from using it.

'Intellectual Property' is a new term that has developed in order to include a more broad set of innovations. Research and development upfront investment costs for technology and medicine are substantially more expensive, hence innovators need a way to protect their information in order to cover the costs and to produce profits. Patents, trademarks, licensing and copyrights are the most common way to protect unauthorized uses of material. Each different form of intellectual property has distinct scopes and are limited in time. Patents are presented to inventors for their products and processes that are new, useful, statutory and non-obvious for a term of 14 years. (Alfino 1991) Trademarks are to be renewed every ten years and could last as long as they are renewed and copyrights last through until the author passes away plus 70 years. Although there are constraints on how information, processes, and materials are used by the public, intellectual property rights can also promote the sharing of knowledge. All IP except trade secrets must be published which can be used to further innovation. The length of the protection of socially beneficial information has been decided based on a trade-off between promoting research and development and possibly creating unfavorable effects upon society by allowing limited monopolies and price makers. The morality behind excluding the use of potentially beneficial information is understandably a concern because it does not align with Article 27 of the Universal Declaration of Human Rights which states "to enjoy the arts and to share in scientific advancement and its benefits."

William Nordhaus in 1969 developed a model of optimal patent length, further developing the need to promote innovation by providing protection and limiting deadweight loss. Nordhaus noted the importance of temporary monopolies because it allows for inventors to

recover the large investments for research and development which encourages innovation. (Hughes & Nordhaus, 1970) On the contrary the model also highlights the restrictions IP creates with regards to the free market. Protectionist policies limit competition, and give the opportunity to create higher prices which can reduce consumer welfare. Competitors, Consumers and Innovators all have recognizable objectives they wish to achieve in the free marketplace. Competitors rely on having access to knowledge and technology to freely cultivate goods by offering diverse products at prices that are competitive. Consumers demand the access to innovations that are going to provide them utility at a price that is settled by an unconstrained market. IP can limit availability and affordability of innovations. While innovators want to protect their investments by controlling the use of how their products are used and by whom, they also prioritize gaining adequate profits. Nordhaus would argue that finding the optimum amongst the various factors that are impacted by IPR, should be found by balancing marginal social benefit and marginal social cost.

Philosophical justification of intellectual property could possibly look towards utilitarianism in order to examine the ethics of protective policy systems. Utilitarians have distinguished that a primary difference between market power and government power is that the government has the ability to compel. This creates the possibility for the government to resolve issues that often occur due to the flaws of society like "self-interest." When it comes to central authorities making decisions for society as a whole there is an inability to capture all necessary knowledge, markets can solve this issue by reflecting a more accurate representation of information based on supply and demand. For innovation, it is important to leverage both the power of the government and the ability of the market to capture societal value. Patrick Croskery noted that the non-excludable and nonrival nature of ideas can create conflict that had not been

commonly dealt with until recent exponential technological growth, "The goods pose particular collective action problems, which the government can remedy, but are also capable of being exchanged, with the resulting gain in information." (Croskery 1993) Economists strive to model IP systems that allow for societies to gain the maximum amount of knowledge while simultaneously being exclusive to incentivize innovation. Finding a balance can limit the questions regarding if constraining the use of societal information is ethical, in modern policies all protected material except trade secrets are accessible. Consumers have access to benefit from both the knowledge and the goods provided by the innovator. Although it seems as if societal benefit is at the forefront of the utilitarian theory of IP, William Landes and Richard Posner have pointed out in their work titled *The Economic Structure of Intellectual Property Law*, that welfare is measured without acknowledging the increase in prices that occur.

An alternative justification of IPR can be used by describing the consequentialist and deontological approach. The consequentialist justification claims "that patent protection is the best way to achieve some desirable outcome," the outcome in question is maximizing innovation. (Binns 2011) In this rationalization the innovator has valuable information that no longer becomes valuable if shared and not protected. Everyone involved is better off when the government grants a limited monopoly in order for the inventor to disperse their knowledge to benefit others. The approach communicates that the sacrifice society has to make is worth the future of innovation that they will also gain from. The second proposition for justifying the ethics of IP is the deontological approach, the focus is on the individual morals of the inventor and how patents can be of use to those self-interests. Our natural rights advocate for the ownership of things we create using our bodies and minds, thus to protect the natural rights of the inventors it is necessary for the government to provide exclusivity for innovations that meet the criteria to be

eligible for a patent, copyright, trademark or licensing. It is the reward for using intellectuality towards benefiting society.

One of the most prominent examples that incorporates intellectual property and the morality of protecting limited monopolies is that of the pharmaceutical industry. The cost of drugs and medical procedures have become unaffordable for a portion of Americans, there is a desire to adjust patent legislation and to reduce prices. This point of view often focuses on the seen effects of restricting exclusivity, which would reduce prices without thinking about the long-term effect which would decrease innovations. Some ethicists have concluded that medicine is a "special good" whose value is not able to be accurately captured by the market. An article published by Annual Reviews stated "Economic research corroborates this view by demonstrating that patients place a much higher value on medical services and drugs than their ability to pay suggests." (Parker-Lue et al., 2015) There have been examples of countries implementing price ceilings for drugs, a consequence of this policy that discouraged market entry. A reason for this is the inability to recuperate costs from investing in research and development. Even though high prices drive out lower-income consumers, government intervention to create affordable drugs could possibly negatively impact the market for everyone if there is no profit to be made.

The ethics of innovation and intellectual property are understandably scrutinized because of the ability to constrict the use of beneficial information. Our markets function based on utility and incentives, the protection of nonrival and nonexcludable goods is necessary to guarantee the possibility of profiting from sharing knowledge. Intellectual property must find a balance between the needs of the consumer, desires of the competitor and objectives of the inventor. Each group must sacrifice a right in exchange for another right that is equally as valuable. There are

different economic and philosophical arguments like utilitarianism, deontologicalism and the appropriation theory that attempt to summarize why limited monopolies for innovation are justifiable. While it is difficult to decide which approach is the most accurate, what they all have in common is that innovation is necessary for economic growth and the way to encourage it is by allowing for profit to be made.

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