

COMMENTS

Bowman v Monsanto: **Exhaustion versus** **Making**

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In Bowman v Monsanto, the US Supreme Court held that it was patent infringement for a farmer to save patented seeds from one crop to plant and grow a subsequent crop—a practice in which farmers had engaged for thousands of years before the advent of patents on crops. The farmer sought to defend under the exhaustion doctrine, but the Court held that he was “making” a new patented article rather than merely using a purchased article on which the patent rights had become exhausted. The ruling was clearly based on the Court’s opinion that unless this practice were suppressed, agricultural companies would lose the incentive to engage in research

and development of new plants, so that innovation would be stifled. The article criticises the legal reasoning by the Court and suggests, further, that it ignored countervailing policies and made unwarranted assumptions.

In *Bowman v Monsanto Co*,¹ the US Supreme Court interpreted US patent law to forbid a practice in which farmers have engaged for longer than 10,000 years. Since the beginning of the Neolithic period about 10,000 BC, and the concomitant beginning of the agricultural revolution, as commemorated in the song “John Barleycorn Must Die”,² farmers have saved some of their crop to use to plant as seed for the next growing season.³ It is said that Neolithic farming thus sowed the seeds for the modern age.⁴ The *Bowman* Court unanimously held, however, that it is patent infringement for a farmer to plant harvested and saved seeds, and grow additional crops from them—if the crop seeds are descendants of patented seeds. This is the paradigm:

Generation-1→Generation-2→Generation-3.

Generation-1 is patented.

Therefore, to plant Generation-2 and grow Generation-3 infringes.

The Court’s view was that the holding followed inevitably from its prior judgment, in the *J.E.M. Ag Supply* case,⁵ that patent law extends to plants and their seeds as “articles of manufacture” or “compositions of matter”. In *J.E.M. Ag Supply* the Court held, in a case in which only the issue of patent validity was before it, that the patent statute extended to genetically engineered, sexually reproduced plants, so that a patent could properly be issued on a new hybrid strain of maize and its seeds. The determination in the *J.E.M. Ag Supply* case was said to be in turn dictated by the holding in the *Chakrabarty* case that living, unicellular organisms such as genetically engineered bacteria could be patented as “articles of manufacture” or “compositions of matter”.⁶ The *Bowman* Court said that by implication the earlier two holdings

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¹ *Bowman v Monsanto Co* 569 U.S. ___, 133 S. Ct 1761 (2013), affirming *Monsanto Co v Bowman* 657 F. 3d 1341, 1343 (Fed. Cir. 2011).

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“... John Barleycorn must die
They’ve plowed, they’ve sown, they’ve harrowed him in
Threw clods upon his head ...
They’ve let him lie for a very long time, ’til the rains from heaven did fall
And little Sir John sprung up his head and so amazed them all
They’ve let him stand ’til Midsummer’s Day ’til he looked both pale and wan
And little Sir John’s grown a long long beard and so become a man
They’ve hired men with their scythes so sharp to cut him off at the knee
They’ve rolled him and tied him by the way, serving him most barbarously
... And the miller he has served him worse than that
For he’s ground him between two stones ...”

Wikipedia traces the first known version of the song to 1568. See https://en.wikipedia.org/wiki/John_Barleycorn. See also <http://www.youtube.com/watch?v=7bcYeP8Kk8k> (performance by Traffic) [Both accessed January 24, 2014]. J.G. Frazer, in *The Golden Bough*, traces to much earlier times the “corn spirit”, who is dismembered, sown and then regenerates; Frazer refers to John Barleycorn in Ch.32, “The Ritual of Adonis”, in *The Golden Bough*. Cf. John 12:24 (“Except a corn of wheat fall into the ground and die, it abideth alone: but if it die, it bringeth forth much fruit”).

³ Many crops, and all of the early (Neolithic) cereal crops, are edible seeds. This includes wheat, barley, rye, rice and maize. The crops are therefore the same as the seeds from which they grow, i.e. more seeds. This is true also for beans, including soybeans.

⁴ See, for example, National Geographic, “The Development of Agriculture”, <https://genographic.nationalgeographic.com/development-of-agriculture/> [Accessed January 24, 2014].

⁵ *J.E.M. Ag Supply, Inc v Pioneer Hi-Bred Int’l, Inc* 534 U.S. 124 (2001).

⁶ *Diamond v Chakrabarty* 447 U.S. 303, 312–313 (1980).

required that patent protection against infringement extends to “replanting” harvested seeds to grow further crops, since the patent statute contains no express exemption from infringement liability for saving and “replanting” seeds.⁷

Actually, the matter was more open than the Court assumed. As pointed out in the dissenting opinion in *J.E.M. Ag Supply*, what the *Chakrabarty* Court held as to unicellular bacteria need not be understood to apply to more complex living organisms such as crop plants.⁸ Furthermore, the slide down the “slippery slope” from *Chakrabarty* to *Bowman* could properly have been interrupted somewhere between unicellular bacteria and complex, sexually reproduced plants, because neither *Chakrabarty* nor *J.E.M. Ag Supply* involved the issue of whether planting and growing a crop from the seed of a patented plant constituted patent infringement. As will appear, that issue turns on the meaning of the statutory word “make”, which neither of the earlier two cases addressed. The *Bowman* case was one of first impression, unimpelled by *stare decisis*.

Monsanto has patent protection on a plant cell into which has been inserted a particular genetic sequence conferring the ability not to be harmed by glyphosate herbicides (which Monsanto sells under its ROUNDUP trade mark) and on seeds (which Monsanto sells under its ROUNDUP READY trade mark) of a plant containing such cells. When Monsanto sells Roundup Ready soybean seeds to farmers, the presence of the glyphosate resistance trait in the seeds permits the farmers to spray their growing soybean crops with glyphosate herbicide and thus kill off weeds (but not soybean plants) without having to resort to manual or mechanical weeding or tillage. Monsanto sells these Roundup Ready seeds to farmers with the understanding or expectation (usually embodied in what amounts to a licence agreement) that the farmers will plant the seeds to produce crops that are then sold only for human or animal consumption, and not saved for planting in the next growing season. (The crop is soybean seeds like those planted.) Thus Monsanto expects the farmers to consume the soybean crop, feed it to livestock or else sell it as a commodity to a grain elevator or processor, but not save any of the harvested soybeans for “replanting” to grow a further crop.

Because glyphosate resistance comes from the seed’s genetic material, that trait is passed on from the planted seed through the plant to the harvested soybeans, so that a single Roundup Ready soybean seed could grow a soybean plant containing dozens of soybeans like the planted soybean seed. Any of these soybeans, if saved and planted, could grow another such plant—and so on *in saecula saeculorum*. This does not coincide with Monsanto’s business plan, however, which is to sell soybean seeds to farmers for each successive crop that they grow, at a price that reflects the freedom from needing to weed the crop.⁹ If farmers saved some of their harvested seed for further planting, Monsanto’s revenue stream presumably could be decreased. Monsanto secured patent protection in order to safeguard its business plan and revenue stream.

Vernon Bowman, the defendant in this case, is a 75-year old Indiana farmer who grows soybeans. As he explained it,¹⁰ in some years the river near his farm floods his land in July, destroying the soybean crop he planted earlier that year. He therefore tries to grow another soybean crop, which he hopes will offset some of his losses. He knows that grain-elevator “commodity” seed—composed of crop soybeans—is inferior to the Roundup Ready seed Monsanto or its licensee¹¹ would sell him, because its properties are less predictable.¹² But it is much cheaper¹³ and he seeks to minimise his investment in the second, chancier crop. Thus, for regular crops he buys and uses brand-name, higher-quality Roundup Ready seed, but for a risky and marginal crop he buys and uses cheaper and inferior commodity seed. Clearly, his business plan and Monsanto’s were on a collision course.

Because most of the farmers in southern Indiana where Bowman lives use Roundup Ready seed, the commodity seed that Bowman buys from a local grain elevator will largely be Roundup Ready, and thus glyphosate resistant. It will also be subject to Monsanto’s patents, unless somehow insulated from infringement liability. Bowman’s legal theory was that the exhaustion doctrine protected his use of the ancient practice of planting harvested seeds for new crops. Monsanto disagreed and this patent infringement suit followed.

⁷ The term “replanting” is a misnomer, because harvested seeds saved to plant a new crop have never been planted previously and therefore are not planted again. Their *ancestors* were planted previously but are not planted again, either, for they have ceased to be before the harvested seeds exist, much less are planted. The pattern of their genetic material, however, persists from generation to generation, via the John Barleycorn process. There is a whole boatload of metaphysics attached to this point, to which the article returns later.

⁸ *J.E.M. Ag Supply* 534 U.S. at 148–149 (dissenting opinion of Breyer J.).

⁹ “Roundup Ready seed can cost as much as \$75 an acre compared with \$30 to \$35 for soybean seeds that are not genetically modified . . . The difference in price is thought to reflect mainly royalties paid to Monsanto.” See “As Patent Ends, a Seed’s Use Will Survive” (December 17, 2009), *New York Times*, http://www.nytimes.com/2009/12/18/business/18seed.html?_r=1 [Accessed January 24, 2014]. From 1995 to 2011, the average cost to plant one acre of soybeans rose 325%. Eamon Murphy, “Bowman v. Monsanto: The Price We All Pay for Roundup Ready Seeds” (May 21, 2013), *Daily Finance*, <http://www.dailyfinance.com/on/monsanto-gmo-roundup-ready-seeds-patents-food-prices/> [Accessed January 24, 2014].

¹⁰ Bowman participated in a legal symposium concerning his case, available at <http://www.youtube.com/watch?v=BDDmjVdA75E#t=285> [Accessed January 24, 2014], and explained his situation and position. His lawyer and Monsanto’s lawyer also participated in the symposium.

¹¹ Monsanto has licensees that sell seed on the same basis that Monsanto does. For the sake of simplicity, both Monsanto and its licensees will be referred to as Monsanto.

¹² For example, commodity seed is a mixture of different strains of soybean, with differing maturity dates. The resulting crop therefore matures at different and unknown dates. Different strains may have different heights, yield different sizes of beans, be optimised for different field conditions, and respond differently to herbicides and fertiliser.

¹³ It is estimated that commodity soybean seed is less than \$0.25 per pound as contrasted with more than \$1 per pound for brand-name seed sold for planting. Evan West, “The New Hoosier Farmer Needs a Lawyer” (November 15, 2013), *Indianapolis Monthly*, <http://www.indianapolismonthly.com/features/2013/10/15/the-new-hoosier-farmer-needs-a-lawyer> [Accessed January 24, 2014].

The case has two highly intertwined issues: exhaustion and what constitutes “making”. The US patent statute gives the owner of a patent the exclusive right to *make*, use, and sell the patented article.¹⁴ The exhaustion doctrine gives a purchaser whose title to an article stems from the patent owner or its licensee the right to use and resell the purchased article but *not* to make a new unit or copy of the patented article.¹⁵ The Court held that the exhaustion doctrine did not apply to Bowman, because he did not purchase directly from Monsanto or its licensee, and that he made new copies of the patented product, thereby infringing Monsanto’s patents.

Whether the exhaustion doctrine applies is problematic: this is not a classic exhaustion case. What Bowman bought was not the same unit of the patented article that Monsanto sold, although it was its product: crop soybeans are virtually identical to the soybean seeds used to grow them, because soybeans are self-pollinating,¹⁶ but they are nonetheless different physical entities. In this case, Monsanto sold Generation-1 Roundup Ready soybean seeds to farmers. They planted them and grew soybean plants from them that produced Generation-2 Roundup Ready soybeans, which were both crops and potential seeds for Generation-3 Roundup Ready soybeans—each generation being genetically almost identical to the previous one, and thus continuing forward the Roundup Ready trait of glyphosate resistance. The successive generations are, in effect, the reaction products of a biological rather than chemical reaction (the John Barleycorn process): Generation-1 seeds + water + air + sunshine → Generation-2 seeds. The farmers sold their Generation-2 soybeans to a grain elevator from which Bowman bought them. He then planted them and grew Generation-3 soybeans from them. All of these soybean seeds contained the genetic material that was the basis of Monsanto’s patent protection, multiplied at each stage.

The Court held that the exhaustion doctrine did not apply to Bowman, because he did not purchase Generation-1 Roundup Ready seeds directly from Monsanto or its licensee. Rather, he bought Generation-2 Roundup Ready seeds from a grain elevator, which had purchased them from Monsanto’s farmer customers.

Monsanto had sold the ancestors of the seeds Bowman bought, not the actual seeds themselves. Therefore, the Court said, there was no “first sale” of the article accused of infringement—the Generation-3 soybeans that Bowman grew. Accordingly, the Court insisted, Bowman violated Monsanto’s patent rights because he “made” the patented product—the Generation-3 soybeans.

But the issue is murkier than it may appear. Bowman was not in privity with Monsanto for the Generation-2 seeds but they came ultimately from Monsanto, in that they were grown from Generation-1 seeds that Monsanto sold. When the Court held that the exhaustion doctrine did not apply because of the indirectness in the chain of derivation of the patented genetic material, it did not pause to analyse in detail the basis of two important precedents—the *Univis*¹⁷ and *Quanta* cases¹⁸—in which the Court had applied the exhaustion doctrine to products indirectly derived from what the patentee sold. In *Univis*, the Court had held that the exhaustion doctrine applied where the patentee sold a precursor product that purchasers transformed into the patented product—in that case, the patentee sold lens blanks from which the purchasers manufactured patented lenses, a use for which the lens blanks were specially adapted. In *Quanta*, the Court relied on *Univis* to hold that the same principle applied to a licensee’s sale of specialised semiconductor chips to a purchaser who incorporated them into patented computer circuitry.¹⁹ In the Court’s thinking, in both cases, “everything inventive about each patent is embodied in” the earlier generation products. Any point of novelty—i.e. respect in which the claimed invention departs patentably from the prior art—could be found in the sold product coming from the patentee, and no further increment was added in the final product. For that reason, the patentee’s first sale exhausted the patent rights, despite the lack of total identity between the product initially sold and the product sold later.

Bowman argued that the same principle applied to his purchase of crop soybeans containing the genetic material on which Monsanto’s patents were based, and in which “everything inventive” about Monsanto’s patents was “embodied”, but the court refused to accept the analogy.²⁰

¹⁴ 35 USC §271(a); see also 35 USC §154. The statute does not define “make”. See *Paper Converting Machine Co v Magna-Graphics Corp* 745 F. 2d 11, 16 (Fed. Cir. 1984) (“Congress has never deemed it necessary to define [‘make’] ... leaving instead the meaning of ‘make’ ... for judicial interpretation”). The case law containing judicial interpretation, however, is negligible.

¹⁵ *Quanta Computer, Inc v LG Electronics, Inc* 553 U.S. 617 (2008); *United States v Univis Lens Co* 316 U.S. 241 (1942). See *Jazz Photo Corp v Int’l Trade Comm’n* 264 F. 3d 1094, 1102 (Fed. Cir. 2001) (“However, the [purchaser’s] rights of ownership do not include the right to construct an essentially new article on the template of the original, for the right to make the article remains with the patentee”). See also *Mitchell v Hawley* 83 U.S. 544, 548 (1872) (dictum: purchaser “does not acquire any right to construct another machine either for his own use or to be vended to another”).

¹⁶ Self-pollinating (autogamous) plants, such as soybeans, produce seeds almost genetically identical to the parent seed. See GMO Compass, “Soybean” (December 12, 2006), http://www.gmo-compass.org/eng/safety/environmental_safety/187_soybean.html; Pioneer, “Crop Insights: Glyphosate Resistance in Weeds”, <https://www.pioneer.com/home/site/us/agronomy/library/template.CONTENT/guid.8C8F040A-9804-97F3-C650-1EA99776A1B3#mechanisms> [Both accessed January 24, 2014].

¹⁷ *United States v Univis Lens Co* 316 U.S. 241 (1942).

¹⁸ *Quanta Computer, Inc v LG Electronics, Inc* 553 U.S. 617 (2008); see Richard H. Stern, “*Quanta Computer Inc v LG Electronics Inc*: Comments on the Reaffirmance of the Exhaustion Doctrine in the United States” [2008] E.I.P.R. 527.

¹⁹ In *Quanta* as in *Univis*, the questioned use of the sold product was its only commercially practicable use. The soybeans involved in this case, however, did not have to be used as seed—they could have been used as feed for cattle and other animals, as is 70% of soybean production. See Northwest Edible Life, “Monsanto Announces New SoyBee’n Self-Pollinating Soy Bean” (October 12, 2011), <http://www.nwedible.com/2011/10/monsanto-announces-new-soybeen-self.html>; see also Soya Tech, “Soy Facts”, http://www.soyatech.com/soy_facts.htm [Both accessed January 24, 2014].

²⁰ Bowman’s theory can be compared to that of Lucretius, in *De rerum natura*, that wood decays, but the seed of an oak grows into an oak tree with the same kind of wood as that which has decayed, because something inside stores for eternity the inherent property—and this applies not only to oaks but to animals and men, so that they are recreated again and again. Monsanto sold and Bowman bought the “immortal” genetic something stored for eternity in the soybean gene plasm.

In *Univis* and *Quanta* the patentee was rewarded for each product that the purchaser manufactured and sold, because the purchaser bought a licensed precursor for each. But in *Bowman*'s case, one licensed Generation-1 soybean seed from Monsanto resulted in, let us say, about 80 further Generation-2 soybeans that Bowman bought and planted, and he grew each of them into another 80 Generation-3 soybeans.²¹ The Court considered that the reward to Monsanto from these transactions provided it "scant benefit" for its patent monopoly, and therefore no exhaustion occurred.

The Court did not go into great detail in dismissing Bowman's exhaustion argument, but the conclusion Bowman sought to draw does not necessarily follow from the earlier cases, for the analogy is imperfect and they can be distinguished. The physical form of the lens blank that the patentee sold in *Univis* is substantially changed and transformed by grinding some of it away to make it into the patented lens, but it does not vanish; part of the sold glass remains. Likewise, in *Quanta* the semiconductor chips that the patentee caused to be sold were unchanged when they were incorporated into computer circuitry. Yet all of John Barleycorn but the gene-containing seed embryo vanishes at the cellular level when they sow him, harrow him in, throw clods upon his head, and let him seemingly disintegrate in the ground before he springs up again as a plant much later, and that too is what occurs with the soybeans. The atoms of Generation-1 dissipate or are reshuffled and new atoms accrete in forming Generation-2, but the pattern of the cells that the genes dictate persists, multiplied many times. Perhaps the physical dissipation of all but a genetic core and its seed embryo makes for an important distinction, and is enough to make the exhaustion doctrine inapplicable. But even if the exhaustion doctrine does not properly apply in such a case, there is a more fundamental problem with the Court's judgment.

Bowman's conduct is infringing only if the acts of planting commodity seeds containing the glyphosate-resistant genetic material and growing more soybeans from the seeds constitute *making* the patented article.²² The key issue in the case, therefore, is whether Bowman "made" the patented article when he planted and grew a soybean crop from the Generation-2 soybeans

that he bought from the grain elevator. If he did not, it does not matter whether he has a defence under the exhaustion doctrine. Absent infringement, there is nothing to defend against.

The Supreme Court held that Bowman *made* patented seeds by planting commodity glyphosate-resistant soybeans (i.e. Generation-2 seeds) and growing a crop from them. In so ruling, the Court relied on the 1961 edition of *Webster's Dictionary*, according to which "make" means "cause to exist, occur, or appear", and the Court found that dispositive. That is much too hasty, however. In the first place, the language of the statute has remained substantially the same for more than 200 years. The first patent act, that of 1790,²³ provided in its §1 that when issued a patent should grant to the patentee for 14 years "the sole and exclusive right and liberty of making, constructing, using and vending to others to be used, the said invention ...". Section 4 of the same statute provided that "if any person or persons shall devise, make, construct, use, employ, or vend" what had been patented the offender would be liable in an action on the case for damages. Accordingly, we should look to an 18th-century dictionary to define "make" and "making", not one from 1961.²⁴

Dr Johnson's 1755 *Dictionary of the English Language* contains 59 definitions of the verb "make".²⁵ Of these, the most pertinent seem to be the following three (together with usage examples Johnson provided):

2. To form of materials. 'He fashioned it with a graving tool, after he had *made* it a molten calf.' *Exod. xxxii. 4.*
4. To form by art what is not natural. 'There lavish nature, in her best attire, / Pours forth sweet odours, and alluring sights; / And art with her contending, doth aspire / T' excel the natural with *made* delights.' *Spenser.*
30. To mould; to form. 'They mow fern green, and burning of them to ashes, *make* the ashes up into balls with a little water.' *Mortimer.*"

Although this is not conclusive, these definitions and examples suggest that "make" involves an active agent operating to transform a material from one state to another state, by which an artificial product results—in other

But the Supreme Court was buying none of this. In its view, selling the template is not selling that which is patterned on the template, at least when the template has other practicable uses such as animal feed. Yet, regarding the seed and its genetic content as a template makes an imperfect analogy, for a template is passive and lifeless; another agent must actively perform the task of making the product for which the templates sets a pattern. A soybean seed is a template that itself performs that task, because it is alive, and parts of it become embodied into that for which it sets the pattern. What Monsanto sold in the Generation-1 seed lives on to some extent in the Generation-2 seed—that is how the John Barleycorn process works. That makes this aspect of the case more problematic than the Court allowed.

²¹ Monsanto claims a yield of from 85 to 90 beans per plant for Roundup Ready soybean seed. See [http://www.zea-hybrids.com/assets/files/GEN_RR2Y_ProductFlier_062410\[1\].pdf](http://www.zea-hybrids.com/assets/files/GEN_RR2Y_ProductFlier_062410[1].pdf) [Accessed January 24, 2014]. Accordingly, one Generation-1 soybean can become the ancestor of more than 7,000 Generation-3 soybeans.

²² Monsanto made no claim that Bowman violated its patent rights by using or selling the soybeans. The only infringement charged (and found) was that Bowman "replicated" Monsanto's patented soybeans by planting the seeds in the ground to create new infringing genetic material, new seeds and new plants, thereby "making" the patented invention. (The patent status of the genetic material, as such, may be doubtful: see Richard H. Stern, "Comment: *Association for Molecular Pathology v Myriad Genetics: Sieving the Gene Pool*" [2013] E.I.P.R. 685, but that issue was not in the case. The patent covered the plants and seeds too, and was assumed valid on the basis of the *J.E.M. Ag Supply* case *supra* fnn.5–6 and accompanying text.)

²³ Patent Act of 1790 Ch.7, 1 Stat. 109 (April 10, 1790), available in facsimile form at <http://docs.law.gwu.edu/facweb/claw/patact1790.htm> [Accessed January 24, 2014].

²⁴ See, for example, *Legal Tender Cases* 79 U.S. (12 Wall.) 457, 458–484 (1870) ("[T]hese words must be understood as they were used at the time the Constitution was adopted. And we have been referred to no authority which at that time defined coining otherwise than as minting or stamping metals for money ... These are the words of Johnson, whose great dictionary contains no reference to money of paper"). Accord *United States v Bajakajian* 524 U.S. 321, 335 (1998). That the 1790 statute was repeatedly re-enacted and codified does not alter the matter. See *Finley v United States* 490 U.S. 545, 554 (1989) ("Under established canons of statutory construction, it will not be inferred that Congress, in revising and consolidating the laws, intended to change their effect unless such intention is clearly expressed") (internal quotation marks omitted).

²⁵ Available at <http://johnsonsdictionaryonline.com/?p=5634> [Accessed January 24 2014]. The definitions are found at p.1246 of the 1755 printed edition (there are additional definitions for compound forms, such as "make up").

words, to manufacture. This is a much narrower concept, and one less abstract, generic and metaphysical than the “cause to exist” on which the *Bowman* Court focused.²⁶ Johnson’s definitions quoted above also seem more consistent with the words adjoining “making” in the 1790 statute: “constructing” and “using”. This suggests something more prolonged and like a continuing process of artisanship than planting a seed in the ground and letting rain fall on it, something more akin to “fabricating” or “manufacturing”. The better view would therefore seem to be that *Bowman* did not “make” the Generation-3 soybean plants or seeds, in the sense of the patent statute. If he did not, he was not an infringer.

Even if that lexicographical exercise is inconclusive, as it may be, we cannot realistically expect to get a satisfactory answer to the inquiry simply by consulting a dictionary. We should also or instead look to other sources of understanding—to history and to applicable policy considerations. Unfortunately, much of this is inconclusive too because until very recently—only after Crick and Watson’s work—nobody even contemplated the possibility of using gene technology to create forms of plants that did not exist in nature and thus could be deemed articles of manufacture or new compositions of matter. Or if they did contemplate that, it was not reflected in the patent statute or case law. Certainly, the use of “make” in the 1790 and subsequent patent statutes does not embody any discernible legislative intent as to plants.

The only pertinent history is that farmers have saved and planted seeds for 12,000 years. If that suggests anything it would be a prescriptive right, like that in *Darcy v Allein*,²⁷ which should not lightly be disturbed.²⁸

As for policy, there appear to be two conflicting policies. The *Bowman* Court took one of them into account, and it clearly dictated the outcome of the case. The oral argument²⁹ and parts of the opinion make it quite apparent that the Court was concerned about “free riding”.

It feared that the expense of developing new agricultural technology would not be amortised and given an incentive if Monsanto and those in its position could be assured only of one generation of seed sales at monopoly pricing—to be followed by cycles of planting, harvesting, seed saving, planting of harvested and saved seed, and so on, “*ad infinitum*—each time profiting from the patented seed without compensating its inventor”.³⁰ The result, the Court said, would be that “Monsanto’s patent would provide scant benefit”. That, in turn, the Court suggested, would make agricultural innovation unprofitable and thus put an end to it, or at least, as the Court opined, “would result in less incentive for innovation than Congress wanted”.³¹

But the supposed stifling of innovation raises an empirical question; it is not a matter for the Court to assume as self-evident. Monsanto has flourished³² and it is doubtful that suppressing *Bowman* and his ilk³³ is necessary to continue that state of affairs. There are other factual considerations that the Court did not take into account and a possibly countervailing policy. These concern the fact that commodity seed is a second-class product and it is used, perhaps, only in a specialised niche market, a marginal submarket in which its use may not harm Monsanto and may produce public benefits.

According to *Bowman*, it does not pay to use commodity soybean seed for first crops—the ordinary market.³⁴ The monopoly-priced, brand-name seed of Monsanto and other major agricultural companies is more dependable and predictable, and is worth the premium price it commands because it is more profitable, on balance, to use it for an ordinary crop. *Bowman* claims that he always uses brand-name Roundup Ready seed for his ordinary soybean crop, and that he uses commodity seed only when his regular crop fails (for example, because the river floods at the wrong time) and when he decides to gamble on a risky, second crop to replace or

²⁶ The Court’s definition is much too broad. Under that definition, because I cause this law journal article to exist, by writing it out and submitting it to E.I.P.R. for publication, I “make” it under the patent statute. That cannot be the correct sense of *making* under the patent statute, and so the Court’s definition is overbroad and wrong. If I do the legal work for a corporation’s stock offering without which it could not buy or build a factory in which to manufacture bicycles, do I cause the corporation’s bicycles to exist and thereby “make” them?

²⁷ *Darcy v Allein* (1599) 74 E.R. 1131 (Q.B.) (*Case of Monopolies*); see also 77 E.R. 1260, 11 Co. Rep. 84.

²⁸ While the legislature surely can overturn the common law if it desires to do so, such an intent should not be inferred without a clear signal. See, for example, *Caspary v Louisiana Land & Exploration Co* 707 F. 2d 785, n.8 (4th Cir. 1983) (“[W]here a statute and the common law are in conflict, the common law yields to the statute to the extent of the inconsistency ... [But] statutes are not presumed to make any alterations in the common law further than is expressly declared, and that a statute, made in the affirmative without any negative expressed or implied, does not take away the common law. The rules of the common law are not to be changed by doubtful implication, nor overturned except by clear and unambiguous language”); *Arthur v Bokenham*, 11 Mod. 148, 150 (C.P. 1708) (“Statutes are not presumed to make any alteration in the common law, further or otherwise than the act does expressly declare”).

²⁹ For example, at the beginning of oral argument, Chief Justice Roberts asked, “Why would anybody spend any money to try to improve the seed if as soon as they sold the first one anybody could grow more and have as many of those seeds as they want?” Perhaps, the answer to that is he should charge enough for what he sells to make it worth his while, on an installment plan basis if necessary. But there are more complicated answers in the next several paragraphs.

³⁰ *Bowman v Monsanto* 133 S. Ct 1761, 1767 (2013).

³¹ *Bowman v Monsanto* 133 S. Ct 1761, 1768 (2013).

³² In the US 93% of soybean crops and 86% of maize crops come from genetically engineered seeds, and “53% of the world’s commercial seed market is controlled by three firms — Monsanto, DuPont, and Syngenta”: see “Monsanto sued small farmers to protect seed patents, report says” (February 12, 2013), *Guardian*, <http://www.theguardian.com/environment/2013/feb/12/monsanto-sues-farmers-seed-patents?guni=Article:in%20body%20link>. Monsanto’s 2013 revenue was approximately \$15 billion. See Monsanto, *Financial Highlights*, 2013 Ann. Rep., <http://www.monsanto.com/investors/Pages/financial-highlights.aspx> [Both accessed January 24, 2014]. In oral argument, counsel for Monsanto stated that more than 90% of the US soybean crop came from Roundup Ready seeds, but urged the Court not to hold Monsanto’s success against it (“success ... can’t be thought to affect the contour of patent rights”). Monsanto insists, however, that if it allowed *Bowman* to keep replanting his seeds it would undermine its business model, endangering the expensive research that it uses to produce advanced agricultural products. See “Indiana soybean farmer sees Monsanto lawsuit reach US Supreme Court” (February 9, 2013), *Guardian*, <http://www.theguardian.com/law/2013/feb/09/soybean-farmer-monsanto-supreme-court>. Monsanto’s success should not be held against it, but when it claims that the patent statute must be interpreted in such and such a way lest *Bowman* and his ilk will beggar it, that success is relevant to what credence its prediction of destitution deserves.

³³ Monsanto has brought “142 patent infringement suits against 410 farmers and 56 small businesses in more than 27 states”, and won \$23 million in judgments against them. See “Monsanto sued small farmers to protect seed patents, report says” (February 12, 2013), *Guardian*, <http://www.theguardian.com/environment/2013/feb/12/monsanto-sues-farmers-seed-patents?guni=Article:in%20body%20link> [Accessed January 24, 2014].

³⁴ The factual assertions in this paragraph are based on *Bowman*’s statements at the symposium on the case; see <http://www.youtube.com/watch?v=BDDmjVdA75E#t=285> [Accessed January 24, 2014].

augment the yield from the earlier crop, rather than just let the land lie idle. Because this is a risky gamble, however, he uses cheap seed, which he terms “junk seed”, to lower the economic risk of the gamble.³⁵

Arguably, if cheap seed becomes unavailable then the land would be left idle and the flood would cause a dead loss. If this is true, Monsanto is not being deprived of a market for its monopoly-priced seeds and suppressing Bowman just wastefully deprives society of the soybeans Bowman could otherwise produce in his marginal second crop, without benefiting Monsanto. This policy consideration should be factored in along with that favouring giving Monsanto an incentive to innovate.

Moreover, the Court’s investment incentive and innovation amortisation analysis is flawed. It is not self-evident that Bowman’s second-class, replacement crops will dry up the funding for agricultural innovation.³⁶ The Court’s fears may well be unwarranted, for that niche market may not be substantial enough to have any noticeable effect on the profitability of Roundup Ready seeds. Furthermore, an alternative form of intellectual property protection for seed crops already exists, which Monsanto did not assert in this case. The Plant Variety Protection Act (PVPA), a type of utility model law for seed plants (i.e. sexually reproduced plants), protects PVPA certificate holders against the unauthorised sale or propagation of a registered plant variety.³⁷ The PVPA, however, provides an exemption under which a farmer who has legally purchased seed and grows crops from it may save harvested seed for his own use and grow

subsequent crops.³⁸ The availability of PVPA protection for Monsanto’s soybeans undercuts the Court’s assertion that Bowman’s conduct, unless proscribed, would leave Monsanto without protection and thus destroy all incentive for agricultural innovation.

In addition, the “perennial gale of creative destruction”³⁹ may be so much more important in the marketplace than the effect of replanting seeds for replacement crops when the river rises at the wrong time that that effect is too trivial to warrant concern. Weeds are beginning to develop widespread resistance to glyphosate (possibly by the migration of genes from crops to weeds).⁴⁰ Roundup Ready seeds are therefore about to be replaced by seeds for soybean plants resistant to another, newer herbicide.⁴¹ The perennial gale will sweep Roundup Ready seeds away, and in turn sweep its replacement aside for a further replacement. There are potent incentives for agricultural innovation regardless of whether Bowman saves his seed.⁴²

The Court determined that continuing the ancient practice of saving and planting harvested seed will harm innovation and technological progress in agriculture more than terminating it would harm farmers and the public. On that premise the Court, with hardly any consideration, interpreted saving and planting harvested seed to be “making” for purposes of the patent infringement statute. But making the determination that established that premise required, and the Court undertook, a legislative and empirical inquiry and an exercise in trade-offs between competing policies that one may well think the

³⁵ This is a marginal crop and Bowman states that he is a marginal factor in the marketplace. He said: “I’m poor as nothing, so they [Monsanto] can’t take a couple of thousand acres away from me in lawsuits. So, I was kinda lucky when they brought a suit against me that I was practically broke anyway.” See “Supreme Court sympathetic to Monsanto’s patent claims” (February 19, 2013), CBS News, <http://www.cbsnews.com/news/supreme-court-sympathetic-to-monsantos-patent-claims/> [Accessed January 22, 2014].

³⁶ See *supra* fn.32. By the same token, the Court merely conjectures when it asserts that applying the exhaustion doctrine (or not deeming planting and growing seeds to be an infringing act of “making” under the patent statute) “would result in less incentive for innovation than Congress wanted”. Congress never addressed that issue and, of course, nothing is cited to support the Court’s assertion. The Court has no way to know what it alleges that Congress “wanted”. Indeed, the specific reservation to farmers in the Plant Variety Protection Act of the right to save harvested seed for subsequent crops indicates that when Congress did focus on the issue it stated that it wanted farmers to be permitted to engage in that practice; see *infra* fn.38 and accompanying text, rather than believing that letting farmers save seed for later crops would result in less incentive for innovation than Congress wanted.

³⁷ 7 USC §2541(a); see also 7 USC §2483.

³⁸ 7 USC §2543. See *Asgrow Seed Co v Winterboer* 513 U.S. 179 (1995) (holding that this provision does not authorise saving seed for sale as seed in competition against the original PVPA-certificate holding seed seller).

³⁹ See Joseph Schumpeter, *Capitalism, Socialism, and Democracy* (1942), p.83.

⁴⁰ See Seed Daily, “US ‘superweeds’ epidemic shines spotlight on GMOs” (January 13, 2014), http://www.seeddaily.com/reports/US_superweeds_epidemic_shines_spotlight_on_GMOs_999.html; SFGate, “Administration urges approval of new GMO crops to fight super weeds” (January 3, 2014), <http://blog.sfgate.com/nov05selection/2014/01/03/administration-urges-approval-of-new-gmo-crops-to-fight-super-weeds/>; Farming Online, “Rice research sheds new light on GM traits in superweeds” (September 24, 2013), <http://www.farming.co.uk/news/article/8944>; T. Laskawy, “Turf war: In the battle for our crops, superweeds are winning” (July 15, 2013), Grist, <http://grist.org/food/turf-war-in-the-battle-for-our-crops-superweeds-are-winning/>; N. Gilbert, “Case studies: A hard look at GM crops” (2013) 497 *Nature* 24, <http://www.nature.com/news/case-studies-a-hard-look-at-gm-crops-1.12907>; H. Thompson, “War on weeds loses ground” (2012) 485 *Nature* 430, <http://www.nature.com/news/war-on-weeds-loses-ground-1.10691>; *Herbicide-resistant superweeds overpowering crops* (Oct 7, 2011), CBC News, <http://www.cbc.ca/news/technology/herbicide-resistant-superweeds-overpowering-crops-1.1117864> [All accessed January 24, 2014].

⁴¹ Monsanto itself has moved to replace Roundup Ready soybean seed, on which the patent protection expires in 2014, with “new and improved” Roundup Ready 2 and Roundup Ready 2 Xtend soybeans, which Monsanto claims produce more beans per pod and more bushels of crop per acre, and have increased herbicide tolerance. See Farm Progress, “Monsanto Has Details On Their Dicamba-Tolerant Crop System” (September 11, 2013), <http://farmprogress.com/story-monsanto-has-details-dicamba-tolerant-crop-system-9-102294-printversion/>; Midwest Producer, “Message received: Use multiple modes of action” (August 6, 2013), http://m.midwestproducer.com/news/crop/message-received-use-multiple-modes-of-action/article_75356d4a-fec9-11e2-8cb2-001a4bcf887a.html; Agweek, “Slow Roll” (July 22, 2013), <http://www.agweek.com/event/article/id/21262/group/Crops/>; “Genuity® Roundup Ready 2 Yield™ Soybeans: Game-changing soybean technology”, <http://www.genuity.com/soybeans/Pages/GenuityRoundupReady2Yield.aspx>; Corn and Soybean Digest, “Genuity Roundup Ready 2 Yield™ Soybeans Planted on 1.5 Million Acres This Season” (May 26, 2009), <http://cornandsoybeandigest.com/genuity-roundup-ready-2-yield-soybeans-planted-15-million-acres-season/>; Independent Science News, “Roundup Ready 2 Yield as much as Conventional Soybeans?” (November 19, 2008), <http://www.independentsciencenews.org/commentaries/roundup-ready-2-soybeans/>. Patent protection expires in 2026 for the latest issued patent (US Pat 8,053,184) for Roundup Ready 2. See “Roundup Ready Soybean Patent Expiration”, <http://www.monsanto.com/newsviews/pages/roundup-ready-patent-expiration.aspx>; American Soybean Association Newsletter, “ASA Works to Provide Clear Path for Soybeans with Royalty-Free Generic Roundup Ready Trait in 2015” (October 2010) (available as a pdf via link on preceding webpage). Other agricultural chemical companies are beginning to promote their own alternatives. See Seed World, “Resistant Weeds and Geography Drive Soybean Development” (January 13, 2014), listing new soybean varieties being promoted by Syngenta, Dow, and DuPont Pioneer, http://www.seedworld.com/index.php?option=com_content&view=article&id=691%3Aresistant-weeds-and-geography-drive-soybean-development-seed-world-december-2013&catid=129&Itemid=120 [All accessed January 24, 2014].

⁴² Overcoming glyphosate resistance is not the only “perennial gale” factor. New strains of soybean are being developed and promoted for other competitive purposes. For example, new soybean strains are now being promoted to replace saturated fats as frying oils, <http://www.monsanto.com/products/Pages/vistive-gold-soybeans.aspx> (Vistive® Gold Soybeans), and to compete with fish oil as a source of omega-3. See Food Navigator-USA, “DSM and Monsanto to commercialize soybean oil rich in omega-3 SDA. But will anti-GMO sentiment hinder its progress?” (April 8, 2013), <http://www.foodnavigator-usa.com/Suppliers/DSM-and-Monsanto-to-commercialize-soybean-oil-rich-in-omega-3-SDA-But-will-anti-GMO-sentiment-hinder-its-progress> [Both accessed January 24, 2014].

Court is ill-equipped to perform—perhaps is incapable of performing sensibly. If that is so, it was inappropriate for the Court to undertake a task for which it lacks capacity and mandate. Moreover, in doing so the Court operated without any clear indication of legislative intent as to the meaning of “making”. Indeed, legislative intent is non-existent as to “making” plants.

The Court should have left it up to Congress to say in the first instance—as Congress has never done before—that “making” for purposes of the patent law includes saving harvested seed and using it to grow a further crop.⁴³ The Court should have respected 12,000 years of precedent among farmers and declined to outlaw that ancient practice unless and until Congress declares that farmers must end their cycling of John Barleycorn.

Concurrent Use of Retail Marks: A Not IDEAL Situation—*IPC Media Ltd v Media 10 Ltd*

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☞ Confusion; Dilution; Distinctiveness; Electronic commerce; Journals; Reputation; Trade marks; Use

The Intellectual Property and Enterprise Court (formerly the Patents County Court) has held that IPC Media, publisher of Ideal Home magazine and owner of the trade mark IDEAL HOME (a retail mark for a wide range of home goods sold online, by phone or in-store) could not prevent the use of “Ideal Home Show Shop” by the owners of the Ideal Home Show in respect of its new online shop.¹ The Ideal Home Show had used the name since 1908 and the court held that public were used to

distinguishing between the two. Any low levels of confusion had been tolerated, and even encouraged, by both parties for a significant period.

Key findings

Double identity (s.10(1)² infringement)

IPC Media failed to establish double identity (i.e. that the defendant used the same mark in relation to the same goods) as the mark used was held to be IDEAL HOME SHOW, not the registered sign IDEAL HOME (following *LTJ Diffusion*³ and *Reed*⁴).

Concurrent use, guarantee of origin and confusion (s.10(2) infringement)

Although the registered trade mark was for non-core aspects of the business of each party, the specification did cover areas in which both parties provided retail services in respect of home interest goods. The use of IDEAL HOME SHOW did not impair the guarantee of origin provided by IPC Media’s IDEAL HOME trade mark. By reason of concurrent use by both parties over many years, the guarantee of origin afforded by the mark and protected by the registration was not the same as the guarantee provided by a trade mark in the normal circumstances of a single user of a mark. Thus, although there may be some confusion, that confusion is no more than may be expected by reason of concurrent trading by the parties in their core businesses using IDEAL HOME and is not such as to affect the function of the IPC Media trade mark more adversely than it is already affected by virtue of the longstanding uses by the two separate entities.

Reputation, blurring and dilution (s.10(3) infringement)

IPC Media argued that IDEAL HOME was a mark with a reputation and as such the use to which Media 10 were putting the mark could cause dilution or blurring of the brand recognition (and guarantee of origin and other functions of the mark). The court found that the reputation was principally from the use in connection with the magazine and no separate reputation had been established in connection with the retail services for which it was registered. There was a “massive overlap”⁵ with reputation for home interest goods between that relating to the magazine (IPC Media) and that relating to the shows (Media 10). The finding was that “Ideal Home” did not denote the retail services of the proprietor alone and thus the s.10(3) infringement claim did not succeed.

⁴³ See *Gottschalk v Benson* 409 U.S. 63, 73 (1972) (“If these programs are to be patentable, considerable problems are raised which only committees of Congress can manage, for broad powers of investigation are needed, including hearings which canvass the wide variety of views which those operating in this field entertain”).

¹ *IPC Media Ltd v Media 10 Ltd* [2013] EWHC 3796 (IPEC).

² Trade Marks Act 1994.

³ *LTJ Diffusion SA v Sadas Vertbaudet SA* (C-291/00) [2003] E.C.R. I-2799; [2003] E.T.M.R. 83.

⁴ *Reed Executive Plc v Reed Business Information Ltd* [2004] EWCA Civ 159; [2004] E.T.M.R. 56.

⁵ *IPC Media v Media 10* [2013] EWHC 3796 (IPEC) at [62].