Reconciling Property Rights in Plants

Jeremy F. de Beer, University of Ottawa
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1. INTRODUCTION

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Reconciling Property Rights in Plants

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1. INTRODUCTION

In the context of plants, intellectual property (IP) theory has long been recognized. IP rights in plants’ genetic information. Law creates IP by separating an abstract idea, like for a molecularly engineered gene, from its physical vessel, such as the gene itself contained in a plant or seed. Property rights in the abstract object may come as patents, plant breeders’ rights (PBRs) or both.2

As a relatively new phenomenon, IP still exists in a climate of excitement, alertness and perhaps insecurity. Innovations like biotechnology and the Internet, for example, have magnified the philosophical instability of property rights in ideational resources. Thus, IP is typically measured against the public interest, or occasionally, society’s rights are crystallized as common property. In this two-dimensional appraisal, other important property rights are usually disregarded or dismissed casually. The foundations of longstanding and well-settled proprietary rights in physical objects seem to have been forgotten. Private property rights in physical objects—things that in fact have a real objective existence—are "classic property" that should not be overlooked.

Arguments supporting IP were originally expounded in support of classic property. So classic property is philosophically prior to IP, yet IP explicitly or implicitly subordinates classic property rights, usually without seriously asking why or at what consequence. A more thorough understanding of the principles underpinning all proprietary interests is essential to determine which should prevail in a given circumstance.

Therefore, this article seeks to reconcile IP with the public interest and common property, and also with classic property. The result is a matrix of private and public property rights in tangible and intangible resources. The analysis is offered conceived as

2 B.C. (Onslow), L.L.B., B.Com (Sask); Barrister and Solicitor, Law Society of Upper Canada; Assistant Professor, Faculty of Common Law, University of Ottawa. This dissertation was originally written as part of the author's B.C.L. at the University of Oxford and supported by the Rutherford Braidy Award from the Education Services Foundation in Oxford, England. Noyone thanks him to Professor David Vavas, and to the late Professor James Vavas for some very useful advice. My thanks also to Michael and Laila Aggarwal. The author may be contacted at: jdebeer@bellnet.on.ca

3 Compliance is the hereditary trait of the gene, but not the physical gene itself. It is an example of the idea of "genetics" through the use of the same gene as a gene. R.C. King and W.D. Steadman, A Dictionary of Genetics, 6th edition, Oxford: University Press, Oxford, 1996, 138.

4 Trade secrets, trademarks or other IP rights may also be relevant, but are not discussed in this article.
The point is illustrated through the example of property rights in agricultural biotechnology, and specifically Monsanto Canada Inc. v. Schmeizer. In that case, the Canadian Patent Act was interpreted to allow expansive IP protection for a molecularly engineered gene, effectively nullifying the farmer’s classic property rights in his plant and seeds. The result in Schmeizer and the state of patent and plant laws globally demonstrate the lack of respect typically given to farmers “privileges.” To overcome this attention deficit, farmers need special rights that are not just public interest exceptions carved out from a pre-existing IP rights or a societal means to a social end. IP is actually the “privilege” to override classic property rights.

This approach is important for at least two reasons, which appear as recurring themes throughout this article. First, in agricultural biotechnology in particular, certain concerns cannot be properly addressed under the rubric of the public interest or common property. Those concepts are helpful to confront biopiracy and preserve biodiversity, but not, for example, to elevate global hunger. Instead, classic property grants business farmers’ rights, especially in developing countries.

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2 P/C, 1993, P.4
3 The term “privilege”, instead of “right”, is often used to connote a farmer’s ability to use IP-protected seeds or growing seeds in the next.

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II. SETTING THE

The following property rights exceptions, yet, abstraction, and

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Second, and more generally, bringing the neglected sphere of classic property into focus can add intellectual integrity to the field of IP. An analytical unavailing of the property rights matrix is instructive for reconciling all sorts of tangible and intangible property rights. For example, this framework helps explain controversies over the freedom to copy CDs for private use or circumvent encryption measures on DVDs. A fuller view of the foundations of all property rights can also enlighten debate in other areas of biotechnology, such as IP generated from human body samples.

To those ends, the first part of this article sets the stage for discussion. It contains several illustrations of neglected classic property rights. The second part unravels the property rights matrix. It exposes the foundations, content and context of IP rights, and analyzes how IP is counterbalanced against the public interest or common property. It also stresses the importance of considering classic property rights, and lays out the philosophical underpinnings and content of fans' rights. The goal is to make clear that these issues should not be looked at as a two-dimensional rivalry between IP rights-holders and society. Three important spheres of analysis and the property rights matrix that lies at their nexus must be recognized.

II. Setting the Stage

The following examples depict the breadth of circumstances in which classic property is neglected. Thus, they serve as an ideal launch pad to delve into philosophical enquiries. Yet, at the same time, they ground the exercise at a manageable level of abstraction, demonstrating the palpable consequences of our problem.

A. Copyright and Classic Property

Does or should ownership of a CD or DVD permit unconstrained use of the physical object? Canadian copyright law allows the owner of a pre-recorded music CD to make copies under certain circumstances for private use, for instance to backup a music collection on blank discs or to transfer it to an iPod. Private copying, however, is not an inherent right of ownership of the physical object. It is permitted in Canada through an exception to copyright coupled with a levy on blank audio recording media. Otherwise, apparently, copyright overrides the classic property right.

In the United States, the Digital Millennium Copyright Act (DMCA), among other things, prevents trafficking in technologies designed to circumvent encryption measures. Encryption measures prevent copying of, and control access to, content.

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1 Copyright Board of Canada, Copying for Private Use, 12 December 2003, available at: www.copyright.ca
2 "Blah Blah..." (2002) 202 Fr. 78.
3 "...to serve IP-protected..."
encoded on DVDs, for example. Defendants have argued that decryption technologies are legal because they work on "DVDs the user has already purchased, and thus unquestionably has the right to access." It has been said in response that "the purchase of a DVD does not give the purchaser the authority of the copyright holder to decrypt [copyrighted material]." The DMCA was held not to undue burden the fair use rights of users, because there was "no authority for the proposition that for use ... guarantees copying by the optimum method in the identical format of the original." In reaching these conclusions, scant attention is paid to the classic property rights of owners of the physical objects. For one, courts talk of use, not owners. And users' rights are often grounded in social policies. "The 'fair use' defence allows the public to use not only the facts and ideas contained in a copyrighted work, but also the expression exist in certain circumstances (emphasis added)." Research is seen to benefit society by permitting innovation that builds upon existing knowledge, and criticism is part of healthy social debate. Ownership is not mentioned as a basis for the right to use a DVD. Similarly, in Canada, libraries may fairly photocopied books but not, apparently, because they own the books or the machines. The removal of constraints on the rights of classic property owners seems to be a lucky by-product of exceptions oriented toward social ends.  

B. BIOTECHNOLOGY AND BODY SAMPLES

Moore raised questions about classic property rights and biotechnology patents. Moore was a leukemia patient who provided samples of blood, skin and other bodily substances to his doctors, ostensibly as part of routine treatment. These samples were used without his knowledge or consent to generate a "cell-line" with enormous medical and commercial potential. The cell-line's inventors' employer, the Regents of the University of California, patented it.

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Moore claimed for breach of fiduciary duty and the tort of conversion. To establish conversion, he had to show that the defendants exercised control over his property. So a question arose whether Moore had a property right over his body samples. The California Court of Appeal held that Moore had such a right. A majority of the Supreme Court of California, however, decided that there was no support for Moore's property claims, yet at the same time, presumed the IP rights were justified.

In rejecting Moore's claim, the Court focused largely on social considerations: "To impose such a duty, which would affect medical research of importance to all of society, implicates policy concerns far removed from the traditional, two-party ownership disputes in which the law of conversion arose."19 The Court was concerned that recognizing a classic property right would "threaten with disabling civil liability innocent parties who are engaged in socially useful activities, such as researchers".20

Broussard J. noted in dissent that "the majority’s analysis... fails even to mention the patient’s interest in obtaining the economic value, if any, that may adhere in the subsequent use of his own body parts."21 Mosk J. similarly criticized the majority’s neglect of policies that support a property interest in an individual’s body and its products.22 It seems the majority collapsed questions about property rights over the body sample, the cell-line and the patent. Worse, they used the patent, the justification for which was taken for granted, as one of their principal arguments to deny Moore’s rights.23

Theoretical support for classic property rights in body samples has gone unrecognized because judges, legislators and commentators have been preoccupied with countering public policy arguments that purport to validate IP, such as encouraging medical research.24 It is certainly true that the problems in Moore were more complex than traditional, two-party disputes. So the Court rightly considered the public interest. But it squandered the chance to illuminate the analysis by adding this social dimension without subtracting other elements, namely arguments for classic property. Instead, it simply shifted the spotlight from individual interests to social concerns, moving from one bilateral inquiry to another.

C. BIOTECHNOLOGY AND AGRICULTURE

In the field of agricultural biotechnology, Seltzer illustrates the overlap between IP and classic property rights. Monsanto markets agricultural systems; the farmer provides land and labour, and it provides seeds, chemicals or other tools for crop

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19 Ibid., 487.
20 Ibid., 489.
21 Ibid., 490.
22 Ibid., 495.
23 Seltzer, supra note 3.
24 Id.
growth.26 Monsanto’s system involves “Roundup Ready” glyphosate herbicide, which, in short, kills plants. Monsanto has also engineered a gene that causes a plant and its progeny to be glyphosate-resistant. Farmers can therefore spray “Roundup Ready” on a growing crop, killing weeds but leaving the genetically modified (GM) plants unharmed. Monsanto has a Canadian patent for glyphosate-resistant plants, including “Roundup Ready” canola.25

Monsanto accused Percy Schmeizer, a Saskatchewan farmer, of making, using, and selling its patented invention without license. Monsanto’s private investigators discovered glyphosate-resistant canola in Schmeizer’s 1998 crop, which he had planted with seed saved from the previous year, as was his customary practice. Schmeizer never purchased seeds from Monsanto, that would have required contracting not to save new seeds generated from the crop.27 He argued that he was not responsible for it, and did not want, “Roundup Ready” canola on his land. He offered various explanations for its presence, including adventitious spread by wind or insects.

Justice McKay of the Trial Division did not accept Schmeizer’s explanations. However, he declined to decide how and why Monsanto’s gene did appear in Schmeizer’s crop. He held that this was “really not significant” because Schmeizer knew or should have known the seed he saved and replanted was glyphosate-resistant.28 Growing and selling the GM seed under these circumstances made Schmeizer liable for infringement of Monsanto’s patent.29 The Court of Appeal and, on 21 May 2004, five of nine Justices of the Supreme Court of Canada, upheld this ruling.

Schmeizer had made four arguments to the Supreme Court.30 First, he argued that Monsanto’s patent was invalid, as it conferred a higher life form, which is not patentable in Canada.31 Second, because he did not spray his crop with “Roundup Ready” herbicide, he claimed he did not “use” or exploit the patent’s sole novel utility. Schmeizer also argued that the correct damages, if any, represent only its enrichment from exploiting the patent (that is, not using, not his entire profit.

The majority of the Supreme Court held that the patent was valid, as it did not confer a higher life form, but merely a gene and cell contained within a higher life form.32 In a compelling dissent, four Justices held this is a distinction without a difference.33 This dissent is especially persuasive given the majority’s finding that possession of a patent does not constitute infringement.34 It is because the patents granted in Canada are not meaningless, that the Court should accept that Schmeizer’s dilemma would be worse, leaving farmers frustrated and litigious. Each of the frustrating claims morality of transgenic interpretation, without the protection of patent law, does not solve the problem. The Schmeizer article. He was unconfined rights not suffered from this dilemma is through Schmeizer’s claim.35 Monsanto’s claim.

Schmeizer’s claims. Indeed, if a farmer whose crops were damaged by an insect that was not approved for commercial use, could sue the manufacturer for their crop loss, it would be impossible for farmers to grow crops without fear of legal action.36 This is a clear example of how property rights can be used to prevent the development of new technologies.37

There are a few ways in which this can be addressed. First, the courts must recognize that property rights are essential for innovation. Second, the government must ensure that there is a fair balance between the rights of inventors and the rights of farmers. Finally, there must be a mechanism in place to resolve disputes between farmers and inventors.

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27. Id., [155].
29. Appeal Court, supra note 3, [17]-[24].
30. Schmeizer, supra note 3, [17]-[24].
31. Ibid., [196].
32. Ibid., [196].
33. Ibid., [196].
34. Id., [175].
35. Schmeizer, supra note 3, [17]-[24].
37. Id., [175].
38. Schmeizer, supra note 3, [17]-[24].
39. Ibid., [196].
40. Id., [196].
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446-456: 2004. Cambridge Howard Schreierman, personal to a fundamentally 1.3 (particularly, p. 450, bottom i: [1]).

pension of a plant containing a patented gene constitutes “use”, and therefore infringement. 34 Schreier’s failure to spray his crop with herbicide was immaterial because of the patent’s “stand-by utility”. 35 As a consolation, however, the majority did accept Schreier’s argument regarding damages. 36 The disclaimer’s solution to the whole dilemma would have been to uphold the patent’s validity in so far as it protects only the gene, leaving farmers free to use their plants and seeds. 32 Each of these points could spawn volumes of commentary. One involves fascinating issues about IP policy in terms of cumulative protection, and about the morality of biotechnology and IP. Another is an intriguing question of statutory interpretation, which seeks to uncover the rationale underlying patents and shape the doctrine of patent infringement. The question of remedies is an essay in itself. 37

But Schreier made another argument that is most interesting for the purposes of this article. He had argued that Morimura forfeited its IP rights by virtue of the unconfined release of its product into the environment; that innocent bystanders should not suffer from the adventitious spread of Morimura’s gene; and that the solution to this dilemma is through the doctrines of waiver or implied licence. The upshot is that Schreier’s classic property rights in the plants and seeds should not be subordinated to Morimura’s IP rights.

Schreier tried to show how the law traditionally reconciles competing property claims. Indeed, this is not a novel exercise. By the early nineteenth century, the law of admixture recognized that “if a true product com in my bag, in which before there is some corn, the whole is mine because it is impossible to distinguish what was from what went in”. 38 Also, so-called “stray bid” cases illustrate the traditional approach to property disputes concerning biological matter; when a bull escapes and impregnates a neighbour’s cow, the offspring belongs to the owner of the female, who has possession. 39 Suppose, however, that Schreier’s neighbour sold, claiming ownership of the seed that appeared on Schreier’s land. In that case, there might be a claim in criminal law for theft, or in tort for conversion, or, once the seed germinates and grows into a new plant, perhaps in unjust enrichment. 40

There are some especially noteworthy passages in response to Schreier’s classic property argument. Justice McKay said in the Trial Division:

"_. For the defendants it is urged Most but has no property interest in its gene, only

15 Ibid., [86];
16 Ibid., [67], [56], [60];
17 Ibid., [86]-[88];
18 Ibid., [86]-[105];
19 Ibid., [140]-[163].
22 Schreier, Appellant’s伏tions, supra, footnote 3, [119]; citing Propriety v. Lawman, (1972) 2 W.W.R. 653 (Ont D.C.),
24 Ibid., [86]-[105].
25 Ibid., [140]-[163].
Although all procedure is great initial presence of from an "exact selectively vales Court felt he had, to must be o ostensibly unless freedom of owner precisely the que right to not, says o of the majority, intellectually dies Nevertheless He was also man contain Monza, replant particular conservation on . 
But worse, I illustrated those who suspected CM farmer known the entire crop, kill, not save any of nevertheless save to curtail t Schmetzer six 5

- 2 Schmetzer, [27], supra, footnote 1, [51]-[52].
- 3 Id., supra, footnote 1, [51]-[52].
- 4 Howard, supra, footnote 11, [51].
- 5 Schmetzer, [27], supra, footnote 1, [51].
- 7 Supra, footnote 1, [51].
- 8 See supra, footnote 1, [51].
- 9 E. 14, [51].
- 10 Schmetzer, supra, footnote 1, [51], supra, Lautzenst. 4. [17], [20]-[37]; copyright is "copyright immunity presumes the public interest in the enforcement and dissemination of works of the arts and design and obtaining a sort renewal is fair."

intellectual property rights. While I acknowledge that the use or plug seizing the plaintiff's patented gene and all may be owned to a legal sense by the former who has acquired the use in plant, that "owner's interest in the seed or plant is subject to the plaintiff's patent rights, including the exclusive right to use or sell in part or whole, and they shall have license to use the invention.

Thus a farmer whose field contains seed or plants originating from seed spread inadvertently, may own the seed or plant on his land even if he did not want to pass them. He does not, however, own the right to the use of the patented gene, or of the seed or plant containing the patented gene or all." (emphasis added).

In the Court of Appeal, Justice Sharp remarked:

"I am prepared to assume, without deciding, that the owner of real property has legal title to any volunteer plants found on his land, and generally has a right to save the seed from such a plant, and to plant and harvest the seed for profit in subsequent years. However, there is no indication for the proposition that ownership of a plant must necessarily vest the rights of the holder of a patent for a gene found in the plant. On the contrary, the independence provides a number of examples in which the rights of ownership of property are conferred on the exorbitant to protect the patent holder's statutory monopoly. (emphasis added)."

Both the Trial Division and the Court of Appeal dismissed Schmetzer's classic property claims in these few lines, as the Trial Division, relatively more effort was spent dismissing public interest arguments for the seed or IP, which involved a "balancing of competing societal interests." (emphasis added). A large proportion of the Court of Appeal judgment involved construction of the patent claims, which required asking what is "reasonable and fair to both patentee and public." (emphasis added). Note the absence of any reference to classic property owners, even though the purpose of the exercise was to determine what Schmetzer could or could not do with his crop.

But most disappointing, the majority of the Supreme Court missed the point entirely. "The issue is not property rights, but profit property. Ownership is no defense to a breach of patent law and cannot be considered as a defense. (emphasis added)." Actually, reconciling intellectual and classic property rights is exactly the issue.

Perhaps just as unfortunately, the majority also failed to mention any counterbalancing interest, including society's. They cited no purpose for patents except "to prevent others from depriving the inventor, even in part and even indirectly, of the monopoly that the law intends to be theirs." (emphasis added) Not only is this surprising in light of the Court's recent balancing approach toward other IP laws, but it ignores the utilitarian endorsement of patent law generally, which is discussed below (Section III.A.1(b)).
Although all the Courts were skeptical of Schneirer's claim, the analysis (and precedent) is premised on the fact that Schneirer may not have been responsible for the initial presence of Mansanto's invention in his crop. Yet Schneirer was distinguished from an "innocent bystander" because of the suggestion that he deliberately and selectively harvested and replanted only glyphosate-resistant seeds.62 The Supreme Court felt he had, figuratively speaking, "resisted without seiving."

It must be emphasized, however, that classification of "innocent" bystanders is inherently misleading. Whether a crop property owner who exercises the normal freedom of ownership, such as possessing and using the property, is himself innocent is precisely the question. The fact that the 1st right is statutory, while the crop-property rights are not, says nothing about the justice of favoring one over the other. The essence of the majority's decision is that the patent stumps because it exists—a most intellectually dissatisfying result.

Nevertheless, Schneirer was forced to give up or destroy all of his plants and seeds. He was also injunctioned from saving or replanting any seed that he knows or should know contains Monsanto's gene. So a farmer who knows of a patented gene in his crop cannot replant particular seeds known to contain the gene. Thus it perhaps a regrettable constraint on an owner's classic property rights.

But worse, if a patented gene has infiltrated an entire crop, or even if it is sparsely distributed throughout the crop, all seed saving rights are in effect extinguished. Farmers who suspect GM plants on their land are in a very difficult position. For one, every farmer knows that geneticists' gene spreads adventitiously. So they may test-sows the entire crop, killing if they were mistaken. If, however, they were correct, they could not save any of their seeds without being branded an infringer. Not testing, however, leaving seeds, might make them willfully blind.63 The only viable option is so draconian the practice of saving seeds. Not surprisingly, it has been said that Schneirer sets a "tremendous punitive precedent."64

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62 Schneirer, 486 U.S. at 228-229 ("[i]t would be difficult, if not impossible, to erect the presumption that possession constitutes use.")
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64 Schneirer, 486 U.S. at 229 ("[i]t would be difficult, if not impossible, to erect the presumption that possession constitutes use.")
III. UNRAVELING THE PROPERTY RIGHTS MATRIX

A. IP RIGHTS

1. Rationale

Although our immediate concern is justifications for patent and Pats in agricultural biotechnology, it makes sense briefly consider some of the assumptions on which such reasoning appears to be based. There are two schools of thought about property justifications generally—natural rights and instrumentalism—and both have been invoked in regard to IP with varying persuasiveness.

(a) Natural rights justification

Labour is a common starting point when speaking of natural rights to IP. Among the most famous propositions of labour-based property theory is Locke's, who believed that a person who is not a slave owns his body, and therefore his labour and the frug of that labour. In essence, people have natural rights to anything produced through their own industry. Importantly, Locke's theory is qualified by two provisos. First, private property must allow "enough and as good left in common for others". Second, private property requires only "as much as any one can make use of ... before it spoils".

The starting premise of self-ownership has been criticized as a basis for property rights generally. That I am not a slave does not necessarily mean I "own" my body—perhaps nobody owns it. Moreover, it is not clear why mixing labour with an object entitles a labourer to a property right but there are further controversies specific to IP.

Ideological resources exhibit three fundamental characteristics. They are non-evolvable, meaning one idea does not preclude another. They are non-excludable, meaning possession does not control access. And they are inexhaustible, meaning ideas are an infinite supply.

Some believe, therefore, that there are always enough and as good ideas, or that using an idea enlarges, not depletes, the common pool. That is to say, second-cons


[36] Ibid., Ch. 23.

[37] Ibid., Ch. 23.


[40] supra, footnote 67, 200.

[41] Hughes, supra, footnote 33, 315-25.
Reconciling Property Rights in Plants

have available the building blocks of knowledge, inventions and culture, which would not have existed but for the industriousness of others. It is also arguable that relational resources are not perishable. Although their commercial value may depreciate over time, their internal value remains constant. 86

However, these claims are unsettled. For one, ownership over knowledge, inventors and culture may inhibit use of the particular idea, so IP would not leave enough and as good for second-comers. 87 Moreover, failing to communicate or develop an idea may be as wasteful as letting plans rot, or IP may be inherently wasteful because it restricts otherwise free access to resources. 88

A variant of labour-based property theory, under the rubric "creation-without-wrong", suggests that a person who creates social wealth is entitled to property if that wrongs no one else. 89 Or, as J.S. Mill puts it, it is no hardship to be excluded from something that would not have existed but for other's work. 90 R. Nozick used this argument to suggest that patents, for example, do not worsen anyone's plight because the invention would not exist but for the patentee. 91

Upon reflection, however, that may not be true. People evaluate loss by reference to alternative scenarios. 92 For example, Waldron hypothesizes a patentee denying a life-saving drug to a patient who suffers from a mental anguish, knowing what might have been. 93 This demonstrates that people do suffer from being denied something that may not have, but does, in fact, exist. The same is true of patented genes designed to increase agricultural yields, which could reduce world hunger. Can one seriously say that children should starve because they would have anyway, but Monsanto's scientists not been so clever? Or that the children should go engineer their own gene?

Another variant, labour-desert, rewards labour with property rights (including ostensibly IP rights) either because a person has chosen to be industrious rather than lazy, or because a person has achieved something worthy of admiration. 94 Equivalently property rights might be offered as a reward for labour in cases of special excellence, special human need or as a reciprocal exchange. 95

There are several "anti-desert" arguments, namely that talent and opportunity should not be rewarded because they are the results of a genetic lottery, that rewards

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86 Ibid., 377-8.
87 Craig, supra, footnote 33 supra; Waldron, supra, footnote 14, 882-6.
88 Craig, ibid., 101.
89 Nozick rejects this argument because it would deny the creator to create property rights through unaided thought. Hazen, supra, footnote 47, pp. 197-204.
91 Nozick, supra, footnote 58, 182.
92 Craig, supra, footnote 33, 114.
93 Waldron, supra, footnote 14, 867-9.
94 Hazen, supra, footnote 57, 206.
are inappropriate because everyone has an obligation to work, and that the free market should determine whether rewards are forthcoming. But the strongest objections boil down to the possibility of offering sizable rewards other than property rights. Inventors might instead be granted subsidies, tax breaks or prizes. It has been said, however, that such responses are inadequate if social convention and expectation demand property rights.72

Perhaps personality-based justifications, such as Hegel's theory of property, establish natural IP rights. Overtly oversimplified, Hegel supposed that each individual owns his or her own property because one does not exist as a person unless his will is extended into the sphere of external resources. So personality becomes actualized in property.73 Wedding rings, photo albums, pets or houses are good examples of "personal" property.74 Personality-based property rights also have intuitive appeal for IP theorists, especially in the field of the arts.75 Moral rights under copyright law are a good example.

However, personality's potential to justify IP is inherently limited.76 It is difficult to express in the face of external constraints.77 Thus, it has been said that "...in inventing the light bulb, Edison searched for the element that would be the longest, not a filament that would reflect his personality."78 In the same vein, a biotechnology patent is difficult to justify on the basis of personality. For starters, can we seriously say anyone's personality is expressed through, for example, glyphosate-resistance? Furthermore, it is arguable that a work, once created, becomes an object independent of the creator's personality. If so, perhaps special personal rights should vest in the audience or user who interprets it.79 Advocates of a broader theory of personality-based IP must at least address the incompatibility of granting purported "personal" IP rights to, for example, corporate employers.

This brings us to a deeper concern that undercuts all natural rights theories of IP. They are arguably based on romantic misconceptions about creation.80 Often, authors or inventors are simply taken figures, representing, for example, the claims of publishers or agrochemical companies. This reality strains philosophical justifications based upon either the labour or personality of natural creators.

72 Abstracted to Harris, supra, footnote 57, 206–7
73 Ibid., 209.
75 A. Polin, ibid., 1959.
76 Id., supra, footnote 13, 330, 332–3.
77 Some actually call this theory of IP a diagnostically broad, since personality can appropriate anything it is property, the ontological central-power conditional by personality-based IP rights might exacerbate poverty and insecurity, threatening ethical life and civil society and rendering freedom as communitarian, contrary to Hegel's central theme. Dwork, supra, footnote 13, Chapter 4.
78 Ibid., ibid., footnote 33, 345.
79 Ibid., 341–2.
80 Palmer, supra, footnote 33, 664–69
Thus, of the litany of potential natural rights arguments, none should shoulder the load of philosophically justifying IP. "Self-ownership" and "no-harvest" are at best controvcrsial justifications for IP, and "labor-desert" establishes only an equivocal right dependent on convention. Personality-based theories may explain some forms of IP, but are unable to go the distance, especially in respect of agricultural biotechnology. Hence, some authors, writing specifically about plants, patents and Pius in Canada, do not even mention the possibility of natural IP rights.81

(b) Instrumental justifications

There are two standard instrumental arguments for private property. First, private property prevents catastrophic overuse of resources, thus avoiding a "tragedy of the commons."82 If everyone had a right to use a resource, nobody could exclude anyone else, we would witness a "trampede" to strip it of all value. Stuck in a prisoner's dilemma, rational individuals will act in a collectively irrational manner.83 Private property, with its concomitant exclusivity, stops this from happening. Private property also brings "justices-as-order" to eliminate uncertainty, social conflict and violence—basically, non-economic tragedies of the commons.

Second, private property promotes optimal investment by internalizing to the owner the economic surplus associated with creating and maintaining a resource.84 This argument supposes that self-interested people will free-ride on the backs of others unless convinced that they will reap the benefits of their efforts. So private property concentrates benefits on the property owner to provide incentives for investment.85

Upon reflection, the two standard arguments do not apply to tangible and intangible property with equal force. The first is wholly applicable to IP. Because of their non-rivalry, non-excludability and inexhaustability, ideational resources cannot be overused in the same sense as physical resources. Songs are sometimes overspaced or trademarks may become diluted; that may affect commercial exploitation, but it is hardly tragic.86

81 Scharf, supra, footnote 41, 3, adopting "the traditional approach to patent policy, which considers patent to be standard only to the extent that the innovation they foster bring benefit to society at large." N. Denzer, Plant Breeder's Rights in Canada and Abroad: What Are Their Rights and How Much Does Society Pay for Them? (1994), 50 McGill L.J. 164, 167. It is a "lesson to prevent the creation of new plant varieties unless doing so would be in the public interest" (cited in N. Denzer, supra, footnote 41).
85 Indeed, the concern with plant's "genpool" is not overuse but audience, and not many IP rights may be counterproductive; M. A. Heller and R.S. Eisenberg, Can Plant Right Infringe? The Antitrust in Biotechnology, 1998, 280 Science 488.
So we are left with only the record of the aforementioned Justications for IP, as an incentive. This is closely linked to labour-insert arguments. The difference, if any, is between ex ante stimuli and ex post compensation, although the promise of reward obviously motivates behaviour. But the parallel highlights a common shortcoming: why property rights? A possible answer is that subsidies, tax breaks, medals or other incentives/rewards are contingent upon the value judgment of those doling them out, whereas property rights are a State-independent, free market incentive. This response would be especially attractive to many instrumentalists.

But the incentive argument presents a more significant problem, linked to the uncertainty of utilizations generally. It is difficult to determine exogenously whether patents, for example, truly encourage innovation, let alone socially desirable innovation. This, of course, is less problematic if patents are seen as racial deserts. Nevertheless, instrumental arguments are typically the "deontological starting point" with respect to IP. This is especially so for patents.351

2. Content

The evolution and intricacies of IP protection for plants cannot and need not be fully explained here. Generally, there are two forms of protection: patents and PAs, and the key question is whether one, both or neither are available. Increasingly, the answer is both.

The United States has led the expansionist movement with respect to IP in plants. Until Congress passed the Plant Patent Act (PPA) in 1930, it was generally accepted that plants were naturally occurring, not amenable to written description, and therefore, not patentable.352 But the PPA now protects new and distinct sexually reproduced plants.353 In 1973, Congress protected sexually reproduced plants with the Plant Variety Protection Act (PVP), which requires novelty, stability and uniformity.354

The U.S. Supreme Court first offered a general patent355 protection for a living organism—a GM strain of bacteria—in 1980 in Diamond v. Chakrabarty. Five years later, in Enz, Fungiblend, the Board of Patent Appeals opened the door to dual protection by finding that the PPA and the PVP did not narrow the scope of otherwise

352 Hynds, supra, footnote 57, 301-302.
353 Waldron, supra, footnote 14, 849. Tox is included in Amor v. § 8, 2d, of the U.S. Constitution. See, for example, Harvard College, supra, footnote 31, [185] 2 per Harvard: L. Parsons are "to advance research and development to encourage broader economic activity" and [270] 4 per Boston: "It is necessary to see the genome if it is to continue to lay the golden egg", suing a clerk who stole in Harris, supra, footnote 57, 299.
355 United States v. Great Northern R. Co., 1939 U.S. 1, 310, 56 L.Ed. 535, 60 SCt 533, 145 L.Ed. 756.
356 PPA, supra, footnote 92; Arid, supra, footnote 72, 289-341.
357 Ibid., supra, footnote 52, 284.
360 "... the patent is defined as a way... they are generally independent."
361 Patents were fixed by Breeders' Rights, necessarily useful, compulsory licenses such as seeds and the commodity, and
363 Patent, supra, footnote 53, 797.
365 Arid, supra, footnote 92, 1990, 1:12.
366 PPA, ibid., supra, footnote 72, 289-341.
367 Ibid., supra, footnote 92, 1990, 1:12.
368 Ibid., supra, footnote 72, 289-341.
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tioned justifications for IP, as ents. 109 The difference, if any, ought the promise of reaped a common shortcoming: why as breaks, melodram or other of those doing them cut, cut incentive. 108 This response cant problem, linked to the term--empirically whether socially desirable innovation, moral deserts. Nevertheless, 107 108 with respect to IP.

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g. J. Walkden, The Right to Leave s. 84, Parrot, supra, footnote 53, 96.

8. of the U.S. Constitution, states J. Parrot are to advance (as per Berryman, 1. "It is necessary to do in Harmo, supra, footnote 57, 249.

1563.

parsable subject-matter.105 The flood of patent grants that followed did not diminish the relevance of the PPA. In Agnew v. Windwer, the U.S. Supreme Court was challenged to interpret the ballooning seed saving provision,106 and determined that farmers could only sell seeds that they had saved for their own replanting but sold following a charge of mind.109 The U.S. Supreme Court, confirmed in 2801 that plants may be protected under the PPA, the PPA and the general utility patent statute.101

Underpinning protection for plant varieties internationally is the International Union for the Protection of New Varieties of Plants, or UPOV.102 Initially created in 1961 by several European countries, UPOV's agreements have been revised several times.103 The European system is also governed by the European Patent Convention (EPC),104 the Community Plant Variety Right Regulation105 and the Biotechnology Directive.106 The Biotechnology Directive allows patents for plants and animals, but not specific plant and animal varieties or essentially biological processes.107 So the European Patent Office has held that the EPC does not extend to within products of plant varieties. 108 Therefore, "... the present position in Europe is that a plant variety, or a group of plants that could be defined as a variety, cannot form the subject-matter of a patent application no matter how they are generated, but can be patent-protected if they are embodiments of inventions that independently satisfy patent protection.110

Plants were first recognized in Canada in 1990 with the enactment of the Plant Breeders' Rights Act (PBR).111 It protects distinct, stable and homogenous (but not necessarily useful) varieties of certain plants.112 Regrettably, limitations, there are compulsory licensing provisions,113 but more importantly, only propagating materials, such as seeds and cuttings, are protected. Thus, seed owners may grow and sell crops as a commodity, and replant seeds for their own use.114

111 (1990) 515 U.S. 179, 191; 115 Ct. 789, 793. Saved seed may also be used for replanting
113 The international protection is the subject of the international agreements.
117 Ibid. Articles 3 and 4.
119 Ibid., ibid, supra, footnote 55.
120 European Patent Office, supra, footnote 81.
121 Ibid., supra, this 4. The breeders have an exclusive licence to sell the variety’s propagating material, to use it to create new varieties and to produce ornamental or cut flowers, as well as to authorize the foraging, for a term of up to 18 years; ibid., supra, footnote 81.
122 Ibid., supra, this 2.
123 Hendri, supra, footnote 81, 161–2.
Canadian patents for plants are slightly more complicated. In the same vein as Chisholm, the Patent Board held in 1982 that living organisms are not patentable.112 In Honear Ltd v. Canada (Commissioner of Patents), the Supreme Court of Canada avoided the question, deciding only that, on the face of the case, there was insufficient disclosure.113 However, in Howard College, a five-four majority of the Supreme Court held that a higher life form is not a manufacture or composition of matter, and therefore, is not patentable. The Court characterized plans as a subes of higher life forms.114 In Schumacher, the Court again split five to four. All maintained that higher life forms are not patentable in Canada. The majority's decision, however, renders this proposition meaningless. Parents are barred for genes and cells that constitute higher life forms, and the patent proceeds the whole of any organism containing patented genes and cells.115 So higher life is not patentable per se, but its building blocks are.

Overlap between patents and Pits is (sic) concern. Parents usually offer more expansive protection because they permit multiple independent claims, and claims cover entire plants (expressly or, following, Schumeter, in effect) and individual components.116 Creators will all some exploit the stronger form of protection, effectively negating any clearly stated limits of the weaker form. Features of Plants, such as seed saving exceptions, are often missed in the patent.117 Also, legislative history can demonstrate that final protection was never intended.118 From a philosophical perspective, there is no rationale for statutory rights, and layered IP regimes are over-protective. And finally, empirical research has begun to demonstrate that if patents are available, Pits fall into disuse, so resources are wasted maintaining schemes of concurrent protection.119

Nevertheless, in most jurisdictions the law is currently stuck in favour of inventors. As it was put in Schumacher: “Ownership is no defence to a breach of the Patent Act.”120 Perhaps this is because of the belief that the first user, namely an IP right, has been granted, so no room remains for “balancing the interests” of others, and that balancing “... warrants suggest that rights are held by two entities. Under an ownership scheme, rights will be granted to one entity only.”121

That is a grave but, common mistake. At least two additional “ownership” interests factor into the property right matrix: common property right in the ideational

115 Schumacher, supra, fnote 31, [1888]-[1996].
116 Schumacher, supra, fnote 31.
117 Asik, supra, fnote 52.
118 But we have Electro Electric, supra, fnote 107, Article 11, which incorporates the underlying principles of the Community’s Plant Variety Rights Regulation, supra, fnote 106.
119 See, for example, (Nur Enjay), supra, fnote 102, 152-4 (Bryan L. Jenkins).
120 Schumacher, supra, fnote 31.
121 Schumacher, supra, fnote 31.
122 Derric, supra, fnote 81, 152.
resource, and classic private property rights in the physical object. Both forms of property, as well as the non-proprietary public interest, are discussed below. But first, we should put IP protection in context.

3. Context

We have witnessed recently the "commodified germlapse,"14. For capital to infiltrate agriculture, there were a number of obstacles to overcome.18 The most notable was a fundamental biological characteristic of the seed—the ability to self-seed. However, law and technology have overcome this barrier to create thriving seed markets. So as Marx foresaw: "Agriculture no longer finds the natural conditions of its own production within itself, naturally arisen, spontaneous, and ready to hand, but these exist as a separate industry from it."19

Our focus is juridical, but a word should be said about technological innovation. Although mankind has bred plants since the dawn of agriculture, an understanding of heredity turned plant breeding from art to science.20 Initially, most research was carried out as public science.21 Private seed markets developed with hybridization.22 Because seed obtained from a hybrid crop generates reduced yield when replanted, hybridization circumvented the biological barrier that inhibited plant breeding and seed production by private enterprise.23 Farmers who wanted high-yielding hybrid crops were forced to return to the market to purchase new seeds every year.

Biotechnology now supports seed markets. Unlike hybrids, however, GM plants generate equally fruitful progeny. To sustain annual demand, patentees must therefore rely on contracts with farmers.29 Consensual arrangements may, however, become obsolete because of "terminology," or "genetic use restriction," technologies.30 That is, genetic modification can now create seeds that grow normally but produce sterile progeny—"suicide seeds."31

Legal developments have complemented technological evolution. Strong IP protection for plants contributes to the expropriation of the means of production from...
farms into the hands of increasingly concentrated agriculture.\(^{13}\) Although, arguably, intellectual property rights promote the commercialization of any educational resource,\(^{14}\) they are often justified by and balanced against society’s interests.

Biotechnology presents special challenges for the public interest. IP rights in biotechnological innovations, although temporally limited, have the potential to be literally unlimited. For example, a patented gene may be protected not only in the product in which it is presently expressed but also in the progeny of that product. In theory, protection is generationally infinite.\(^{15}\) Then there is the “innocent bystander problem.”\(^{16}\) Many biotechnological innovations are self-replicating. This leaves owners of the descendents of patented plants or animals particularly vulnerable to the claims of IP rights-holders. With “traditional” IP, human invention is required to reproduce the patented subject-matter. Books, for example, simply do not copy themselves. Plants do.\(^{17}\)

There are at least three further public-interest concerns in respect of IP and agricultural biotechnology in developing countries. One relates to biodiversity and the erosion of plant’s genetic resources.\(^{18}\) Among other things, genetic diversity facilitates discovery of new products and improves crops against disease. Concentration of genetic resources in the hands of a few global agrochemical corporations may be detrimental to the long-term sustainability of a diverse gene pool.\(^{19}\)

Second, there are concerns about biopiracy. Almost all, economically significant

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\(^{13}\) Akh, supra, footnote 52, 395, 303.

\(^{14}\) Ibid., 364.

\(^{15}\) Waldrep, supra, footnote 14, 690-7.


\(^{17}\) General, note 14, supra, footnote 5.


\(^{19}\) Akh, ibid., 265, 303.
crops originated in what is now called the Third World. As well as feeding, clothing and otherwise sustaining the First World, these plants are used in inputs for innovation. Allegedly, IP rights are sometimes granted in respect of plants that are simply taken from developing countries. The declarative rights are returned not as free goods but as commodities. Indigenous peoples in the Third World should arguably be compensated for such germplasm contributions, which may be a key to economic development.

Finally, there are concerns about global hunger. Eight-bundred million people are chronically undernourished, and live in permanent or intermittent hunger. Increased productivity through agricultural biotechnology can be a solution, but only under the right circumstances. "A great deal needs to be done so that developing-country producers are empowered to make their own decisions regarding these technologies for their own benefit." So what can be done?

2. Common Property

Increasingly, the response to the concerns just mentioned is to translate the public interest into property terms. A theoretical view of IP's limits as "no-man's land" cannot exist in expansionist pressures, so fences have been built around what might be called "common intellectual property": vaunted social rights are thereby injected with the powerful concepts of property and ownership. The public domain is not seen as a realm void of any property, but is itself property, held in common by a particular community or all mankind.

It is now cliché to say germplasm is the common heritage of all mankind. However, in order to establish concrete rights and obligations, the common heritage principle needs an elaboration of community. For example, if property is controlled by and open to only members of a particular group, it may be termed "limited-access." If it is controlled by no one and open to all, it is "open-access."
Is it that germplasm is an inherently common good that cannot be owned; or, rather, words, entirely inapproposae? If so, farmers could use germplasm to grow crops, and scientists to develop new breeds, but nobody could claim ownership over germplasm itself. Or is germplasm initially unowned, but appropriated by anyone? The question would then be who actually has claimed ownership, which depends on the terms by which property is recognized. Since the developing world has decided patents or other statutory rights make IP claims, indigenous communities are seemingly cut of lock. However, another view suggests germplasm was once common but then appropriated by Third World communities. Those in the First World have therefore misappropriated germplasm from them. Or maybe germplasm was always owned by particular indigenous groups, and was never put of mankind’s common heritage.

Most indigenous communities in the Third World do not possess the capability to transform germplasm into a tradable commodity. So that they are not excluded from it, they are likely to view it as initially or thereafter appropriated by either everyone or them alone. Either way, the common heritage principle must include them within its “positive community.” Stone, however, that germplasm must be recognized at a form of “national” property. In other words, only a limited-access commons will do. Since any other approach would cause “only minor alterations in existing patterns of plant genetic resource use and exchange.”

Clearly, work is still needed to refine the concept of common property in this context. The essential point here is that much of the work regarding the limits of IP is focused on one way or another, on public interest or common property counterweights.

**C. CLASIC PROPERTY RIGHTS**

The third sphere of property rights, classic property, is usually neglected when discussing the limits of IP. Rose brings physical objects into the picture, but not to explain public rights. Palmer recognizes that IP restricts the use of legitimately owned tangible property, but stops short of fully analyzing these interests. Waldron recognizes individual rather than societal interests, but does not focus on owners of classic property, mostly discussing liberty instead. Regarding plans and patents,

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12 Use pedagogy such things to the Banamal-cultivating part of her community, which is compatible with Dukur’s definition of inclusive positive community Rose, supra, footnote 11, 93-97, Dukur, ibid., 118.
122 Rose uses the word “society,” which would be a term of Dukur’s inclusive positive community. Rose, ibid., 92-3; Dukur, ibid., 51.
122 Arki, supra, footnote 52, 319-20, Indigenous groups may fall under claims to Dukur’s notion of inclusive positive community Dukur, ibid., 58.
122 Dukur, ibid., 321-2. Statements in this section are illustrative and explanatory Rose, supra, footnote 17, 274-8; but if imposed by the entire public, germplasm might be too important, 36-100.
123 Dukur, ibid., 65.
122 Emphasis, supra, footnote 17.
122 Public, supra, footnote 15, 83, 855.
122 Waldron, supra, footnote 14.
Reconciling Property Rights in Plants

PROPERTY

Skehrase unpacks concerns over autonomy to avoid balancing “incommensurable factors”, but his utilitarian perspective overlooks other important property rights theories. Aoki believes private property can be a shield against domination, but looks at germplasm as a seizable intangible, rather than an intrinsic element of the physical resource. Nobody has posited an amalgamated theory that shows adequate concern for classic property owners.

1. The Importance of Classic Property

(a) Farmers’ rights and global hunger

Waldron suggests that claims by individuals who are denied access to IP are usually not as serious as those who are denied access to material property: “We are seldom dealing here—as we are, sometimes, in the case of material property—with matters of life and death.” Sometimes, however, IP does seriously constrain the use of vital material resources. Cortading a farmer’s seed-saving rights is an example. For sustenance farmers in the developing world, this may well be a life or death matter.

Biopatent and biodiversity can be addressed through variants of the common heritage principle, or by protecting contingent rights. The commons, however, is less able to combat global hunger. It poorly protects an individual farmer’s right to save seed, which is an integral element of sustenance farming. The commodification of germplasm, in part through strong IP regimes, expiates the means of production from sustenance farmers, who cannot afford to return to the seed market from year to year. This is economically detrimental, but can also be locally fatal.

Exceptions to IP in the name of the public interest are not an adequate safeguard. That distracts from the severity of the consequences to individual farmers. Moreover, it is unrealistic to expect IP laws to carry this lead, given their instrumentalist ambitions.

Oceze’s note, defending terminator technologies and denying farmers’ seed-saving rights, illustrates this problem. He canvassed public property concepts to conclude that there is no support for farmers’ rights to save seed, lest some reason to favour them vis-a-vis IP rights. However, his flawed methodology completely overlooks farmers’ classic property rights. Dorceko fell into a similar trap by characterizing farmers’ privileges as mere “residual liberties”, albeit liberties that IP should recognize.

... Skehrase, supra, footnote 41, 25.
... Aoki, supra, footnote 52, 323.
... Waldron, supra, footnote 14, 383.
... See, for example, Kropotkin, supra, footnote 25; Aoki, supra, footnote 52.
... Kropotkin, supra, footnote 14, 14-19; suggest farmer’s rights might have been part of biodiversity laws, IP laws, traditional knowledge laws, human right laws of 21 years legislation.
... Check, supra, footnote 134.
... Dorceko, supra, footnote 51, 152, 169-70, distilling these liberties by asserting without question that the PBA contains ownership “safeguards” and presenting a “rule” that new and improved varieties will be developed, making farmers better off.
The CRTC's recommendation that Canadian patent law should incorporate an innocent bystander exception has been called a "new departure." This may be true if its underlying purpose is to provide a remedy for nuisance or restraints, but it might instead be seen as downgrading IP's potency on account of farmers' classic property rights. The United Nations Food and Agriculture Organization's (FAO) approach toward farmers' rights avoids the important issue of seed saving. This may be in part because farmers are not treated as individual classic property owners, but as an aggregate and incapable group, whose rights are vested in the international community.

A better view pass seed saving into the bundle of private rights that vests in farmers as classic property owners. It is not an exception to IP that can be justified only by abstract rights, public property doctrines or social utility.

(b) Intellectual integrity

Recognizing classic property rights also adds intellectual integrity to the discipline of IP. We concluded that reward or incentive theories but justify IP, but rewards or incentives must come from somewhere. "It sounds a lot less pleasant if, instead of saying we are rewarding authors, we turn the matter around and say we are imposing duties, restricting freedom, and inflicting burdens on certain individuals for the sake of the greater social good." Naturally, we will want to examine the burdens IP imposes. Waldron realizes how a Hofstadten analysis of the duties correlative to IP rights serves as a testing ground for the strength of those rights. Therefore, he looked at IP against a variety of criteria, especially liberty.

However, individual owners of classic property deserve special attention. True, IP covenants all individuals' liberty, but no owner of a physical object is unique. A patent, for example, restricts the owner's freedom to practice an invention, just as it does everyone else's. Yet moreover, the patent curtails the freedoms otherwise associated with ownership. Freedom exclusively to the classic property owner. The classic property owner is doubly affected: she or he cannot make the invention themselves, but also, he/she cannot use the invention as embodied in a physical object he/she already owns.

2. Rationale

(a) Natural rights

In justifying drivative psychological "claims", although they be a poorly devised public sympathy that

Some suggest that the sufficiently disturbed although it is certain

26 The Journal of World Intellectual Property
Another important point it implicit in an argument that seeks to justify IP as "piggy-backing" classic property rights.¹⁷ The justifications most often cited in defense of IP are, for the most part, recycled arguments for classic property. Each of the theories discussed earlier—labour, personality and instrumentalism—were first used to support classic property rights. So one cannot understand the theory of IP without grasping the arguments for private property generally.¹⁸ And as a matter of historical fact, IP has only ever existed in societies with already advanced classic property institutions.¹⁹ There is no such thing as a genuine history of theory of IP.

Locke, for example, was concerned with property in tangible not intangible resources. Vacuums such as no hardship and labour-desert may envelop IP but were not formulated with that in mind. Hegel mentioned products of the mind, although his theory is certainly not designed to justify IP, let alone property; it is a broader explanation of the world. And instrumentalist property theory is basically an offshoot of classic utilitarianism, which applies equally or more strongly to classic property. Modern commentators, such as Hughes for example, essentially adapted these general property theories to the intellectual realm.

So one can debate the inferiority or superiority of "propriety" rights and other rights, or of natural property and instrumental property, but one cannot dispute that classic property rights are philosophically prior to IP rights. That is not to say that classic property should trump IP in every circumstance. It does, however, follow that IP’s burden on the privileges and powers of classic property owners cannot be defended sensibly unless we appreciate these shared ideological underpinnings. Too often IP subordinates classic property without justification. But if we take the time to look, we will often see that a classic property right has relatively more philosophical clout.

2. Rational
(a) Natural rights justifications

In justifying classic, as compared to intangible property, we can start from an intuitive psychological perspective. From childhood, we understand that we own "things". Although critics have tried to influence social conventions, there seems still to be a poorly developed psychology of IP. Nevertheless, this may gain Schneier more public sympathy than Morris, but it cannot justify a natural property right.

Some suggest that property rights require an object capable of satisfaction, this is sufficiently distant from a human subject.¹⁰ This is possible with ideological resources, although it is certainly more difficult to grasp the boundaries of an abstract concept than

¹⁷ Palmiter, supra note 51, 922–3.
¹⁸ Waldron, supra, footnote 56, 33–6.
¹⁹ Black, supra, footnote 57, 44–7.
²⁰ Ibid., 332.
a physical object. The re as physical object is an extraneous reality, whereas the re as ideational construct is a purely legal fiction. Natural classic property rights, however, do not follow from physical existence.

One reason to favour classic property rights over IP relates to liberty. A farmer’s property rights in a plant containing patented genetic material do not impinge upon the patentee’s liberty in the same way that the patentee’s rights impinge upon the farmer’s liberty. Although the patentee might prefer, for example, that the farmer not save seed, doing so is not a restraint on the farmer’s freedom. Thus, it has been said that classic property rights “do not restrict liberty as all—they simply restrain action. Intellectual property rights, on the other hand, do restrict liberty.” But again, even if so, this does not in itself establish a natural property right to classic property.

Delate carries on over whether any property rights, classic or intellectual, is natural. But to the extent that natural property rights are justified at all, nowhere are they more secure than in the field of agriculture. The farmer’s rights to his farm are not hierarchical to the farmer’s rights: “just as one has a right to the crops one plants, so one has a right to the ideas one generates and the art one produces.”

“Growing a crop” has been offered as an example of labour theory’s applicability to classic property. Loosely speaking, one ploughs the land with one’s own hands, plants and harvests a crop. The product of one’s efforts, then, is clearly one’s own property. Agriculture is also mentioned in the context of the “creation-without-wrong” argument: “He who already rightly owns the seed and the ground on which he plants and tends it owns not only the crop—provided always that management of the growing process itself involves no wrong to others.”

Farmers have also presented personality-based arguments to support both “intellectual” and classic property rights. Although Schmeier disposed of his crop as a fungible commodity, he viewed his strain of cantola in a different light. It was simultaneously “personal” and “fungible.” And even in so far as crops may become fungible, growing in a farmer’s fields they are part of the homestead, not like ordinary stocks or money.

3. Content of IP

It has been 1989. 92 Others
In general, farmers’ arguments for natural property rights are relatively compelling. The same can be said of donors of body samples, such as Moore: privacy, personhood, and creation-without-writing might all support his claim.62 By contrast, it is more difficult to sustain a natural rights argument on behalf of owners of CDs and DVDs, whose claim rests largely on having bought the product. These property owners, like IP rights-holders, must resort to instrumental arguments.

(b) Instrumental Justifications

Recall that of the two main instrumental justifications for private property—preventing tragedy and encouraging investment—only the second applies to IP. This is mainly attributable to the non-reality, non-excludability and inexhaustibility of ideas, which alleviate the threat of a tragedy of the commons. More physical objects, however, are scarce, so the whole catalogue of economic arguments applies to support classic property.

This is certainly true for Schmeiser and other farmers. Locke, in so far as his theory has instrumentalist elements, realized that “... the provisions ... produced by one acre of enclosed and cultivated land, are ... ten times more than those which are yielded by an acre of land of an equal richness lying waste in common.”63 Moore’s claim is slightly different. The tragedy of common ownership of human body samples is not economic but ethical. So, like IP, we are left with an incentive argument: more body samples will be provided with property rights than without.64 Economic and non-economic tragedy-avoidance and market-incentives all underpin ownership of tangible chattels such as CDs and DVDs.

Yet whether one or both instrumental arguments support private ownership does not determine which of two conflicting property rights should prevail. That depends on the particular costs and benefits involved; the benefit of incentives may offset the cost of tragedy. My point here is not to say which property right should prevail in which circumstance, but to emphasize that the answer requires a solid understanding of their philosophical foundations. And if, in the end, one believes it boils down to competing instrumental arguments, the answer requires empirical study. Or at least it requires reliable estimates factoring all interests.

3. Content of Farmers’ Classic Property Rights

It has been suggested that “the concept of farmers’ rights was formulated in 1989.”65 Others say “sowing seed had developed over time and been thought of as a

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62 Hardcastle, supra, footnote 23, 16-22.
63 Locke, supra footnote 24, 27.
64 See Moore supra, footnote 8, 497-8; Arata J., rejecting property rights in order to avoid a "monopoly in human body parts.
65 Baldwin, supra, footnote 144, 9-10.
common law right by many farmers.\textsuperscript{186} Recent reports suggest that IP laws should not override this right.\textsuperscript{187} But rarely, if ever, have we received an account of the source of seed saving rights. The truth is that farmers' seed-saving rights are as old as private property itself. Based on the philosophical foundations discussed above, they are part of the standard bundle of rights that accompanies "full-blooded ownership\textsuperscript{188} of classic property. They may not constitute "sole and despotic dominion",\textsuperscript{189} but theoretically, they should be as encompassing as any of the most powerful classic property rights.

Honore's delineation of the "standard incidents" of full liberal ownership serves as a theoretical touchstone for the "bundle of rights" view of property.\textsuperscript{200} It is enough to briefly mention the key incidents of ownership most relevant to the question at hand. Obviously, farmers have an in rem right to exclusive possession of the seed itself. Farmers also have the right to use and transfer their seeds; in other words, full "use-privileges" and "control-powers".\textsuperscript{201} The rights to the income and the capital give farmers the right to seeds as both commodity and means of production.

This point is especially important, as germplasm is agricultural capital. One may not easily see or touch germplasm, but it is fundamentally not IP. It falls in the category of classic property. The farmer, therefore, has rights not only over the plant and seed but also over its genes and germplasm, which are inseparable elements of the physical object. The principle is the inverse of that expressed in Schönfeld—that IP protection for an invention embodied in a gene protects the plant as a whole. A farmer's classic property right extends to the plant and its genetic components.

IV. Conclusion

Arguments for natural property rights do not support a universal theory of IP, but are relatively more compelling for farmers' classic property rights. Also, only incentive-instrumental rationales sustain IP, whereas the litany of instrumental arguments applies to farmers' rights. Yet, paradoxically, the legal scales are tipped decidedly in favour of inventors and against farmers. In many jurisdictions, patents and plant breeders' rights are available cumulatively, and seed saving "privileges" are limited. Such legal strong-arming complements technologological developments, resulting in the commodification of farmers' means of production.

\textsuperscript{187} ONE, supra, footnote 130, 13-14. BGS, supra, footnote 146, 2. But compare Serbanescu, supra, footnote 41.
\textsuperscript{188} ONE, supra, footnote 57, 29-30.
\textsuperscript{201} Harris, supra, footnote 57, 26.
suggest that IP laws should cover in accounts of the saving rights are as old as ions discussed above, they all-blooded ownership is[speto donation], but the most powerful classic liberal ownership serves as property. It is enough to it to the question at hand, of the self. Farmers words, full "use-privileges" racial give farmers the right inside capital. One may not fall in the category of the plant and seed but ends of the Physical object, that IP protection for an farmer's classic property mineral theory of IP, but property rights. Also, only the theory of instrumental legal scales are tipped "intellectuals' patents and privilege" are limiting statements, concluding in the

Schmitz could be the power boy for private property. He is the paradigmatic labourer, a modern day acorns gather. He found personality into his crop, as commodity and strain. And land and crops are templates for instrumentalism. Indeed, most theories take farmers' private property rights for granted.

Yet, in agricultural biotechnology for example, too often we just cut to the chase and ask how patents and Pays are justified. Despite its recent celebrity, IP theory must remember where it came from.