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REMADE IN CHINA: WHAT DOES RECYCLING TELL US ABOUT THE CHINESE PATENT SYSTEM?

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INTRODUCTION

What can we expect of China's patent law during the tenure of President Xi Jinping? This article proffers a partial answer to this broad question through the close reading of patent allegations against Chinese refurbishers and recyclers. Although the doctrinal issues presented are specific, these disputes occupy a policy space where competing goals of development tear a slit in the glossy exterior of the "Chinese Dream" meme that comes to represent Xi's administration, a slit through which we may gain some insight into the direction of IP development in China.

Despite its amorphousness, or perhaps because of it, the "China Dream" slogan quickly permeated public discourse, supplanting the awkward "Socialist Harmonious Society" that was favored by the previous administration. In addition to whatever else "China Dream" signifies, the origin of the phrase suggests that Xi might be dreaming of sustainable development was probably on Xi's mind. Xi may have adopted the phrase from a New York Times article titled "China Needs Its Own Dream" that urged China's new president to articulate "a new Chinese dream that marries people's expectations of prosperity with a more sustainable China."[1] Thomas Friedman, the author of the article, attributed his use of the phrase to the Joint US-China Collaboration on Clean Energy ("JUCCCE"), an environmental and education non-government organization ("NGO") that promotes sustainability in China. As Friedman explains: "JUCCCE translates Chinese Dream as 'Harmonious and Happy Dream' in Mandarin. ('Green' doesn't sell in China.)"[2] Regardless of whether the Chinese media ascribes to this origin story and whether China "buys" green generally, the theme of sustainable development pervades the "Chinese Dream."

The preoccupation with sustainability persists when the State Intellectual Property Office ("SIPO") published the "My Chinese Dream" special article to memorialize the collectivist dreaming in the field of intellectual property. The article professed statements of "fiery aspiration" to realize the Chinese Dream and "deep devotion" to innovation and intellectual property.[3] CEOs, scientists and SIPO upper management chimed in, dreaming of better water conservation, safer foods, higher agricultural yield and vigorous reforestation efforts enabled by green technologies—technologies obtained under the aegis of patent

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[1] Thomas L. Friedman, *China Needs It's Own* Dream, N.Y. TIMES (Oct. 12, 2012), http://www.nytimes.com/2012/10/03/opinion/friedman-china-needs-its-own-dream.html; J. M., *The Role of Thomas Friedman*, THE ECONOMIST (May 6, 2013, 12:40 PM), http://www.economist.com /blogs/analects/2013/05/chinese-dream-0.

[2] *Id.*

[3] *My Chinese Dream*, STATE INTELLECTUAL PROPERTY OFFICE (SIPO) http://www.sipo.gov.cn/yw/ 2013/201303/t20130315_788097.html (last visited May 20, 2014).

protection. In this way, the Chinese Dream of achieving sustainability through the instrumental use of Intellectual Property Rights ("IPR") coincides with the universal reverie that informed the decision of developing countries to join the TRIPs Agreement. However, innovation policy and sustainable development do not always fit together amidst the frenzied pace of development.

In the process of domesticating a legal regime originated from the West, the Chinese patent system may have lost in translation important limitations and exceptions that traditionally mitigated the tension between patent policy and sustainability. Chinese courts have imposed infringement liability against companies that make a living out of refurbishing patented products even though similar activities would not have been infringing in mature patent regimes elsewhere. It is all the more surprising because Chinese judges reached this alternate result even though Chinese patent law has codified the "doctrine of exhaustion" that appears to permit refurbishment on its face and are common among patent regimes.[4] This article examines, as a case study, the Chinese jurisprudence of patent exhaustion as it is applied to the refurbishing industry and argues that, in some areas of the Chinese patent law, local legal actors now apply patent law in a way that is *more* pro-patentee than the patent regimes elsewhere in a way that conflicts with the goals of sustainable development.

This article intends to make three contributions. First, it illuminates patent law as a source of conflict between innovation policy and sustainable development. In the past thirty years, China has instituted an ambitious patent regime as part of a comprehensive program to upgrade its industry and hasten development. Now SIPO processes more patent applications than any country in the world.[5] However, we have a relatively poor understanding of how China's patent regime complements sustainable development. Meanwhile, experts widely recognize the waste problem in China. A 2013 United Nations report, "E-waste in China," highlights the rapidly rising electronic waste as China's standard of living improves.[6] As Chinese bureaucrats tackle the waste problem, pressure

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[4] *See generally* Mark D. Janis, *A Tale of the Apocryphal Axe: Repair, Reconstruction, and the Implied License in Intellectual Property Law*, 58 MD. L. REV. 423, 426 (1999) (discussing the application of patent doctrines in the repair and reconstruction context); Herbert Hovenkemp, *Post-sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective*, 66 N.Y.U. ANN. SURV. AM. L. 487, 530 (2011) (discussing the application of exhaustion doctrine to refurbishers from the perspective of competition law); Benjamin P, Liu, *Towards a Sustainable Patent Exhaustion Doctrine*, 32 BERKELEY J. INT'L L. (forthcoming 2014) (comparing the application of the exhaustion doctrine in the United States, Japan, European countries and China).

[5] World Intellectual Property Organization, *2012 World Intellectual Property Indicators* 5 (2012), *available at* http://www.wipo.int/export/sites/www/freepublications/en/intproperty/941/wipo_pub_941_2012.pdf ("For the first time in 2011, China had the top-ranked offices for each of the four forms of IP – patents, utility models, trademarks and industrial designs").

[6] FENG WANG, RUEDIGER KUEHR, DANIEL AHLQUIST, & JINHUI LI, E-WASTE IN CHINA: A COUNTRY REPORT 12 (2012), *available at* http://isp.unu.edu/publications/scycle/files/ewaste-in-china.pdf ("[I]t is estimated that 1.2 million tonnes of TV[s] became discarded in 2011, along with 0.44 million tonnes of refrigerators, 0.32 million tonnes of washing machines, 0.99 million tonnes of air conditioners and 0.67 million tonnes of computers").

mounts to regulate the heretofore largely informal refurbishing industry. China provides a rich setting to consider the role patent law plays in the ecology and life cycle of consumer products, and the universally thorny refurbishment fact pattern provides one window to assess the contour of the "Chinese Dream" that navigates the tension between IPR protection and sustainable development.

Second, a description of the current Chinese patent exhaustion jurisprudence in this area is practically useful. Contemporary repair-reconstruction cases in the U.S., Japan, and elsewhere tell the story of multinationals fending off Chinese imports, refurbished from patented products, in courts located within major markets outside of China.[7] But foreign patentees may have to confront refurbishers in Chinese courts as several legal and economic trends converge: (1) The Chinese market is the new strategic market for many multinational companies and the defense of their Chinese market space, against refurbished goods, requires a legal judgment in China;[8] (2) manufacturers in China export to more foreign markets, rendering the strategy of enforcing IPR in each local market increasingly ineffective;[9] (3) Chinese manufacturers increasingly possess the capacity and motivation to refurbish technologically complex items, expanding the stakes and the industry sectors of repair-reconstruction disputes;[10] and (4) many multinationals and foreign companies

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[7] To date, no multinational companies thought it advisable to nip the bud by suing refurbishers in China, perhaps due to insufficient IP assets in China, immature Chinese IPR framework, concerns for local judicial protectionism or insufficient market presence in China to justify litigation there. However, printer cartridge makers have pursued administrative enforcement against refurbishers in Guangzhou. See *infra* Section A.

[8] Under Article 267 of the Chinese Civil Law, a Chinese court will enforce a foreign judgment when a treaty or reciprocity exists between China and the foreign country that permits the mutual recognition of judgments. At this time no such treaty or reciprocity exists between China and the U.S. China R. Civ. P 267.

[9] *International Trade Statistics 2011*, WORLD TRADE ORGANIZATION, Table A14, http://www.wto.org/english/res_e/statis_e/its2011_e/its11_appendix_e.htm (showing a 10 fold increase in the amount of trade with non-major partners from 2000 to 2010, drawn from the category of "Other North America," "Other South and Central America," "Other Europe," "Other CIS," "Other Africa," "Middle East," and "Other Asia").

[10] China's growing technical sophistication and its movement up the value chain are the subject of numerous business analyses and media reports. *See, e.g.,* Andrew Sleigh & Hans von Lewinski, *Moving Up the Value Chain*, ACCENTURE, *available at* http://www.accenture.com/SiteCollection Documents/PDF/China.pdf; Pan Yue & Simon J. Evenett, *Moving Up the Value Chain: Upgrading China's Manufacturing Sector*, INT'L INST. FOR SUSTAINABLE DEV. (July 2010), *available at* http://www.iisd.org/pdf/2010/sts_3_moving_up_the_value_chain.pdf; *China Gradually Moving Up the Value Chain*, ERNST & YOUNG GLOBAL LTD. (2013), *available at* http://www.ey.com/GL/en/Issues/Driving-growth/Rapid-growth-markets-forecast--Winter-2013---China-gradually-moving-up-the-value-chain; MIAOJIE YU, MOVING UP THE VALUE CHAIN IN MANUFACTURING FOR CHINA, (Peking University – CCER 2011), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1792582; Press Release, KMPG, China Manufacturing Moves Up the Value Chain, as Labour and Currency Costs Rise, Says KPMG survey (June 4, 2012), http://www.kpmg.com/cn/en/pressroom/pressreleases/pages/statement-20120604-manufacturing-outlook.aspx. China is currently developing several high tech areas through refurbishment. The first Chinese aircraft carrier is refurbished from a Russian cast off. Jane Perlez, *China Launches Carrier, but Experts Doubt Its Worth*, N.Y. TIMES (Sept. 25, 2012),

now possess a portfolio of IPRs enforceable in China.[11] To the author's knowledge, this paper provides the first and only English article examining Chinese exhaustion doctrine cases, with a conclusion that differs significantly from expectations following a reading of the patent statute and previous literature reports.[12]

Third, the refurbishment scenario provides a window onto the course of Chinese patent jurisprudence in the absence of foreign pressure. The TRIPs agreement left countries the freedom to develop their own patent exhaustion doctrine governing the treatment of patented goods after an initial sale.[13] Most of the cases examined here involve disputes between domestic companies. Therefore, they showcase how Chinese courts, left on their own, wrestle with competing policy choices and domesticate transplanted patent doctrines in a way that is possibly more representative of the development of the Chinese patent system than the headline-grabbing complaints of multinational corporations.

This article uses the following structure: Part I describes the potential conflicts between Chinese patentees and refurbishers in China at the legal intersection of emerging policies aimed at addressing environmental degradation and IP misappropriation. Part II details Chinese administrative and judicial enforcement cases against local refurbishers as a study of the patent issues that the refurbishing industry is likely to face. Specifically, it traces the rise of a pro-patentee exhaustion doctrine that equates refurbishment with the making of a new patentee product. Part III reflects on the broader implications for the development of China's patent system. The refurbishment cases show that Chinese judges are growing impatient with business that resemble freeriding copyists; that courts are developing into a stronger interpretive community in the patent area, and that the Chinese court system now emerges as a source of new patent jurisprudence.

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available at http://www.nytimes.com/2012/09/26/world/asia/china-shows-off-an-aircraft-carrier-but-experts-are-skeptical.html?_r=0. The semiconductor industry is acquiring refurbished equipment. Stanley Myers, *An Exciting Year in China*, SEMI (Feb. 2008), *available at* http://www.semi.org/en/cms/groups/public/documents/web_content/p043246.pdf.

[11] Non-Chinese applicants maintain 306,837 Chinese invention patents as of 2010. Compare with 10,109 in 2000. The growing portfolio of Chinese patents can be seen in the amount of patents issued to the number of Chinese patents issued to foreigners every year. In 2000, non-Chinese companies received 10,109 patents. http://www.sipo.gov.cn/ghfzs/zltj/yxzkzljb/201101/t20110118_565440.html. By 2010, the number of patents non-Chinese companies received that year grew to 74,205. http://www.sipo.gov.cn/ghfzs/zltjjb/jianbao/year2010/b/b9.html.

[12] The few English analyses of the Chinese exhaustion jurisprudence generally report results more favorable to the refurbishers than the analysis of this article. *See* GUANGLIANG ZHANG, GARY ZHANG & XIANG AN, EXHAUSTION OF IPR'S IN CASES OF RECYCLING AND REPAIR OF GOODS, (AIPPI), *available at* https://www.aippi.org/download/commitees/205/GR205china.pdf (reporting the earlier Shandong case favorable to liquor bottle recycler); DOUGLAS CLARK, PATENT LITIGATION IN CHINA 134 (2011) (noting that the Chinese patent law explicitly allows for exhaustion); Shubha Ghosh, *Survey of the Exhaustion Doctrine*, ICTSD Working Paper (forthcoming).

[13] Agreement on Trade-Related Aspects of Intellectual Property Rights art. 6, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C.

I. REMADE IN CHINA: INNOVATION VS. SUSTAINABILITY?

Patentees everywhere have sued refurbishers for unauthorized recovering and selling of their products. In theory, the doctrine of patent exhaustion should free downstream owners of patented products from infringement liability. The *Chisum* patent treatise provides a typical statement of this doctrine:

> An authorized sale of a patented product exhausts the patent monopoly as to that product. Thus, a purchaser of such a product from the patent owner or one licensed by the patent owner may use or resell the product free of control or conditions imposed by the patent owner.[14]

This permissive statement, also known as the first sale doctrine in the United States, masks legal distinctions that hinder the refurbishment of patented products that I have detailed elsewhere.[15] A refurbisher can only repair, not make. Under the first-sale doctrine, an unrestricted sale of a patented item ends the patentee's control over that particular item. Therefore, a subsequent owner may repair the item without interference from the patentee. However, he cannot alter an item so completely that it amounts to a patent infringement.[16] The distinction between permissible repair and impermissible reconstruction gives rise to the repair-reconstruction doctrine—a long recognized doctrinal muddle exacerbated by the uniqueness of each patented technology, variations of the refurbishment process and the idiosyncrasies of the product market space. The resulting high cost of compliance, coupled with the low margin economics of the industry, means that most refurbishers ignore patents and risk infringement liability. A wrong business judgment can put a refurbisher on the wrong side of the legal doctrine. Perhaps this outcome reflects a fair trade-off for mature patent regimes in the United States, Japan, Germany or the U.K. Their current technological capacity and access to resources reduces the benefits afforded by refurbishment.

Developing countries confront a tougher set of choices and the dynamics of mature patent systems may not provide the best models for developing countries looking to exercise their policy freedom under TRIPs. Allowing a third-party to profit off innovative products reduces a patentee's reward, which reduces the contribution of the patent system to technological development. Alternatively, development needs raw input and exacts a heavy environmental toll. Countries facing poverty, severe environmental degradation and limited resources should use a product as long as possible. China provides a spectacular

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[14] 5-16 CHISUM ON PATENTS § 16.03(2)(a) (2008).

[15] It is possible to exhaust the rights in a product through exercise of the patent other than an authorized sale and therefore the first sale doctrine is a narrower concept. However, most fact patterns in the refurbishment scenario involves the authorized transfer of patented goods to purchasers.

[16] Aro Manufacturing Co. v. Convertible Top Replacement Co., 365 U.S. 336, 346 (1961) ("[R]econstruction of a patented entity, comprised of unpatented elements, is limited to such a true reconstruction of the entity as to 'in fact make a new article.'").

example of an emerging paradox between both lines of thinking. The 2009 Circular Economy Law was designed to promote the refurbishment industry. In the same year, the Chinese Patent Law was also revised and, judging by the conflicting decisions, courts continue to wrestle with the appropriate balance of interests between patentees and refurbishers. The simultaneous policy push, outlined in this section, sets the stage of a showdown between these two prongs of China's development agenda.

A. Conservation Takes a Front Seat

The economic rise of China exacts a heavy environmental cost. Air and water pollution run rampant. A survey by the Ministry of Water Resources finds the drinking water in 115 cities (out of 118 surveyed) polluted with arsenic and fluoride.[17] The World Bank concludes that 99% of the Chinese urban population breathes air unsafe by EU standards.[18] China extracts resources an unsustainable rate. For example, the demand for wood products, fuels and agricultural land causes rapid deforestation and major flooding.[19] The extraction of rare-earth metals occurs via the polluting and wasteful pouring of liquid ammonia into a mountainside.[20]

China's development increases its demand for materials as much as the waste it generates.[21] Environmentalists report wide-spread problems of

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[17] ELIZABETH C. ECONOMY, THE RIVER RUNS BLACK: THE ENVIRONMENTAL CHALLENGE TO CHINA'S FUTURE 71 (2d ed. 2010) (citing The World Bank, COST OF POLLUTION IN CHINA, ECONOMIC ESTIMATE OF PHYSICAL DAMAGES 82 (2007)).

[18] The World Bank, COST OF POLLUTION IN CHINA, ECONOMIC ESTIMATE OF PHYSICAL DAMAGES 3 (2007) ("Only 1 percent of the country's urban population lives in cities with annual average PM_{10} levels below 40 μg/m3"); Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe, Annex XI (2008), *available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:152:0001:01:EN:HTML* ("PM10 ... Calendar year | 40 μg/m3").

[19] John Gittings, *Battling China's Deforestation*, THE GUARDIAN (Mar. 20, 2001), http://www.guardian.co.uk/world/2001/mar/20/worlddispatch.china; Economy, *supra* note 162, at 64-68.

[20] Peter Foster, *Rare Earths: Why China Is Cutting Exports Crucial to Western Technologies*, TELEGRAPH (Mar. 19, 2001), http://www.telegraph.co.uk/science/8385189/Rare-earths-why-China-is-cutting-exports-crucial-to-Western-technologies.html (reporting rampant illegal extraction operations at the Chinese country side); INFORMATION OFFICE OF THE STATE COUNCIL THE PEOPLE'S REPUBLIC OF CHINA, SITUATION AND POLICIES OF CHINA'S RARE EARTH INDUSTRY (June 2012), *available at* http://www.china.com.cn/zhibo/zhuanti/ch-xinwen/2012-06/20/content_25695541.htm ("Although more advanced in-situ leaching method has been widely adopted, large quantities of ammonium nitrogen, heavy metal and other pollutants are being produced, resulting in the destruction of vegetation and severe pollution of surface water, ground water and farmland").

[21] FENG ET AL., *supra* note 5, at 12 ("[I]t is estimated that 1.2 million tonnes of TV became discarded in 2011, along with 0.44 million tonnes of refrigerators, 0.32 million tonnes of washing machines, 0.99 million tonnes of air conditioners and 0.67 million tonnes of computers.").

damaging waste scrap business in South China.[22] In "The River Runs Black," Elizabeth Economy notes that:

> In one case, in Guiyu, Guangdong Provice, at a site where circuit boards had been processed and burned, levels of lead in the water were 2,400 times higher than WHO drinking guidelines, and heaps of black ash dotted the area.[23]

The Chinese government now recognizes the toll of environmental destruction on political stability and economic development.[24] For the first time since China began its series of Five-Year Plans, the Eleventh Five-Year Plan acknowledged environmental concerns.[25] One of the six policy objectives of the plan comprises "development by relying on resource conservation and environmental protection."[26] Legislative efforts ensued. In March 2008, the Chinese environmental protection agency achieved cabinet level status as the Ministry of Environmental Protection ("MEP").[27] On August 29, 2008, the Standing Committee of the 11th National People's Congress passed the Circular

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[22] Katia Moskvitch, *Unused E-waste Discarded in China Raises Questions*, BBC (Apr. 20, 2012), http://www.bbc.co.uk/news/technology-17782718; Tim Johnson, *E-waste Dump of the World,* SEATTLE TIMES,(Apr. 9, 2006), http://seattletimes.com/html/nationworld/2002920133_ewaste09.html; Christopher Bodeen, *In 'E-waste' Heartland, a Toxic China*, N.Y.TIMES (Nov. 18, 2007), http://www.nytimes.com/2007/11/18/world/asia/18iht-waste.1.8374259.html?_r=0

[23] ECONOMY, *supra* note 17, at 75.

[24] *Id.* at 101.

[25] Zhu Jin, *China to Raise Water Prices to Encourage Conservation, Efficiency*, GOV.CN (Dec. 8, 2006), http://english.gov.cn/2006-12/08/content_464742.htm (Chinese government's official web portal).

[26] *People's Republic of China Eleventh Five-Year National Economic and Social Development Plan Summary* (*中华人民共和国国民经济和社会发展第十一个五年规划纲要*), PEOPLE'S REPUBLIC OF CHINA MINISTRY OF TRANSPORT (运输，中国铁道部中华人民共和国) (June 14, 2006) http://www.moc.gov.cn/zhuzhan/jiaotongguihua/guojiaguihua/guojiaxiangguan_ZHGH/200709/t20070927_420873.html ("Promote development based on the protection of the environment and resource conservation, fundamentally change the focus of economic promotion, leading to a change of economic growth from being driven by increased investment of resources to being driven by improved efficiency of resource use."). (《立足节约资源保护环境推动发展，把促进经济增长方式根本转变作为着力点，促使经济增长由主要依靠增加资源投入带动向主要依靠提高资源利用效率带动转变。》); Ma Kai (马凯), *The 11th Five-Year Plan: Targets, Paths and Policy Orientation* (*第11个五年计划：目标，路径和政策取向*), NATIONAL DEVELOPMENT AND REFORM COMMISSION (国家发展和改革委员会) (Mar. 19, 2006), http://english.gov.cn/2006-03/23/content_234832.htm ("Third, we will promote development by relying on resource conservation and environmental protection and focus on the fundamental change of the economic growth mode, transforming economic growth from being driven by large amount of resources consumption to being driven by the improvement of resources utilization efficiency.").

[27] Xin Qiu & Honglin Li, *China's Environmental Super Ministry Reform: Background, Challenges, and the Future*, 39 ENVTL. L. REP. 10152 (2009), *available at* http://www.epa.gov/ogc/china/xin.pdf (discussing the history of China's Environmental Ministry).

Economy Promotion Law that seeks to promote resource conservation through the policy of "reduce, reuse, and recycle."[28] It came into effect on January 1, 2009.

Article 40 of the Circular Economy Law declares: "The state supports enterprises to reproduce the parts and components of motor vehicles, engineering equipment, machine tools, etc. and to renew tires."[29] China's entrenched recycling industry recovers raw materials, and the government emphasizes refurbishment as a better way to utilize outdated or defunct products.[30] A joint statement, by eleven ministries, promises incentives for refurbishers, including favorable tax treatment, lending practices, and government procurement policy.[31] The government hopes to establish a thriving refurbishment industry capable of handling products immersed in technology such as automobile components, telecommunication equipment and industrial machinery, in conjunction with parallel development in the collection and distribution channels of components and finished products.[32]

In addition, recent environmental regulations specifically address the recycling of e-waste. In 2006, the State Environmental Protection Agency promulgated the Technical Policy on Pollution Prevention and Control of WEEE, designed to "increase the reutilization rate for discarded electrical and electronic equipment, [and] to increase standards for e-waste recycling."[33] In 2008, the government enacted the Administrative Measures on Pollution Prevention of Waste Electrical and Electronic Equipment.[34] The measures provide licensing standards to e-waste recycling companies, thereby bringing recycling business under the regulatory ambit of the State. By 2011, the Regulation on Management of the Recycling and Disposal of Waste Electrical and Electronic mandated e-waste recycling and levied a tax on equipment manufacturers to subsidize e-

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[28] Circular Economy Promotion Law of the People's Republic of China.

[29] *Id.* at Art. 40.

[30] FENG ET AL., *supra* note 6, at 21-28, (Nov. 15, 2013, 2:23 PM), http://isp.unu.edu/publications/scycle/files/ewaste-in-china.pdf (describing the collection and recycling industry).

[31] *Guidelines for Promoting the Development of the Remanufacturing Industry (Fagaihuanzi [2010] No. 991)*, CHINESE NATIONAL DEVELOPMENT AND REFORM COMMISSION (NDRC) (May 31, 2010), http://www.fjciq.gov.cn/eportal/fileDir/main/resource/cms/2013/07/1276393277_fghz[2010]991hgytjzzzcyfzdyj.pdf

[32] *Id.*

[33] FENG ET AL., *supra* note 6, at 29; *Waste Household Appliances and Electronic Products Pollution Control Technology Policy ([2006] No. 115)* (*废弃家用电器与电子产品污染防治技术政策* (环发[2006]115号)) STATE ENVIRONMENTAL PROTECTION ADMINISTRATION (SEPA) (July 20, 2006), http://www.zhb.gov.cn/info/gw/huanfa/200607/t20060720_91616.htm.

[34] *Environmental Protection Administration Order No. 40: Electronic Waste Pollution Control Regulations* (*電子廢物污染環境防治管理辦法 (環保總局令第40號)*), CHINESE GOVERNMENT NETWORK (中國政府網) (Sept. 28, 2007), http://big5.gov.cn/gate/big5/www.gov.cn/ziliao/flfg/2007-09/28/content_764238.htm.

waste recycling.[35] Local governments also experimented with more finely-grained recycling regulations.[36]

And yet even as these regulations encourage large scale refurbishment, Courts have been imposing infringement liability on refurbishers. This clash results from the competing policy objective of promoting innovation under the Eleventh Five-Year Plan, which is the subject of the next section.

B. Innovation Continues Its Allure

Another policy objective of the Eleventh Five-Year plan seeks to "[e]nhance the capability of independent innovation," which furthers the desire, of the Chinese government, to foster an economy based on innovation.[37] Patent policy factors significantly in this overall vision as manifested in a 2008 strategic plan issued by SIPO. The plan projects a 2015 goal of two million domestic patent applications filed annually, while reaping 100 billion RMB (approximately

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[35] FENG ET AL., *supra* note 6, at 30; *People's Republic of China State Council Order No. 551: Waste Electrical and Electronic Products Recycling Regulations (废弃电器电子产品回收处理管理条例(国务院令第551号))*, CHINESE GOVERNMENT NETWORK (中國政府網) (Mar. 4, 2009), http://www.gov.cn/flfg/2009-03/04/content_1250844.htm.

[36] The Old Household Electronic Trade-in Program Implementing Regulation that provides a voucher in exchange for old household electronics, which may be applied toward the purchase of a new replacement; Shanghai City promulgated quality standards for refurbished inkjet and laser printer cartridges in 2008. *See, e.g., Inkjet Printers Use Inkjet Cartridge Remanufacturing Technical Specification* [喷墨打印机使用墨盒再制造技术规范] DB31/T407-2008, SHANGHAI QUALITY AND TECHNICAL SUPERVISION INFORMATION CENTER [上海质量技术监督信息中心] (July 2, 2008), http://www.shzj.gov.cn/art/2008/7/2/art_32721_13.html. *Release Notice for Remanufactured Laser Printer Toner Cartridge Assembly Technical Specification DB31/T419-2008 (对于再生激光打印机碳粉盒组件技术规范DB31/T419-2008发布公告)*, SHANGHAI QUALITY AND TECHNICAL SUPERVISION INFORMATION CENTER (上海质量技术监督信息中心) (Nov. 17, 2008 8:44 AM), http://www.shzj.gov.cn/art/2008/11/17/art_343_185597.html.

[37] *China Eleventh Five-Year National Economic and Social Development Plan (中国十一五国民经济和社会发展计划)*, PEOPLE'S REPUBLIC OF CHINA MINISTRY OF TRANSPORT (运输，中国铁道部中华人民共和国) (June 14, 2006), http://www.moc.gov.cn/zhuzhan/jiaotongguihua/guojiaguihua/guojiaxiangguan_ZHGH/200709/t20070927_420873.html ("Promote development based on the ability of independent innovation to, the ability of independent innovation as a national strategy to promote economic growth driven by investment funds and material factors led to major scientific and technological progress and human capital to drive change."); Ma Kai (马凯), *The 11th Five-Year Plan: Targets, Paths and Policy Orientation (第11个五年计划：目标，路径和政策取向)*, NATIONAL DEVELOPMENT AND REFORM COMMISSION (国家发展和改革委员会) (March 19, 2006), http://english.gov.cn/2006-03/23/content_234832.htm ("Fourth, we will promote development by relying on enhancing independent innovation capability, take it as a national strategy and shift economic growth from relying on the input of capital and substance factor to relying on science and technology advancement and human resources.") [立足增强自主创新能力推动发展，把增强自主创新能力作为国家战略，促使经济增长由主要依靠资金和物质要素投入带动向主要依靠科技进步和人力资本带动转变。").]; *Innovation Tops Hu Jintao's Economic Agenda*, XINHUA NEWS (Oct. 15, 2007), http://news.xinhuanet.com/english/2007-10/15/content_6883390.htm.

$17 billion) in transaction fees.[38] To increase patenting, central and local agencies implemented programs to subsidize high application costs.[39] For example, the Ministry of Finance promulgated the Temporary Measure for the Management of Special Funding for Foreign Patent Application Financial Assistance in 2009.[40] For eligible inventions, the program promises a maximum reimbursement of 500,000 RMB for the preparation and filing of foreign applications to be spread among up to five nations.[41] In 2009 alone, applicants in Beijing received 12,920,000 RMB (approximately $2 million) of financial assistance from the central government for filing applications under the Patent Corporation Treaty (PCT).[42]

The government implemented a host of satellite programs to increase potential rewards for patents. For example, government procurement policy favors products embodying homegrown intellectual property.[43] The government also promotes technology standards that incorporate the intellectual property of domestic firms.[44] For example, high definition video players using the "China Blue High Definition" standard (CBHD) pay less royalty fees compared to DVD and Blu-ray Disc players—and if the players happen to be popular, all the better.[45] This effort reflects the Chinese government and industry's determination to avoid foreign licensing fees and promote local technology ownership. Aided by these concerted policy efforts, the number of Chinese patent applications and grants have risen.[46]

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[38] *National Patent Development Strategy 2010-2020* (*全国专利事业发展战略 2011—2020 年*), STATE INTELLECTUAL PROPERTY OFFICE OF THE PEOPLE'S REPUBLIC OF CHINA (SIPO) (中华人民共和国国家知识产权局) (Nov. 18, 2010), http://www.sipo.gov.cn/ztzl/ndcs/zscqxcz/2011ipweek/tpstr2011/201104/t20110419_598974.html, *translated at* http://graphics8.nytimes.com/packages/pdf/business/SIPONatPatentDevStrategy.pdf.

[39] William J. Murphy & John L. Orcutt, *Using Valuation-Based Decision Making to Increase the Efficiency of China's Patent Subsidy Strategies*, 2013 CARDOZO L. REV. DE NOVO 116, 120-23 (2013) (describing various subsidy programs for patent application).

[40] *Id.* at 123.

[41] *Id.*

[42] *Beijing National Patent Office Offered More Than 12 Million Yuan to Assist Filing Foreign Patents (北京向国外申请专利获国家财政资助逾 1200 万)*, PEOPLE'S REPUBLIC OF CHINA STATE INTELLECTUAL PROPERTY OFFICE (中华人民共和国国家知识产权局) (NOV. 18, 2010), http://www.sipo.gov.cn/mtjj/2010/201007/t20100713_525174.html.

[43] *See generally*, Siyuan An and Brian Peck, *China's Indigenous Innovation Policy in the Context of its WTO Obligations and Commitments*, 42 GEO. J. INT'L L. 375 (2011) (discussing China's Indigenous Innovation Policy with respect to China's relationship with the World Trade Organization).

[44] Michael Murphree & Dan Breznitz, *Innovation in China: Fragmentation, Structured Uncertainty, and Technology Standards*, 2013 CARDOZO L. REV. 196 (2013) (discussing the history of indigenous media storage standards in China).

[45] *Id. See also* Ari Allyn-Feuer, *Homegrown CBHD discs outsell Blu-ray by 3-1 margin in China*, ARSTECHNICA (Aug. 2, 2009), http://arstechnica.com/business/news/2009/08/homegrown-cbhd-discs-outsell-blu-ray-by-3-1-margin-in-china.ars.

[46] A number of studies describes the proliferation of Chinese patents. *See, e.g.*, Eve Y. Zhou and Bob Stembridge, *Patented in China: The Present and Future State of Innovation in China*, THOMSON REUTERS (2010), *available at* http://www.ipeg.eu/blog/wp-content/uploads/Patented-in-

With increased patents, enforcement activities also rose. Chinese firms are increasingly adroit at asserting their new found patent portfolio. In 2011 alone, litigants filed 7,819 infringement lawsuits in China, outstripping the U.S. nearly two-to-one.[47] On the other hand, potential defendants increasingly resort to patent invalidation proceedings before SIPO. For example, since 2006, the ink cartridge industry mounted several high profile challenges to Epson's patents in China. The Patent Re-examination Board of SIPO initially invalidated a patent in 2008, only to be reversed four years later by the Supreme People's Court.[48] Win or lose, Epson and other Chinese companies adopt the patent ecological system. Professor Xuan-Thao Nguyen describes this new patent-embracing China as "the China we hardly know."[49]

C. Summary

The 11th five-year plan unleashed economic incentives, social awareness and legal constraints that set the stage for a collision between innovation and sustainability. The higher China climbs the technological value ladder, the more China will grant domestic patents. With more patents, companies will be able to refurbish more technologically complex products. Against this backdrop, Chinese judges and administators resolve refurbisher infringment disputes between innovators and unauthorized refurbishers, forcing them to balance the diverse interests outlined in Sections II and III.

China-The-Present-and-Future-State-of-Innovation-in-China-Eve-Y.-Zhou-Bob-Stembridge.pdf; Andrea Wechsler, *Chinese, Japanese, Korean, and Indian Patent Information in Comparison: Asia's Rising Role in Technology Disclosure Through the Patent System*, 2 TSINGHUA CHINA L. REV. 101 (2009). The number of patent filings and grants can be found at the website of the State Intellectual Property Office website, http://english.sipo.gov.cn/statistics/; *See. e.g.*, Mark Liang, *Chinese Patent Quality: Running the Numbers and Possible Remedies*, 11 J. MARSHALL REV. INTELL. PROP. L. 478, 482, 491–514 (2012); Henry Koda, *The Global Patent Race*, 24 NO. 1 INTELL. PROP. & TECH. L.J. 21, 22 (2012) (referencing quality concerns expressed by others); Mark Cohen, *China's Current Intellectual Property Plan, Policies & Practices*, 15 SMU SCI. & TECH. L. REV. 17, 28 (2011); Joff Wild, *Telling It How It Is*, 48 INTELL. ASSET MGMT. 67, 72–73 (2011); *Innovation in China: Patents, Yes; Ideas, Maybe*, ECONOMIST (Oct. 14, 2010), http://www.economist.com/node/17257940.

[47] *Chinese Court IPR Judicial Protection Status (2011)* (*中国法院知识产权司法保护状况 (2011年)*), CHINESE COURTS (中国法院) (APR. 19, 2012, 8:23 AM), HTTP://WWW.CHINACOURT.ORG/ARTICLE/DETAIL/2012/04/ID/478917.SHTML; *U.S. District Courts – Civil Cases Commenced, by Basis of Jurisdiction and Nature of Suit*, U.S. COURTS, http://www.uscourts.gov/uscourts/Statistics/JudicialBusiness/2012/appendices/C02Sep12.pdf (In 2011, litigants filed 4,015 patent cases in the U.S.).

[48] Yu Miao and Jianguo Ran, *The Application of Article 33 in China's Patent Law and a Study of the Cartridge Case*, CHINA INTELL. PROP. (Aug. 15, 2012), http://www.chinaipmagazine.com/en/journal-show.asp?id=849.

[49] Xuan-Thao Nguyen, *The China We Hardly Know: Revealing the New China's Intellectual Property Regime*, 55 ST. LOUIS U. L.J. 773, 774–76 (2011).

II. EMERGENT REPAIR AND RECONSTRUCTION DOCTRINE IN CHINA

Due to these recent developments, patent exhaustion jurisprudence is gradually emerging. This section summarizes patent exhaustion and refurbishment legislation and reported cases applying the exhaustion doctrine to refurbishment. Unlike the United States and Japan, where courts articulate the law of exhaustion, Chinese patent law explicitly codified the first sale exhaustion doctrine in its patent statues.

A. Statutory Bases of Infringement and Exhaustion

Articles 11 and 69 of the Amended Chinese patent law provide the framework to analyze refurbishment infringement. Article 11 offers the general prohibition against infringement and forbids anyone to "make, use, offer to sell, sell or import the patented product . . . for production or business purposes" without the authorization of the patentee. Other than a requirement of production or business purpose, Article 11 generally tracks the definition of infringement in the United States under 35 U.S.C. § 271.[50] Article 69, the first sale doctrine, permits "the use, offer for sale, sale and importation of patented products . . . that were sold by the patentee or individuals or entities authorized by the patentee."[51] The CPL codified in 2000 the first sale doctrine under Article 63, which later became the current Article 69.[52] Commentators generally agree that Article 69, although not explicitly discussing repair, extends the permission to repair under the purchaser's right to use.[53]

The exhaustion framework under the statute appears similar to the basic approaches taken in mature patent regimes discussed in Part III. Not surprisingly, Chinese refurbishment disputes replicate the same repair-reconstruction fault lines that encumber refurbishment in mature systems. However, Chinese courts and administrators appear more hostile to refurbishers. In 2003, the SPC circulated a notice and commend draft of judicial interpretation addressing issues

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[50] 35 U.S.C. § 271 (2010) ("(a) Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States, or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.").

[51] A more complete version reads:

> None of the following shall be deemed an infringement of the patent right:
> (1)Where, after the sale of a patented product or products directly botained using the patented process, by the patentee or a unit or individual authorized by the patentee, any other person uses, offers to sell, sells or imports that product; ....

CPL, art. 69(1); *See also* DOUGLAS CLARK, PATENT LITIGATION IN CHINA 188 (2011) (providing the English translation of the Chinese Patent Law).

[52] *See* CPL, art. 63 (2000).

[53] *See* GUANGLIANG ZHANG, GARY ZHANG & XIANG AN, EXHAUSTION OF IPRS IN CASES OF RECYCLING AND REPAIR OF GOODS 7 (2005), *available at* https://www.aippi.org/download/commitees/205/GR205china.pdf.

arising out of patent infringement cases under the Chinese Patent Law, Second Revision.[54] The various incarnations of the draft interpretation contained an explicit definition of the term "making" as used in Article 11 and former Article 63. Infringing "making" includes, *inter alia*, recycling a package protected by a design patent to contain one's own product after another party used the package.[55] An example of infringing "making" includes collecting parts of a patented product post-sale and recombining those parts into the patented product.[56] On the other hand, the definition of infringing "making" does not include repairing or replacing parts of a patented product to enable normal use.[57] The Court never promulgated the draft interpretation for the Second Revision. A later "Interpretations of the Supreme People's Court on Several Issues Concerning Adjudicating Patent Infringement Disputes," based on the text of the Third Revision of the CPL, went into effect on January 1, 2010.[58] This final document omitted the definition of "making."[59]

The history of SPC interpretation suggests a surprising hostility towards refurbishers. The idea that commercial reuse of a patented package amounts to an infringing act had enough traction to remain in several drafts of the judiciary with far reaching ramifications. The proposed interpretation addresses a narrow issue of reusing packaging material for design patents or the collection and combination of (scrap) parts into a patented article. But in the context of the draft interpretation, these definitions of "making" provided examples of broad delineations that would have prohibited many forms of third-party reuse and refurbishment. Although the Court ultimately failed to codify these broad definitions of "infringing making," they reveal ambivalence towards

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[54] SUPREME PEOPLE'S COURT, Draft Provisions Concerning the HANDLING OF PATENT INFRINGEMENT DISPUTES (JULY 9, 2003 COMMENT DRAFT) (关于处理专利侵权纠纷案件有关问题解决方案草稿 (征求意见稿 2003.7.9)) (2003), *available at* http://patent.iprlawyers.com/laws_show.asp?id=126; SUPREME PEOPLE'S COURT, PROVISIONS ON SEVERAL QUESTIONS CONCERNING TRIALS OF PATENT INFRINGEMENT CASE (CONFERENCE DISCUSSION PAPER OCT. 27-29, 2003) (关于审理专利侵权纠纷案件若干问题的规定（会议讨论稿 2003.10.27-29)) (2003), *available at* http://baike.baidu.com/view/4621971.htm.

[55] Id., Art. 27. Article 27 of the proposed infringement. The making of patented products in Article 11 and Article 63 of the Patent Law refers to the processing or manufacturing of patented products by mechanical means or by hand processing. The following acts are acts of manufacture of patented products:

(A) Assembling a patented product;

(B) Collecting the components of patented products have been sold and re-assembling a patented product; or

(C) Recovering for production and business purposes another's product packaging under a design patent for the packaging of one's own product."

[56] *Id.*

[57] *Id.*

[58] *Id.*

[59] SUPREME PEOPLE'S COURT, INTERPRETATION ON SEVERAL ISSUES CONCERNING THE APPLICATION OF THE LAW IN TRIALS OF PATENT INFRINGEMENT DISPUTES [最高人民法院关于审理侵犯专利权纠纷案件应用法律若干问题的解释] (2010), *available at* http://www.court.gov.cn/qwfb/sfjs/201001/t20100129_759.htm.

refurbishment. This ambivalence later surfaced in actual administrative and judicial cases to the detriment of refurbishers, to which we now turn.

B. Administrative Enforcement

The single reported administrative enforcement against refurbishers relates to a dispute relating to refilled Seiko-Epson ink cartridges. Epson discovered ink cartridges distributed in China that infringed its patents. In May 2005, Epson initiated an enforcement request before the Shanghai Intellectual Property Office.[60] In response, the Chinese cartridge company argued that its merchandise was refurbished from spent Epson ink cartridges and therefore subject to patent exhaustion. Following mediation by the Shanghai IPO, the parties reached a settlement within two months whereby the cartridge distributor had to stop its activity, provide monetary compensation and issue an apology to Epson—a "settlement" that amounts to complete victory for the patentee.

How did the Shanghai IPO reach a result so adverse to the local refurbisher? The Chinese bureaucrats apparently recognized the social importance of recycling and agreed with the defendant that the refurbishment of spent cartridges does not infringe. The defendant faced an evidentiary problem — Epson denied that the cartridges were its own product and insisted that the cartridges were infringing products. The refurbisher failed to prove that the cartridges originated with Epson.[61]

The Epson administrative case shows remarkably similarity to the results of *Fuji v. Jazz* and *Epson v. Ninestar* in the United States concerning the refurbishment of single use cameras and ink cartridges, respectively.[62] The law seems to permit the act of refurbishment in the abstract. In practice, the evidentiary burden requires refurbishers to maintain a paper trail showing that an empty ink cartridge or a discarded single-use camera was sold under the authority of the patentee. Query how many refurbishers have the financial wherewithal to marshal the requisite information. To further complicate the supply chain, the cartridge company was only a reseller of cartridges obtained from other white box manufacturers, placing the information further beyond its reach.[63]

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[60] Zhu Liling (朱丽玲), Legal Issues of Repairing and Recycling Patented Products (专利产品的修理再造法律问题研究), 27, 28 (2011) (unpublished Master's dissertation, Fudan University), *available at* http://cdmd.cnki.com.cn/Article/CDMD-10246-1011195701.htm; Shen Juan (沈娟), *Epson Ink Cartridge Infringement Settles: Inattentive Enterprise "Steps on the Mine"* (爱普生墨盒被侵权案和解 企业一不小心就"踩雷"), FIRST FINANCIAL DAILY (第一财经日报), Aug. 30, 2005.

[61] Zhu Liling, at 28.

[62] *Fuji Photo Film Co., Ltd. v. Jazz Photo Corp.*, 394 F.3d 1368, 1376 (Fed. Cir. 2005) (holding that non-US manufactured products do not exhaust US patents and importation of such products may infringe); *Ninestar Tech. Co. v. ITC*, 667 F.3d 1373, 1379 (Fed. Cir. 2012) (holding Ninestar knowingly and in bad faith imported into the US infringing products manufactured in China).

[63] Zhu Liling, *supra* not 60, at 28.

C. Judicial Enforcement: The Bottle 4-parts

There are no reported decisions relate to the usual suspects of refurbishment: ink cartridges, single-use cameras, industrial equipment or auto-parts. However, Chinese courts did draw the line between permissible repair and impermissible reconstruction in four refurbishment disputes between 2000 and 2010, involving liquor bottles covered by design patents. These cases provide the only examples of how Chinese courts apply doctrines of infringement and exhaustion with respect to third-party refurbishment of patented products.

1. The First Bottle Refurbishment Case in Shandong: Reproducing the Conventional Practice

The first identified refurbishment case took place in the Shandong province.[64] In 1999, a patent spat over the legality of refilling liquor bottles erupted between two major distilleries. The Yinhe Liquor Industry Ltd. Co. sold its distillates in a four-sided liquor bottle featuring a curvilinear body—a design created by one of its employee and covered by a design patent.[65]

A local recycler collected empty liquor bottles covered by the design patent and sold new liquor bottles bearing the brand of another distillery, Gubeichun Group Limited, after Gubeichun sanitized and refilled the bottles. Unhappy with the appropriation of its bottle design, Yinhe sued Gubeichung in the Intermediate People's Court (IPC) in Jinan City, Shandong.[66]

According to *Ju v. Wucheng Gubeichun Group*, the first Chinese published case addressing refurbishment, the IPC concluded that the refilling and reselling of patented bottles constituted patent infringement. The Court began its analysis by citing the safe harbor provision's permissive legislative intent and acknowledging the doctrine of patent exhaustion (even though the statutory language never used the term exhaustion).[67] According to the court, the doctrine of exhaustion applied only to the purchaser's use or resale of the product.[68] The refilling of a patented bottle by another distillery and the subsequent sale of the

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[64] Ju Aijun Su Shandong Wucheng Gubeichunjituan Zonggongsi Waiguan Sheji Zhuanli Qinquan Jiufenan *(鞠爱军诉山东武城古贝春集团总公司外观设计专利侵权纠纷案)* [Ju Aijun v. Shandong Wucheng Gubeichun Group Co., Design Patent Infringement Dispute], (Jinan Intermediate People's Court 1999) (hereinafter Ju v. Wucheng Gubeichung Group); Cheng Yongshun (程永顺), *Several Legal Issues of "Bottle" Design Patent Infringement Case ("酒瓶" 外观设计专利侵权案中的几个法律问题)*, 4 TECHNOLOGY AND THE LAW (科技与法律) 108 (2000).

[65] *See* Chinese Design Patent No. ZL96323288.6.

[66] *Ju v. Wucheng Gubeichung Group*, *supra* note 64.

[67] This is noteworthy especially in light of China's civil law system, where statutory text is the basis of decisions. But we see that a Chinese judicial opinion engaged in the discussion of legislative intent and theoretical doctrines that are apparent on the face of the statute.

[68] *Ju v. Wucheng Gubeichung Group*, *supra* note 64.

finished liquor product exceeded the scope of exhaustion. Ultimately, the Court deemed Gubeichun an infringer and concluded:

> As for recycling liquor bottles of similar or identical designs and using them as packaging for the same type of liquor by filling them with distillates and engaging in sales, such behavior already exceeded the extent of use of a patented product by its legal purchaser, amounting to the constructive production of the design patent product . . . .[69]

The Court ordered Gubeichun to cease its conduct under the theory of "constructive making." This novel theory of "constructive making," where the court finds infringement absent any physical alteration of the product, sharply contrasts with the rules in the U.S., Japan, Germany, and the U.K., where physical alteration must occur to find infringement.

On appeal, the Shandong High People's Court (HPC) reversed.[70] The Court viewed washing, refilling, and reselling as permissible use and applied the safe harbor provision in Art. 62.[71] It concludes:

> Because the patent rights of the old liquor bottles are already exhausted, the use of these recycled old bottles does not amount to an infringement of the plaintiff's design patent rights regardless of whether these old bottles are identical or similar to plaintiff's patented bottle."[72]

This result matches anticipated outcomes from extant first sale jurisprudence in the United States or elsewhere: No liability without physical restoration or alteration.[73] The Shandong HPC reversed the theory of "constructive making."

Viewed from the vantage point of the United States, European Union, or Japan, the ruling of the Shandong HPC reached the anticipated result. Later cases revealed this analysis to be an outlier in the Chinese refurbishment jurisprudence. The first attack came in 2003, when the Supreme People's Court (SPC) threatened to define the reuse of packing materials as an infringing making as discussed in the previous section. That notice and comment draft would have reversed the outcome and restored the reasoning of the IPC. Even though the draft fizzled, subsequent cases adopted this draconian outcome.

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[69] *Id.*

[70] Ju Aijun Su Shandong Wucheng Gubeichunjituan Zonggongsi Waiguan Sheji Zhuanli Qinquan Jiufen Shangsu An *(鞠爱军诉山东武城古贝春集团总公司外观设计专利侵权纠纷上诉案)* [Ju Aijun v. Shandong Wucheng Gubeichun Group Co., Design Patent Infringement Dispute Appeal], (Shandong High People's Court 2000) (hereinafter Ju v. Wucheng Gubeichung Group).

[71] *Id.*

[72] *Id.*

[73] *See e.g., Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 346 (1960); *FMC Corp. v. Up-Right, Inc.*, 21 F.3d 1073, 1077 (Fed. Cir. 1994).

2. The Second Bottle Refurbishment Case in Heilongjiang: Shifting Towards the Patentee

While the SPC debated the definition of "making" in Beijing, another liquor bottle dispute took place in the Heilongjiang province.[74] The Mudanjiang distillary bottled and sold grain spirits in a container protected by a design patent.[75] The defendant Xuexiang distillary collected and reused these bottles for its own product. The local municipal intellectual property office investigated their dispute.[76] By 2004, the parties reached a settlement through judicial mediation. Xuexiang agreed to stop reusing the patented bottles, to ship the bottles to the patentee, to compensate the patentee with its bottling budget, and to pay liquidated damages. Xuexiang disregarded the settlement, and Mudanjian brought the dispute before the Heilongjiang Intermediate People's Court in 2006.

The court found a breach of the settlement agreement. In its defense, Xuexiang argued that no underlying infringement took place because reuse is not an infringing act and it was done for the good cause of recycling and cutting costs. However, the court disagreed, stating:

> [The] defendant breached his promise, purchased plaintiff's patented bottles and used them as liquor packaging in the course of manufacture and sale. The purpose is one of manufacturing, business, and resale, with clear subjective infringing malice and an intent to find a legal loophole, such that it is not permitted under the civil law principal of good faith dealing and public morality. It does not meet the doctrine of exhaustion under the patent law.[77]

The court awarded 48,000 RMB and prohibited future reuse of the patented bottles. On appeal, Heilongjiang HPC again mediated a settlement between the parties.[78] Although this later settlement is not publicly available, a Chinese-language report suggests that the rebottler agreed to a lump sum payment and stopped reuse.[79]

The exact basis for the published decision is unclear. This refurbisher clearly breached the earlier agreement not to recycle the bottles and, therefore, the issue of exhaustion and reconstruction under patent statute becomes a sideshow. The court did not identify any disagreements between the rebottling practice and the statutory text of the exhaustion rule. Nonetheless, the court's

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[74] *Zoumou Su Xuexiangjiuye Gongsi Qinhai Waiguansheji Zhuanliquan Jiufen An (邹某诉雪乡酒业公司侵害外观设计专利权纠纷案)* [Zou v. Xuexiang Liquor Co. Design Patent Dispute], (Heilongjiang High People's Court, 2007) (hereinafter, Zou v. Xuexiang Liquor Co.).

[75] Chinese Design Patent No. ZL03346884.2.

[76] *Zou v. Xuexiang Liquor Co.*

[77] *Id.*

[78] Lu Daheng (吕大亨), *Old Wine in New Bottles (旧瓶装新酒)*, 16 PEOPLE'S JUDICATURE (人民司法) 95, 98 (2008) (applying patent law's make / use principles).

[79] *Id.*

infringement analysis leaves little doubt to its negative treatment of refurbishment under the patent law. Likewise, the meditations in the Heilongjiang HPC and municipal patent office both ended with settlement agreements heavily favorable to the patentee, suggesting that they too disfavored commercial refurbishment. The notion of a "legal loophole" implies that the refurbisher would have satisfied the literal terms of the safe harbor provision but, the court refused to apply the exhaustion doctrine for apparently public policy concerns of good faith dealing and morality. This implication departs from the common understanding that a Chinese judge must follow the letter of the statute under its civil law framework.

In any event, the result is pro-patentee even if the breach of settlement and the subsequent mediation muddled the doctrinal lesson. And if there was any doubt left, two subsequent bottle cases unequivocally endorsed the shift in favor of the patentee.

3. The Third and Fourth Bottle Disputes: Consolidating the Anti-Refurbisher Rule

In 2010, another court held bottle recycling to be infringing in *Fonggu Liquor Industry LLC v. Luhu Distillary*.[80] The facts resemble the first two cases. Fonggu, the patentee, sold its alcoholic product in bottles protected by a bottle design patent.[81] Luhu recycled Fonggu's bottles, refilled them with its own liquor, and sold the final product under its own brand name. During the dispute, Luhu invoked the safe harbor and the first sale doctrine, now Art. 69 under the Third Revision (replacing Art. 62).[82] However, the IPC held Luhu's action infringing.

Unlike its counterpart in Shandong, Sichuan HPC affirmed the Intermediate Court on appeal.[83] First, the Court upheld Luhu's prima facie infringement under Art. 11, because the use of the bottles fell within the scope of the patent and lacked the authorization of the patentee. The Court considered but declined to apply the first sale safe harbor under Art. 69, stating:

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[80] Sichuansheng Mianyangshi Fenggujiuye Youxianzerengongsi Yu Santaixian Luhujiuchang "Jiuping(Er)" Waiguansheji Zhuanliquan Jiufen An (四川省绵阳市丰谷酒业有限责任公司与三台县鲁湖酒厂"酒瓶(二)"外观设计专利权纠纷案) [*Sichuan Mianyang City Forgood LLC and Santai County Luhu Distillery* "Bottle (Two)" Design Patent Dispute, (Mianyang City Intermediate People's Court 2009) (China); Zhou Yulee (周渝利), *"New" Wine in "Old" Bottles Infringes Patent Rights ("旧"瓶装"新"酒侵犯专利权)*, CHINESE INTELLECTUAL PROPERTY NEWS (中国知识产权报) (Feb. 1, 2010, 3:15 PM), http://ip.people.com.cn/GB/10903405.html.

[81] Chinese Design Patent No. ZL02356137.8 (Apr. 23, 2003).

[82] *See supra* note 68.

[83] Sichuansheng Mianyangshi Fenggujiuye Youxianzerengongsi Yu Santaixian Luhujiuchang "Jiuping(Er)" Waiguansheji Zhuanliquan Jiufen An (四川省绵阳市丰谷酒业有限责任公司与三台县鲁湖酒厂"酒瓶(二)"外观设计专利权纠纷案) [*Sichuan Mianyang City Forgood LLC and Santai County Luhu Distillery* "Bottle (Two)" Design Patent Dispute, (Sichuan High People's Court 2010) (China).

> When the liquor product legally enters the marketplace and is sold, it is not patent infringement for purchasers to use, reuse, offer for sale or sell such product. However, Luhu Distillery recycled the liquor bottle of Fonggu LLC's design patent product, used it by filling it with its distillates and engaged in sales. Such behavior already exceeded the extent of use of a patented product by its legal purchaser, amounting to the constructive production of the design patent product.[84]

Interestingly, the Szechuan court used language that suggests a conscious disagreement with the 10-years old Shandong decision. Much of the quoted statement lifted verbatim the rejected analysis of the Intermediate Court in the *Ju v. Wucheng Gubeichung Group* opinion, albeit without a citation. The Court fined the bottler 150,000 RMB per year of infringement.

In January 2011, Henan became the fourth province to address bottle recycling infringement.[85] Weixue Beer Group owns a patented beer bottle design used to package its beer since 2005. The Heijialun Company refilled these bottles with its own soft drinks for resale. The IPC found infringement on the basis of "constructive making", refused to apply Art. 69(1)'s patent exhaustion doctrine, and ordered an injunction plus 80,000 RMB in damages. On appeal, the Henan HPC affirmed, holding Art. 69(1) inapplicable because the commercial reuse of the patented bottles contradicts the subjective intent of the patentee and undermines the incentive for creating new designs.[86] Unlike the Heilongjiang decision, which involved an intervening contract, the Szechuan and Henan decisions turned squarely on patent law and categorically forbid the refurbishment of products covered by a design patent even in the absence of any physical alteration.[87]

4. Analysis: Remaking the Definition of "Making"

In his book *Patent Litigation in China*, Douglas Clark notes that Art. 69(1) of the CPL provides "a very broad exhaustion of rights defense."[88] He would be right if the Chinese court applied the statutory language of exhaustion according to U.S. or Japanese jurisprudence. A review of actual cases paints a different picture in the commercial refurbishment industry. Four IPCs held the third-party refilling of a patented bottle and its subsequent sale to be infringing. On appeal, one HPC reversed, one brokered a settlement, and two affirmed. The majority of this split, based on the decisions of all four first instance courts and

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[84] *Id.*

[85] Zhao Yanbin & Gu Caixia (赵艳斌 谷彩霞), *Recycling Design Patent Protected Bottles and Refilling with Beverage Constitutes Infringement* (回收他人外观专利酒瓶灌装饮料构成侵权), 2011:3 CITIZEN & LAW 33 (公民与法)

[86] *Id.*

[87] Li Jianwei (李建伟), *New Wine in Old Bottles Stirs Patent Disputes (旧瓶装新酒惹出的专利纠纷)*, CHINESE INTELLECTUAL PROPERTY NEWS (中国知识产权报), Mar. 9, 2011, at 11.

[88] DOUGLAS CLARK, PATENT LITIGATION IN CHINA 134 (2011).

the Szechuan and Henan HPCs that most recently looked at this issue, treats third-party reuse as patent infringement. To date, the Supreme People's Court has not taken a position on the approaches. While both analytical paths (infringement and non-infringement) remain open for future courts, the majority approach appears to contradict Art. 69's seemingly broad and explicit safe harbor.[89]

These counter-intuitive decisions herald the birth of a distinct definition of "making" contrary to every other jurisdiction. The majority reasons that selling a refilled bottle "surpassing the use of a patented product" amounts to "quasi/constructive making," even though no physical modification of the liquor bottle occurred. Once the court equates commercial refurbishment with making, the conclusion of infringement naturally flows from the reinterpreted statutory term without altering the patent statute. Yongshun Cheng, one of the most influential IP specialist in China and formerly a senior judge of the Beijing High People's Court, comments on the *Gubeichung* case:

> [W]hen the product is used up, scrapped, and the liquor in the bottle consumed, the utilitarian value of the patented product (the bottle) ceased to exist. A consumer can dispose of the product (bottle), sell it as scrap. ... If a buyer purchases as waste the patented products abandoned by another, and thereafter repair, refresh, and utilize it as the patented product, such behavior is no different from manufacturing the patented product. As such, its behavior should be prohibited law.[90]

Chinese courts effectively implemented the implied license theory of exhaustion Mark Janis previously theorized.[91] The opinions focus on the subjective intent of the patentee and usages exceeding "the use of a patented product by its legal purchaser." Doctrinally, the Court transforms the familiar reconstruction test through a novel definition of making, defining it in conceptual and economic terms. The original purchaser destroyed or "unmade" the patented liquor bottle after draining its contents. Conceptually, the purchaser converted

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[89] Chinese legal system follows the civil law tradition and courts need not follow the decisions of another court. Nonetheless, inconsistent decisions in identical fact situations undermine the confidence of the legal system, generates mixed signals to the public, and encourages strategic behavior such as forum shopping. The Supreme People's Court have noted this problem and encourages courts to reach consistent verdicts. *Supreme People's Court Opinion on Certain Issues with Respect to Intellectual Property Judicial Adjudication under the Current Economic Situation* (*最高人民法院关于当前经济形势下知识产权审判服务大局若干问题的意见*), Para. 20 (April 21, 2009), *translation available at* Clark, *supra* note 88 at 134 ("For cases where the legal issues are the same but judgments are not the same, strengthen trial level supervision, give full play to function of error correction of second instance trials and retrials. Strengthen the strength of the coordination and guidance of related cases, and improve coordination mechanisms.").

[90] Cheng Yongshun (程永顺), Several Legal Issues in *"Liquor Bottle" Design Patent Infringement Case ("酒瓶" 外观设计专利侵权案中的几个法律问题)*, 4 TECHNOLOGY AND THE LAW (科技与法律) 108, 112 (2000).

[91] Mark D. Janis, *A Tale of the Apocryphal Axe: Repair, Reconstruction, and the Implied License in Intellectual Property Law*, 58 MD. L. REV. 423, 426 (1999).

the bottle into waste. Economically, its value defaults to zero. The recycler gave the bottle a second life, transforming dirty glass junk into a merchandise of value.

The interpretive shift leaves intact closely related doctrines such as "patent exhaustion" and "implied license." Generally, implied license does not reach a third party without privity to the consumer or the patentee. The question of whether a refurbisher can recycle abandoned property for commercial resale lies outside the scope of implied license. With respect to patent exhaustion, a reinterpretation of "making" shifts the repair-reconstruction boundary at the expanse of patent exhaustion in China. However, it does not alter the internal logic of these doctrines. In China and elsewhere, the unauthorized making of a patented article is an infringing act that defines the outer limit of permissible activities under the patent exhaustion doctrine. In short, the logic of exhaustion or implied license works the same way in the U.S. and China. It is the definition of "making" that changed.

III. THE REFURBISHMENT JURISPRUDENCE AND ITS LESSONS

The three factually identical cases and the intervening rulemaking effort of the SPC provide a rich foil to showcase the evolution of patent adjudication in Chinese courts. The idiosyncratic fact pattern and specific doctrine permit direct comparison between these courts. The simplicity of the events constrains the number of analytical possibilities. Furthermore, the identity of the parties as established local competitors removes oversized political complications that often cloud judicial decision making in current case law studies. This section extracts three trends from the "Bottle Wars" that may well continue into President Xi's tenure: (1) Entrenching the Anti-Copyist Stance; (2) Consolidating jurisprudential infrastructure, and (3) Increasing doctrinal innovation. This section also attempts to answer the question of why China chose to apply a strict version of the exhaustion doctrine to the detriments of activities associated with sustainable development.

A. Trend 1: Entrenching the Anti-Copyist Stance

According to conventional wisdom, the current Chinese patent law is well-drafted, but its implementation is lacking.[92] The Bottle cases represent a departure from the conventional wisdom, with several courts taking the high road of stronger patent rights and going as far as developing a novel theory of "constructive making" to impose infringement liability when they can just as easily choose the opposite path. Of the six courts that looked at the liquor bottle

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[92] Patricia Campbell & Michael Pecht, *The Emperor's New Clothes: Intellectual Property Protections in China*, 7 JOURNAL OF BUSINESS & TECHNOLOGY LAW 69, 113-14 (2012). Timothy Malloy, et al, *What Every U.S. Corporation Should Know About China's Patent Protection & Enforcement*, MCANDREWS HELD & MALLOY, http://www.mcandrews-ip.com/files/article/china_patent_protection.pdf.

recycling situations, four found infringement. Only one court saw it as a permissible use and sale of an exhausted article. In contrast, U.S. and Japanese courts would not impose infringement liability on these facts because no physical reconstruction took place.[93]

To be sure, experts suspect extra judicial considerations whenever the application of patent law in China deviates from the practices of the U.S. or Japan. Chinese judges may have understood the exhaustion doctrines "incorrectly" and unnecessarily limited the scope of permissible refurbishment. Alternatively, inconsistent cases may reflect local protectionism that favor well-connected companies in the region. These cynical explanations may well be true. After all, charges of judicial incompetence or bias are common.[94] However, their explanatory power in the Bottle Wars context is limited. The quality of the opinions reveal a group of jurists applying rules of statutory interpretation familiar to us. After identifying the correct statutory framework in each case, they discussed the unwritten policy and rationale underlying the first sale exhaustion. Some referenced the legislative history of the safe harbor provision. These written opinions reflect sophisticated legal analysis appropriate for the issues presented. With respect to possible bias, it should be noted that the plaintiff and defendant are both local distillers. It is unclear if the winner necessarily wielded greater political or commercial clout. Moreover, the HPCs in Shandong, Heilongjiang, Sichuan and Henan are the highest courts of their respective provinces. Only the Supreme People's Court can review their decisions. At this level, one would expect the jurists to be well-versed in law and above the intra-provincial fray.[95]

Outside the courts, several Chinese commentators endorse the outcome of treating refurbishment as infringement.[96] For example, one Chinese scholar

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[93] Perhaps this point should not be overstated. Even here in the United States, Judge Lukern of the ITC initially ruled in favor of the patentee Fuji against the camera refurbishers for infringement of camera design patents.

[94] DOUGLAS CLARK, PATENT LITIGATION IN CHINA 4 (2011); Ji Li, *Dare You Sue the Tax Collector? An Empirical Study of Administrative Lawsuits Against Tax Agencies in China*, 23 PAC. RIM. & POL'Y J. 57, 58 (2014); Kevin J. O'Brien and Lianjiang Li, *Suing the Local State Administrative Litigation in Rural China*, 51 THE CHINA J. 75, 75-76 (2004).

[95] DOUGLAS CLARK, *supra* note 94, at 4; Randall Peerenboom, *Globalization, Path Dependency and the Limits of Law: Administrative Law Reform and Rule of Law in the People's Republic of China*, 19 BERKELEY J. INT'L L. 161, 195 (2001).

[969696] Gao Ronglin (高荣林), *Maximizing Utility or Exhaustion of Rights– The Conflict of Chattel Rights and Intellectual Property Rights over "Junk"*(*物尽其用还是权利穷竭——"垃圾"里的物权与知识产权的冲突*), 240 ACADEMIC FORUM (学术论坛) 105, 108 (2011) ("The reason we think the act constitutes infringement is because, if the court judges it to be non-infringement, then the Gubeichun Group can continue to use the bottle in liquor production, which undoubtedly will bring loss to the patentee's business profit (the profit of licensed use) and harm to the Galaxy Distillery (leading to consumer confusion due to the identical liquor bottle design.") ("我们认为该行为之所以构成侵权，是因为如果法院判决不侵权，古贝春集团可以继续使用该酒瓶生产白酒，则无疑将会给专利权人的市场利益造成损失(许可使用的利益)，也会给银河酒厂带来损害(可能造成消费者混淆，因为酒瓶的外观设计一样)."); Li Yang (李扬), *Do Repair, Replacement, and Recycling Constitute Patent Infringement (修理、更换、回收利用是否构成专*

who examined the 2000 *Sangdong* case criticized the *Sangdong* court for allowing recyclers to undermine the patent system because refurbished merchandise directly takes away a patentee's sale.[97] To be sure, alternative opinions against liability exist.[98] The absence of consensus shows that the matter remains unsettled, and the idea of strict recycling infringement contains some traction. Likewise, the history of the SPC discussion draft reveals a pro-patent stance. The specificity of the provision indicates a policy response directed against Shandong court's ruling in *Ju v. Wucheng Gubeichung Group*. Although the final promulgated rule left out these provisions, their original inclusion suggests a strong pro-patentee contingent supporting refurbishment infringement liability at the highest level of the judiciary.[99]

A better explanation for the outcome might be that judges and lawmakers view refurbishers on par with low-tech counterfeiters and imitators, profiting off someone else's ingenuity. In a previous article, I identified the tendency of Chinese patent law to behave as copyrights for technological products.[100] The operation of Chinese patent law tends to prohibit those who slavishly replicate a product covered under patents and tolerate derivers or unintentional infringers. Refurbishment is one area where the proclivity against copyists is at its zenith. These refurbishers do not merely copy the patented article, they reanimate the

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利权侵害), 6 LEGAL SCIENCE (法律科学) 78, 80 (2008) ("The liquor bottles that are merely rinsed or disinfected or received simple repairs for minor damages of the bottle caps will undoubtedly fall within the scope of the design patent for the bottle. It would constitute manufacturing behavior that falls within the control for the patent.") ("只是经过清洗、消毒的酒瓶或者仅仅是对瓶盖等破损部分进行简单修补的酒瓶，毫无疑问会落入外观设计专利酒瓶的保护范围之内，也就是说会构成受外观设计专利权控制的制造行为").

[97] Ji Miki (姬美姬), *A Small Bottle Caused Big Problems-Thoughts from the Gubeichun Group Infringement Case* (*小酒瓶引发的大问题—由古贝春集团侵权案引发的思考*), 06 Zhong 84 (2011) ("If recyclers may re-use the patented product without the consent of the patentee, then the recycler will not purchase patented product from the patentee, and the patentee loses the opportunity to obtain patent royalty that it should have obtained.") ("因为如果回收者, 可以不经专利权人同意，重新使用专利产品，这样回收者就不会, 去向专利权人购买专利产品，使专利权人丧失本应获得的专利收益.")

[98] Hu Kaizhong [胡开忠], *Assessing the Repair and Reconstruction of Patented Products and Patent Infringement [专利产品的修理、再造与专利侵权的认定]*, 12 LAW SCIENCE (法学) 145 (2006) ("When a design patent product is sold, the conduct of others to recycle the design product and packaging their own products should not be considered patent infringement because the patent has been exhausted. Therefore, identifying this kind of behavior as 'reconstruction' is not appropriate.") ["当外观设计专利产品销售后，他人回收该外观设计产品并用于包装自己产品的行为并不能认定为专利侵权，因为专利权已经用尽。所以，将这种行为认定为'再造'并不妥当。"]; Zhang Ling [张玲], *Discussing the Repair of Patented Products and Patent Infringement – From Remanufactured Cartridges in Japan* [*专利产品的修理与专利侵权问题探讨——从日本再生墨盒案谈起*] *3 MEDIATION, ARBITRATION AND LITIGATION* [*调处, 仲裁, 诉讼*] 62, 62 (2007) ("This author believes that we should fully command the legal definition of terminologies such as exhaustion of rights and manufacture, comprehensively assess factors such as whether the disputed conduct benefits free competition in the related market and protect the environment, and liberally construe repair") ("笔者主张:应在全面把握权利用尽、制造等专业术语的法律含义的基础上, 综合考量争议行为是否有利于相关产业的自由竞争、保护生态环境等因素,从宽认定修理。").

[99] In any event, the silence of the final rule on this issue allows courts to rule for or against refurbishment.

[100] Benjamin Piwei Liu, *Chinese Patents as Copyrights*, 34 CAMPBELL L. REV. 685, 730 (2012).

very same articles from its graveyard. And the notion of being "used," "discarded," or "recovered," far from being the signifiers of a green economy, only confirms the fear of shoddy construction often associated with low-quality imitations. These cases holding refurbished bottles as infringing therefore appear to be yet another data point confirming the tendency of the Chinese patent system to focus on copiers and imitators. That the draft legislation and the bottle cases focuses on packing material may also reflect unspoken counterfeit/trade dress concerns that dovetail with the imitation anxiety.[101] This anxiety against copying and imitation will probably continue to influence the development of Chinese patent doctrines for some time.

B. Trend II: Deepening Jurisprudential Infrastructure

The Bottle Wars also reveal a rich network of conduits through which legal ideas inform judicial decision making, including vertical lawmaking activity between courts of different hierarchies, horizontal reference to sister court decisions, and a circle of commentaries influencing judicial interpretation. This structure comports with recent scholarship challenging the appropriateness of using labels such as "civil law" or "common law" to describe the legal system of China.[102] Particularly with novel legal claims such as patents, the Chinese legal system adopts a pragmatic orientation that centers on deciding disputes efficiently, a manner consistent with its needs and less concerned with the legal tradition from which the methods emerge.

Here we see a specific mechanism of how bottom-up judicial lawmaking occurs in China in the absence of *stare decisis*. On paper, Chinese courts lack law-making power, and their opinions do not bind future cases. In reality, the Supreme People's Court regularly issues interpretive opinions and guidance that bind lower courts, such as when it promulgated the SPC interpretation concerning patent infringement disputes or guiding cases.[103] For example, the draft provision discussed in section IIA defines infringing making to include recycling a package protected by a design patent. Why did the SPC decide to tackle this issue? The specificity of the proposed rule evidences an awareness of the actual facts raised by the bottle refilling cases, and demonstrates the working of an intra-institutional channel that communicates to the Supreme People's Court difficult legal issues presented in local cases outside a formal appeal process.

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[101] *See supra* Section IIA.

[102] Mo Zhang, *The Socialist Legal System with Chinese Characteristics: China's Discourse for the Rule of Law and a Bitter Experience*, 24 TEMP. INT'L & COMP. L. J. 1, 3, 4-5, 43 (2010).

[103] *See, e.g., Guiding Case No. 1: Shanghai Centaline Property Consultants Limited v. TAO Dehua, An Intermediation Contract Dispute* (*指导性案例1号: 上海中原物业顾问有限公司诉陶德华居间合同纠纷案*), STANFORD UNIVERSITY (2014), https://cgc.law.stanford.edu/guiding-cases/guiding-case-1/ (Other guiding cases are available at http://cgc.law.stanford.edu/guiding-cases/).

Apart from this vertical judicial "lawmaking", the Bottle Trilogy also evidences active horizontal borrowing of ideas between sister courts. As mentioned earlier, the Sichuan HPC lifted language verbatim from the opinion of a Shandong court, although the Sichuan court did not have any obligation to study or consult the decision of a sister jurisdiction. Interestingly, the Sichuan court did not merely look up and follow the line of Shandong cases that ultimately permitted refurbishment. Instead, the Sichuan HPC borrowed language from a reversed lower court opinion. Two possibilities exist for how this borrowing occurred. Sichuan HPC may have reviewed the opinions of the Shandong Intermeidate People's Court and Shandong HPC, and being convinced by the Sichuan IPC's (and of its own IPC's) argument, affirmed the decision imposing infringement liability on bottle refillers. Alternatively, Sichuan HPC may have reached a decision first and looked to previous cases with language that shared its position. Either way, the Court clearly used previous judicial opinions as reference material, even if it gave no explicit citation to the quoted case. Also, courts clearly remain comfortable reaching holdings that conflict with decisions of co-equal sister courts. As more juridical opinions become publicly available online, litigants may wish to put judges on notice of factually relevant decisions, the civil law system notwithstanding.

The Bottle Trilogy also reveals a receptiveness to interpretive methods beyond the plain statutory text. Recall that in *Ju v. Wucheng Gubeichung Group*, the Shandong IPC referenced the legislative intent of the safe harbor provision and the doctrine of patent exhaustion, neither of which appeared in the statutory language. Later, the SPC circulated, but withdrew, the provisions that prohibit the reuse of packaging subject to design patents, possibly due to academic criticism.[104] Even though Chinese judges lack a formal *amicus* process or provisions authorizing the use of legislative materials, they managed to integrate considerations of legislative material, foreign doctrines, and academic input, not unlike expectations for a U.S. judge. Channeling this energy towards a doctrinally and factually specific area of patent law further evidences their willingness to confront the legal issues presented by a set of facts and their desire to reach a technically correct analysis.

C. Trend III: Increasing Doctrinal Innovation

Noting China's increasingly active role in the setting of international IP standards, Peter Yu argues China gradually shifted from a norm-taker to a norm-shaker to even a norm-maker in the international IP regime.[105] The evolution of

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[104] Shi Guangyu (*光雨*) *A Brief Analysis of Repair and Reconstruction of Patented Products* (*浅析专利产品的修理和再造*), 24 J. HEBEI N. U. (2008), *available at* http://hetong.cnki.net/law/detail/detail.aspx?filename=ZJKS200804018&dbcode=CLKJ&dbname=CLKJ7911.

[105] Peter Yu, *The Middle Kingdom and the Intellectual Property World*, 13 OR. REV. INT'L L., 209, 211.

the Chinese patent exhaustion doctrines demonstrate a similar phase change in Chinese domestic patent law and supplies a possible localization mechanism for incubating new legal norms in China based on borrowed legal texts.

Transplanted law lacks context, which proves both a curse and a blessing. On the one hand, Chinese IP judges must apply statutory language borrowed from elsewhere without understanding the rationale and context for its emergence in the country of origin. On the other hand, the lack of context frees Chinese judges from dependency on foreign history and allows them more leeway to localize patent law in new directions. In this instance, Chinese judges remain oblivious to the history of extending the U.S. exhaustion doctrine from a measure to protect purchasers from aggressive patentees to a measure of immunity for third party refurbishers.

This disconnect is understandable because a Chinese judge would not be concerned with the effect of his decision on purchasers for two reasons. First, patent infringement under the CPL primarily targets commercial-scale operations. Article 11 of the CPL, which sets out the basic text prohibiting infringement, bars anyone without the authorization of the patentee to exploit the patent "for production or business purposes." While experts debate its exact interpretation, "business purposes" likely includes fixing up discarded equipment for resale on a commercial scale and excludes a consumer's tinkering or repairing of a product he purchased. Commentators even suggest that Chinese courts lack jurisdiction over an individual absent a corresponding infringing business.[106] In contrast, the equivalent U.S. text codifying infringement liability contains no personal use or repair exemption.[107] Courts must carve out a sphere of permissible personal use through the use of the repair and reconstruction doctrine. Chinese judges can design third-party refurbishment rules without concern for the collateral effects on purchasers because the definition of infringement does not cover private use. In this way, the consumer protection concerns driving the exhaustion doctrine in the U.S. does not translate in the Chinese context because Chinese patent law does not reach the average consumers in the first place.

Second, the patent statute explicitly protects a purchaser and correspondingly reduces the need to accomplish the same through judicial interpretation and word definitions. Article 69 of the Chinese Patent Law codifies the first sale doctrine. No infringement occurs when parties use, offer to sell, sell or import a product "[a]fter a patented product or a product directly obtained by using the patented method is sold by the patentee or sold by any unit or individual with the permission of the patentee, any other person uses, offers to sell, sells or imports that product."[108] Case law implementation of the first sale rule (as done in the U.S.) differs from statutory implementation (as done in

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[106] *See* Zhang Guangliang.

[107] 35 U.S.C. § 271(a) (2013).

[108] *Patent Law of the People's Republic*, art. 69, STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.C., (Jan. 19, 2011), http://english.sipo.gov.cn/laws/lawsregulations/201101/t20110119_566244.html.

China). Chinese courts can interpret the textual components broadly or narrowly vis-a-vis a third-party without altering the basic premise of the rule because Chinese administrators codified the first sale protection of consumers. In contrast, U.S. courts must be mindful that their application (or non-application) of the exhaustion doctrine to third-parties does not eviscerate the doctrine when applied to direct purchasers. The current CPL already provides ample space for the purchaser of a patented product to enjoy the full extent of his purchase absent a U.S.-style repair and reconstruction doctrine. Therefore, Chinese courts have the luxury of tailoring an independent test governing third-party refurbishment separate from consumer-based repair.

The refurbishment cases illustrate the process through which China shifts from a taker of patent norms to one that jettisons existing norms. Out of necessity, Chinese judges, administrators, and legal scholars filled the blanks left by the imperfect borrowing process with their own legal innovations. With China's patent regime emerging from its catch-up phase, we can expect new patent doctrines to surface with increasing frequency as judges apply generally applicable doctrines to increasingly detailed and complex facts. Even in the context of the refurbishment cases, the legal norm developed in the bottle cases could continue to evolve in order to alleviate its tension with sustainability. The current draconian measures against refurbishers do not reflect the vision of a synergistic co-existence of innovation policy and sustainable development in SIPO's "My Chinese Dream" article, and an increasing awareness of the policy tension likely will encourage further legislations or judicial actions. I have suggested elsewhere that developing countries may adopt one of several ways of heading off the tension between innovation and sustainable development, including: (1) transplanting the repair defense found in mature patent regimes; (2) shifting the burden of proving first sale (or its absence) to the patentee; (3) permitting refurbishment generally, or (4) adjusting the remedy regime to create a de facto compulsory license system for refurbishment infringers.[109] The increasingly experienced Chinese patent judiciary remains capable of experimenting with these proposals before its own problematic refurbishment jurisprudence becomes entrenched.

IV. CONCLUSION

This article highlights the ongoing friction between patent infringement doctrines and socially beneficial refurbishment activities in China to showcase a policy tension between desirable policies in a rapidly developing economy. While commentators continue to debate whether stronger patents promote green technology transfer or indigenous research in China, they negatively impact refurbishment—a time honored form of industrial upgrade and low-tech conservation—through actual disputes.

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[109] Benjamin P. Liu, *Towards a Sustainable Patent Exhaustion Doctrine*, 32 BERKELEY J. INT'L L. (forthcoming 2014).

Not long ago, Peter Yu described an IPR cross-over point when protection of Chinese inventors' rights would be in China's best interests.[110] Meanwhile, Xuan-Thao Nguyen observes that China continues to strengthen its IPR protection while the U.S. moves towards a weaker IPR regime. She contemplates a different cross-over point when the level of IP protection in the U.S. and China meet.[111] Arguably the refurbishing cases presented here are an indication of a "post-crossover point" era when the Chinese patent statute—seemingly identical to that of the U.S., Japan, and Germany—is used to support a contrary outcome that is *more* protective of patents than these other jurisdictions. In all the instances examined in this article, the appellate courts demonstrate an active engagement with legal doctrines regardless of the outcome. These courts avoid perfunctory or errant decisions based on a simple conviction that equates weaker patent rights with catching up.

While the refurbishment fact pattern may be idiosyncratic, it embodies a policy conflict residing in a broader transformation. Up to this point, the task facing China has been one of building a patent system, a monumental task that the government accomplished with impressive results: It created an internationally recognized patent system in 30 years and now process more patent applications than any other patent offices in the world. Its tactical execution reflects the efficiency of technocratic planning. Without diminishing this achievement, however, China followed a well-trodden, overall trajectory created by predecessors in East Asia. President Xi inherits a patent system where both patent owners and alleged infringers are Chinese and where domestic concerns such as innovation and sustainability jockey for priority. Perhaps the case outcome described in this article will be only temporary. Chinese courts and administrators likely may change course and adopt the exhaustion doctrine of other jurisdictions (and wrestle with a set of problems more familiar to the established legal order). Or perhaps future judges will devise an alternative compromise between patentee and infringers. But perhaps this tinkering, this preoccupation with competing priorities, and this struggle to move forward without a map marks the maturity of the Chinese patent system.

As Alan Watson reminds us: "The fact that law is out of context is unremarkable, but often it has astonishing consequences."[112] This story of products being remade in China, also tells of the remaking of patent law in China with astonishing consequences. This tentative making, unmaking, and remaking of the law will distinguish the gestalt of China's IP regime during President Xi's tenure from the one-way ratcheting up that characterized the patent system of his predecessors.

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[110] Peter Yu, The Rise and Fall of Intellectual Property Powers, 34 Campbell L. Rev. 525, 528-32 (2012).
[111] Xuan-Thao Nguyen, *The China We Hardly Know: Revealing the New China's Intellectual. Property Regime*, 55 ST. LOUIS U. L.J. 773, 775-76 (2011).
[112] ALAN WATSON, LAW OUT OF CONTEXT, INTRODUCTION xi (2000).