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Trademark's Grip over Sustainability

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TRADEMARK'S GRIP OVER SUSTAINABILITY

DANIEL R. CAHOY*

Entrepreneurs and larger firms are waking up to the fact that there is a viable market for recycled, repaired, and even upcycled goods. There is also an increasing desire on the consumer end for more sustainable products as well as measures to reduce landfill and other product disposal harms to the environment. Although some legal barriers to this new market are being actively debated, other barriers have taken a back seat and seem primed to surge only when increased business activity exposes the liability. This is the case with trademark law, which has the potential to substantially deter the small-firm and nonprofit actors that will likely lead this aspect of used-good evergreening.

This Article investigates emergent trademark barriers that have been substantially overlooked in the current discussion regarding product renewal, which has largely been concerned with the right to repair. It considers the surprising power that the doctrines of post-sale confusion, dilution, and repair-or-reconstruction possess to thwart legitimate and sustainable business activity. After reviewing the literature demonstrating that most confusion based on such legal theories is not harmful, this Article proposes some simple modifications to the current rules that would reduce uncertainty. It concludes that sustainable product lifecycles can be better supported when trademark barriers are reduced. Such a change would provide consumers with a more robust path to counter our disposable world.

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INTRODUCTION

The marketplace has increasingly focused its attention on efforts to eliminate the waste from broken or outdated products.¹ Not only is the case for repair or refurbishment premised on consumer savings, but there is also the belief that it contributes to saving the planet in some small way. Less waste means less landfill space and environmental damage from unnecessary production and disposal.² However, policymakers are waking up to the fact that there are barriers to repair and reuse, some of which are created by industries that would prefer to sell new products.³ Measures to reduce barriers and even create a legal right to repair⁴ are laudable, but they often relate to a relatively

1. Mark Esposito, Terence Tse, & Khaled Soufani, *Companies Are Working with Consumers to Reduce Waste*, HARV. BUS. REV. (June 7, 2016), <https://hbr.org/2016/06/companies-are-working-with-consumers-to-reduce-waste> [<https://perma.cc/Y9WP-QHXy>]; Syed Faraz Ahmed, *The Global Cost of Electronic Waste*, ATLANTIC (Sept. 29, 2016), <https://www.theatlantic.com/technology/archive/2016/09/the-global-cost-of-electronic-waste/502019> [<https://perma.cc/H5NF-7LBW>]; Berrin Tansel, *From Electronic Consumer Products to E-Wastes: Global Outlook, Waste Quantities, Recycling Challenges*, 98 ENV'T INT'L 35, 35–36 (2017); *Reducing and Reusing Basics*, EPA (Mar. 25, 2022) <https://www.epa.gov/recycle/reducing-and-reusing-basics> [<https://perma.cc/ZM9S-3KDM>].

2. See Greg Petro, *Upcycling Your Way to Sustainability*, FORBES (Feb. 8, 2019, 1:45 PM), <https://www.forbes.com/sites/gregpetro/2019/02/08/upcycling-your-way-to-sustainability/?sh=110d815558e2> [<https://perma.cc/MTV7-7353>] (describing the growing interest in upcycling, particularly among clothing manufacturers); Lea Messinger, *Would You Buy Patched Up Clothes to Tackle Textile Waste?*, GUARDIAN (Aug. 7, 2016, 10:00 AM), <https://www.theguardian.com/sustainable-business/2016/aug/07/clothes-recycling-second-hand-waste-landfill-textile> [<https://perma.cc/QX6S-L94S>] (stating that “Americans throw away 25 [billion] pounds of clothing, shoes, accessories and other textiles every year,” and 85 percent of that goes to a landfill).

3. See FED. TRADE COMM'N., NIXING THE FIX: AN FTC REPORT TO CONGRESS ON REPAIR RESTRICTIONS (2021) [hereinafter FTC REPAIR REPORT] (describing various restrictions on repairing existing products and the right-to-repair movement).

4. See Aaron Perzanowski, *Consumer Perceptions of the Right to Repair*, 96 IND. L.J. 361, 375–79 (2021) (describing right-to-repair legislative efforts, particularly related to the automobile industry, such as the proposed federal PARTS Act); Leah Chan Grinvald & Ofer Tur-Sinai, *Intellectual Property and the Right to Repair*, 88 FORDHAM L. REV. 63, 76–80 (2019) (describing draft right-to-repair legislation); Nicholas A. Mirr, Note, *Defending the Right to Repair: An Argument for Federal Legislation Guaranteeing the Right to Repair*, 105 IOWA L. REV. 2393, 2401–03 (2021) (describing the current effort to enact right-to-repair legislation in the states); Joanna Stern, *How the “Right to Repair” Might Save Your Gadgets – And Save You Money*, WALL ST. J. (Aug. 30, 2021, 8:00AM), <https://www.wsj.com/articles/how-the-right-to-repair-might-save-your-gadgets-and-save-you-money-11630324800> [<https://perma.cc/YH32-ZPJM>] (describing in

narrow set of facts: a consumer owns a particular item and wishes it repaired to function as initially purchased. This focus ignores the legal issues related to other important product reclamation and upcycling contexts that may actually be more important for a sustainable future.⁵

Consider the future of the internal combustion engine, one of the most durable applications of technology in modern history. Though it has been substantially improved over the years, the principle of exploding liquid fuel pushing cylinders to turn a crank shaft that eventually turns wheels is essentially the same as that established back in the 1870s.⁶ This technological paradigm is now in flux as electric vehicles have come to be viewed as not only a viable option, but likely the future of personal transportation.⁷ Various jurisdictions have mandated an end to the gas- or diesel-powered car within the next thirty years.⁸

layperson's terms recent examples of repair barriers to products such as Apple laptops).

5. This Article uses the term "upcycling" in its simplest physical context, which involves taking a product and modifying it into another product for resale. However, in the chemical and biotechnology industries, upcycling is a term used to refer to complex conversions of used starting materials like plastic polymers into new materials for subsequent production processes. *See, e.g.,* Xianhui Zhao et al., *Plastic Waste Upcycling Toward a Circular Economy*, CHEM. ENG. J., Jan. 15, 2022, at 131928 (describing one form of upcycling of thermochemical conversion of plastic waste to high value products).

6. *See* Michael Moyer, *Internal-Combustion Engine*, SCI. AM. (Sept. 1, 2009), <https://www.scientificamerican.com/article/internal-combustion-engine> [<https://perma.cc/4VZM-72Z9>] ("Nearly every vehicle on the road today is powered by some version of the four-stroke internal-combustion engine patented by Nikolaus Otto in 1876.").

7. Nora Naughton, *Electric Vehicles Are the U.S. Auto Industry's Future – If Dealers Can Figure Out How to Sell Them*, WALL ST. J. (Mar. 7, 2021, 5:30 AM), <https://www.wsj.com/articles/electric-vehicles-are-the-u-s-auto-industrys-future-if-dealers-can-figure-out-how-to-sell-them-11615113000> [<https://perma.cc/Q8N7-JUGF>].

8. *See, e.g.,* Cal., Exec. Order N-79-20 (2020) (California executive order mandating that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035); *CO2 Emission Performance Standards for Cars and Vans*, EUR. COMM'N, https://climate.ec.europa.eu/eu-action/transport-emissions/road-transport-reducing-co2-emissions-vehicles/co2-emission-performance-standards-cars-and-vans_en [<https://perma.cc/4YRV-D2UM>] (describing legislative proposals that target a 55 percent reduction in greenhouse gases in part using incentive mechanisms for zero- and low-emission vehicles); *Policies to Promote Electric Vehicle Deployment*, INT'L ENERGY AGENCY, <https://www.iea.org/reports/global-ev-outlook-2021/policies-to-promote-electric-vehicle-deployment> [<https://perma.cc/UL5M-MBJM>] (describing various initiatives across the world to require or incentivize electric vehicles).

The shift to electric vehicles has great significance for current gas-powered cars. It is not ridiculous to ask whether they will be available anywhere in the future, and in the near-term, to wonder how long they will be permitted on the road. This utility horizon necessarily impacts current vehicle purchases: if one might have difficulty selling a gas- or diesel-powered car in the future, that vehicle's present value is reduced. Conversely, if an automobile owner simply has the option to switch out the internal combustion engine for an electric motor, some or all of that power-source anxiety would disappear.

In fact, it is possible to convert a gas-powered vehicle to electric power. Several companies now will convert conversions of certain models of cars to an electric powertrain, offering many of the advantages of new electric cars, including zero emissions and dramatic acceleration.⁹ Although the modification process is more complicated than simply dropping in a "crate" replacement engine,¹⁰ it can be accomplished in a manner that leaves the outer appearance of the car largely intact.¹¹ An old Porsche still looks like an old Porsche, yet it has many of the advantages of an electric car such as a Tesla.¹² And more importantly, the environment is the beneficiary, as a polluting vehicle is now suddenly a green alternative. Through such "upcycling," a more sustainable world can be achieved with less waste.

But is that old Porsche still a "Porsche?" If not, who cares? Perhaps the owners of Porsche, Volkswagen AG,¹³ who may be concerned that a car carrying their logos and shapes now

9. *The Build*, ZELECTRIC MOTOR CARS, <https://www.zelectricmotors.com/the-build> [<https://perma.cc/VY4S-ZQV3>]; *Retrofit a.k.a Electric Conversion*, RETROFUTURE, <https://retrofuture-ev.com/en/retrofit> [<https://perma.cc/B72D-8GAS>].

10. *But see* Igor Bonifacic, *Chevy Will Start Selling EV Retrofit Kits in 2021*, ENGADGET (Oct. 30, 2020, 1:40 PM) <https://www.engadget.com/chevy-ecrate-2021-174002305.html> [<https://perma.cc/T9TQ-5XAH>].

11. *See* Beth Timmins, *The Classic Cars Being Converted to Electric Vehicles*, BBC NEWS (Oct. 4, 2021), <https://www.bbc.com/news/business-58578061> [<https://perma.cc/6M6Q-TK74>].

12. ZELECTRIC MOTOR CARS, <https://www.zelectricmotors.com> [<https://perma.cc/4VWX-7BGP>] (videos describing use of a Tesla motor systems in vintage Porches).

13. *What Brands Does Volkswagen Own?*, MOTORTREND (June 4, 2020), <https://www.motortrend.com/news/who-owns-porsche> [<https://perma.cc/KEP5-EYTU>].

functions as a significantly different car.¹⁴ Even if the initial purchaser or modifier is not confused about the nature of the vehicle, others who view it post-modification may have substantially changed views about the qualities of the old Porsche. The signature sounds and driving characteristics—essentially, the physical brand—that make a car a valuable classic could be eliminated. The ensuing concern over the tarnished image is squarely within the domain of trademark law.

Trademarks identify the source of goods and services, reducing consumer search costs when one seeks to reconnect with the sensation of the refreshing soda, warmth of a winter-proof coat, or satisfaction of a high-quality automobile from a particular source.¹⁵ They are focal points for consumer goodwill based on prior experience.¹⁶ When those trademarks appear on goods that no longer reflect firm-specific qualities, litigation may ensue to address consumer confusion or brand dilution. It is relatively easy to imagine how trademark rights could interfere with sustainable uses of existing products. Unfortunately, legal restraints on trademark rights that would permit sustainable reuse are, at best, unclear and, at worst, not available in many jurisdictions. Trademark conflicts with sustainability goals may prove to be as significant an obstacle as other intellectual property rights more commonly cited.¹⁷

This Article will consider underexplored trademark rights in the context of repair, modification, and upcycled goods. It will

14. See Thom Taylor, *Porsche Tells Builder Remove Its Brand Name from Car*, MOTORBISCUIT (Mar. 13, 2021), <https://www.motorbiscuit.com/porsche-tells-builder-remove-its-brand-name-from-car> [<https://perma.cc/YDQ7-JHYW>] (describing Porsche's demand that automobile modifier Singer remove the Porsche name from modified off-roading 911s).

15. William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J. L. & ECON. 265, 269 (1987); see also *Ty Inc. v. Perryman*, 306 F.3d 509, 510 (7th Cir. 2002).

16. U.S. Pat. & Trademark Off. v. Booking.com BV, 140 S. Ct. 2298, 2302 (2020) (“Guarding a trademark against use by others . . . ‘secure[s] to the owner of the mark the goodwill’ of her business and ‘protect[s] the ability of consumers to distinguish among competing producers.”) (quoting *Park ‘N Fly, Inc. v. Dollar Park & Fly, Inc.*, 469 U.S. 189, 198 (1985)).

17. See, e.g., Pamela Samuelson, *Freedom to Tinker*, 17 THEORETICAL INQUIRIES L. 563 (2016) (reviewing restrictions from trade secret, patent, and copyrights but paying little attention to trademarks); Benjamin Pi-Wei Liu, *Towards a Patent Exhaustion Regime for Sustainable Development*, 32 BERKELEY J. INT’L L. 330 (2014) (focusing on patent rights related to refurbishment of products); FTC REPAIR REPORT, *supra* note 3, at 22 (referring to patent rights as well as trademarks).

identify issues of liability that may linger no matter how diligent the reseller is, and it will explore avenues for reform that may preserve sustainable activities. In Part I, this Article describes the various ways that used products are returned to the marketplace, including through new technologies and forums. Part II reviews the established debate regarding repair restrictions and the effort to establish a broad right to repair. Part III investigates the special relationship between trademark rights and upcycling, repair, and modification activities. In Part IV, this Article explains why current trademark limitations may not resolve some of the most important issues in the context of sustainable product renewal. Finally, Part V proposes modest legal reform that is likely to curtail the threat of abusive litigation while preserving legitimate enforcement of trademark rights.

I. OLD PRODUCTS INTO NEW AND THE TECHNOLOGY OF MODERN SUSTAINABILITY

At the beginning of the twenty-first century, it is fair to say that consumers viewed many—perhaps the majority—of their possessions as essentially disposable. The combination of cheap labor facilitated by global supply chains,¹⁸ better engineering employing low-cost materials and production,¹⁹ throw-away design,²⁰ and even a general desire to acquire trendy and fresh styles²¹ has meant that products that would have been retained,

18. Products do not reflect their true environmental externalities due to the savings provided by globalization on upfront costs. James Salzman, *Sustainable Consumption and the Law*, 28 ENV'T L. 1243, 1258 (1997); Steven D. Eppinger & Anil R. Chitkara, *The Practice of Global Product Development*, SLOAN MGMT. REV. (Nov. 21, 2009), <https://sloanreview.mit.edu/article/the-practice-of-global-product-development> [<https://perma.cc/PTX6-UUES>].

19. Joachim Ebert, *Driving Growth Through Ultra-Low-Cost Product Development*, INDUS. WEEK (Feb. 23, 2010), <https://www.industryweek.com/leadership/companies-executives/article/21953588/driving-growth-through-ultralowcost-product-development> [<https://perma.cc/A2JA-VGL8>].

20. Britt Anne Bernheim, *Can We Cure Our Throwaway Habits by Imposing the True Social Cost on Disposable Products?*, 63 U. COLO. L. REV. 953, 953–54 (1992) (describing disposable design as a factor in throwaway consumption).

21. Elizabeth Jane Poland, Note, *Fashioning Compliance: The Fashion Charter for Climate Action and Strategies for Forming a More Effective Fashion Industry Agreement*, 49 GA. J. INT'L & COMP. L. 407, 414–17 (2021) (describing the environmental impact of “fast fashion”); ELIZABETH L. CLINE, *OVERDRESSED: THE SHOCKINGLY HIGH COST OF CHEAP FASHION* 4–5 (2012) (describing the buying habits that lead to disposable clothing).

repaired, and passed down to future generations were now discarded. The very notion of heirloom possessions is foreign to younger generations, particularly in the West.²² To some extent, this shift away from durable articles is the result of an expansion of the concept of planned obsolescence; firms are naturally interested in encouraging consumers to discard and purchase new products.²³ But it would be naïve to suggest that consumers are not part of the obsolescence bargain.²⁴ They too play a role in pursuing the next new thing, even if an existing product is still viable.²⁵ Overall, society shifted toward a more disposable world,²⁶ and our landfills and oceans are proof.²⁷

A. *Traditional Solutions to the Disposable World*

As throw-away culture took hold in the United States and other developed countries, concerns about the creation of vast quantities of trash emerged.²⁸ The sight of massive landfills and

22. Robbie Shell, *The Family Heirlooms That Our Children Don't Want*, WALL ST. J. (Apr. 10, 2021, 11:23 AM), <https://www.wsj.com/articles/the-family-heirlooms-that-our-children-dont-want-11618068175> [<https://perma.cc/7HRT-N6Z3>].

23. Larry A. DiMatteo & Stefan Wrbka, *Planned Obsolescence and Consumer Protection: The Unregulated Extended Warranty and Service Contract Industry*, 28 CORNELL J.L. & PUB. POL'Y 483, 492–94 (2019) (describing the concept, its origins, and its conflict with sustainability). *But see* Jeremy Bulow, *An Economic Theory of Planned Obsolescence*, 101 Q. J. ECON. 729, 735 (1986) (explaining that a monopolist may choose durability instead of obsolescence under some conditions).

24. Conrad B. MacKerron, *Moving Toward Sustainable Consumption in Electronics Design, Production and Recycling*, 31 UTAH ENV'T L. REV. 117, 121 (2011) (noting how advertising inspires consumers to quickly dispose of old electronic goods).

25. *See, e.g.*, Vyshnavi Thavalingam & Gayani Karunsena, *Mobile Phone Waste Management in Developing Countries: A Case of Sri Lanka*, 109 RES., CONSERVATION & RECYCLING 34, 34 (2016) (detailing studies showing that the potential life span of a cell phone has decreased from nearly ten years to about twenty-four months).

26. Kayla Vasarhelyi, *Trashing a Throw-Away Society*, UNIV. OF COLO. ENV'T CTR. (Feb. 9, 2021), <https://www.colorado.edu/center/2021/02/09/trashing-throw-away-society> [<https://perma.cc/MK2E-F9RF>] (describing the United States as a “throw-away society”).

27. *See* Grant A. Harse, *Plastic, the Great Pacific Garbage Patch, and International Misfires at a Cure*, 29 UCLA J. ENV'T. L. & POL'Y 331, 335–42 (2011) (describing how the “ubiquitous nature of plastic” has a dramatic impact on the ocean, particularly fomenting the formation of the so-called “Great Pacific Garbage Patch” of floating plastic).

28. *See* Jennifer M. Mohamed, *Silent Spring +55: The Human Right to a Clean Environment*, 42 ENVIRONS: ENV'T L. & POL'Y J. 35, 38–51 (2018) (reviewing the history of the growing recognition of a right to a clean environment since the 1940s).

garbage-strewn highways in the 1960s and 1970s contributed to an ecology movement that demanded people consider the impact of waste.²⁹ Such concerns only grew as products were increasingly constructed from plastics that are available only for a single use and often end up in places where the products persist as polluting articles.³⁰ Additionally, the rise of “fast fashion” that depends on cheap and disposable clothing has substantially contributed to consumer waste.³¹ Unsightly and in some cases dangerous, the trash production of large populations is a major inspiration for change.³²

Alongside the refuse itself is the concern that the energy required to replace discarded products is wasteful. By some estimates, 90 percent of the energy used to make aluminum can be saved through recycling.³³ Using recycled glass in the production of new products reduces 20 to 30 percent of energy costs.³⁴ Recycling cardboard saves 25 percent of energy costs and uses 50 percent less water.³⁵ Because energy savings are linked

29. Though, there is an argument that some of the call to environmentalism is built on corporate campaigns to instill individual culpability rather than find responsibility in industry and government. See FINISH DUNAWAY, SEEING GREEN: THE USE AND ABUSE OF AMERICAN ENVIRONMENTAL IMAGES 187–91 (2015) (describing more recent campaigns to rely on market forces rather than government regulation to address environmental problems).

30. See Courtney Lindwall, *Single-Use Plastics 101*, NAT. RES. DEF. COUNCIL (Jan. 9, 2020), <https://www.nrdc.org/stories/single-use-plastics-101> [https://perma.cc/84Q2-SEKT]. But see Shelie A. Miller, *Five Misperceptions Surrounding the Environmental Impacts of Single Use Plastic*, 54 ENV'T SCI. TECH. 13143 (2020) (arguing that the impact of single-use plastics is less significant than other environmental harms).

31. See Aydin Alptekinoglu & Adam Örsdemir, *Is Adopting Mass Customization a Path to Environmentally Sustainable Fashion?*, 24 MFG. & SERV. OPERATIONS MGMT. 2982, 2983 (2022); Zhai Yun Tan, *What Happens When Fashion Becomes Fast, Disposable and Cheap?*, NPR (Apr. 10, 2016), <https://www.npr.org/2016/04/08/473513620/what-happens-when-fashion-becomes-fast-disposable-and-cheap> [https://perma.cc/M55D-JGLP] (describing the increase in fast fashion trends, spurred by companies like Zara, the Gap, and Adidas).

32. See Daniel Hoornweg et al., *Waste Production Must Peak This Century*, 507 NATURE 615, 615–16 (2013) (detailing the increasing problem of urban waste accumulation across the world, stemming from sources such as discarded packaging, broken household items, and food).

33. See *The Aluminum Can Advantage*, ALUMINUM ASS'N., <https://www.aluminum.org/aluminum-can-advantage> [https://perma.cc/9U27-WK9C].

34. *Glass Container Recycling Loop*, GLASS PACKAGING INST., <https://www.gpi.org/glass-recycling-facts> [https://perma.cc/L89R-4EMA].

35. Devitt Matthew, *Plastic vs Carboard Packaging: A Complex Choice*, ECOBAHN (May 26, 2020), <https://theecobahn.com/packaging/plastic-vs-cardboard-packaging-a-complex-choice> [https://perma.cc/NS5G-PWXX].

to lower carbon production, climate change and waste avoidance are inherently linked.³⁶

Based on obvious advantages, recycling programs have emerged across the world over the last fifty years. Not simply an altruistic endeavor, using existing materials has long been recognized as a business opportunity for firms that can take advantage of the cost savings.³⁷ To ensure that the incentive to develop recycling technologies exists, governments may supplement the market pressures with regulatory regimes that require or incentivize consumer recycling (even if some percentage of the products end up in a landfill).³⁸ There is no doubt that in some cases, such as aluminum cans, recycling has eliminated substantial amounts of waste and protected the environment.³⁹

However, recycling is not the answer to all consumer and business waste issues. For one, not every type of product is efficiently recyclable. Some utilize materials that are either not reusable or require advanced recycling technology that is not widely available.⁴⁰ Others depend on markets that exist under limited conditions or depend on need in developing economies.⁴¹ Moreover, recycling generally requires destruction of the original product, which entails some additional costs over full

36. *Energy and the Environment Explained: Where Greenhouse Gasses Come From*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/energyexplained/energy-and-the-environment/where-greenhouse-gases-come-from.php> [<https://perma.cc/9U5T-F4ME>] (stating that “[i]n 2020, fossil fuels were the source of about 73% of total U.S. human-caused (anthropogenic) greenhouse gas emissions”).

37. David Biddle, *Recycling for Profit: The New Green Business Frontier*, HARV. BUS. REV. (1993), <https://hbr.org/1993/11/recycling-for-profit-the-new-green-business-frontier> [<https://perma.cc/2826-DA6U>].

38. See, e.g., Emily G. Brown, Note, *Time to Pull the Plug? Empowering Consumers to Make End-of Life Decisions for Electronic Devices Through Eco-Labels and Right to Repair*, 2020 U. ILL. J.L. TECH. & POL’Y 227, 237–39 (describing the European Union’s WEEE Directive that requires member States to reduce electronic waste by ensuring that users have both responsibility and knowledge); Ann E. Carlson, *Recycling Norms*, 89 CAL. L. REV. 1231, 1262–65 (2001) (describing government efforts to foster recycling through mandatory and incentivized programs).

39. Justine Calma, *Aluminum Is Recycling’s New Best Friend, but It’s Complicated*, THE VERGE (Jan. 21, 2020, 8:00 AM), <https://www.theverge.com/2019/9/12/20862775/aluminum-recycling-water-tech-plastic-manufacturing-cocacola-pepsi-apple> [<https://perma.cc/DH7M-5QNE>].

40. See Renee Cho, *Recycling in the U.S. Is Broken. How Do We Fix It?*, COLUM. CLIMATE SCH. (Mar. 13, 2020), <https://news.climate.columbia.edu/2020/03/13/fix-recycling-america> [<https://perma.cc/848Z-QPGV>].

41. *Id.*

reuse.⁴² In recent years, firms that have clouded this issue to appear more environmentally friendly are being called to the carpet as “greenwashers,” and in some cases fined for false representations.⁴³ Finally, otherwise viable recycling efforts can be thwarted by contamination, resulting in the redirection of used products to the landfill.⁴⁴ As a result of recycling’s limitations, waste is destined to persist unless some other route for diversion can be identified.

Moreover, there are signs that product disposal trends are slowing (or at least attitudes may be shifting). In addition to the percentage of recycling efforts that work, consumers and firms are also finding it easier to preserve existing goods by repairing them⁴⁵ or remaking them into new, usable products.⁴⁶ Instead of filling landfills and junkyards, or inflicting mountains of waste on vulnerable populations, there is a growing market in product renewal. To some degree, the interest in such products reflects a sustainability mindset. But in some cases, it is nothing more than a desire for less expensive versions of new products. There are even instances in which the remade article is actually more expensive and luxurious than the original. Increasingly, there is a real business case to be made for alternatives to disposal.

42. For example, plastic recycling involves a mechanical or chemical process that reduces manufactured material to more basic elements for remanufacture into new products. See *Advanced Plastic Recycling*, U.S. GOV'T ACCT. OFF. (Sept. 2021), <https://www.gao.gov/assets/gao-21-105317.pdf> [<https://perma.cc/VN35-EZNJ>].

43. See Eric. L. Lane, *Greenwashing 2.0*, 38 COLUM. J. ENV'T L. 279, 288–95 (2013) (detailing greenwashing litigation in recent years).

44. See Cho, *supra* note 40 (“Plastic recycling presents the biggest challenge because the plastic is often contaminated by other materials and consumer goods companies are reluctant to buy recycled plastic unless it is as pure as virgin plastic.”); Jesse R. Catlin et al., *Landfill or Recycle? Pro-Environmental Receptacle Labeling Increases Recycling Contamination*, 31 J. CONSUMER PSYCH. 765, 765–66 (2021) (reporting on the growing problem of overinclusive recycling, including the fact that 25 percent of items disposed in recycling bins are unrecyclable).

45. See Paola Rosa-Aquino, *Fix, or Toss? The Right to Repair Movement Gains Ground*, N.Y. TIMES (Nov. 2, 2021), <https://www.nytimes.com/2020/10/23/climate/right-to-repair.html> [<https://perma.cc/EAW3-SH6Y>].

46. *Our 27 Favorite Products Made of Recycled and Upcycled Materials*, WIRED (Apr. 20, 2022), <https://www.wired.com/gallery/our-favorite-upcycled-and-recycled-products> [<https://perma.cc/65YR-6S87>].

B. The Novel Outlets and Supply Chains for Existing and Remade Products

An alternative to recycling is the reuse of a product or some piece of the product. In some cases, there is an easily understandable market. Consider vintage goods, which may be acquired for less money and may convey a fashion or historical/collectable cachet.⁴⁷ In this context, consumers reject the attraction of “new and improved” in favor of a connection to the past. That connection could be sentimental or ironic, and it ensures a longer life for a good that is at least temporarily saved from the refuse bin.

But of course, desiring old for the sake of old is a limited aspect of the overall marketplace. More interesting and significant is the ability to restore, refurbish, and improve goods for continued use so that no functional sacrifice is made. An increasing number of companies are seeing the value in participating in this market. Others feel the pressure to join as a matter of social responsibility. Regardless, we seem to be witnessing a revolution in the effort to keep products in circulation and avoid early obsolescence.

1. The Repair Community Continues to Grow

At least some consumers are motivated to repair.⁴⁸ And one might expect that nearly every nonperishable or nonconsumable good sold throughout history has been subject to some effort to repair to preserve its utility. From bicycles to automobiles, a repair community has traditionally existed to aid the owners of broken or worn-out goods.⁴⁹ Lately, these communities have

47. See Tracy Diane Cassidy & Hannah Rose Bennet, *The Rise of Fashion and the Vintage Consumer*, 4 FASHION PRAC. 239 (2015).

48. See Ines Fachbach et al., *Driver for the Consumers' Intention to Use Repair Services, Repair Networks and to Self-Repair*, 346 J. CLEANER PROD., Apr. 20, 2022, at 130969 (reviewing literature on factors that motivate consumers to repair).

49. See *infra* notes 52–55 and accompanying text. Additionally, repair advocates are organizing new communities in an effort to encourage consumers to participate in the circular economy rather than simply dispose of used products. See Maja van der Velden, *'Fixing the World One Thing at a Time': Community Repair and a Sustainable Circular Economy*, 304 J. CLEANER PROD., July 1, 2021, at 127151; Christine Cole & Alex Gnanapragasam, *Community Repair: A Pop-Up Alternative to the Throwaway Society*, THE CONVERSATION (Apr. 24, 2017), <https://theconversation.com/community-repair-a-pop-up-alternative-to-the-throwaway-society-75821> [<https://perma.cc/86G9-6KDY>].

been stressed by the emergence of cheap, disposable replacements.⁵⁰ Additionally, technical complexity in many average goods can make repair uneconomical. It is, for example, difficult to find repair services for shoes or televisions.⁵¹ Fixing the former is hardly worth the labor, and refurbishing the latter is far often beyond the skill level of even the most technically trained. To be sure, the fact that fixing consumer products is an increasingly difficult business serves as a barrier to sustainability.

Thankfully, some of these barriers are lowered by the growth of informal repair communities. Collections of owners and hobbyists frequently trade parts, technical information, and other forms of support to help individuals carry out even somewhat challenging repairs. One of the oldest forms of these communities are car clubs, which bring together owners of vintage vehicles to exchange repair advice and materials.⁵² They also support upcycling by providing ideas for modifications that may improve performance or simply alter the look of a vehicle.⁵³ Similarly, bicycle owners often share information about maintenance, repair, and even conversion advice, such as transforming chain-drive bikes to belt-drive.⁵⁴ On the more

50. See Alana Semuels, *We Are All Accumulating Mountains of Things*, ATLANTIC (Aug. 21, 2018), <https://www.theatlantic.com/technology/archive/2018/08/online-shopping-and-accumulation-of-junk/567985> [<https://perma.cc/ECY8-W324>] (detailing how the phenomena of cheap products through accessible online marketplaces pushes consumers to replace goods rather than repair).

51. See Corey Kilgannon, *Practicing the Dying Art of TV Repair*, N.Y. TIMES (May 29, 2015), <https://www.nytimes.com/2015/05/31/nyregion/practicing-the-dying-art-of-tv-repair.html> [<https://perma.cc/2M2K-RX75>] (describing one of the last television repairmen in New York and noting the contraction of the field); Jerry Harkavy, *Saving Soles in a Dying Profession*, CHI. TRIB. (May 22, 2007), <https://www.chicagotribune.com/business/chi-0705180943may22-story.html> [<https://perma.cc/R7NX-42W3>] (citing a Shoe Service Institute of America Report noting that “[t]he number of cobblers has dropped from roughly 100,000 during the Great Depression to about 7,000 today”).

52. See BMW CAR CLUB OF AMERICA, <https://www.bmwcca.org> [<https://perma.cc/K8ZW-SNPK>]; CORVETTE CLUB OF AMERICA, <https://www.vette-club.org> [<https://perma.cc/PN8Q-TCKP>].

53. See, e.g., TRICKED OUT CAR CLUB, <https://www.tricked-out.com/team-honda.htm> [<https://perma.cc/EH3L-HAJZ>] (car club for Honda enthusiasts offering modification advice).

54. See BICYCLES STACK EXCHANGE, <https://bicycles.stackexchange.com/questions/63661/convert-to-belt-drive> [<https://perma.cc/964U-9U6F>] (community advice on converting chain drives to belt drives); BIKE FORUMS, <https://www.bikeforums.net/forum.php>

sophisticated end is a firm like iFixit, which is dedicated to helping electronics owners make their own repairs through the distribution of detailed manuals and videos, as well as the identification of part suppliers.⁵⁵ By facilitating the do-it-yourself spirit, such user communities provide a serious alternative to professional mechanics and shops.

Of course, repair communities have existed for some time, and it is not a surprise that owners continue to have a strong desire to maintain product viability. What is different now is the existence and influence of the internet. Now, repair and upcycling communities have a vast meeting space for exchanging information.⁵⁶ It is possible to find replacement parts for just about any appliance,⁵⁷ car,⁵⁸ or electronic good⁵⁹ online. Additionally, communities exist for selling upcycled products. One of the most prominent is Etsy, which allows individuals to sell a variety of crafts and goods, including such esoteric items as upcycled Pop-Tart boxes, bags made of old Levi's jeans, and lamps made of empty gin bottles.⁶⁰ The strength of such communities, which are becoming ever more robust, has significantly increased the options available for extending product lifecycles.

2. Firms Themselves Increasingly Support Repair and Upcycle

Along with the community of individual owners and users, manufacturers and sellers have entered repair and upcycling markets with increasing frequency in recent years. It is now common for electronics firms and telecommunications providers

[<https://perma.cc/P358-7DV3>] (online community permitting more general exchange of information about bike repair).

55. *Right to Repair*, IFIXIT, <https://www.ifixit.com/Right-to-Repair> [<https://perma.cc/4QHD-3PHW>].

56. See Jan Konietzko et al., *Online Platforms and the Circular Economy*, in INNOVATION FOR SUSTAINABILITY 436, 436–38 (Nancy Bocken et al. eds., 2019).

57. *Find Your Part*, PARTSELECT, <https://www.partselect.com> [<https://perma.cc/MQL7-VEM9>] (offering OEM parts for major appliances like dishwashers, refrigerators, and stoves).

58. ROCKAUTO, <https://www.rockauto.com> [<https://perma.cc/4NBE-8FJB>] (car parts from over 300 manufacturers).

59. *Electronic Parts*, PARTS EXPRESS, <https://www.parts-express.com/electronic-parts> [<https://perma.cc/4H8F-KSB3>] (basic electronics parts for various audio repairs).

60. See ETSY, <https://www.etsy.com> [<https://perma.cc/TC57-Q6PQ>] (search conducted on term “upcycling”).

to take a “trade in” of an older, outdated product and recycle it.⁶¹ Such programs make intuitive sense, as consumers may be inspired to purchase a newer product earlier because of the availability of cash for the used good (similar to the automobile trade-in model that has existed for years). And the old products have some utility to the acquiring companies for whole product or individual component resale.

Surprisingly, the manufacturer trade-in model has spread beyond vehicles and electronics into goods that have almost always been destined for thrift stores or landfills after the original purchase. For example, Patagonia administers a detailed trade-in program that provides varying amounts of credit for used company products that are in good condition.⁶² It is an extension of the mindset that produced the firm’s famous “Don’t Buy This Jacket” campaign from 2011 that confronted wasteful consumerism and promoted sustainability.⁶³ Patagonia resells the used clothing and other articles it collects at its “Worn Wear” site, often at a considerable discount compared to new items.⁶⁴ The company can pay for the “trade-in” and still make a profit on the resale, even after cleaning and processing costs.⁶⁵ An additional advantage is that consumers of the used clothing have a direct relationship with Patagonia, rather than with a

61. See Antonio Villas-Boas, *Here’s What Happens to Your Smartphone After You Trade It In*, BUS. INSIDER (Feb. 5, 2016, 9:18 AM), <https://www.businessinsider.com/what-happens-to-your-old-phone-2016-2> [<https://perma.cc/G629-ZPEY>] (including examples of company programs, such as Apple’s trade-in (<https://www.apple.com/shop/trade-in>) [<https://perma.cc/6PMX-5TYL>]) and AT&T’s trade-in (<https://tradein.att.com>) [<https://perma.cc/F9SR-NU65>]), both of which can be used to obtain credit for new purchases).

62. *Patagonia Trade-In Values*, PATAGONIA, <https://wornwear.patagonia.com/assets/WW-TRADE-IN-VALUES.pdf> [<https://perma.cc/FMP3-GL92>] (the company takes back almost all Patagonia clothing that is not of the “next-to-skin” variety, such as swimwear).

63. Uri Neren, *Patagonia’s Provocative Black Friday Campaign*, HARV. BUS. REV. (Nov. 23, 2012), <https://hbr.org/2012/11/patagonias-provocative-black-f> [<https://perma.cc/TU4K-6AG5>].

64. See *Worn Wear: Better than New Gear*, PATAGONIA, <https://wornwear.patagonia.com> [<https://perma.cc/BB3G-DLVK>]; Elaine Glusac, *Cheap Meets Eco-Chic on the Ski Slopes*, N.Y. TIMES (Dec. 13, 2022), <https://www.nytimes.com/2022/12/13/travel/used-ski-gear.html> [<https://perma.cc/D46X-RZY7>] (detailing the genesis of Patagonia’s program as well as others from REI and Eddie Bauer).

65. Pamela N. Danziger, *How Patagonia, REI and Eileen Fisher Are Using Secondhand Sales to Get More New Customers*, FORBES (June 10, 2019, 10:06 AM), <https://www.forbes.com/sites/pamdanziger/2019/06/10/how-patagonia-rei-and-eileen-fisher-are-using-second-hand-sales-to-make-more-new-sales-and-customers/?sh=31ef0c8e5272> [<https://perma.cc/7NWV-Y5S8>].

third-party reseller.⁶⁶ Other firms have followed suit with trade-in programs for clothing, furniture, and even cosmetics.⁶⁷

Certainly, one criticism of some company-sponsored trade-in systems is that they may be designed to incentivize the purchase of new goods (in addition to keeping consumers tied to the same manufacturer).⁶⁸ Compensation for a trade-in is commonly offered in the form of a store credit, which will then presumably be used to fund a new purchase.⁶⁹ If one is simply turning over an existing product earlier in its useful life than one would normally, the sustainability impact might actually be a net negative. Additionally, it is well understood that a primary advantage of manufacturer trade-in programs is to reduce the inventory available for third-party remanufacturers or resellers.⁷⁰ For example, if Apple can keep an iPhone out of Gazelle's hands, then Apple can retain more control over the market for iPhone users. The fact that commercial motivations exist alongside social ones does not necessarily mean that a recycling or trade-in program makes no sustainability contribution. However, the benefits need to be assessed in view of the overall program impacts.

A major criticism circulating in the right-to-repair movement is that manufacturers and sellers refuse to provide parts and instructions necessary for third-party repairs.⁷¹ When the parts are sufficiently complex or proprietary, this can preclude both owner and third-party repair quite effectively.⁷²

66. *Id.*

67. See Glusac, *supra* note 64 (describing ski clothing resale programs from REI and Eddie Bauer); Patrice J. Williams, *10 Companies That Reward You for Trading in Your Old Items*, REVIEWED (Mar. 21, 2019), <https://www.reviewed.com/lifestyle/features/10-companies-with-trade-in-programs> [<https://perma.cc/D6A2-CX5D>] (listing programs from companies like H&M and MAC Makeup); Colette Bennet, *Companies That Offer Trade-In Programs: Apple, Ikea, and More*, YAHOO! NEWS (Sept. 14, 2021), <https://news.yahoo.com/electronics-trade-in-furniture-clothing-ikea-212044009.html> [<https://perma.cc/L3UF-NQ3C>] (describing Ikea's Buy Back and Resell program).

68. See Rishi Iyengar, *Your Old iPhone Is Worth Big Bucks. Here's Why*, CNN BUS. (Oct. 17, 2020, 8:12 AM), <https://www.cnn.com/2020/10/17/tech/iphone-12-trade-in-programs/index.html> [<https://perma.cc/A2LB-W295>] (describing why cell phone providers such as Apple and Verizon offer trade-in programs).

69. See, e.g., Danziger, *supra* note 65 (describing the model that Patagonia, REI, and Eileen Fisher use for clothing trade-ins).

70. See Vishal V. Agrawal et al., *Trade-In Rebates for Price Discrimination and Product Recovery*, 63 IEEE TRANSACTIONS ON ENG'G MGMT. 326, 329 (2016) (describing the literature on the firm motivations for offering trade-in programs).

71. See *infra* notes 98–99 and accompanying text.

72. See *infra* notes 98–99 and accompanying text.

To be sure, some of this power is limited by the Magnuson-Moss Warranty Act's provisions preventing the conditioning of a product warranty on use of a manufacturer's repair services or parts.⁷³ However, this law does not require manufacturers to make parts available; simply restricting the availability of parts and information from anyone but the original equipment manufacturer (OEM) is often sufficient to constrain competition in repairs.⁷⁴ Additionally, there is only limited state intervention in this regard. In 2012, in the context of automobiles, Massachusetts passed a law that required manufacturers to provide the same information and tools to independent shops that it provided to authorized dealers.⁷⁵ More recently, in June 2022, the New York state legislature passed a bill requiring consumer electronics companies to provide diagnostic and repair information to third parties.⁷⁶ However, the vast majority of states have not yet taken action.

Of course, even a limitation on physical parts requires overt effort by the manufacturer to manage the environment for repair. Such action rather easily leads to criticism of unfair profiteering or undue control that is not consumer friendly. For that reason, companies are starting to warm to the concept of third-party repair.⁷⁷ Perhaps most prominently, in November of 2021, Apple stated its intent to begin selling parts, tools, and

73. Magnuson-Moss Warranty Act, 15 U.S.C. § 2302(c) (2022) (prohibition on condition for written or implied warranty).

74. FTC REPAIR REPORT, *supra* note 3, at 18.

75. MASS. GEN. LAWS ch. 93K, § 2 (2021); *see also* Leah Chan Grinvald & Ofer Tur-Sinai, *Smart Cars, Telematics and Repair*, 54 U. MICH. J.L. REFORM 283, 294 (2021) (noting that the law was updated in 2020 to include a requirement to provide telematics as well, but this addition has received significant backlash, such as manufacturers disabling telematics systems in Massachusetts); Aarian Marshall, *A Fight over the Right to Repair Cars Turns Ugly*, WIRED (Feb. 3, 2022, 7:00 AM), <https://www.wired.com/story/fight-right-repair-cars-turns-ugly> [<https://perma.cc/9R3A-MT6F>] (stating that Subaru and Kia have disabled some telematics systems in Massachusetts in response to the state's right-to-repair requirements); Katie Deighton, *Spare Parts, Fix-It-Yourself Guides Hit the Market as Brands Ponder Repairability*, WALL ST. J. (June 1, 2021, 5:30 AM) (highlighting Ikea's efforts to help consumers repair the company's products).

76. Digital Fair Repair Act, N.Y. S. B. S4140A (2022).

77. *See* Nathan Proctor, *Maybe the Techlash is Working*, SLATE (Dec. 22, 2021, 10:00 AM), <https://slate.com/technology/2021/12/apple-right-to-repair-techlash-working.html> [<https://perma.cc/5RUZ-A4J6>] (arguing that right-to-repair campaigns are having an impact on some manufacturers' attempts to restrict parts and information).

instructions for do-it-yourself repairs to its iPhone products.⁷⁸ One reason for such programs may be to blunt the potential for federal regulation requiring such action. Nevertheless, the impact is a positive one for product lifecycle sustainability.⁷⁹

3. 3D Printing Adds Renewal Options

An issue that has traditionally challenged those who wish to repair or upcycle products on a large scale is the economics of producing high-quality replacement parts. Manufacturers may limit the initial supply due to storage costs, and supply chain issues may further complicate access.⁸⁰ Notably, the fact that only a professional, well-capitalized firm could typically invest in the machinery and talent capable of making durable components is the bottleneck.⁸¹ Even traditional contract manufacturing would likely be inefficient for independent firms. The limited availability of repair parts is one of the main reasons that OEMs usually have the power to control repair markets.⁸²

This stranglehold has loosened in recent years, however, due to the advent of 3D printing (also known as additive manufacturing).⁸³ This technology allows even individual repair

78. *Apple Announces Self-Service Repair*, APPLE (Nov. 17, 2021), <https://www.apple.com/newsroom/2021/11/apple-announces-self-service-repair> [<https://perma.cc/A3MA-HNN3>].

79. Brian X. Chen, *What Apple's New Repair Program Means for You (and Your iPhone)*, N.Y. TIMES (Nov. 17, 2021), <https://www.nytimes.com/2021/11/17/technology/personaltech/apple-iphone-self-repair.html> [<https://perma.cc/4BUW-AQ24>] (suggesting that the reason for the announcement is to respond to proposed federal legislation requiring availability of repair parts).

80. Peter S. Goodman & Keith Bradsher, *The World Is Still Short of Everything. Get Used to It.*, N.Y. TIMES (Aug. 30, 2021), <https://www.nytimes.com/2021/08/30/business/supply-chain-shortages.html> [<https://perma.cc/8YP3-469R>] (describing the difficulty in getting repair parts in view of the COVID-19 pandemic).

81. FTC REPAIR REPORT, *supra* note 3, at 18.

82. 2019 O.J. (L 315) 258–59 (showing the European Union has taken some initial steps in addressing the lack of repair parts for electronic appliances, mandating that manufacturers maintain their availability for seven to ten years); NIKOLINA ŠAJN, RIGHT TO REPAIR 4 (2022), [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/698869/EPRS_BRI\(2022\)698869_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/698869/EPRS_BRI(2022)698869_EN.pdf) [<https://perma.cc/4YRX-6XTT>]. Steps taken thus far cover a very narrow range of goods and are, of course, only relevant for E.U. countries. *Id.*

83. See Kelsey Wilbanks, *The Challenges of 3D Printing to the Repair-Reconstruction Doctrine in Patent Law*, 20 GEO. MASON L. REV. 1147, 1148–50 (2013) (describing how the technology can be used to produce small parts that are not available from the OEM or are too expensive).

enthusiasts to create three-dimensional parts out of a variety of materials using relatively low-cost additive printers.⁸⁴ The process can be used to produce objects constructed of a variety of plastics and even metals or ceramics.⁸⁵ Prices for consumer-oriented printers have dipped below \$200, which places the technology squarely in the hands of even modest repair shops.⁸⁶ And when a cheap printer is not up to the task, it is possible to work with a variety of 3D printing contract manufacturers that will print and ship parts made from a broad array of materials from an uploaded computer file.⁸⁷ Although it is helpful to start with an existing CAD file, an individual can in many cases scan a sufficiently simple object and convert it into a printer file.⁸⁸ In essence, 3D printing has democratized production to such an extent that only the most complex (generally electronic) objects are out of reach to those who want to attempt a repair.⁸⁹

The value of 3D printing in the repair world became evident during the early stages of the COVID-19 pandemic. Many critical medical tools such as ventilators and personal protective

84. See Miles Park, *Print to Repair: 3D Printing and Product Repair*, in ROUTLEDGE HANDBOOK OF SUSTAINABLE PRODUCT DESIGN 236, 241 (Jonathan Chapman ed., 2017).

85. *Id.* at 239; Frederik Bedrich, *How to Make DIY 3D Printed Parts for Just About Anything*, ALL3DP (Oct. 11, 2017), <https://all3dp.com/diy-3d-printed-parts-spare-parts> [<https://perma.cc/RJ5V-RBS5>].

86. See Tony Hoffman, *The Best Cheap 3D Printers for 2023*, PC MAG (Oct. 10, 2022), <https://www.pcmag.com/picks/the-best-cheap-3d-printers> [<https://perma.cc/KRH3-RAX2>] (describing 3D printers with reasonably sophisticated options as being available to the average consumer).

87. One such firm is called Shapeways, headquartered in New York City and able to print in over ninety different materials as of 2022. *3D Printing Service*, SHAPEWAYS, <https://www.shapeways.com/business/3d-printing-services> [<https://perma.cc/5N5D-AWDZ>].

88. *How to Use 3D Scanning and 3D Printing for Reverse Engineering*, FORMLABS, <https://formlabs.com/blog/how-to-use-3d-scanning-and-3d-printing-for-reverse-engineering> [<https://perma.cc/SL9F-NUU3>]; see also *Scan with a Phone: Our Best Tips*, SCULPTEO, <https://www.sculpteo.com/en/3d-learning-hub/best-articles-about-3d-printing/3d-scan-smartphone> [<https://perma.cc/WRH3-XBJA>] (detailing how even a cell phone camera can be used to scan an object for printing).

89. It is worth noting that, in the same vein of firms offering to recycle or repurpose their own products, firms may also offer 3D printed replacement parts when originally manufactured stock runs out. For example, Porsche supplies 3D printed parts for the release lever on a classic 959 model that is no longer available due to the high manufacturing quality required coupled with the low demand. *Porsche Classic Supplies Classic Parts from a 3D Printer*, PORSCHE (Dec. 2, 2018), <https://newsroom.porsche.com/en/company/porsche-classic-3d-printer-spare-parts-sls-printer-production-cars-innovative-14816.html> [<https://perma.cc/6TQZ-EU5N>].

equipment were suddenly in short supply.⁹⁰ There was a great need to repair existing equipment in order to extend its usable life, particularly in on-site contexts to avoid sending something away to a repair facility.⁹¹ Remote 3D printing capability was the perfect solution,⁹² and there are documented cases in which the technology gave hospitals and technicians the ability to repair medical devices that otherwise would have been unusable.⁹³

Perhaps it goes without saying that the same technology that enables repair through dispersed parts manufacturing is also useful for upcycling.⁹⁴ There are hundreds of examples of 3D printed modifications to existing, used products that transform them from trash to alternatively useful items. For example, one could find a vase made from an old Coca-Cola bottle, a parts organizer made from old Red Bull cans, and a wine glass made from an empty Nutella container.⁹⁵

The fact that 3D printing has become widespread and cost-effective means the product (or product container) lifespans can be substantially lengthened, contributing to a more sustainable environment. However, the full flexibility of repair and upcycling depends on information that may be restricted in two ways. As noted above, manufacturers may restrict the availability of information necessary to modify products for continued use. And they may restrict the legal right to use

90. Ofer Tur-Sinai & Leah Chan Grinvald, *Repairing Medical Equipment in Times of Pandemic*, 52 SEATON HALL L. REV. 461, 471–72 (2021).

91. *Id.*

92. *Id.* at 479–80.

93. Amy Feldman, *Meet the Italian Engineers 3D-Printing Respirator Parts for Free to Help Keep Coronavirus Patients Alive*, FORBES (Mar. 19, 2020 3:57 PM) <https://www.forbes.com/sites/amyfeldman/2020/03/19/talking-with-the-italian-engineers-who-3d-printed-respirator-parts-for-hospitals-with-coronavirus-patients-for-free> [<https://perma.cc/5G47-KFYA>]; David Vergun, *DOD Uses 3D Printers to Ease COVID-19 Ventilator Shortage*, DOD NEWS (May 11, 2020), <https://www.defense.gov/News/News-Stories/Article/Article/2182864/dod-uses-3d-printers-to-ease-covid-19-ventilator-shortage> [<https://perma.cc/354A-TZZN>].

94. Amandine Richardot, *Upcycling and 3D Printing: How to Give a Second Life to Objects*, SCULPTEO (Jan. 22, 2018), <https://www.sculpteo.com/blog/2018/01/22/upcycling-and-3d-printing-how-to-give-a-second-life-to-objects> [<https://perma.cc/XXM9-VUJX>]; Katie Armstrong, *Turn Old Junk into Cool Stuff with 3D Upcycling*, 3D PRINTING INDUS. (Aug. 9, 2016), <https://3dprintingindustry.com/news/turn-old-junk-into-cool-stuff-with-3d-upcycling-91742> [<https://perma.cc/GQF8-4Y5N>].

95. See *Upcycling*, MYMINIFACTORY, <https://www.myminifactory.com/category/upcycling> [<https://perma.cc/V7QF-QN3K>] (listing dozens of designs for making upcycled products with 3D printed additions).

intellectual property information that would otherwise be in the possession of consumers and third parties.⁹⁶ To some extent, these limitations are known and constitute the essence of the right-to-repair movement. But there are also hidden traps in the law that may cabin sustainability unless addressed.

II. UNDERSTOOD FUNCTIONAL, LEGAL, AND CONTRACTUAL BARRIERS TO UPCYCLING AND REPAIR

For various reasons, not all original manufacturing or selling firms support the repair or upcycling of their products. Most importantly, if the renewal is conducted by a third party, the profits are diverted away. Although there are reasonable arguments that OEMs do not deserve these profits following the original sale,⁹⁷ some seek to keep hold of the remanufacture or repair markets by hindering the service of repair or ensuring the market for the resale does not exist. This can be accomplished using functional means, legal means, or some combination.

A. *Functional Barriers*

A functional barrier to repair or upcycling is straightforward. Generally, it is accomplished by denying the third party or downstream consumer something that is necessary for the renewal. For example, a manufacturer may deny essential software code for diagnosis or limit access to embedded code that must be updated for product modification.⁹⁸ Alternatively, a manufacturer may limit the availability of complex parts essential for physical repairs.⁹⁹ In either case, an unauthorized third party or consumer cannot modify, even if the attempt is made in isolation or secret.¹⁰⁰

Rather than viewing functional barriers as a simple oversight of traditional manufacturing, policymakers are

96. FTC REPAIR REPORT, *supra* note 3, at 22.

97. *Impression Prods., Inc. v. Lexmark Int'l, Inc.*, 137 S. Ct. 1523, 1532 (2017) (articulating the policy behind the exhaustion doctrine in patent law as in part based on receiving a reward for the invention as of the initial sale).

98. FTC REPAIR REPORT, *supra* note 3, at 23.

99. *Id.* at 18–19; *see also* Grinvald & Tur-Sinai, *supra* note 4, at 78–79.

100. *See* Peter Waldman & Lydia Mulvany, *Farmers Fight John Deere over Who Gets to Fix an \$800,000 Tractor*, BLOOMBERG BUSINESSWEEK (Mar. 5, 2020, 3:00 AM), <https://www.bloomberg.com/news/features/2020-03-05/farmers-fight-john-deere-over-who-gets-to-fix-an-800-000-tractor> [<https://perma.cc/QB6Q-F8CP>].

becoming more aware that this can be a strategy.¹⁰¹ The oldest iteration of limiting product lifecycle is the well-known concept of “planned obsolescence.”¹⁰² Manufacturers design a shorter than necessary life into products in order to encourage disposal and the purchase of new products. However, as noted above, consumers and third-party services have found creative ways of extending product life through their own manufacturing and repair.

To counter third-party activity, some manufacturers apparently use methods that render the product useless if an unauthorized modification is attempted. For example, a manufacturer may use proprietary fasteners or even glue instead of screws, creating a strong likelihood that casings and inner workings could be warped or broken if opened by a third party without the proper repair equipment.¹⁰³ This is a particular problem in the world of consumer electronics, where delicate pieces like smartphone screens can be irreparably harmed in the attempt to separate them from another glued part.¹⁰⁴ There is a growing sense that such restrictions are more than simply clever business, but rather stray into unfair competition.¹⁰⁵ As a result, physical barriers are a target in many reform initiatives.

B. Article-Oriented Legal Barriers

In addition to physical barriers, there may be article-oriented legal barriers to upcycling or repair. This is the case if the product comprises inventive or creative contributions, particularly likely in high-technology areas. The OEM may hold a patent, design patent (also known as industrial design rights outside of the United States), or copyright on some aspect of its

101. See FTC REPAIR REPORT, *supra* note 3, at 18–21 (recounting physical restrictions, limitations on parts and repair manuals, and the use of designs that make repairs less safe).

102. See Bulow, *supra* note 23 and accompanying text.

103. FTC REPAIR REPORT, *supra* note 3, at 18.

104. *Mirr*, *supra* note 4, at 2419–20 (describing how the “degree of reparability” can be impacted by manufacturing methods such as the use of glue on the Google Pixel smartphone).

105. FED. TRADE COMM’N, POLICY STATEMENT OF THE FEDERAL TRADE COMMISSION ON REPAIR RESTRICTIONS IMPOSED BY MANUFACTURERS AND SELLERS (2021) (stating that the FTC will now make enforcement of laws prohibiting illegal repair restrictions a priority).

utility or aesthetic quality.¹⁰⁶ If repair or upcycling is substantial enough to involve making or reproducing this aspect of the product, the modification could constitute infringement.¹⁰⁷ Simply the threat of intellectual property litigation may be enough to dissuade some modifiers.

Patent rights confer the right to exclude others from making, using, selling, or importing the invention articulated in the document's claims.¹⁰⁸ A claimed invention could be the entire object sold, but more commonly it is a piece of a product (or a method of using it). If the repair or modification involves remaking that patented part, infringement occurs.¹⁰⁹ Even if a part is not inventive, the product or piece of a product could be a sufficiently creative original expression to be covered by copyright.¹¹⁰ Software necessary to enable a modification could also be covered by copyright.¹¹¹ Similarly, creative or ornamental aspects of articles can be covered by design patents.¹¹² Infringement of such rights is a more realistic possibility in an environment when a consumer or repair facility can undertake distributed manufacture through 3D printing.¹¹³

Of course, a manufacturer must expect that its product will be subject to maintenance, so all modification should not be under lock and key. The dividing line between infringement and permissible repair is generally articulated in the "repair or reconstruction" doctrine derived from patent law.¹¹⁴ The leading case on the subject, *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, made clear that a product owner is permitted to replace individual unpatented parts, one at a time, without

106. FTC REPAIR REPORT, *supra* note 3, at 22.

107. Liu, *supra* note 17, at 343.

108. 35 U.S.C. § 271 (2022).

109. Grinvald & Tur-Sinai, *supra* note 4, at 100.

110. Anthony M. Keats, *Trendy Product Upcycling: Permissible Recycling or Impermissible Commercial Hitchhiking?*, 110 TRADEMARK REP. 712, 721–22 (2020).

111. Grinvald & Tur-Sinai, *supra* note 4, at 104.

112. FTC REPAIR REPORT, *supra* note 3, at 22; Tur-Sinai & Grinvald, *supra* note 90, at 495–97; *see also* Kenneth J. Davis et al., *Federal Circuit Declines to Invalidate Design Patents for Replaceable Components*, 31 INTELL. PROP. & TECH. L.J. 12 (2019) (noting that design patent may apply where trademark does not).

113. *See* Park, *supra* note 84, at 246.

114. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 346 (1961); *see also* Mark D. Janis, *A Tale of the Apocryphal Axe: Repair, Reconstruction, and the Implied License in Intellectual Property Law*, 58 MD. L. REV. 423, 437–48 (1999) (detailing the historical roots of the repair or reconstruction doctrine in patent law). Reconstruction requires making, in essence, a new article. *Aro*, 365 U.S. at 346.

being liable for infringement of the entire patented combination.¹¹⁵ But reconstruction of essentially the entire product is not.¹¹⁶ Moreover, reproduction of individually patented, design patented, or copyrighted parts necessarily constitutes infringement.¹¹⁷

In practice, these barriers may be of limited use due to the expense of litigation against small producers or users. Additionally, because the above rights are somewhat well defined—particularly patents and design patents—it is easier for a product modifier to determine what is covered and how to avoid infringing. In the end, intellectual property protection over part design is a threat; it may at least serve as a deterrent for those who are risk averse and lack confidence in their ability to engage in product clearance.

C. Contractual Barriers

A contractual barrier is somewhat rarer but can exist depending on the relationship between the buyer and seller. First, a manufacturer must establish that they hold a legal right that would be violated by repair or upcycling. In the most basic form, this could be a contractual right that might exist if a purchaser agreed not to modify a product.¹¹⁸ For example, such a provision is frequently included in software end-user agreements, typically taking the form of anti-decompiling clauses.¹¹⁹ It is far less common in the physical world due to the general hostility toward restraints on alienation¹²⁰ and the Magnuson-Moss Warranty Act's prohibition on required repair methods as a condition of warranty.¹²¹ However, it is not impossible.

A manufacturer could explicitly provide some contractual benefits for the agreement to a restriction on repair or upcycling, such as a lower price. Even more likely, a manufacturer may

115. *Aro*, 365 U.S. at 346; Grinvald & Tur-Sinai, *supra* note 4, at 100–01.

116. *Aro*, 365 U.S. at 346.

117. Grinvald & Tur-Sinai, *supra* note 4, at 112–14.

118. See FTC REPAIR REPORT, *supra* note 3, at 24.

119. See Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1626–30 (2002) (detailing the relationship between reverse engineering and contract law in the context of software).

120. Grinvald & Tur-Sinai, *supra* note 4, at 101–03 (describing the limits on using contracts to extend intellectual property rights after a sale).

121. See *supra* notes 73–74 and accompanying text.

attempt to identify a transaction as a license rather than a sale. Of course, a contractual restriction on repair or upcycling may give way to an efficient breach under circumstances where the damages are likely minor.¹²² This sets somewhat of a ceiling on contract power.

Overall, the understood barriers to upcycling and repair are strong, but there can be ways to circumvent them if the goal is simply producing a repaired or improved product. However, another legal threat to upcycling and repair exists, and it is much more likely to occur. That threat is trademark infringement or branding confusion. Firms may be able to assert consumer confusion as to a product's source as a tool to stop third parties from offering a modified version of the original good. In addition to free riding off an established brand name, a producer may justify such action on the grounds of safety or quality as well.

There are signs that the trademark threat is growing even as consumers increasingly embrace sustainability and repair technologies become more dispersed and accessible. On the other hand, it is certainly possible for an upscaler or repairer to accomplish the beneficial activity without any confusion if consumers are aware of the parties' respective roles. Unfortunately, the activities that create liability versus those that are fair uses are less than clear, and current jurisprudence contains many conflicting or contrary rules. Without a more established path, it is possible that a desirable path to sustainability will be reduced due to the fear of litigation.

III. THE SPECIAL RELATIONSHIP OF TRADEMARK TO REPAIR AND UPCYCLING

Trademark rights are almost necessarily connected with the original good that one might seek to keep from the landfill. As legally enforced source indicators,¹²³ trademarks function as a

122. Daniel R. Cahoy, *Oasis or Mirage?: Efficient Breach as a Relief to the Burden of Contractual Recapture of Patent and Copyright Limitations*, 17 HARV. J.L. & TECH. 135, 163–69 (2003).

123. Mark P. McKenna, *The Normative Foundations of Trademark Law*, 82 NOTRE DAME L. REV. 1839, 1914–16 (2007) (reporting on the consensus in the literature that the goal of trademark law is to reduce consumer confusion that would deceive them into buying unwanted products and indicate the source of products they do want); U.S. PAT. & TRADEMARK OFF., TRADEMARK MANUAL OF EXAMINING PROCEDURE (TMEP) § 1202 (July 2021) (citing *In re Safariland*

means for identifying the firm that stands behind the goods, creating a connection to that firm's reputation for quality or other positive marketplace impact.¹²⁴ A mark can take many forms, including a firm's name, logo, or even the mark of a sub-brand that is strongly identified with a single owner.¹²⁵ Additionally, adding a layer of complication is the fact that the form of a good—the shape or color—can be trademarked as well, if that form is strongly associated with a source and does not serve a functional purpose.¹²⁶

Trademarks are infringed when another makes use of a similar or identical mark on a good or service in a manner likely to confuse consumers as to the source.¹²⁷ The use does not need to be on the exact same type of good as the trademark owner nor does the potentially infringing mark need to be identical to the original.¹²⁸ Rather, the likelihood of consumer confusion is assessed by weighing a number of different factors that may

Hunting Corp., 24 U.S.P.Q.2d 1380, 1381 (T.T.A.B. 1992)) (explaining that examiners should determine if a mark “would be perceived as a source indicator”).

124. U.S. Pat. & Trademark Off. v. Booking.com B.V., 140 S. Ct. 2298, 2302 (2020) (describing a trademark's distinguishing function); Glynn S. Lunney, Jr., *Trademark Monopolies*, 48 EMORY L.J. 367, 432 (1999) (“[T]rademarks help consumers express more accurately their preferences and tastes for the varying mix of product features, quality, and prices each finds desirable.”); Stacey L. Dogan & Mark A. Lemley, *Trademarks and Consumer Search Costs on the Internet*, 41 HOUS. L. REV. 777, 787–88 (describing in economic terms how trademarks function to reduce consumer search costs).

125. Alexandra J. Roberts, *Trademark Failure to Function*, 104 IOWA L. REV. 1977, 1990–92 (2019) (describing classic use of a mark in the form of words but adding that color, logos, and slogans also qualify).

126. *Qualitex Co. v. Jacobson Prods. Co., Inc.*, 514 U.S. 159, 164–65 (1995) (stating that color alone can serve as a trademark so long as there is no conflict with the functionality doctrine); *TrafFix Devices, Inc. v. Marketing Displays, Inc.*, 532 U.S. 23, 28–29 (2001) (stating that design or packaging of a product can qualify as a mark so long as it is not claimed for product features that are functional).

127. 15 U.S.C. § 1114(1)(a) (2021) (a registered trademark owner has the right to civil action against infringing imitation that is “likely to cause confusion, or to cause mistake, or to deceive”); *KP Permanent Make-Up, Inc. v. Lasting Impression I, Inc.*, 543 U.S. 111, 117–18 (2004); Robert G. Bone, *Taking the Confusion out of “Likelihood of Confusion”: Toward a More Sensible Approach to Trademark Infringement*, 106 NW. U. L. REV. 1307, 1315–16 (2012) (describing the likelihood of confusion test and noting that some courts find liability even when only a small percentage of consumers are impacted).

128. Robert G. Bone, *Hunting Goodwill: A History of the Concept of Goodwill in Trademark Law*, 86 B.U. L. REV. 547, 558 (2006) (stating that, in the early twentieth century, courts expanded trademark infringement liability to noncompeting products if confusion over the source or sponsorship existed).

produce different results depending on the fact finder.¹²⁹ In most cases, the key factor is the existence of actual consumer confusion, which is often established with expert surveys.¹³⁰ A related form of liability is trademark dilution, occurring when the plaintiff can establish a likelihood of blurring or tarnishing the original mark by the defendant's use of a similar mark.¹³¹ Although limited to famous marks under federal law, dilution is generally viewed as a powerful tool because it can be established even in the absence of infringement (i.e., even if consumers are not likely to be confused).¹³²

What makes trademark rights interesting and complicated in the second-hand world is that they are not necessarily tied to the good that was sold. In other words, the mark is not meant to be the product that is desired by consumers, but rather such marks are communication devices that operate to say something about source. This is unlike the object-oriented legal rights described above, such as utility patents or copyrights, in which the information covered by the right is an inventive aspect or creative contribution to the product.¹³³ This latter, object-

129. Barton Beebe, *An Empirical Study of the Multifactor Tests for Trademark Infringement*, 94 CALIF. L. REV. 1581, 1588–91 (2006) (offering a detailed description and comparison of various multifactor trademark infringement tests across circuits).

130. Michael J. Allen, *The Role of Actual Confusion Evidence in Trademark Infringement Litigation*, 83 TRADEMARK REP. 267, 267–68 (1993) (stating that “most courts agree that actual confusion is one of the most important [infringement] factors”); Mark D. Robins, *Actual Confusion in Trademark Infringement Litigation: Restraining Subjectivity Through a Factor Based Approach to Valuating Evidence*, 2 NW. J. TECH. & INTEL. PROP. 1 (2004) (stating, from a litigating partner's point of view, how important actual confusion is to an infringement case). *But see* Beebe, *supra* note 129, at 1640–42 (presenting evidence that survey evidence actually plays a smaller role than most people believe).

131. 15 U.S.C. § 1125(c) (2021) (civil action for dilution by blurring and tarnishment).

132. *Id.*; *Mosely v. V Secret Catalogue, Inc.*, 537 U.S. 418, 429 (2003) (stating that neither the absence of any likelihood of confusion nor competition provides a defense to the Lanham Act's dilution cause of action).

133. For example, patent rights are commonly understood to serve as an incentive to invent the invention embodied by some part of a product. Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1580 (2003) (describing the near unanimous agreement that the patent system's purpose is to promote innovation by granting exclusive right to encourage invention). And copyrights serve as an incentive to create and distribute an expression that might be embodied in the good. Brett M. Frischmann & Mark A. Lemley, *Spillovers*, 107 COLUM. L. REV. 257, 284–85 (2007) (arguing that copyright provides incentives to create and disseminate a work and thereby also facilitates transactions). But consumers are not presumed to have an interest in the trademark, and society does not necessarily want to incentivize the creation of new trademarks. Mark A. Lemley

oriented connection makes it easier to separate the right embodied in the object from the producer after it has passed into the hands of a consumer and compensation is paid.¹³⁴ In contrast, the mark on a sold good continues to communicate. And manufacturers have a reasonable interest in controlling that communication to whatever extent is possible.

Still, courts and legislatures have created some limitations on trademark enforcement that is particularly strong after an object is sold. This is critical, as unbounded rights would constitute a continuing restraint on alienation and speech, and some limit is clearly necessary. But the limiting doctrines are far from complete, and the above-described efforts to reinvigorate old products may act to eliminate the protections.

A. *First-Sale as a Legal Enforcement Against Alienability Restraints*

The most basic and straightforward limitation on trademark enforcement over a good that is sold is the first-sale doctrine, also known as exhaustion. The idea is that, once a good embodying an intellectual property right is sold, the owner's ability to control the future use, destruction, or sale of that particular good is dramatically curtailed.¹³⁵ For example, once a consumer has purchased a Louis Vuitton handbag or an Apple computer, those items can be used, sold, or disposed of without any additional compensation to or authority from the trademark owner.¹³⁶ Although it is true that the previously sold product could compete in the marketplace with new products from the

& Mark P. McKenna, *Owning Mark(et)s*, 109 MICH. L. REV. 137, 181–84 (2010) (arguing that the law does not protect the trademark itself as the fruit of the business owner's labor and discounting a natural rights view of the mark that could be argued to exist in other intellectual rights).

134. Technically, all intellectual property is fully separate from the object that embodies it. Joshua A. T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047, 1096 (2005). But the first-sale doctrine arguably imagines that a tiny piece of the right moves with the alienated property.

135. David W. Barnes, *Free-Riders and Trademark Law's First Sale Rule*, 27 SANTA CLARA HIGH TECH. L.J. 457, 461 (2011) (detailing the essential tenets of the first-sale doctrine).

136. *Id.*; Yvette Joy Liebesman & Benjamin Wilson, *The Mark of a Resold Good*, 20 GEO. MASON L. REV. 157, 189–91 (2012) (arguing that first-sale reflects a general public policy against restraints on alienation and effectively narrows the rights of the intellectual property owner).

trademark owner, simply placing a trademarked good back into the stream of commerce is not an infringement in and of itself.

First-sale limitations exist across intellectual property rights and are most strongly articulated in the Copyright Act as a clear statutory limitation.¹³⁷ Courts have extended the basic notion of copyright first-sale through judicial decision-making, relying on similar philosophical roots.¹³⁸ The essential principle is that an intellectual property right owner receives justified compensation when the original good is sold—that is, as a result of the “first sale”—and that owner has no right to continued compensation for subsequent sales.¹³⁹ Additional justification can be found in the property right doctrine that dissuades restraints on alienation; once a good is purchased, the law should generally not permit the seller to restrict the new owner from fully disposing and conveying full property ownership rights on another.¹⁴⁰

Because intellectual property rights are national in nature—meaning they are granted by specific jurisdictional entities, and ownership does not necessarily extend throughout the world—there has been some historical debate about whether a sale in one country counts as the first sale in another.¹⁴¹ This is significant because goods can obviously move between countries, and the compensation a firm obtains in one country may be a fraction of what is possible in another due to differences in markets and income levels.¹⁴² The price difference provides an opportunity for arbitrage, unless an intellectual property owner can enforce a domestic intellectual property right on the basis that the first sale overseas did not count and is not limiting (i.e., a “national exhaustion” rule).¹⁴³ The viability of national

137. See 17 U.S.C. § 109 (2021).

138. Liebesman & Wilson, *supra* note 136, at 189.

139. Barnes, *supra* note 135, at 462.

140. *Id.*; see also *Impression Prods., Inc. v. Lexmark Int'l, Inc.*, 137 S. Ct. 1523, 1527 (2017) (explaining the roots of the first-sale doctrine in the common law principle against restraints on alienation).

141. Daniel R. Cahoy, *Confronting Myths and Myopia on the Road from Doha*, 42 GA. L. REV. 131, 190–91 (2007) (explaining the nature of a national versus international exhaustion regime).

142. See Daniel R. Cahoy, *Breaking Patents*, 32 MICH. J. INT'L L. 461, 489–90 (2011) (describing the economics of differential pricing, known as Ramsey pricing, as a means of maximizing profits across markets).

143. Ariel Katz, *The First Sale Doctrine and the Economics of Post-Sale Restraints*, 2014 BYU L. REV. 55, 76–78 (explaining the relationship between international exhaustion and parallel trade as a means of arbitrage).

exhaustion was substantially weakened in the United States by the Supreme Court's decision in *Kirtsaeng v. John Wiley & Sons, Inc.*, which permitted the resale of copyrighted textbooks originally purchased overseas in the United States as a low-cost alternative to books sold by publishers.¹⁴⁴ Subsequently, in *Impression Products, Inc. v. Lexmark International, Inc.*, the Court affirmed the doctrine in the context of patents, finding both domestic and international sales of printer cartridges were both exhausting transactions.¹⁴⁵ Other countries are a mix of global, regional, or national exhaustion principles,¹⁴⁶ suggesting that the U.S. rules will be mirrored in at least some jurisdictions, and producers may be required to compete with their own goods sold abroad.

However, the law generally recognizes that first-sale rights can be exceeded when a defendant engages in actions that create additional infringement issues specifically related to the information protected. For example, the owner of a copy of a copyrighted work has the right to break the work into pieces and even destroy the work (except in the case of certain visual arts).¹⁴⁷ But recombining the work, integrating it with other works, or reinterpreting it in another form may constitute creation of a derivative work that the law places solidly within control of the copyright owner.¹⁴⁸ Similarly, the owner of a patented article can engage in maintenance and even replace parts, but only up to the point that the repair reconstructs so much of the item that it is essentially producing a new copy of the invention.¹⁴⁹ Both copyright and patent first-sale rights are

144. See *Kirtsaeng v. John Wiley & Sons, Inc.*, 568 U.S. 519 (2013).

145. *Impression Prods.*, 137 S. Ct. at 1535–37.

146. See Irene Calboli, *Market Integration and (the Limits of) the First Sale Rule in North American and European Trademark Law*, 51 SANTA CLARA L. REV. 1241, 1255–56 (2011) (stating that “members of the Paris Convention and TRIPS have thus adopted different approaches with respect to the geographical extent of their national regimes of trademark exhaustion”).

147. Amy M. Adler, *Against Moral Rights*, 97 CALIF. L. REV. 263, 264–65 (2009) (describing the limitations of copyright law except in the case of certain visual arts under the Visual Artists Rights Act of 1990).

148. See 17 U.S.C. §§ 101, 106 (2021) (defining derivative works and placing them within a copyright owner's exclusive rights).

149. *Auto. Body Parts Assoc. v. Ford Glob. Tech., LLC*, 930 F.3d 1314, 1323–24 (Fed. Cir. 2019) (citing *Helferich Patent Licensing, LLC v. N.Y. Times Co.*, 778 F.3d 1293, 1303–05 (Fed. Cir. 2015)) (“The right of repair does not . . . permit a complete reconstruction of a patented device or component.”).

at their peak when a defendant is merely making use of the original article or fully transferring it to another.¹⁵⁰

Most commentators agree that the essential first-sale principles in copyright and patents also apply to trademark rights, at least in the context of goods that are resold in their original form.¹⁵¹ And that concept has a lengthy history. The Supreme Court identified the basic notion of the trademark iteration of the first-sale doctrine in *Prestonettes, Inc. v. Coty*, a 1924 case that involved a defendant's repackaging of perfumed powders.¹⁵² The Court stated that the defendant, Prestonettes, had the right to divide up product purchased from Coty and even modify the powders with its own compounding agent, so long as it declared the modification to purchasers.¹⁵³ According to the Court, there was no deception on the defendant's part and no intent to appropriate Coty's name and goodwill.¹⁵⁴ Since that case, courts have generally recognized the existence of first-sale rights for trademarked goods in a variety of contexts.¹⁵⁵ And those rights will exist, even if the trademark owner would prefer to command the market for its products exclusively.

As with copyrights and patents, trademark first-sale rights can be exceeded. But arguably this may occur in a wider array of cases because the litmus test is whether consumers are confused by the use of a mark by someone other than the trademark owner.¹⁵⁶ Strikingly, this can occur even when goods are simply resold if that transaction suggests something

150. Liebesman & Wilson, *supra* note 136, at 189–90.

151. See 4 MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION § 25.41 (5th ed., 2021); Barnes, *supra* note 135, at 461 (“[T]he first sale rule limits exclusive rights in all three principle forms of intellectual property.”); Justin D. Swindells, *Repackaging Original Trademarked Goods: Trademark Exhaustion or Consumer Confusion?*, 7 FED. CIR. B.J. 391, 391–93 (1997) (characterizing trademark first-sale as “well-recognized”).

152. *Prestonettes, Inc. v. Coty*, 264 U.S. 359 (1924).

153. *Id.* at 368.

154. *Id.*

155. See *Sebastian Int'l, Inc. v. Longs Drug Stores Corp.*, 53 F.3d 1073, 1075–76 (9th Cir. 1995) (describing an attempt to restrict sale of hair products to professional salons using trademark rights thwarted by first-sale doctrine); *Iberia Foods Corp. v. Romeo*, 150 F.3d 298, 306 (3d Cir. 1998) (describing how a firm that purchased genuine cleaning products in Puerto Rico was permitted to resell in continental United States despite existence of another company licensed to use the mark); *Allison v. Vintage Sports Plaques*, 136 F.3d 1443, 1448, 1450 (11th Cir. 1998) (concluding that trading cards purchased and resold in framed settings were not infringing under first-sale doctrine as applied to copyright, trademark, and rights of publicity).

156. See *supra* note 127.

inaccurate about the trademark owner's reputation for quality.¹⁵⁷ This is potentially the case when a trademark owner maintains a high level of control over its distribution system and product integrity processes, and a third-party reseller interrupts that protection.¹⁵⁸ If consumers don't realize that a resulting low-quality product was the fault of the third party rather than the original producer, the trademark owner's goodwill may be damaged.

A second way of exceeding trademark first sale, and more relevant to repair and upcycling contexts, is when a purchaser substantially modifies a good before reselling it under the original trademark name.¹⁵⁹ The most obvious case is when a first consumer makes a new type of product from the original good but maintains the trademark. This is common in fashion, where a third party may take a branded article of clothing and transform it into a different article (e.g., a Polo shirt to an unauthorized Polo backpack) or modify a luxury accessory to become a more personalized item (e.g., a basic Rolex watch modified with colors or jewels).¹⁶⁰ Trademark owners are appropriately concerned that consumers may be confused about who actually sponsors the modified item.¹⁶¹ If the quality is poor or seems incongruous with the brand owner's goodwill, future authorized sales may be affected.¹⁶²

A famous example exceeding first sale by alteration occurred in 2021 when rapper, singer, and songwriter Lil Nas X

157. Barnes, *supra* note 135, at 463 (stating that a harm that can be associated with post-purchase confusion is the perceived lower quality that may result from the lack of control the trademark owner exercises).

158. *Id.*; MCCARTHY ON TRADEMARKS, *supra* note 151, § 25.42; Swindells, *supra* note 151, at 401–02 (articulating the principle that a trademark owner's efforts to maintain a certain level of quality cannot be harmed by the first-sale doctrine flexibilities).

159. MCCARTHY ON TRADEMARKS, *supra* note 151, § 25.42; *see also* Lynda J. Oswald, *Statutory and Judicial Approaches to Gray Market Goods: The "Material Differences" Standard*, 95 KY. L.J. 107, 130–33 (2006) (discussing the "material differences standard" that courts use to distinguish between a first-sale-protected good versus one that infringes the trademark owner's rights); Keats, *supra* note 110, at 714–16 (discussing how alteration of products can result in post-purchase confusion).

160. *See* Keats, *supra* note 110, at 712–13 (describing the phenomena of "upcycling" goods with well-known marks); Jolie Brett Schenerman, Note, *One Consumer's Trash Is Another's Treasure: Upcycling's Place in Trademark Law*, 38 CARDOZO ARTS & ENT. L.J. 745, 755–57 (detailing several upcycling examples).

161. *See* Keats, *supra* note 110, at 718–19.

162. Barnes, *supra* note 135, at 488 (discussing the harm to future sales as one of the potential harms from post-sale confusion).

collaborated with MSCHF to modify pairs of Nike Air Max 97 shoes to a version called Satan Shoes, complete with a drop of human blood in the heels.¹⁶³ Significantly, the shoes retained the famous Nike “swoosh” trademark as well as other attributes that could potentially create confusion about whether Nike was the source or at least a licensor.¹⁶⁴ Not surprisingly, the company took action against Lil Nas X and MSCHF, forcing them to pull the product from public distribution.¹⁶⁵

Thankfully for the artists and mechanics who satisfy a genuine consumer interest in modifying purchased goods, there is a legal rebuttal to a case of exceeding first-sale rights. If the modifier clearly discloses the nature of the alteration and the fact that the trademark owner is not a sponsor, courts generally will not find confusion.¹⁶⁶ The Supreme Court’s decision in *Prestonettes* supports this principle by identifying as a key factor in its finding the defendant’s efforts to clarify that its repackaging and compounding of the perfumed powder were not conducted by the trademark owner.¹⁶⁷ The Court found that clear disclosure of the defendant’s modification activity was enough to avoid purchaser confusion.¹⁶⁸ Subsequent cases agree that disclosure about the nature and source of alteration can cure initial confusion, averting liability.¹⁶⁹ Most important is the Supreme Court’s 1947 decision in *Champion Spark Plug Co.*

163. Brian Pietsch, *Nike Sues over Unauthorized “Satan Shoes”*, N.Y. TIMES (June 18, 2021), <https://www.nytimes.com/2021/03/28/style/nike-satan-shoes-lil-nas-x.html?searchResultPosition=1> [<https://perma.cc/79VB-VQUJ>].

164. *Id.*; Complaint at 2, Nike, Inc. v. MSCHF Prod. Studio, Inc., No. 21-CV-1679 (E.D.N.Y. Mar. 29, 2021).

165. Nike, *MSCHF Settle 2-Week-Old Lawsuit over Allegedly Infringing “Satan Shoes”*, FASHION L. (Apr. 8, 2021), <https://www.thefashionlaw.com/nike-msCHF-settle-2-week-old-lawsuit-over-allegedly-infringing-satan-shoes> [<https://perma.cc/V8KG-3B3E>].

166. See *Rolex Watch USA, Inc. v. Meece*, 158 F.3d 816, 828 (5th Cir. 1998) (finding that a modifier of Rolex watches was not liable for infringement when modifications were disclosed to purchasers); *Hamilton Int’l Ltd. v. Vortic LLC*, 13 F.4th 264, 272–73 (2d Cir. 2021) (holding that a modifier of vintage Hamilton watches was not liable when disclosure of modifications was apparent).

167. *Prestonettes, Inc. v. Coty*, 264 U.S. 359, 368–69 (1924).

168. *Id.*

169. See *Enesco Corp. v. Price/Costco Inc.*, 146 F.3d 1083, 1087 (9th Cir. 1998) (referencing a so-called “repackaging notice” exception that rebuts modification and keeps alive the first-sale doctrine); *Farouk Sys. Inc. v. Target Corp., Inc.*, No. 06-20883, 2008 WL 181130, at *3 (5th Cir. Jan. 22, 2008) (holding a department store not liable for repackaging of hair care products when it notified consumers); MCCARTHY ON TRADEMARKS, *supra* note 151, § 25.35 (citing the so-called “Coty rule”).

v. Sanders, which involved a company that sold reconditioned Champion spark plugs with a denotation that they were “repaired.”¹⁷⁰ The Court refused to enjoin the seller, noting that the fact that the modification was clearly stamped on boxes and individual items prevented consumers from attributing any inferiority in the reconditioned product to Champion.¹⁷¹ According to the Court, even though the second-hand dealer may benefit from association with the trademark, “that is wholly permissible so long as the manufacturer is not identified with the inferior qualities of the product resulting from wear and tear or the reconditioning by the dealer. Full disclosure gives the manufacturer all the protection to which he is entitled.”¹⁷² Essentially, the direct fact that a rational consumer will not be confused helps to extend first-sale protections.¹⁷³

It is worth noting that first-sale truly means “sale,” as opposed to a license or temporary right to the trademarked article.¹⁷⁴ In other words, a manufacturer might be able to defeat the rights by transforming the article transfer to a license. Although generally no one mistakenly sells an article that was explicitly licensed or rented, a licensing case could theoretically arise in the context of a sale contingent on a contractual promise not to resell. Arguably, under some theories of intellectual property rights, a breach of the sales contract would also remove the accompanying contractual right to use the trademark rights associated with the transferred article.¹⁷⁵ However, the notion

170. *Champion Spark Plug Co. v. Sanders*, 331 U.S. 125 (1947).

171. *Id.* at 129–30.

172. *Id.* at 130.

173. MCCARTHY ON TRADEMARKS, *supra* note 151, § 25.39 (describing the rules for disclosure in the case of a repaired or reconditioned good).

174. Elizabeth I. Winston, *Why Sell What You Can License? Contracting Around Statutory Protection of Intellectual Property*, 14 GEO. MASON L. REV. 93, 110 (2006) (“By licensing chattels and using private legislation to circumvent public legislation, trademark owners are able to control the trademark’s use, even after receiving compensation for the chattels.”); *see also* Keats, *supra* note 110, at 722 (noting that copyright first-sale does not apply to licenses).

175. The basis for this theory is the generally understood rule that a breach of a license eliminates an embedded release from trademark infringement liability. *BJB Ltd. v. iStar Jewelry LLC*, 533 F.Supp.3d 83, 99–100 (E.D.N.Y. 2021) (holding that the use of a trademark beyond license is both a breach of contract and trademark infringement); *Seattle Pac. Indus., Inc. v. S3 Holding LLC*, 831 F. App’x 814, 818 (9th Cir. 2020) (holding that liquidated damages for breach of contract and actual damages for trademark infringement is not impermissible as double recovery); *Brennan’s Inc. v. Dickie Brennan & Co. Inc.*, 376 F.3d 356, 364–65 (5th Cir. 2004) (holding that exceeding scope of license makes one liable for breach of the license and also trademark infringement).

that a trademark owner can sell a good but retain a license to the trademark was almost certainly put to rest in the United States by the Supreme Court's decision in *Impression Products, Inc. v. Lexmark International, Inc.*, which addressed such a scheme in the context of patents.¹⁷⁶ In that case, the Court refused to entertain Lexmark's argument that it transferred printer cartridges with an obligation not to resell and that the breach of that obligation allowed for an accusation of patent infringement.¹⁷⁷ The Court found this to be an unreasonable restraint on property alienation and determined that a sale could not coexist with a contractual limitation on the inherent intellectual property rights.¹⁷⁸ Only in the case of a pure license would a trademark owner have an argument, but the interest in bringing such a case would likely be superseded in importance by an action to return the physical property.

B. Fair Use of Trademark Terms That Cannot Create Confusion (Even if They Do)

A second mechanism for limiting infringement actions against those who commercially repair or upcycle is trademark fair use. Similar to fair use in copyright law,¹⁷⁹ trademark fair uses involve incidents in which another's mark is used for a communication purpose, but that use is unlikely to create any problems for trademark owners.¹⁸⁰ Essentially, a user argues that, despite the potential for confusion or dilution, the use is protected by overriding speech principles (drawn from the First Amendment in the United States).¹⁸¹ A number of different fair use contexts have been identified by the courts, including

176. *Impression Prods., Inc. v. Lexmark Int'l, Inc.*, 137 S. Ct. 1527 (2017).

177. *Id.* at 1533.

178. *Id.* at 1532–33.

179. 17 U.S.C. § 107 (2021).

180. Alexander J. Kasparie, Comment, *Freedom of Trademark: Trademark Fair Use and the First Amendment*, 18 U. PA. J. CONST. L. 1547, 1553–54 (2016) (detailing historical progression of fair use protections and noting that courts find that fair uses are generally considered outside the scope of trademark law).

181. *Id.*; Graeme W. Austin, *Tolerating Confusion About Confusion: Trademark Policies and Fair Use*, 50 ARIZ. L. REV. 157, 177 (2008) (noting that without fair use, pure speech uses of trademarks like descriptive applications could be found to be infringing under the traditional tests).

parody,¹⁸² news reporting or product comparison,¹⁸³ and nominative use.¹⁸⁴ Notably, fair use is a defense in trademark dilution as well as infringement.¹⁸⁵ In December 2022, the Supreme Court agreed to consider whether trademark fair uses that strongly implicate artistic expression should be subject to a different infringement test rather than simply a defense.¹⁸⁶ That case, *Jack Daniel's Properties, Inc. v. VIP Products, LLC*, will be decided in 2023 and may rewrite the rules for instances where the trademark parody is sold as a product.¹⁸⁷ However, because upcycled or repaired products use the original trademarked materials, a defendant would typically not portray the use as parody, and the case will not have a great impact.

For purposes of upcycling and repair, nominative use will typically be the most important category of fair use. This is use of a trademark to refer to a brand, rather than to suggest a sponsorship association.¹⁸⁸ For example, a website that advertises accessories that are compatible with Apple phones will inevitably use at least the Apple word mark as well as sub-

182. See, e.g., *Louis Vuitton Malletier v. My Other Bag*, 674 F. App'x. 16, 18 (2d Cir. 2016) (holding that parody of Louis Vuitton bags are not infringing and not diluting under doctrine of fair use).

183. See, e.g., *SSP Agric. Equip., Inc. v. Orchard-Rite Ltd.*, 592 F.2d 1096, 1103 (9th Cir. 1979) (use of plaintiff's wind machine trademark in order to compare qualities of a competing product was not infringement).

184. See *Century 21 Real Estate Corp. v. Lendingtree, Inc.*, 425 F.3d 211, 222 (3d Cir. 2005) (articulating, in the context of unauthorized use of a real estate company's mark, a two-step approach for identifying nominative fair use involving establishing infringement and then finding fair use); *New Kids on the Block v. News Am. Pub., Inc.*, 971 F.2d 302, 307–08 (9th Cir. 1992) (finding nominative fair use in a band's name in the context of a poll and determining that such behavior falls within a class of cases where the use of the mark does not capitalize on consumer confusion).

185. 15 U.S.C. § 1125(c)(A) (2021) (specifically noting that nominative and descriptive fair use are not actionable as dilution).

186. *Jack Daniel's Props., Inc. v. VIP Prods. LLC*, 143 S. Ct. 476 (2022); Petition for Writ of Certiorari, at I, *Jack Daniel's Properties, Inc. v. VIP Prods. LLC*, No. 2:14-CV-02057 (D. Ariz. Aug. 5, 2022).

187. See Adam Liptak, *May "Bad Spaniels" Mock Jack Daniel's? The Supreme Court Will Decide*, N.Y. TIMES (Dec. 5, 2022), <https://www.nytimes.com/2022/12/05/us/politics/bad-spaniels-jack-daniels-dog-toy.html> [<https://perma.cc/2WTR-TT7C>] (describing the background of the case).

188. Lieberman & Wilson, *supra* note 136, at 183–85 (describing application of the defense and noting differences in circuits in terms of timing with respect to the confusion analysis); Schenerman, *supra* note 159, at 753–54 (providing detail on the use of fair use as a defense in the context of upcycling).

brands like iPhone.¹⁸⁹ Although some sponsorship confusion could be theoretically possible, we understand that it would be impossible to convey the fact of compatibility without naming the brand.¹⁹⁰ Thus, a firm advertising a couch made from a piece of an old Chevrolet can reference the General Motors trademark in order to clarify what car is involved.¹⁹¹

If properly constrained, fair use can provide an effective defense to an infringement accusation, even in the face of some confusion. In *KP Permanent Make-Up, Inc. v. Lasting Impression I, Inc.*, the U.S. Supreme Court considered one firm's use of a mark as a descriptive term for permanent skin makeup in the face of potential consumer confusion.¹⁹² KP Permanent used the term "microcolor" to describe the quality of its makeup, and Lasting Impression argued that such use infringed its trademarked term, "Micro Colors," because of the likelihood of consumer confusion.¹⁹³ Though the Ninth Circuit initially denied the fair use defense due to this possibility of consumer confusion, the Supreme Court determined that the potential for confusion is fully compatible with fair use.¹⁹⁴ Putting it in the context of the Chevrolet couch, even though there is a non-zero possibility that someone viewing the website might believe that General Motors sponsored or licensed the couch, the accused reseller's need to accurately describe the couch's materials origin trumps the interest in any resulting brand harm.

Overall, the first-sale and fair use defenses provide a strong initial base of rights for those who wish to repair, recondition, or even improve a product. So long as a consumer has access to relevant information about modifications and receives an honest description of the lack of connection with the trademark owner,

189. See, e.g., *iPhone Cases*, BEST BUY, <https://www.bestbuy.com/site/iphone-accessories/iphone-cases/pcmcat214700050000.c?id=pcmcat214700050000> [<https://perma.cc/TE4B-KCLV>].

190. Lieberman & Wilson, *supra* note 136, at 184 (citing *New Kids on the Block*, 971 F.2d at 307–08) (noting that a nominate use of a trademark may be using the only available term to describe a thing).

191. *Classic Car Couches*, SWEET SOFAS, <https://sweetsofas.com/classic-car-couches.php> [<https://perma.cc/WM6B-T4NQ>].

192. See *KP Permanent Make-up, Inc. v. Lasting Impression I, Inc.*, 543 U.S. 111 (2004).

193. *Id.* at 114–15.

194. *Id.* at 121–22 (“Since the burden of proving likelihood of confusion rests with the plaintiff, and the fair use defendant has no free-standing need to show confusion unlikely, it follows . . . that some possibility of consumer confusion must be compatible with fair use, and so it is.”).

liability based on purchaser confusion may be avoided. One might assume that this essentially solves the trademark issue. However, there are two lingering problems that are likely to increase the litigation burden and prevent at least some upcycled or repaired goods from entering the market. One is the ambiguity that surrounds the question of what amount of disclosure will retain first-sale rights. And the second is an additional theory of liability called post-sale confusion that does not depend on purchaser confusion. Taken together, they can create significant problems for businesses that support sustainable product renewal.

IV. REPAIR OR REMANUFACTURE CREATES CONFLICTS THAT ARE NOT NECESSARILY CONSTRAINED BY TRADEMARK LIMITATIONS

Given the fact that keeping a used and unwanted product out of a landfill generally requires some product modification, the doctrines of first-sale and fair use are occasionally in tension with the activities necessary for sustainability. It is true that the limitations work well in the context of an individual who wishes to privately resell a privately owned good or repair an item for continued personal use. However, when the goal is to create a robust secondary market in materials that would otherwise be discarded, trademark law creates some problematic and uncertain hurdles. Those hurdles are more likely to be erected by the owners of high-profile marks, and they will tend to impact those smaller entrepreneurs who have the greatest interest in engaging in repair or upcycling.

A. *The Surprising Reach of Post-Sale Confusion*

The doctrine of post-sale confusion concerns source misidentification that happens after a product is sold by someone other than the purchaser.¹⁹⁵ It could be viewed as a complement to initial interest confusion, which takes place

195. Jeremy N. Sheff, *Veblen Brands*, 96 MINN L. REV. 769, at 778–80, 785–86 (2012) (describing the doctrine of post-sale confusion in terms of bystander confusion and downstream confusion, neither of which occurs with the initial purchase of the alleged infringing good); Kal Raustiala & Jon Sprigman, *Rethinking Post-Sale Confusion*, 108 TRADEMARK REP. 881, 886–87 (2018) (noting how post-sale confusion is fundamentally different from a typical point-of-sale claim); MCCARTHY ON TRADEMARKS, *supra* note 151, § 23:7.

before purchase and is actionable even if purchasing confusion never takes place.¹⁹⁶ The idea of post-sale confusion is that some other individual who interacts with the improperly marked product confuses it for the product of the trademark's owner.¹⁹⁷ This confusion is problematic when the improperly marked good is of lower quality than the trademark's own good, creating a disincentive for the viewer to purchase the authentic goods.¹⁹⁸ A variation of this argument is that third-party consumers viewing the trademark owner's mark on goods in less elite contexts may see the brand as less exclusive.¹⁹⁹ Additionally, even if the quality is adequate, an individual seeing the mark on a good that is outside of the owner's typical market segment may believe that it represents an extension of the owner's brand and in turn curtail the owner's ability to actually make a similar expansion.²⁰⁰ According to many courts, any of these types of confusion can constitute infringement.²⁰¹ And even abstracted from true confusion, such incorrect association with a famous brand could be found to dilute the brand through blurring or tarnishment.²⁰²

Post-sale confusion is frequently alleged in the context of counterfeiting cases.²⁰³ As one can imagine, a consumer who purchases a counterfeit Louis Vuitton handbag for twenty

196. MCCARTHY ON TRADEMARKS, *supra* note 151, §23:6 (noting the particularly strong application in internet applications related to domain names, metatags, and keywords for searching).

197. Raustiala & Sprigman, *supra* note 193, at 886–88.

198. *Id.* at 893–94; Payless Shoesource, Inc. v. Reebok Int'l Ltd., 998 F.2d 985, 989 (Fed. Cir. 1993) (applying Tenth Circuit law and finding post-sale confusion from Payless's shoes that were so similar to Reebok's as to cause confusion in others, even if the purchaser was aware of the source).

199. Raustiala & Sprigman, *supra* note 195, at 894–96; Sheff, *supra* note 195, at 790–92 (describing “status confusion”); *see also* Lunney, *supra* note 124, at 404–08 (analyzing prestige-good cases as an extension of trademark property rights).

200. Lemley & McKenna, *supra* note 133, at 152–54 (considering post-sale confusion in terms of a free-riding impulse and a sense of market preemption).

201. MCCARTHY ON TRADEMARKS, *supra* note 151, §23:6 (citing several court cases addressing the various types of post-sale confusion harm).

202. Lemley & McKenna, *supra* note 133, at 154–55. Barton Beebe argues that standard dilution law is actually not very good at addressing the social function of trademark, and that the infringement theory of post-sale confusion does a better job. Barton Beebe, *Intellectual Property and the Sumptuary Code*, 123 HARV. L. REV. 809, 851–53 (2010).

203. Anne M. McCarthy, Note, *The Post-Sale Confusion Doctrine: Why the General Public Should Be Included in the Likelihood of Confusion Inquiry*, 68 FORDHAM L. REV. 3337, 3359–60 (1999); *see also* MCCARTHY ON TRADEMARKS, *supra* note 151, §23:7 (“Post sale confusion is also within the criminal penalties of the federal anti-counterfeiting law.”).

dollars on the streets of a large city may fully understand that the deal is too good to be true. The seller could plausibly argue that all parties to the transaction know what is occurring and that there is an absence of confusion. Additionally, a purchaser of a fake Louis Vuitton bag may not even have the resources to buy a real one (which can easily exceed \$1,000), so there is not even a lost sale as a result.²⁰⁴ The post-sale confusion argument helps to fill this gap by allowing the trademark owner to argue that other potential purchasers who view the counterfeit good and make negative conclusions about the quality or market positioning of the brand-owner's goods are the source of harm.²⁰⁵

As one might imagine, the post-sale doctrine can be a somewhat problematic rule because it involves so many extra steps in comparison to a standard trademark case. An allegation necessarily relies on a rather convoluted assumption that an individual who sees a confusingly marked product will (a) believe it is made by the original trademark owner, (b) make an incorrect conclusion about quality or market presence, and (c) actually act on that conclusion to the detriment of the trademark owner (e.g., by not purchasing their products or thinking poorly about their products).²⁰⁶ To be sure, that is a more indirect case than a standard infringement action. Moreover, the proof required for courts to impose liability is generally only the existence of confusion.²⁰⁷ In other words, plaintiffs are rarely required to demonstrate that consumers would actually make all of the assumptions that result in trademark owner harm

204. Raustiala & Sprigman, *supra* note 195, at 891–93.

205. Sheff, *supra* note 195, at 790–92 (explaining the harm from “status confusion” counterfeiting in terms of depriving the purchaser of the genuine article from exclusivity and degrading the general public’s view of the status flowing from the scarcity of the original product); *see also* Jonathan M. Barnett, *Shopping for Gucci on Canal Street: Reflections on Status Consumption, Intellectual Property, and the Incentive Thesis*, 91 VA. L. REV. 1381, 1419–22 (theorizing that counterfeiting has a negative innovation incentive impact).

206. Raustiala & Sprigman, *supra* note 195, at 888, 893 (separating just the likelihood of confusion steps into a complex, four-part process that may be more difficult to prove in reality than many believe, and concluding that the ultimate impact on consumer purchasing decisions may be “improbable”).

207. *See* William McGeeveran & Mark P. McKenna, *Confusion Isn’t Everything*, 89 NOTRE DAME L. REV. 253, 254–55 (2013) (bemoaning the fact that the likelihood of confusion test has now become the basis of determining liability in most modern cases, representing a significant growth in trademark power); Raustiala & Sprigman, *supra* note 195, at 890.

because the standard is likelihood of confusion or likelihood of dilution.²⁰⁸

Another facet that makes post-sale harm unusual is the indirectness in and of itself. The consumer who is confused is not a party to the transaction. Although it is not clear that such harm would have been covered under previous iterations of the federal trademark statute, a 1962 revision of the Lanham Act removed the limitation of purchaser harm and opened the door to harm from the behavior of potential purchasers.²⁰⁹ Courts have agreed that this class can be considered as actionable infringement (depending on the extent to which a trademark can be perceived by third parties).²¹⁰ Commentators have noted that the confusion must nonetheless be theoretically connected back to a purchasing decision, as confusion in the abstract is not a harm unless one imputes a change in consumer behavior toward the trademark owner.²¹¹

In the context of product repair or upcycling, one can see that it could present a lingering issue, no matter what level of disclosure is made to the initial consumer. If a product is modified or remade into something different, and the trademark is still visible, post-sale confusion is a possibility. Note that the trademark may take the form of a traditional word or symbol but could also constitute “trade dress,” derived from the shape, color,

208. The idea that similarities leading to confusion are sufficient has its genesis in a Second Circuit case from the 1950s, *Mastercrafters Clock & Radio Co. v. Vacheron & Constantin-LeCoultre Watches, Inc.*, 221 F.2d 464, 466 (2d Cir. 1955). In that case, the court found that a look-alike clock caused harm to the trademark owner by virtue of the false luxury it imparted to purchasers. An interesting counter argument to the post-sale confusion reasoning is that consumers could, through personal manufacturing technology like additive manufacturing, become so adept at replicating products that no assumption can reasonably be made about unauthorized trademarked goods viewed by third parties. James Grace, Note, *The End of Post-Sale Confusion: How Consumer 3D Printing Will Diminish the Function of Trademarks*, 28 HARV. J.L. & TECH. 263, 278–81 (2014).

209. Lanham Act § 32(1), 15 U.S.C. § 1114(1) (amended 1962).

210. MCCARTHY ON TRADEMARKS, *supra* note 151, §23:7 (stating that “[s]everal courts have noted this expansion of the test of infringement and held that it supports a finding of infringement when even non-purchasers are deceived” and citing the decisions).

211. See Raustiala & Sprigman, *supra* note 195, at 884, 888–89 (noting that courts usually fail to analyze the required impact of post-sale confusion, and subsequently detailing the mental steps required to connect the confusion back to the trademark owner); Mark A. Lemley & Mark McKenna, *Irrelevant Confusion*, 62 STAN. L. REV. 413, 448 (2010) (arguing that, unless false advertising exists, actionable confusion must materially alter consumer decision-making).

or sound of the product.²¹² An upcycled Coca-Cola bottle may always carry the trademark hourglass shape, regardless of whether the brand name is present.

Perhaps the strongest iteration of post-sale confusion without counterfeiting is the Ninth Circuit's decision in *Au-Tomotive Gold, Inc. v. Volkswagen of America, Inc.*²¹³ That case concerned Au-Tomotive Gold, a maker of custom, "marquee" license plates for cars that sold products alleged to have infringed Volkswagen's logo.²¹⁴ Strikingly, the logos in question were physical Volkswagen badges sold by authentic Volkswagen dealers to be used as replacements for damaged car parts.²¹⁵ Au-Tomotive Gold purchased the legitimate badges, gold plated them, and affixed them to blank decorative license plates.²¹⁶ Despite the fact that Au-Tomotive Gold disclosed the fact that its license plates were not produced by Volkswagen and initial purchasers were not confused, the German auto giant accused the small company of trademark infringement on the basis that potential consumers seeing the plates could believe Volkswagen was a sponsor.²¹⁷ The court found for Volkswagen, determining that Au-Tomotive Gold's first-sale rights did not extend to "observers."²¹⁸ In fact, the court did not even ground its ruling in the likelihood that future consumer purchases could be impacted, calling post-sale confusion "a free rider problem."²¹⁹ According to the court, purchasers never gain any rights to trademarks of the goods they purchase, and "[i]f a producer profits from a trademark because of post-purchase confusion about the product's origin, the producer is, to that degree, a free rider."²²⁰

Although the *Au-Tomotive Gold* decision received its share of criticism,²²¹ the underlying theory of liability for the facts of

212. See *supra* note 126 and accompanying text.

213. *Au-Tomotive Gold v. Volkswagen of Am.*, 603 F.3d 1133 (9th Cir. 2010).

214. *Id.* at 1134–35.

215. *Id.* at 1135.

216. *Id.*

217. *Id.* (stating that Au-Tomotive Gold filed for a declaratory judgment of non-infringement).

218. *Id.* at 1136.

219. *Id.* at 1138.

220. *Id.*

221. See Stacey Dogan, *Bullying and Opportunism in Trademark and Right of Publicity Law*, 96 B.U. L. REV. 1293, 1300–01 (2016) (arguing that casting a critical eye toward the expansion of actionable confusion has led to an implicit unjust enrichment approach to trademark infringement in cases like *Au-Tomotive Gold*);

the case—that is, the creation of a modified, genuine good as opposed to a counterfeit producing post-sale confusion—remains viable, and subsequent courts have applied it.²²² A recent example is an upcycling case that, in part, included allegations of post-sale confusion: *Hamilton International Ltd. v. Vortic LLC*.²²³ This case involved an entrepreneurial firm that created a business model of acquiring movements from old pocket watches (i.e., pocket watches with the cases removed), repairing the movements, 3D printing a new case, and selling the modified timepiece as an upcycled wristwatch.²²⁴ Far from a cheap repair for budget-minded consumers, the modified Vortic watches are sold for thousands of dollars to watch aficionados.²²⁵ Each watch retains the face from the original pocket, which in the litigated case was one crafted by the Hamilton Watch Company when it was an American firm in the early part of the last century.²²⁶ The current owner of the Hamilton brand, Swiss conglomerate Swatch Group, Ltd., sued Vortic for trademark infringement.²²⁷

According to Swatch, Vortic's watches were highly modified products that created a likelihood of confusion.²²⁸ Although purchasers received disclosures through advertising and other product materials that may have made clear what modifications Vortic made, such disclosures could not eliminate the confusion

Lemley & McKenna, *supra* note 133, at 152–54 (“This result is particularly problematic because it takes the idea of owning markets to another level [O]wners are arguing that they should have the exclusive right to use the mark in the ancillary markets.”); Sheff, *supra* note 195, at 789 (“If the modification and resale of a legitimately purchased, authentically branded good can give rise to liability under a post-sale confusion theory without regard to the quality controls maintained by the reseller or the disclosures to the reseller’s retail customers, it is difficult to see what remains of the first-sale doctrine.”).

222. See *Bluetooth SIG, Inc. v. FCA U.S. LLC*, No. 2:18-CV-1493, 2021 WL 1922975, at *3 (W.D. Wash. May 13, 2021) (suggesting that incorporation of a genuine audio into a new product—a car—does not qualify for the first-sale doctrine defense), *vacated and remanded*, 30 F.4th 870, 874 (9th Cir. 2022) (declaring first-sale defense possible but remanding for determination of whether it is appropriate in this case); *Rolex Watch U.S.A., Inc. v. Agarwal*, CV 12-06400, 2012 WL 12886444, at *11 (C.D. Cal. Dec. 17, 2012) (holding that incorporation of watchmaker’s genuine replacement parts in a new good created post-sale confusion).

223. *Hamilton Int’l Ltd. v. Vortic LLC*, 13 F.4th 264 (2d Cir. 2021).

224. *Id.* at 268.

225. *Vortic Store*, VORTIC WATCH Co., <https://vorticwatches.com/collections/watches> [<https://perma.cc/3Q3D-6TKQ>] (listing watches that all sell for nearly \$2,000 or more).

226. *Hamilton Int’l Ltd.*, 13 F.4th at 268.

227. *Id.* at 269.

228. Complaint ¶ 27, *Hamilton Int’l Ltd.*, 13 F.4th (No. 17-CV-5575).

from third parties viewing the watches.²²⁹ Ultimately the Second Circuit dismissed Swatch's arguments on the basis that there was insufficient evidence that consumers could or would be confused by the tiny Hamilton mark on the wrist watches.²³⁰ But this litigation was extremely burdensome on the small firm and involved a multiyear odyssey that might have discouraged a less tenacious owner.²³¹ Vortic remains in business following the litigation, but its founder has lamented the lost revenue and lost business potential the company suffered.²³²

The broad application of the post-sale doctrine is a threat to those who repair or upcycle. It is the rather lax infringement standard that creates a special problem in this context, allowing at least a viable case to be alleged in relatively weak circumstances.²³³ Small firms may be unlikely to undertake such risks, and as a result, more products may be directed to landfills rather than placed back into the stream of commerce.²³⁴

B. *Additional Concerns with Trademark Dilution*

If the threat of an amorphous post-sale confusion case is a concern for sustainable product renewal, the prospect of dilution is perhaps more of a concern. Dilution is, of course, the trademark harm that results from damage to the source from either tarnishment of the brand's reputation for quality or blurring of the distinctiveness of the mark.²³⁵ Dilution can exist even in the absence of confusion, though it is limited at the

229. Plaintiff's Reply Brief at *25–26, *Hamilton Int'l Ltd.*, 13 F.4th (No. 20-3369) (alleging initial interest and post-sale confusion).

230. *Hamilton Int'l Ltd.*, 13 F.4th at 279.

231. See Liz Brody, *This Brand Is Your Brand. This Brand Is My Brand?*, ENTREPRENEUR, Mar. 2021, at 50 (stating that the cost of Vortic's litigation with Swatch nearly broke the company).

232. Christopher Wood, *Fort Collins' Vortic Watch Wins Battle with Swatch Unit Hamilton*, LOVELAND REP. HERALD (Dec. 26, 2021), <https://www.reporterherald.com/2021/12/26/fort-collins-vortic-watch-wins-battle-with-swatch-unit-hamilton> [<https://perma.cc/3PGA-JCGC>].

233. In other words, a case that is sufficiently strong to rebut a request for fee-shifting under 15 U.S.C. § 1117(a) (2002).

234. See Brody, *supra* note 231 (describing other cases in which small entrepreneurs won trademark infringement cases against large rivals but were ultimately destroyed financially); Liebesman & Wilson, *supra* note 136, at 163–66 (describing the losing battle many small resellers face when confronting large trademark owners, even in spurious cases).

235. See 15 U.S.C. § 1125(c) (2021); *supra* note 131 and accompanying text.

federal level to famous marks in recognition of the otherwise broad reach of this theory.²³⁶ In practice, dilution is often alleged in concert with a standard infringement allegation in a belt-and-suspenders approach to establishing liability.²³⁷

Because the liability standard is now “likelihood of dilution” as a result of the Trademark Dilution Revision Act of 2006, a plaintiff does not need to show that consumers have actually changed behavior based on a negative conception of quality or distinctiveness.²³⁸ That theoretically makes it a more flexible case. And more importantly, warnings that explain the disassociation with the trademark owner do not necessarily dispel dilution.²³⁹

Dilution is a category that has not received a great deal of attention from the courts in the context of upcycling, but cases do exist. A perfect example is *PepsiCo Inc. v. #1 Wholesale, LLC*, which involved a firm that converted used PepsiCo bottles, cans, and canisters into devices with hidden compartments.²⁴⁰ Not only did the devices outwardly appear like the original PepsiCo products, but they even held some amount of liquid that could be prepared to simulate something like soda.²⁴¹ The fairly obvious purpose of the “upcycled” devices was to conceal illicit substances such as narcotics.²⁴² The court found that the modification and resale of the authentic PepsiCo containers constituted dilution by tarnishment because purchasers and observers were likely to make negative associations between drugs and PepsiCo products.²⁴³

236. See *supra* note 132 and accompanying text. Conversely, one can argue that famous marks require more protection, so rather than a limitation, the fame requirement is the conveyance of a specific benefit. Xuan-Thao Nguyen, *Fame Law: Requiring Proof of National Fame in Trademark Law*, 33 CARDOZO L. REV. 89, 91–93 (2011).

237. John Shaeffer, *Trademark Infringement and Dilution Are Different – It’s Simple*, 100 TRADEMARK REP. 808, 809–10 (2010) (noting that this can create problems when courts attempt to discern the difference between infringement and dilution).

238. Trademark Dilution Revision Act of 2006, Pub. L. No. 109-312, 120 Stat. 1730 (codified in various sections of 15 U.S.C.).

239. Keats, *supra* note 110, at 720 (describing how material changes in products can lead to dilution by virtue of the alteration, regardless of who is behind it).

240. *PepsiCo, Inc. v. #1 Wholesale, LLC*, No. 07-CV-367, 2007 WL 2142294, at *2 (D. Ga. July 20, 2007).

241. *Id.*

242. *Id.* at *4.

243. *Id.*

Dilution can occur at the point of original purchase or post-sale. Courts do not always make this distinction, but it is clear that dilution can take place when experienced by non-purchasing observers, similar to trademark infringement. One of the more famous cases in this regard involved fish-shaped crackers. In *Nabisco, Inc. v. PF Brands, Inc.*, the manufacturer of animal-shaped, orange crackers asked for a declaratory judgment that it did not infringe the trade dress of Pepperidge Farm's famous "Goldfish" cheese crackers.²⁴⁴ Not only did the U.S. Court of Appeals for the Second Circuit deny Nabisco's request, but it found a likelihood of dilution, specifically noting that some of this dilution could occur post sale.²⁴⁵ Generally speaking, though, courts appear to address this aspect of dilution within the cause of action's overall harm to the brand.

C. *Uncertainty in Modification Messaging Can Impact First-Sale Retention*

Critical to ameliorating the point-of-sale confusion is disassociation with the original trademark owner and the use of disclaimers that make clear how the original product has been modified. But what determines whether such a message credibly communicates a good faith attempt to warn of a modification and effectively addresses confusion? The Supreme Court's overarching *Champion* decision seems to create an easy off-ramp to avoid liability by requiring only that the alleged infringer provide "full disclosure" of any modifications.²⁴⁶ Confusingly, however, the Court immediately takes that back by observing that some modifications can be extreme enough to essentially create a new product, such that no disclosure is adequate to avoid consumer confusion.²⁴⁷

Unfortunately, the language in *Champion* has charged courts to embark on a journey to explore the esoteric concept of what constitutes a new product, with inconsistent results. For example, in *Rolex Watch, U.S.A., Inc. v. Michel Co.*, the Ninth

244. *Nabisco, Inc. v. PF Brands, Inc.*, 191 F.3d 208, 213 (2d Cir. 1999), *abrogated in part by* *Mosely v. V Secret Catalogue, Inc.*, 537 U.S. 418 (2003).

245. *Id.* at 218 ("We recognize that dilution can occur as well in a post-sale [context] as in a point-of-sale context.")

246. *Champion Spark Plug Co. v. Sanders*, 331 U.S. 125, 129–30 (1947).

247. *Id.* at 129 ("Cases may be imagined where the reconditioning or repair would be so extensive or so basic that it would be a misnomer to call the article by its original name, even though the words 'used' or 'repaired' were added.")

Circuit found that retaining the Rolex watch movement and casing but replacing the bezel and band and adding diamonds resulted in a new product.²⁴⁸ However, in *Hamilton International Ltd. v. Vortic LLC*, the Second Circuit found that Vortic's substitution of a new 3D printed watch case and conversion of the original pocket watch to a wristwatch were not changes that would be "particularly significant" to consumers and did not constitute an entirely new product.²⁴⁹ In *Nitro Leisure Products, LLC v. Acushnet Co.*, the Federal Circuit found that Nitro's refurbishment of Acushnet's golf balls, which involved removing the base coat of paint, clear coat, trademark, and model, then repainting the balls and adding back the trademark, was simply what consumers would expect for used balls; no new product was created.²⁵⁰

With the case-by-case assessment of what level of disclosure is required, or whether any disclosure can be sufficient, it can be very difficult for an upcycler or modifier to conclude with confidence that it is safe from liability. As noted in the *Hamilton* case as well as many similar examples of trademark owner aggression against legitimate reselling of used products, simply standing up for one's rights can cause financial burden.²⁵¹ A clearer standard would relieve some of this pressure.

D. Third-Party Web Restrictions May Further Limit the Market

Because the internet has become the international forum with the potential to make upcycling businesses viable, it makes sense that trademark owners might target service providers as contributory infringers to enhance enforcement. Of course, we confronted this issue related to copyright law decades ago in the context of filesharing.²⁵² This resulted in the passage of the Digital Millennium Copyright Act (DMCA) in the United States

248. *United States v. Sarkisian*, 197 F.3d 704, 710 (9th Cir. 1999).

249. *Hamilton Int'l v. Vortic LLC*, 13 F.4th 264, 273–74 (2d Cir. 2021).

250. *Nitro Leisure Prods. LLC v. Acushnet Co.*, 341 F.3d 1356, 1362–63 (Fed. Cir. 2003).

251. See Liebesman & Wilson, *supra* note 136, at 162–66 (citing examples of aggressive infringement).

252. See generally Daniel R. Cahoy, Comment, *New Legislation Regarding On-Line Service Provider Liability for Copyright Infringement: A Solution in Search of a Problem*, 38 IDEA 335 (1998) (providing an early, pre-Digital Millennium Copyright Act overview of online service provider liability).

in 1998,²⁵³ which facilitated a relatively predictable notice and takedown procedure.²⁵⁴ Although no such regime exists in the trademark context, courts have jumped in to add some certainty. The most commonly cited analogous case for grounding liability is the Supreme Court's decision in *Inwood Laboratories, Inc. v. Ives Laboratories, Inc.*, which established in the context of physical pharmacies that a manufacturer or distributor can be liable for contributory infringement if it has reason to know it is continuing to supply an infringing product.²⁵⁵ Courts have labored to determine when an online marketplace's actions meet the *Inwood* requirements.

The leading case in the online context is probably *Tiffany (NJ) Inc. v. eBay Inc.*²⁵⁶ In this case, the famous jewelry company, Tiffany, argued that eBay should be liable for the large number of counterfeit Tiffany merchandise available on the auction site.²⁵⁷ As in the music filesharing cases, the issue was the extent to which eBay is responsible for the illegal actions of third parties on their site, particularly when actual knowledge is extraordinarily difficult to glean until an aggrieved trademark owner submits a notification.²⁵⁸ Dismissing the notion that eBay induced any infringement, the court considered whether its continued supply of services to counterfeiters constituted contributory infringement.²⁵⁹ The court rejected Tiffany's argument, finding that in order to be liable, "a service provider must have more than a general knowledge or reason to know that its service is being used to sell counterfeit goods."²⁶⁰ As a result, courts and commentators have generally agreed that "good faith" online retail sites are not liable for infringement without actual knowledge and thus have no need to engage in overly aggressive policing.²⁶¹

253. See Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998).

254. See *Lenz v. Universal Music Corp.*, 815 F.3d 1145, 1151 (9th Cir. 2016) (detailing the notice and takedown process).

255. *Inwood Lab's v. Ives Lab's*, 456 U.S. 844, 853-54 (1982).

256. *Tiffany (NJ), Inc. v. eBay, Inc.*, 600 F.3d 93 (2d Cir. 2010).

257. *Id.* at 97-98. As with other torts, absent some statutory limitation like the DMCA, eBay can be jointly and severally liable for any infringement to which it contributes. *Id.*

258. *Id.* at 98.

259. *Id.* at 106.

260. *Id.* at 107.

261. See Sonia K. Katyal & Leah Chan Grinvald, *Platform Law and the Brand Enterprise*, 32 BERKELEY TECH. L. J. 1135, 1150-51 (2017) (citing Stacey L.

Nevertheless, many service providers bemoan the lack of certainty in online liability standards for contributory infringement.²⁶² The incentives are for sites to block goods that even potentially infringe, and in fact many prominent forums like Etsy and Shapeways engage in rather aggressive policing.²⁶³ Additionally, legislation has been proposed to essentially overturn the *Tiffany v. eBay* standard. The SHOP SAFE Act²⁶⁴ creates a contributory infringement regime that applies even in the context of generalized knowledge unless certain steps are taken to earn “safe harbor” status.²⁶⁵ In combination, the restrictive actions of third parties have the potential to dramatically curb sustainable upcycling.

V. A TRADEMARK INFRINGEMENT STANDARD WITH SUSTAINABILITY IN MIND

Overall, the access and legal hurdles to repairing, reconstructing, and upcycling are largely upstream, and a firm will have some sense as to whether a viable business can be made from the outset. Even if a product is covered by an innovation or design right, the risk of infringement from making new pieces or reconstruction could be assessed with some degree of certitude.²⁶⁶ However, trademark liability is necessarily *ex post* due to the confusion standard. And it is quite likely that

Dogan, *We Know It When We See It: Intermediary Trademark Liability and the Internet*, 2011 STAN. TECH. L. REV. 7, 6 (2011).

262. *Id.* at 1150 (stating “this has led to an environment of uncertainty and tension, which is likely unsustainable as a long-term business strategy,” and noting industry effort to clarify the environment).

263. Katyal & Grinvald, *supra* note 261, at 1162–65 (noting that some of the protections available under the DMCA, like the right to submit a counter notice, need not be provided by an online marketplace).

264. H.R. 3429, 117th Cong. (1st Sess. 2021).

265. See Eric Goldman, *The SHOP SAFE Act Is a Terrible Bill That Will Eliminate Online Marketplaces*, TECH. & MKTG. L. BLOG (Sept. 28, 2021), <https://blog.ericgoldman.org/archives/2021/09/the-shop-safe-act-is-a-terrible-bill-that-will-eliminate-online-marketplaces.htm> [<https://perma.cc/6Z2N-QHU7>].

266. Utility patents and design patents (known as industrial designs in most of the rest of the world) must be published and issued before rights attach. And those rights must contain some kind of “claim” that establishes their boundaries. Therefore, there is at least some possibility that one could engage in a product clearance for those rights before selling that might limit liability. See Jamie Sheridan, *New Product Clearance: Freedom to Operate Search and Analysis*, 23 INTELL. PROP. & TECH. L.J. 14 (2011) (describing how to conduct a product clearance for patents).

litigation risk may prevent some from engaging in an inherently sustainable activity.

Of course, litigation risk exists in any business endeavor and that is not in and of itself a call for legal reform. However, there are compelling reasons to consider whether clearer or alternative rules in the context of repair or upcycled trademark liability are more justified. First, trademark owner harm is not substantial in this area, but the downstream impact of legal uncertainty is great, making reform rational from a public policy standpoint. Second, the necessary changes are reasonably constrained and would not involve a wholesale rewriting of established doctrine in the area. Finally, the possibility of fee-shifting for trademark owner “bullying” behavior must be on the table and more frequently assessed by courts. Without such reasonable reform, nascent repair and upcycling businesses may be blocked before their legitimacy can be determined and sustainable impact made.

A. Theory and Evidence Are Contrary to Brand Harm in Most Cases

The premise of holding the reseller of a modified trademarked good liable for infringement in cases of confusion or dilution is that some harm is likely to occur to the trademark owner.²⁶⁷ This is certainly one justification. However, there has been a growing movement among intellectual property advocates to treat trademark rights as a property that exists *in gross*.²⁶⁸ In other words, ownership of the source indicator itself conveys some exclusivity regardless of any marketplace or consumer need. By simply infringing on the owner’s exclusivity, a violation has occurred that would permit an unjust enrichment if liability did not attach.

When courts and commentators talk about the power attached to this *in gross* concept of trademark rights, the phrase

267. Keats, *supra* note 110, at 712–13; Liebesman & Wilson, *supra* note 136, at 167–71.

268. Barton Beebe & C. Scott Hemphill, *The Scope of Strong Marks: Should Trademark Law Protect the Strong More than the Weak?*, 92 N.Y.U. L. REV. 1339, 1389–92 (1017) (articulating the rationale behind finding infringement liability in noncompeting products and describing antidilution law as a form of “*in gross*” trademark protection).

that arises most often is “free riding.”²⁶⁹ A trademark owner is assumed to own all valuable uses of the indicator, and anyone else who captures some part of this benefit is appropriating some of the owner’s property. Even without harm, the benefit is unearned and within the trademark owner’s power to enjoin.²⁷⁰ The free riding argument is particularly on display in *Au-Tomotive Gold*.²⁷¹ In that case, the Ninth Circuit explicitly pointed out that the first-sale doctrine, even coupled with disclosure, cannot avoid the fact that the reseller may benefit from a price bump by selling a product displaying the trademark.²⁷² According to the court, “the producer is free riding even though it has paid for the trademark product.”²⁷³ Such profit is unjust, according to this idea, because all benefits flowing from the trademark should accrue to the original owner.²⁷⁴

The idea of trademark property *in gross* and an accompanying right to stop all free riding has been criticized by commentators as standing in opposition to the appropriate function of this right.²⁷⁵ Professor Lunney points out that, fundamentally, trademarks are informational devices and many property-based extensions of trademark rights have no informational role at all.²⁷⁶ Essentially, full property protection compensates an owner for harm to the mark itself regardless of consumer impact, as if it were a creative work more like a copyrighted expression.²⁷⁷ This was not the original intent in protecting marks.²⁷⁸ Moreover, such extensions can actually

269. See Lemley & McKenna, *supra* note 133, at 140–41 (asserting that free riding without harm should not be actionable); Barnes, *supra* note 135, at 470–74 (presenting a broad discussion of free-riding language in intellectual property law); Lemley & McKenna, *supra* note 211, at 441–43 (asserting that the expansion on trademark law that leads to accusations of free riding has, in circular fashion, created confusion that courts necessarily determine is wrong).

270. Lemley & McKenna, *supra* note 133, at 169.

271. *Au-Tomotive Gold, Inc. v. Volkswagen of Am.*, 603 F.3d 1133, 1138 (9th Cir. 2010).

272. *Id.* at 1138–39.

273. *Id.* at 1139.

274. Lemley & McKenna, *supra* note 133, at 169.

275. *Id.* at 187–88; Lunney, *supra* note 124, at 440–41; Barnes, *supra* note 135, at 473–76.

276. Lunney, *supra* note 124, at 419 (“[A] mark’s owner today has far more ability to control the unauthorized use of her mark and far more freedom to do with her mark as she sees fit, often in circumstances entirely divorced from, and sometimes actually in conflict with, her mark’s informational role.”).

277. *Id.*

278. *Id.* at 417–18.

lead to market inefficiency once one considers the multi-sector role in which trademark rights actually exist.²⁷⁹ Some free riding is in fact useful, and bad free riding in the context of creativity or innovation is better addressed by copyright or patent rights.²⁸⁰ Professor Lemley and Professor McKenna point out that the free-riding justification has often been grounded in the idea of protecting the brand owner, but in reality operates like a preemption argument, improperly carving out markets in noncompeting goods for a strong trademark owner with no consideration of consumer reaction.²⁸¹ They note that the assertion that the preemption necessarily benefits the trademark's power may even be misguided as well; it may simply be an anticompetitive device for the owner.²⁸²

Of course, there is undoubtedly confusion in at least some of the cases in which a repaired or repurposed good reenters the market. However, simply reflecting on that fact is not enough if there is no evidence of trademark owner harm.²⁸³ And in fact, the evidence actually suggests that trademark owners are not always harmed when confusion exists over an unauthorized (re)use. Professor Lemley and Professor McKenna point this out in a review of marketing literature related to authorized extensions of a firm's product market.²⁸⁴ They note that, although a particular use may cause consumers to perceive the brand negatively in that context, the perception does not carry back to the core brand value.²⁸⁵ For example, if a third party modifies PepsiCo cans in order to house illicit substances, PepsiCo's brand in that context might suffer²⁸⁶ (and the infringer might benefit).²⁸⁷ However, the research suggests that PepsiCo's good name in selling its original branded products will not be affected.²⁸⁸ If the extension seems to reduce the exclusivity of a product—particularly a luxury product—there is some evidence that consumers will view the original owner more

279. *Id.* at 453–55.

280. *Id.* at 454.

281. Lemley & McKenna, *supra* note 133, at 156–57.

282. *Id.*

283. McGeeveran & McKenna, *supra* note 207, at 270 (noting courts' elevation of confusion in the abstract with less attention paid to evidence of attendant harm).

284. Lemley & McKenna, *supra* note 133, at 157–62.

285. *Id.* at 159–60.

286. *See* PepsiCo, Inc. v. #1 Wholesale, LLC, No. 07-CV-367, 2007 WL 2142294, at *2 (N.D. Ga. July 20, 2007).

287. Lemley & McKenna, *supra* note 133, at 162.

288. *Id.* at 159–60.

negatively.²⁸⁹ However, recent research suggests that this impact may depend on the socioeconomic status of the observer and in many cases will not result in harm.²⁹⁰ Moreover, if the markets are distinct, it is not likely that the confused purchaser or observer will be impacted in any decision to purchase the trademark owner's original products.

And, significantly, if the repair or upcycling has a positive social goal like sustainability, the original brand may actually benefit. Many authorized trademark use or extension cases take place in the context of counterfeit products.²⁹¹ It is not surprising that the perceived intent to deceive consumers or steal market from the trademark owner carries a negative perception. However, if consumers view a positive reuse of an existing trademark product, they may view it as a positive indication of the original's sustainable utility.²⁹² Additionally, consumers may view the original product as particularly durable and long-lasting compared to competing products that end up in a landfill.²⁹³

B. *Extending First-Sale Protections and Providing Clearer Upcycling Standards and Burdens*

Because any upcycling or repair confusion may not result in harm in many cases, it is reasonable to undertake small reforms to the existing trademark liability framework that will promote sustainable product renewal while not unduly burdening brand

289. *Id.* at 165–66.

290. See Nelson B. Amaral & Barbara Loken, *Viewing Usage of Counterfeit Luxury Goods: Social Identity and Social Hierarchy Effects on Dilution and Enhancement of Genuine Luxury Brands*, 26 *J. CONSUMER PSYCH.* 483 (2016) (finding that counterfeiting among the same socioeconomic group may benefit the brand, but use by a lower socioeconomic group lowers the brand image among customers in the higher group).

291. See *supra* note 203 and accompanying text.

292. See Bernadette Kamleitner et al., *A Cinderella Story: How Past Identity Salience Boosts Demand for Repurposed Products*, 83 *J. MKTG.* 76, 87 (2019) (referencing how a product's past, broken, or discarded existence fuels demand for an upcycled or recycled product through the story of metamorphosis); Feray Adiguzel & Carmela Donato, *Proud to Be Sustainable, Upcycled Versus Recycled Luxury Products*, 137 *J. BUS. RES.* 137, 143 (2021) (arguing that consumers view upcycled luxury products more positively than luxury products that are not sustainable and must be disposed).

293. See Marie-Cecile Cervellon & Lara Shammass, *The Value of Sustainable Luxury in Mature Markets*, 52 *J. CORP. CITIZENSHIP* 90, 99 (2013) (finding enhanced luxury value with sustainable properties like durable quality and conspicuous eco-friendliness but differentiating based on culture).

value. Notably, such improvement will particularly benefit the types of entrepreneurs, small enterprises, and even nonprofits that are likely to carry out the most innovative repair and upcycling. In essence, appropriate reforms involve refocusing courts on the fact that trademark owners have already received compensation for upcycling and repair uses, and on the implementation of mechanisms to reduce the burden of overly aggressive brand protection that is incentivized by the intellectual property system.

First, it is important to substantially curtail post-sale confusion liability when a genuine product is involved and a first-sale defense is available. This amorphous threat of liability based on confusion by a third party cannot reasonably be addressed by an upcycler or modifier *ex ante*. Conversely, their warnings may be irrelevant after the initial purchase, and downstream sales cannot be controlled.²⁹⁴ In almost every case, the trademark owner will be compensated for the good involved; extending its power to follow-on uses is not only an affront to sustainability, but it is also anticompetitive. Although many brand owners would prefer to control this market and could reap additional profits by keeping reuse programs in-house,²⁹⁵ that power is beyond the legitimate use of trademark rights.

The revised first-sale rule is fairly simple to imagine: courts should presume that confounding liability based on confusion or dilution will be restricted to that experienced in point-of-sale transactions. So long as the purchaser of the upcycled or modified good is aware of the seller's relationship to the original trademark owner, the latter's rights are extinguished. This places the appropriate emphasis on the seller's behavior and activities rather than the uncontrollable perceptions of unknown marketplace actors.

But what about the potential for trademark harm in extreme cases in which an upcycler's or modifier's true intent is to appropriate the brand rather than create a sustainable

294. Sheff, *supra* note 195, at 785–90 (describing downstream confusion as a variety separate from bystander confusion in the post-sale world).

295. Notably, many firms now have in-house recycling and upcycling programs. See Petro, *supra* note 2 (describing the efforts of firms like Tommy Hilfiger, Eileen Fisher, and Adidas to recycle old goods); *Patagonia Post-Consumer Recycling Strategy and Upcycling Policy*, PATAGONIA, <https://www.patagonia.com/static/on/demandware.static/-/Library-Sites-PatagoniaShared/default/dw2ca0a0c1/PDF-US/Patagonia-Global-Recycling-Strategy-and-Upcycling-Policy.pdf> [<https://perma.cc/L3A2-8F9Z>].

business? Would a firm that removed Ralph Lauren, Ford, or Rolex labels from authorized goods be able to simply paste them onto new goods and escape liability on the basis that the mark had technically been sold? The answer is clearly no, and thankfully there is a potential response. A plaintiff should be able to rebut the presumption of no post-sale confusion after a first sale with evidence of trademark injury. The idea of looking to the “materiality” or relevance of confusion and dilution claims has been proposed by many commentators over the years,²⁹⁶ though it has not gained much traction due to the established multi-factored infringement and dilution tests in place.²⁹⁷ However, this application to limit a judicially created liability extension seems particularly appropriate. In essence, a court can determine if any alleged post-sale confusion would actually harm the trademark owner—not simply create confusion—and sustain the trademark owner’s allegation in rare cases where it is established. This is a much more stringent standard, and its successful application will be rare.²⁹⁸

A second but equally important reform is to clarify the standard for determining when a modifier’s disclosure will be adequate. As noted above, the current regime requires a court to engage in a metaphysical exploration of when an object is modified to the extent that it is a new or different product, at which point no disclosure may be adequate.²⁹⁹ This should be replaced with a simple inquiry as to whether the seller fully disclosed the nature of the modification to the purchaser. At that point, the burden should fall to the trademark owner to rebut with evidence that point-of-sale purchasers were nonetheless confused, and that such confusion was material to the brand.

296. See Rebecca Tushnet, *Running the Gamut from A to B: Federal Trademark and False Advertising Law*, 159 U. PA. L. REV. 1305, 1365–66 (2011); Matthew B. Kugler, *The Materiality of Sponsorship Confusion*, 50 U.C.D. L. REV. 1911 (2017); Lemley & McKenna, *supra* note 133, at 187–89; Sheff, *supra* note 195, at 784; Lemley & McKenna, *supra* note 209, at 450–53.

297. See generally Robert G. Bone, *Taking the Confusion Out of “Likelihood of Confusion”*: Toward a More Sensible Approach to Trademark Infringement, 106 NW. U. L. REV. 1307 (2012) (providing a history of the multi-factored infringement test).

298. See Camila Hrđy, *Recent Critiques of Post-Sale Confusion: Is Materiality the Answer?*, WRITTEN DESCRIPTION (Nov. 11, 2018), <https://writtendescription.blogspot.com/2018/11/recent-critiques-of-post-sale-confusion.html> [<https://perma.cc/UE8H-XAZG>] (noting, appropriately, that a materiality requirement in post-sale confusion cases would mean that a plaintiff would rarely be successful).

299. See *supra* notes 248–250 and accompanying text.

Commentators have suggested that the application of a materiality standard is not unlike the same type of rule in false advertising law,³⁰⁰ and indeed it makes sense here for the same reasons. In fact, it is worth noting that such a standard does exist in the context of “refurbished,” “rebuilt,” “remanufactured,” or “reconditioned” goods,³⁰¹ where the inquiry focuses on whether consumers are defrauded rather than whether a trademark owner is harmed. The workability of this regime seems to rest on standard terminology and the information that such words convey. Perhaps the same result could be achieved with the term “upcycled” or “repaired” used in conjunction with the original branding that would convey a clear message that a consumer could choose to investigate further. Such a readjustment would significantly reduce much of the litigation fear that impacts many small firms that seek to sustainably reintroduce used products back into the stream of commerce.

C. *Ensuring Fee-Shifting Exists*

No matter what rules are in place and how clear they allegedly are, some bad actors or “bullies” will take advantage of the huge costs inherent in the U.S. litigation system to force defendants to acquiesce.³⁰² Under the American rule dictating that each side account for its own costs and fees,³⁰³ win or lose, litigation can be particularly burdensome. In recognition of this fact, the Lanham Act contains a fee-shifting provision that allows the court to modify the rule in “exceptional” cases.³⁰⁴ The Supreme Court recently determined, in the context of the identical patent fee-shifting statute, that the term “exceptional” can be interpreted broadly to include many types of litigation misconduct.³⁰⁵ It may seem surprising to suggest this to

300. See Lemley & McKenna, *supra* note 211, at 450; Hrdy, *supra* note 298 (considering the application of false advertising–like proof to a trademark case).

301. Consider the FTC guidelines for the used automobile parts industry. 16 C.F.R. § 20 (2021).

302. See Leah Chan Grinvald, *Shaming Trademark Bullies*, 2011 WIS. L. REV. 625, 641–50 (2011) (describing the phenomenon of trademark bullying).

303. Daniel R. Cahoy & Lynda J. Oswald, *A Serendipitous Experiment in Percolation of Intellectual Property Doctrine*, 96 IND. L.J. 39, 48–50 (2020) (describing the American rule for legal fees versus the English rule).

304. 15 U.S.C. § 1117(a) (2021); Cahoy & Oswald, *supra* note 303, at 42 (establishing that the patent and trademark fee-shifting statutes are the same).

305. *Octane Fitness, LLC v. Icon Health & Fitness*, 572 U.S. 545, 553–54 (2014) (“[A]n ‘exceptional’ case is simply one that stands out from others . . .”)

defendants, as most current “exceptional”-based fee-shifting claims benefit plaintiffs (e.g., as a mechanism for punishing willful infringers like counterfeiters).³⁰⁶ However, courts do allow defendants to request fee-shifting when a plaintiff's case is unfounded.³⁰⁷

In the context of trademark bullying to limit legitimate upcycling and repair activities, courts should be open to fee-shifting as a partial remedy as well as a deterrent. Coupled with more stringent standards for establishing post-sale confusion and undisclosed modifications, courts should be more likely to find many more contexts for shifting.

D. Take Care with Any Attempt to Create a DMCA for Trademarks

Finally, it is worth noting that the call among online sellers for more certain contributory liability is legitimate and reasonable. Although the Second Circuit's *Tiffany v. eBay*³⁰⁸ standard has been influential, it has the potential to be applied inconsistently across the country. However, proposed legislation that creates a “super DMCA” for trademarks³⁰⁹ is likely to shift the balance far too much in favor of brand owners. It is critical that sustainability and broader upcycling advocates have a seat at the legislative table to ensure that any new regime provides appropriate defenses to inaccurate accusations of infringement or dilution. Moreover, a punishment regime such as the DMCA's false claim section should be integrated as well.³¹⁰

CONCLUSION

The need for a robust market in recycled, repaired, and upcycled goods is becoming more evident with each passing year. It is an essential extension of product lifecycle from both environmental and social justice sustainability perspectives. However, this product market is uniquely impacted by intellectual property rights in ways that are likely to limit

306. Cahoy & Oswald, *supra* note 303, at 72–77 (reviewing various court standards for identifying exceptional cases).

307. *Id.*

308. *Tiffany (NJ) Inc. v. eBay*, 600 F.3d 93 (2d Cir. 2010).

309. *See Goldman, supra* note 265.

310. *See* 17 U.S.C. § 512 (2021).

opportunities unless the threat is contained. To date, the right-to-repair movement has focused on only a limited category of rights. The fact that trademark can continue to pose a barrier in post-sale confusion, dilution, and reconstruction contexts is generally overlooked, but must be addressed.

Policymakers and courts can best address inappropriate trademark constraints while preserving legitimate investment-backed expectations by engaging in relatively modest reforms. First, courts can expand trademark first-sale protections by requiring materiality of confusion in post-sale cases. Second, courts can expand and clarify disclosure rules for modifications that extend too far beyond post-sale and otherwise create confusion with the brand owner. Third, fee-shifting should be readily available as a remedy in cases where trademark bullying seems more likely than legitimate confusion reduction. And finally, the response mechanism for online takedown threats should be closer to the copyright standard as articulated in the Second Circuit's *Tiffany v. eBay* case. With some forethought and reasonable amelioration, a sustainable future of longer product life can be preserved.