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# On the monopoly:

## Speculation, pharmaceutical markets, and intellectual property law in Nigeria

### ABSTRACT

The drug patent monopoly has been described as a key deterrent to Africans' access to brand-name, life-saving drugs. Research in Nigeria, however, shows that another factor restricts access in that country: Brand-name pharmaceutical companies' pricing and marketing strategies keep patented drugs off the market. In this article, I retheorize the question of monopoly in the pharmaceuticals industry. I first track the historical precedents of this particular iteration of the drug monopoly. I then situate the monopoly in the context of ethnographic research I conducted on pharmaceutical markets and drug marketing (2005–10) as well as on Nigeria's compliance struggles with the WTO's Trade Related Aspects of Intellectual Property (TRIPs) Agreement (1999–2003). TRIPs enforces patent holders' rights and mandates intellectual property harmonization across nation-states. In analyzing these two ethnographic sites together, I argue that rather than its purported short-term legal existence, the current drug monopoly operates as though it has an indefinite life. [*monopoly, pharmaceuticals, intellectual property law, drug markets, speculation, structural adjustment programs, TRIPs*]

The pharmaceutical patent has long been analyzed for its ability to monopolize drug markets. It provides 20-year exclusive rights to develop, manufacture, price, and sell drugs.<sup>1</sup> This monopoly is very important to brand-name European and North American drug manufacturers (hereafter, brand-name manufacturers), which market their patented pharmaceuticals in national middle-income markets such as India and Brazil (Kapczynski 2009; Shankar 2002; 't Hoen 2003). These countries are home to well-established generic manufacturers that possess the capacity to copy brand-name drugs. The patent restricts generic competitors from selling copied products until its expiration, so it essentially affords brand-name manufacturers short-term monopoly rights.

In Nigeria, however, where I conducted ethnographic research, brand-name manufacturers do not use the patent to monopolize drug markets for several reasons. Nigerian drug companies do not manufacture generic competitive alternatives to brand-name patented drugs (Wambebe and Ochekepe 2011:7); indeed, the vast majority of the Nigerian pharmaceutical market comprises off-patent and, often, older-generation medicines, mostly antibiotics, nutritional supplements, and analgesics (Peterson in press; Wambebe and Ochekepe 2011:7). Additionally, generic and brand-name manufacturers based outside Nigeria do not export patented or more-advanced therapies to the private Nigerian drug market in any widespread way (Wambebe and Ochekepe 2011). As one Nigerian marketer working for a brand-name drug company summed up the situation for me, the West African private pharmaceutical market is not viewed by the brand-name industry as a lucrative site for advanced patented drug products and, therefore, few patented drugs are sold there.<sup>2</sup> Moreover, very few drug patents are registered in Nigeria (World Intellectual Property Organization n.d.). When high-demand drugs (such as patented HIV medication) are available, one can obtain them via free, foreign-sponsored drug programs, providing little incentive for any pharmaceutical firm to sell them on the private market.

In this article, I show that the brand-name drug industry does not employ the patent as a way to gain monopolistic control of Nigerian

markets, which is often assumed in policy and activist debates about treatment access (Attaran and Gillespie-White 2001; Correa 2008; 't Hoen 2003). Rather, brand-name manufacturers are after effective ways to secure the monopoly across national markets, a goal that can be achieved by means other than the patent. In Nigeria, the monopoly is mediated by very specific pricing and marketing practices conducted by brand-name manufacturers that deliberately keep life-saving, patented pharmaceuticals off the national market to protect high drug prices outside Africa. These practices work to produce a particular iteration of the monopoly, one that perpetuates the absence of brand-name patented drugs in Africa and a proliferation of them elsewhere, especially in North America and Europe.

I first describe the historical precedents that helped make this monopoly possible. Specifically, Nigeria was home to a brand-name pharmaceutical market in the 1970s that had completely crashed by the 1990s (Adenika 1998; Okoli n.d.). The rise and fall of this market was a result of both U.S. and Nigerian economic policies meant to cope with various volatilities in the global economy. These events in Nigeria were intertwined with a simultaneous endeavor: the pharmaceutical industry's turn to speculative capital, which created pressures to produce new drug products at an ever-faster rate (Sunder Rajan 2012). Because of this difficulty, drug companies have merged and consolidated as the primary way to survive high-growth expectations placed on them by investment firms (Sunder Rajan 2012). But speculation also encourages drug companies to dump less productive assets. Nigeria's drug market was determined to be just that by brand-name manufacturers and, by the 1990s, all major brand-name drug companies had divested themselves of operations in the country (Adenika 1998; Okoli n.d.), in what I refer to as "market abandonment." I tie this history to the original premise of patent law: to establish principles of fair exchange between owners and consumers of patented products (Biagioli 2011). Critically, only the market can facilitate fair exchange. Yet market abandonment in Nigeria eliminates this premise in patent law.

To illustrate the processes at work here, I draw on ethnographic research I conducted at two junctures in Nigeria: from 2005 to 2010, focused on pharmaceutical markets and drug marketing, and from 1999 to 2003, focused on the country's compliance struggles with the WTO's Trade Related Aspects of Intellectual Property (TRIPs) Agreement. TRIPs enforces patent holders' rights and mandates that national intellectual property laws be overhauled to adapt to global standardized rules. In juxtaposing these two conceptual sites, I argue that the monopoly in Nigeria is facilitated by brand-name drug marketing strategies, which are an outcome of the drug industry's consolidation and its abandonment of the Nigerian market in the 1990s. Because in this case, the monopoly is ungoverned and seems to exist without legal limits, it does not have a purported

short-term legal existence but, rather, an apparent, indefinite one. A monopoly of this sort will only last until the Nigerian drug industry can become a significant competitive player in the pharmaceutical world with an ability to either produce copies of patented products or manufacture its own novel pharmaceuticals.<sup>3</sup>

### Patent law, speculation, and the role of the market

A number of significant historical convergences occurred between the 1970s and 1990s that gave rise to the contemporary drug monopoly. In the 1970s, the United States weathered a severe economic recession that negatively affected manufacturing industries (Arrighi 2002), and pharmaceuticals were no exception (Cooper 2008; Silverman and Lee 1992). At that time, generic drug products were beginning to flood world markets, which posed significant competition to brand-name companies, whose foreign sales amounted to more than one-half of total revenue (Silverman and Lee 1992:27).<sup>4</sup> The emergence of competitive generics was accompanied by new international policies regarding rational drug use. Notable among them was the WHO's Essential Drug List, which threatened brand-name drug companies because of its advocacy of generic substitution (Greene 2011). Moreover, future industry revenue was in jeopardy because companies, on the whole, had few promising drug research pipelines and numerous company products were facing patent expirations—research and patenting being critical to securing income (Kanji et al. 1992). By the 1980s, the Reagan administration responded by budgeting more money for life sciences research (most of which went to the National Institutes of Health), "which henceforth [became] the most heavily funded area of basic science research in the United States apart from defense" (Cooper 2008:27).<sup>5</sup>

In 1980, the U.S. Congress also passed the Bayh-Dole Act, which enabled smoother technology transfers between research-based academia and biotechnology companies (Cooper 2008; Greene 2011). That same year, the U.S. Supreme Court ruled in *Diamond v. Chakrabarty* that patent rights could be applied to genetically modified organisms, playing "a seminal role in the commercialization of biotechnology" (Jasanoff 1997:206).

In the wake of these events, intellectual property was newly transformed on two levels.<sup>6</sup> First, the criteria for obtaining a patent changed.<sup>7</sup> To be awarded a patent in the life sciences, an inventor now must demonstrate that an invention, a process, or compositions of matter are "novel," "nonobvious" (e.g., a molecule cannot simply be found in nature), have specific uses, and involve an "innovative step." By 1980, patent law counted cell lines and microorganisms as "novel,"<sup>8</sup> if they were altered by molecular technologies, which counted as "innovative steps."<sup>9</sup> These legal

reforms were ultimately incorporated into the WTO's TRIPs Agreement in 1995, which linked these changes in intellectual property law to global trade governance (Drahos and Braithwaite 2002; Raghavan 1991).

Indeed, the TRIPs Agreement was strategically important to the brand-name manufacturers, who used it to strengthen intellectual property rights to regain control of global drug markets (Drahos and Braithwaite 2002; Raghavan 1991). They lobbied the U.S. government to pressure the rest of the world for a new patent regime with an enforcement mechanism that curtails generic drug production and marketing.<sup>10</sup> The TRIPs enforcement mechanism works via the threat or outright implementation of international trade sanctions (Drahos and Braithwaite 2002; Raghavan 1991). Genomic-based commercial drug development takes place within global brand-name companies or within public research institutions that transfer patent rights to brand-name manufacturers for marketing purposes. This arrangement gives brand-name companies (vs. generic ones) a clear advantage in securing "legitimate" intellectual property rights.

A patent technically governs legal exchanges between consumers and inventors of patent-protected products. The law conceptualizes such transactions as based on a notion of "fair exchange" or as "bargains," as Mario Biagioli (2011) has pointed out. Patents are designed to facilitate scientific development by disclosing the invention, process, or composition of matter and, at the same time, protecting that development as property for a limited amount of time, specifically, 20 years. Under the fairness premise, the inventor gets exclusive monopoly rights and has access to the product, a transaction that is meant, under patent law, to encourage the public good and scientific development.<sup>11</sup>

Notions of economic exchange in patent law are related to the principle of fair exchange, which connotes an inventor's right to recuperate costs in exchange for public access to her or his product. Critically, only the market can serve as the exchange mechanism between an owner's intellectual property rights and the public's access to an owner's product. However, the market does not often do a good job of ensuring access to either generic or patented medicines, even under conditions of universal health care (Biehl 2009; Biehl and Petryna 2013; Brotherton 2012; Sunder Rajan 2011). That is, how the market should work to facilitate fair exchange is not defined in patent law, which propels legal fictions of fair exchange. Given that the market is black-boxed in patent law, what happens when the market for patented products ceases to exist as it did in Nigeria?

The rise and fall of Nigeria's drug market came about through several intersecting circumstances. In the 1970s, at the same time that the United States was experiencing a recession, the Nigerian state was profiting from an oil boom that was responsible for attracting major brand-name drug manufacturers (Adenika 1998; Okoli n.d.).<sup>12</sup> Indeed, such

companies expanded plant operations in Nigeria and relied on the large West African market as one of their major foreign outlets. While this market was small in comparison to the U.S. drug market, some products sold in Nigeria garnered manufacturers some of their highest earnings in the world, according to former Nigerian managers working in the industry.<sup>13</sup> The oil boom also strengthened and widened the Nigerian middle class that could afford these drugs, access that had high symbolic value.<sup>14</sup> Outside of those supplied by the Indian company Ranbaxy, few generics existed in Nigeria at the time.

The subsequent abandonment of the brand-name market was connected to both U.S. and Nigerian economic policies.<sup>15</sup> At the same time that the brand-name drug industry was struggling to stay competitively afloat, the United States was coping with its recession in several ways. It slowed injecting liquidity into the economic system, it aggressively competed for foreign capital by increasing interest rates, and it lowered taxes for corporations, speculators, and the wealthy (Arrighi 2002:21). As Giovanni Arrighi (2002:20–24) describes, these and other actions contributed to an appreciation of the dollar, which attracted a great deal of foreign capital back into the United States. In effect, the direction of capital flows, that is, the economic gains of Nigeria and the economic contraction of the United States (among others) were effectively reversed (Arrighi 2002:22; see also Cooper 2008).<sup>16</sup> At the same time, the oil boom ended in Nigeria, which had a negative effect on Nigeria's national income. The nascent postcolonial state, which had been borrowing heavily to build infrastructure during this period, was suddenly confronted with a revenue problem and a severe debt problem (Bangura and Beckman 1993; Olukoshi 1992; Stein et al. 2002).

Nigeria's (and Africa's) creditors insisted that, in exchange for new loans to cover increasing debts, African states had to privatize the public sector and enhance export production for foreign markets. These policy changes became formalized in structural adjustment programs. Creditor demands were backed by the IMF and the World Bank. Policies of removing subsidies on fuel and agricultural and other essential goods, imposing user fees on health and education, and the devaluation of the currency contributed to inflated prices for consumers and massive job loss, plummeting many people into poverty (Masquelier 2001; Mkandawire 2002; Olukoshi 1992; Turshen 1999).

Structural adjustment programs, particularly devaluation, drastically and negatively affected drug-manufacturing firms throughout Africa (Samba 2004). Former Nigerian managers working for brand-name drug companies in Nigeria have told me similar stories of what it was like for them when global drug companies shut down or sold off their African plants. In an excerpted interview, a former Nigerian marketer sums up the financial boom to bust that companies faced at the time.

I remember, I was just joining Pfizer then [1986] and it was a very serious issue for the multinationals. We had lots of stock that we could not sell with the raw materials that we brought in and [we were] trying to adjust [to the uncontrollable] pricing. The prices were really on the high side and this equally encouraged parallel importation [smuggling of lower-priced products and faked ones]. We could not cope with the overhead and the price increase because definitely there was resistance from the drugs that were being sold because of the price. I mean we were buying at one naira [Nigerian currency] and it turned into four naira per dollar. It was sure a big jump for you to be able to cope. And equally remember that time it was an issue that led to Pfizer taking a decision in 1996, '97, to sell off the company. Management buyout took place. It had to sell to [Pfizer's Nigerian subsidiary] Neimeth and just create a scientific office; and in case it gets better, we could come back fully. We were looking at what we were [earning] in the '80s to what we were [earning] in the '90s because of this devaluation of the naira. You were [earning] five million dollars some ten years back. You suddenly discover that you are [earning] two million or one million dollars. It was a serious, a big issue. The policy was a serious problem for companies.<sup>17</sup>

The problem for the brand-name companies operating in Nigeria was twofold. First, with currency devaluation and escalating poverty, Nigerians could no longer afford brand-name drugs (Adenika 1998). At the same time, it became too costly to produce drugs (Kalu 1984). As a result, sales slumped dramatically, which led to companies abandoning a no longer profitable market (Adenika 1998; Okoli n.d.). According to Nigerian managers who experienced this process of market abandonment, brand-name pharmaceutical companies either completely ended their product lines and manufacturing or attempted to move their activities to existing markets or newly opening ones in the former Soviet Union.<sup>18</sup> Some of these companies had local subsidiaries, made possible by an early 1970s economic indigenization policy that transferred multinational capital to Nigerian elites. Some subsidiaries bought out the parent companies (e.g., Pfizer and Roche). Other companies (e.g., Upjohn) simply shut down their formerly lucrative markets. This meant that indigenous companies gained more command of the industry. But, in the decades since, they have had difficulty coping with the country's still-contracted economic circumstances.

While these events were taking place in Nigeria, the brand-name manufacturers increasingly turned to the speculative market to cope with its more generalized slump. Indeed, the investment community began to dictate their path with promises of fantastic profits and growth, most of which have been unreasonable and filled with contradictions (Cooper 2008; Fortun 2008). Specifically, the investment community values drug companies not simply by the amount of profit earned but also, and more importantly,

by rates of growth, with expectations pegged as high as 13 percent per year (Sunder Rajan 2012:323).<sup>19</sup> But many companies do not produce enough new drugs to achieve the growth rates established by investment firms (Sunder Rajan 2012). For this reason, companies come to rely on blockbuster drugs that make over \$1 billion per year, as well as mergers and acquisitions, to survive investment community expectations.

The engagement in speculative practices and African market abandonment became completely intertwined. That is, speculative capital and investor promises of renewed and even extraordinary growth, as well as the tumbling value of Nigerian currency and spiraling household poverty, rendered Nigerian brand-name markets both irredeemable and unnecessary to brand-name manufacturers. By the end of the 1990s, drug companies had pulled their patented drugs from African private markets (Okoli n.d.; Samba 2004), while the merger and buyout frenzy had consolidated the five top companies in the world, whose wealth amounted to twice the total gross domestic product for all of Sub-Saharan Africa (Borger 2001). Indeed, only a few multibillion-dollar drugs secured these earnings, made possible through strong patent protection (Sunder Rajan 2012).

The brand-name Nigerian drug market went from thriving to nonexistent. Its disappearance has serious implications for drug access and patent law. Patent law assumes the presence of the market as the primary facilitator of (at least a fictitious) fair exchange between owners and consumers of patent-governed products. With the brand-name market gone, the exchange mechanism that bridges owners and consumers no longer exists. Therefore, fair exchange can no longer serve as the rationale for the patent law. The disappearance of the patent law's primary premise, when it comes to African consumers, poses questions about the actual purpose of the law and the legitimacy of patent rights when fair exchange cannot exist.

The legitimacy of fair exchange appears to have been overwhelmed by industry logics that rely on intellectual property as a form of security in research and marketing pursuits. Indeed, no company will do drug research on promising leads unless intellectual property protection is in place (Jasanoff 1997); and, certainly, changes in patent law that I have described have accommodated these industry needs. These dynamics are especially underscored by the industry's survivor mentality, fueled by investment community expectations. Moreover, existing marketed products completely rely on patent law situated within global trade governance because that law is the main mechanism for generating the level of earnings needed to cope with extreme financial risk.

In this sense, the patent moves away from facilitating fair exchange and, instead, buttresses the speculative pursuits of the brand-name manufacturers. The drug patent's legal life technically represents a social



relationship between consumers and owners, which expires 20 years after the patent is first awarded. But in the absence of a market that facilitates social and economic exchange, this relationship cannot exist, and the patent's 20-year life is, thus, not relevant in this context. Rather, the monopolistic effect is indefinite as long as no market exists to facilitate fair exchange. While I have analyzed a legal fiction (fair exchange), as well as its underlying basis (the market), there is a real-world effect here. Indeed, in the aftermath of these histories of patent-trade transformations, drug industry consolidation, and brand-name Nigerian market abandonment, brand-name manufacturers have achieved freedom to strategically eliminate patented drugs in very low-income markets as a way to protect drug prices in high-earning markets. To illustrate, I now turn to the specifics of drug marketing practices in Nigeria.

### Marketing strategies in Nigeria after structural adjustment

After the brand-name industry abandoned the Nigerian drug market, there was an enormous drug scarcity problem (Adenika 1998). Asian companies and a few indigenous Nigerian companies stepped in to fill the vacuum, selling much cheaper generic products, as the brand-name products were no longer affordable to the majority of Nigerians (Adenika 1998). In the process of such dramatic changes, distribution through the formally established wholesale system broke down and was shifted to unofficial markets. I conducted research in one of these markets that formed in the neighborhood of Idumota on Lagos Island. In the summers of 2009 and 2010, I carried out participant-observation and semistructured and oral-history interviews with pharmacists and pharmaceutical traders to ascertain how the market works in practice as well as to capture its historical formation.

Idumota is an enormous market that neighbors the seaport. It serves as the first wholesale off-loading site for imported products, including secondhand clothing, food, household supplies, vehicles, and computers and other electronics. It is also a retail home for indigenous manufactured products, such as myriad varieties of indigenous cloth and DVDs produced by the Nigerian film industry (Nollywood),<sup>20</sup> as well as for spare parts for machinery and vehicles. Amidst crumbling buildings and high-paced, dense foot traffic folks have found their way into the market as one of the few livelihood options available to them.

A pharmaceutical market began in this neighborhood after many people lost jobs with the end of the civil war (1969), and it continued to grow with the onset of structural adjustment (1986). The growth is significant. Kunle Okelola (2009:12) estimates that the entirety of Nigeria's national drug market amounted to over \$2 billion in sales in 2009 (cf. Wambebe and Ochekepe 2011:11), and Idumota is one of the largest drug wholesaler markets and distribution sites

in anglophone and francophone West Africa. The chairman of the Lagos State Medicine Dealers Association, the union representing over 700 members operating pharmaceutical shops in Idumota, estimated to me that "billions of naira" (the equivalent of hundreds of thousands to millions of U.S. dollars) pass through this drug market every day,<sup>21</sup> and the Pharmaceutical Manufacturers Association estimates that this market grows by up to 15 percent every year (Wambebe and Ochekepe 2011:1).

Most individuals with whom I spoke in Idumota believe that the majority of the traders come from one town, Orlu, in Imo State, located in the eastern part of the country.<sup>22</sup> These traders' families were involved in the civil war (1966–69), working with international humanitarian organizations, which headquartered their operations in Orlu. By doing humanitarian work, they gained lay expertise in pharmaceuticals. After the war ended, they took their acquired skills and relocated to cities such as Lagos, where they obtained "patent medicine" licenses, enabling them to sell over-the-counter drugs.<sup>23</sup> At the time of their migration to Lagos, Nigerian pharmacists dominated the drug distribution system. The numerous pharmacists I interviewed who were working during the early post-civil war period fondly recall their employment by multinationals, which afforded them lavish salaries, chauffeur-driven cars, and world-class professionalization. Their high status as professionals was completely intertwined with the oil boom and the growth of multinational pharmaceutical companies in Nigeria. At the companies, newly minted pharmacists got on-the-job training, often working as marketers before venturing out to open their own retail outlets. If they chose this latter option, their ties to their former employers remained in place, as they continued to sell company products.

But, by the early 1980s, when Nigeria's economy took a turn for the worse, the drug distribution system was on the verge of collapse. To cope, the brand-name companies changed the credit structure that linked them, their Nigerian subsidiaries, and retail outlets, a change emphasized to me by older Nigerian pharmacists, who worked for the companies in the 1970s–80s. Prior to the crisis, almost all drugs that were distributed on the national market were credited, and repayment arrangements depended on the relationships between companies and wholesalers. But, soon, all brand-name parent companies ended credit extensions. As a result, pharmacists could not pay off their debts, and they ultimately lost control of the distribution system. A highly lucrative drug distribution system that was once controlled by brand-name drug companies and Nigerian pharmacists was taken over mostly by Igbo traders, who began to import generic pharmaceuticals and over-the-counter drugs from around the world, primarily from India and China (Wambebe and Ochekepe 2011:30).

As Igbo traders took over most wholesaling in the late 1980s, they incorporated an apprenticeship structure as the primary form of labor, which is common in Igbo

commercial enterprise (Chukwuezi 2001; Meagher 2007; Olutayo 1999). An apprentice—usually a relative from the eastern part of the country—can serve up to nine years with a “master” before (usually) being released to work on his or her own. As apprentices explained to me, when they are newly released, they often do not have enough capital to jump-start their businesses, and so two or more may pool their resources, rent a small shop, and buy drugs in bulk directly from the manufacturers, which brings prices down. If financially and socially successful, they themselves may bring in their own apprentices. Over time, this form of labor converged with the financial constraint produced by structural adjustment, the lack of cash on hand, and the loosened regulatory rules to augment the volume of capital as well as actual commercial space in Idumota.<sup>24</sup> By the 1990s, just a few years after structural adjustment was implemented, the neighborhood of Idumota was transformed into one of the largest pharmaceutical markets in West Africa.

Brand-name manufacturers recognize the enormous generic market and tap into its vast potential profit. Indeed, in the aftermath of market abandonment, these companies recast their product portfolios—they kept their patented products out of Nigeria while marketing what are called “branded generics.” These are fast- and high-selling products that include vitamins, cough syrup, aspirin, antibiotics, and so on. They are considered “branded” because they are made by brand-name manufacturers, such as Pfizer and GlaxoSmithKline. GlaxoSmithKline, for example, a British-based company, and the most profitable pharmaceutical company listed on the Nigerian stock market (Wambebe and Ochekepe 2011:36), has a manufacturing plant in Lagos that mostly produces the over-the-counter analgesic paracetamol (acetaminophen), which competes with Nigerian manufacturers of the drug. It relies on its lingering reputation for quality in the wake of the oil boom to successfully market more expensive generics. As one marketer working for an Indian generics company put it to me, “Every multinational [drug company] makes blood tonic,<sup>25</sup> paracetamol, and antimalarials. Why does a multinational need to produce bloody paracetamol, for god sake?”<sup>26</sup>

Nigerian drug marketers working for global companies are charged with creating what they describe as “specialty markets.” A specialty market is rare and small; it is designated for so-called more-advanced (more-expensive), patented therapies. Such niches are not difficult to create because a marketer is only obliged to establish a small number of clients—usually selling to a few retail outlets at high prices. But creating specialty markets in West Africa involves figuring out how to protect the monopolistic integrity of European markets via pricing strategies employed across markets. Kaushik Sunder Rajan has argued that “it would not be politically viable ... for a pharmaceutical company to sell a patented drug at a relatively low price that could be afforded by an Indian population and at the same time sell it at an extremely high price on the US market”

(2012:331). In addition to these sorts of politics, an economic rationale undergirds drug industry logics in Nigeria.

Several Nigerian marketers working for brand-name companies told me that the primary reason for keeping brand-name drugs off the Nigerian market has to do with fears that patented drugs will be smuggled from West Africa into Europe (and not the reverse). The cost to actually source drugs from different production sites is key to smuggling prevention. Companies produce the same product across different sites at very different costs. For example, it costs much more to manufacture the same drug in England than it does in Morocco, usually because of the difference in labor and infrastructure costs. Given the choice between England and Morocco to source drugs for the Nigerian market, drug companies choose England because the cost is much higher. They add this higher cost to the export price, the taxes, the amount to ship, customs clearance, and so on, and come up with what is called a “landing price”—the final base price (prior to adding the markup) when the drug enters the Nigerian market. The landing price must be the equivalent of or higher than the European market price to deter smuggling into one of the industry’s highest-earning markets.<sup>27</sup> Indeed, Médecins Sans Frontières (Doctors Without Borders) conducted a survey in 2001 on the cost of antiretroviral medication for HIV/AIDS in Lagos retail pharmacies. The survey was conducted before these medications became widely available in free drug programs;<sup>28</sup> therefore, it represents sampling of what were then very few available outlets for antiretroviral therapy. The survey found that six of eight available anti-HIV drugs were priced higher than the regulated price in both the United Kingdom and Spain (de la Torre 2001:2). The other two drugs were cheaper than, but closely approximated, the UK and Spanish prices.

These marketing practices fall on a continuum of pricing-protection strategies found across national markets, which are essential to maintaining the indefinite monopoly. Stefan Ecks (2008) and Kaushik Sunder Rajan (2011) use the example of the cancer drug Gleevac, manufactured by Novartis and marketed in India, to illustrate pricing and monopoly politics. While Novartis attempted to patent Gleevac in India (Sunder Rajan 2011), it did not expect that country to be a lucrative market for the drug because persons of average income there cannot afford it. Rather, its real interest was to protect markets in the United States and Europe. Novartis feared the potential for cheaper versions of generic Gleevac to be imported into the United States and Europe, which might undercut its price in these high-earning markets (Ecks 2008; Sunder Rajan 2011). Additionally, Novartis started a free drug program in India for those who cannot afford Gleevac. Both Sunder Rajan and Ecks argue that providing free drugs in India protects high drug prices outside India and placates demands for lower prices in Indian markets.

Unlike their Indian counterparts, Nigerian companies pose no competitive threat to brand-name manufacturers

because they do not have the capacity to formulate and manufacture more-advanced, patented drug products, like cancer drugs. Therefore, patents are not needed to restrict the competition. However, as in India, price remains important because the one threat Nigeria poses to multinational companies is the possibility of smuggling patented drugs to Europe if they can be sold there below European market prices. These price protection strategies help to shape the current structure of the Nigerian pharmaceutical market. As of 2010, the majority of drugs on the market included the following: antibiotics (26 percent), nutritional supplements (20 percent), over-the-counter products other than analgesics (17 percent), over-the-counter analgesics (10 percent), and antimalaria products (nearly 7 percent).<sup>29</sup> The vast majority of these generic products are priced to cater to a low-income population, and many of them have been documented as substandard, fake, or older-generation non-efficacious versions for which there is a great deal of drug resistance (Aboderin et al. 2009; Lamikanra et al. 2011; Taylor et al. 2001). Just 10 percent of the market is made up of antituberculosis and anti-HIV medications, most of which are generic (Wambebe and Ochekepe 2011:6, 12–24, 38). More advanced medications for respiratory diseases, HIV, and neglected tropical diseases, such as worm infections, are rare despite heavy disease burdens (Ekundayo et al. 2007).

Here it is important to revisit the question of monopoly power and marketing practices. Limiting the distribution of patented drugs in Nigeria contributes to protecting price integrities in high-earning surplus markets. Joseph Dumit's (2012) work on what he calls "surplus health" demonstrates how high growth rates of pharmaceutical sales in European and U.S. markets are dependent on indefinite treatment such that drugs for prophylaxis (which treat health risks and not actual disease) or those that treat chronic diseases command the largest shares. The result is that health and therapeutics are not valued on the basis of patient needs. Rather, as Dumit (2012) has argued, health valuation is based on the speculative logics of the industry, which are geared toward maximizing growth and profits as primary ways to survive high financial risk. These logics are globalized and extended to Nigeria: The circulation of patented drugs is restricted to high-earning markets while low-end fake or nonefficacious generics are dumped in cheaper markets. Both tactics attempt to increase surplus value, and, in Nigeria, monopolistic strategies that pertain to price protection across markets make far more sense than pursuing patent protection. Even so, in the early 2000s, the U.S. government attempted and ultimately failed to do just that in Nigeria.

### **A new Nigerian intellectual property law: Divergent interests and legal concepts**

In December 2000, representatives from the U.S. Department of Commerce and the U.S. Patent Office arrived in

Nigeria ready to meet with their Nigerian counterparts—most of whom were lawyers in private practice and civil servants working for the Ministries of Commerce and Justice. All were attending a conference called "Administration of Intellectual Property in Nigeria: A Stakeholders Conference," which was held in Abuja, Nigeria's capital. This meeting was one of the first in a series, most of which I attended. They were important meetings because they set the stage for rewriting Nigeria's patent law to come into compliance with the TRIPs Agreement, mandatory for all nation-state members of the WTO.<sup>30</sup>

Two agencies organized these conferences—the Intellectual Property Law Association of Nigeria and the Commercial Law Development Program, a U.S. Department of Commerce initiative funded by USAID. The Intellectual Property Law Association of Nigeria comprises over 50 law firms and companies that are either representatives or owners of intellectual property or have foreign clients invested in overseas intellectual property protection or both. Its work is based on the conviction that upholding intellectual property rights can encourage local technical growth and foreign investment, and it lobbies the government for regulatory changes in support of this position. The ultimate goal of the Commercial Law Development Program was to establish legal requirements and provide technical assistance to foreign countries to come into compliance with the WTO.<sup>31</sup>

The United States was motivated to protect copyright, specifically, for U.S. software, films, and music. Indeed, the pirating and selling of such products can be found at many markets much like Idumota—the biggest in Lagos is called "Computer Village."<sup>32</sup> Moreover, the specter of smuggling as well as the fear of slippage in containing specialty drug markets motivated the United States to develop bilateral patent protection, especially for antiretroviral drugs for HIV/AIDS that are widely available in free drug programs and not the private market.

I documented two different dominant discourses articulated by the U.S. team at this conference: The first was the role of the law and the second was the correlation made between strong intellectual property frameworks and economic growth. In my conversations with the U.S. representatives as well as in my observations and my rereading of their presentations, it was clear to me that, from their viewpoint, the law is an "artifact of state power"; it is made up of "norms" within a "coherent system" (Riles 2008:606) that imagines it does certain things and not others. U.S. lawyers' understanding of how intellectual property law works in actual practice comes from their experience in the U.S. court system, which is the principal mechanism for litigating rights and thus represents legitimate contours of property. While Nigerian lawyers may agree that, in theory, the adjudication of property is finalized in the courts, this outcome generally has not been their experience. For example, in any given legal scenario

in Nigerian courts, settlements may be reached but never acted on (such as payments to an offended party, reinstatement of employment after unfair termination, etc.). The “rule of law” in Nigeria is encountered and understood differently than it is in the United States.

At these meetings, the United States explicitly articulated the second issue of economic growth as a direct outcome of strong intellectual property laws. A representative from the Commercial Law Development Program presented statistical data that demonstrated this positive correlation: “One of the key ways in which IP [intellectual property] protection is critical to economic growth is as a *precondition for financial and technological investment* . . . In short, moving up the economic ladder is clearly correlated with exercising intellectual property rights.” His narrative represented the boom story of the life sciences tied to the speculative market. Taken as a given, the nuts and bolts of how “good and harmonized” laws increase economic growth was never explained in his or other presentations.

While intellectual property rights holders must seek out those who infringe on their products, the law assumes that a certain infrastructure is in place to assist the surveillance and policing of pirated products. Several state agencies are required to do the actual surveillance, policing, and punishing, meaning that the patent office, drug regulatory agencies, drug enforcement agencies, and courts must work in concert to make this happen. The problem with this scenario in Africa is that when countries implemented structural adjustment in the 1980s, state deregulation was required, which severely reduced existing or future regulatory functions. Specifically, structural adjustment policies reduced the capacity to curtail perceived infringement of brand-name products, which is an outcome of the poverty inducement and new trading patterns brought on by these policies. Yet, just ten years later, the WTO mandated that Nigeria and other African states perform the robust task of protecting transnational capital by regulating counterfeit capital within the scope of the TRIPs Agreement.

At the meetings in Abuja, there was no real discussion about Nigerian state agencies’ capacity to enforce TRIPs compliance. For example, Nigerian workers in the patent office have indicated to me that they are more often preoccupied with electrical outages and interrupted salary payments. A lawyer who works closely with the office told me,

We don’t have substantive examination in the Nigerian Patent Office. All they do is make sure that the forms are correctly filled and they grant a patent. So you can get a patent for almost anything in Nigeria today, even if it is expired. I mean it could fall into public domain in some other place and they may not scrutinize it. The reason for this is that there is no infrastructure in place: we need pharmacists, researchers, and so forth to do the examination.<sup>33</sup>

The lack of infrastructure was also an issue in the 1970s and 1980s, but it did not pose a problem for patent enforcement per se. According to Owen Adikibi (1988:522), the lack of infrastructure in the patent office contradicted a very good Nigerian national intellectual property law that encourages local innovation, and it partly contributed to multinational corporations’ dominance as patent owners. He traces how multinational corporations’ monopoly on patents is a direct outcome of colonial patent law used by the British to protect against other foreign national interests in Nigeria.<sup>34</sup> When the postcolonial state implemented a new law in 1971,<sup>35</sup> it essentially broke the British monopoly hold on Nigeria but encouraged competition among multinationals around the world rather than opening up room for local innovation. Adikibi found that the “majority of the patents in the country are either protecting a globally ‘standardized process’ or, even, processes that are obsolete in the home countries” (1988:517). In the Nigerian pharmaceutical industry, where the brand-name companies controlled the market at that time, Adikibi found that “67% of the patented processes were standardized and widely available while 22% were obsolete” (1988:517). He argues that these statistics represent strategies to monopolize markets and preempt future competition between multinationals. The period he studies (1972–84) is worth examining: In that interim, between 327 and 664 mostly multinational patent applications were filed each year in Nigeria, representing a moment of competitive if not nascent industrialization among multinational corporations. But, according to the World Intellectual Property Organization (2013), in the post-structural adjustment period, between 2003 and 2008, six or fewer patent applications were filed annually with the Nigerian Patent Office; the numbers climbed to between 17 and 44 between 2009 and 2011.<sup>36</sup> These numbers demonstrate how patents are not critical to securing monopolies because the competition and strong consumer purchasing power was wiped out with structural adjustment.

By 2002, several meetings had taken place between the United States and the Intellectual Property Law Association of Nigeria. Several Nigerian NGOs expressed concerns over the content of a draft intellectual property law. Prominent among them were Nigerian AIDS activists, especially Journalists Against AIDS, based in Lagos, which was organized around patents. Also present was the Lagos-based Copyright Society of Nigeria, which is a nonprofit organization comprising musicians who defend their copyright interests. Over time, the United States developed a friendly relationship with the musicians, who had long been part of organized campaigns to raise awareness about copyright violation. Indeed, their work is widely copied and used without permission, although they themselves buy pirated products because it is often the only way that Nigerians can access international film and music (Larkin 2008).



The AIDS activists in attendance, who were organized through NGOs funded by international donor aid, opposed the drafts on patent legislation. Activist interests lay in accessing much cheaper generic versions of HIV/AIDS medication. In the private markets, both generic and brand-name HIV drugs are difficult to access because they are not widely available, and, when they are, they are highly priced, largely because free-drug programs outcompete the private market (Peterson 2012). These dynamics recall the Gleevac example in India, in that drug companies prefer to offer free drug programs rather than make products available on the private market; in Nigeria, this is a key way of protecting prices in high-earning markets while meeting the pressure of international demands for treatment access. But both AIDS activists and drug companies are equally wary of the availability of anti-HIV drugs on the private market—the former because of fears of self-medication (leading to drug resistance), which is widely practiced in Nigeria (Aboderin et al. 2009; Lamikanra 2009; Okeke 2011). However, AIDS activists understood that the law had the potential to secure access to less expensive generic antiretrovirals distributed in free drug programs.<sup>37</sup>

Several issues were at stake at these meetings; one example was parallel importation laws. Once a more or less obscure concept in patent law, parallel importation had been harnessed in social movement slogans (in the early 2000s, “Demand Parallel Import Laws Now!” was adopted by the Treatment Action Campaign in South Africa). Parallel importation is significant, for nonmanufacturing countries in particular, because prices can vary across countries, especially as a result of government-imposed price reductions. Parallel importation, as outlined in TRIPs, legally allows a country to “shop around” for the lowest price on a product, wherever it may be distributed in the world, so long as the parameters of such circulation are revised and stated in a country’s intellectual property law. In 2002–03, the U.S. Department of Commerce hired Nigerian and other attorneys living in the United States to write new drafts of Nigeria’s intellectual property law that ensured restriction of parallel importation in ways that exceeded the requirements outlined in TRIPs.<sup>38</sup> At that time, the Nigerian government had initiated one of the first free HIV antiretroviral programs in Africa, initially meant for 20,000 patients. All the drugs came from the Indian generic drug company, Cipla. If the government had implemented the first draft of the U.S.-backed law, it would have made its own national HIV treatment program illegal.

For AIDS activists, the U.S. proposals were not the only obstacle to accessing generic HIV treatment. Nigerian patent law does not allow for any kind of parallel importation. Among pharmacists and regulators, “parallel importation” is interchangeable with intentionally adulterated or “fake” drug smuggling. While this may sound like a minor problem, I witnessed several disputes about it, including a

great impasse arising from definitional differences at a 2005 conference on access to HIV drugs in Lagos, where drug regulators and pharmacists could only see the connotations of “parallel importation” to fake drugs and smuggling and AIDS activists only to generic drugs and patent law.

The resistance by pharmacists and regulatory officials is understandable. Products that sell well and fast are identified by international “faking” companies and Nigerian businessmen for manufacturing and are priced lower than the model pharmaceuticals that they mimic. Indeed, the UN has perhaps rightly declared that Nigeria and West Africa have the worst fake-drug problem in the world (United Nations Office on Drugs and Crime 2009). If generics hit the market at already lowered prices, the potential for faking poses extraordinary regulatory challenges. Fakes become lost to regulatory oversight, as there is no adequate recall mechanism even if authorities become aware of such product circulation. Therefore, reconciling legal room for parallel imports with fake drug flows remains difficult in the context of a state infrastructure that cannot entirely secure drug safety.

The final intellectual property draft law has been sitting in the Nigerian National Assembly since 2008, and there is no movement on the horizon to enact it and comply with TRIPs. Part of this compliance breakdown is motivated by different ideas of compliance and regulation as well as by incommensurabilities regarding what U.S. and Nigerian policy officials imagine the law to produce. By extension, pushing compliance is an attempt to regulate what cannot be regulated. The former brand-name Nigerian market linked West African trade directly to North America, the United Kingdom, and Europe. The current generic market shifts the Nigerian drug trade primarily to Asian and, to a lesser extent, eastern European, and Middle Eastern markets. Attempting to police entire regional trading patterns that reflect the singular ways that people have access to goods (brand name, generic, fake, or other) within the limits of circulation (Larkin 2008; Simone 2006) must be understood in terms of pharmaceutical market competition throughout the world. Despite all this, the Nigerian state ultimately leveraged its power as an oil producer as a way—both intentionally and inadvertently—to contest compliance. Yet, at the end of the day, what kind of impact did this have on access to patented pharmaceuticals?

### **Inadvertent geopolitics, competing infrastructures, and the game of compliance**

In June 2009, I traveled to Abuja to meet with a former Nigerian trade advisor to the WTO. I wanted to understand why Nigeria has “failed” to comply with the TRIPs Agreement. I had read WTO monitoring reports, which include transcripts of question-and-answer sessions in which more-affluent member states pose a long list of questions

to the organization's Nigerian representatives. These questions do not refer directly to compliance per se but to the economy itself. The WTO is troubled by Nigeria's protection of its local markets by refusing to privatize many aspects of its economy. Questions such as "why is Nigeria refusing the importation of chickens?" is one among many referring to items listed on the Nigerian Import Prohibition List—all of which are products that are grown, raised, or manufactured in-country. In the monitoring reports, Nigerian representatives respond in one or two sentences and refuse to belabor any point. Their answers appear satisfactory to WTO representatives because they draw attention to legislation or official policy as if it were equivalent to practice.

The Importation Prohibition List, as noted, includes products that are manufactured in-country.<sup>39</sup> The list has long been in the making, since before the structural adjustment era, and has served as a protectionist measure for local markets (Oyejide et al. 2005). The WTO (1998) views the list as an obstacle to free trade. In contrast, Nigerian state officials view free trade of in-country manufactured goods (such as spare parts, food, and pharmaceuticals, to name just a few) as an obstacle to its own economic stability. The fear is that foreign competition could wipe local producers out (Oyejide et al. 2005).

I discussed these dynamics with the former Nigerian trade representative, who indicated that, of course, this was "a game" and emphasized that the WTO would never sanction the country because "it needs Nigeria too much." Indeed, just about any WTO member state that bans imports or does not comply with TRIPs and other WTO agreements faces trade sanctions. Such sanctions can be devastating if a country relies on one or a few principal exports for national revenue. However, sanctioning Nigeria would amount to sanctioning transnational oil companies; so trade sanctions are not imposed on Nigeria.

While Nigerian representatives to the WTO recognize their strategic position and view free trade as a political contest, local commercial actors are far more situated within the politics of their immediate environment. Competitors in local trading do not pay attention, nor are they directly linked to, WTO disputes over free trade. Such contests are not necessarily transparent, but stories of various struggles circulate on the street. For example, a longtime Lagos resident related the following story to me as we drove past a small appliance market in Surulere, Lagos, in 2005: Igbo traders once dominated the imported used-refrigerator market, making good money. "Someone" (in political power) came along and decided to sell new refrigerators. Knowing that new refrigerators would not compete well with used ones, this more powerful businessman simply eliminated used refrigerators from the market by getting them added to the Import Prohibition List. And that was it. All those businesses that were doing well selling used refrigerators went under. At least, this is how the story

goes. The competition to control the in-country market of imported products is not necessarily a conscious or deliberate strategy to frustrate WTO efforts to open up Nigerian commodity markets to the rest of the world. Indeed, the WTO may not even know about such local contests, but the very existence of the Import Prohibition List is enough to undermine WTO aims.

Nigerian market infrastructure and its legal indeterminacies emerged out of the logics of devaluation and structural adjustment market reform, which in turn were woven into routine, everyday life. The TRIPs intellectual property trade regime was meant to counter the very market logics encouraging the copying and pirating of goods that structural adjustment previously exacerbated. Yet, as Chakravarthi Raghavan (1991) and Arrighi (2002) have argued, structural adjustment and TRIPs helped the United States to regain a competitive edge in the global economy.<sup>40</sup> Different legal infrastructures and distribution networks to facilitate the consumption of goods emerged and generated multiple contradictions. In this particular instance, oil and internal trade politics served to disrupt TRIPs compliance. Even without WTO compliance, access to brand-name drugs still remains generally out of reach.

### **Conclusion: Toward a theory of monopoly and circulation**

In Nigeria and Sub-Saharan Africa, more generally, the patent does not operate to fence off competition in pharmaceutical markets. Rather, it has been transformed and has taken on a new role as a result of several simultaneous political moments. One was the African economic crisis, partly generated by U.S. monetary policy, that helped to reverse regional fortunes in the 1970s and was followed by structural adjustment that contributed to impoverishment in Africa in the 1980s. The second was located in the pharmaceutical industry, where profit decline, lack of innovative drug pipelines, and upcoming patent expirations (Kanji et al. 1992) led to the industry becoming more integrated into the speculative marketplace, as described by Sunder Rajan 2012, Cooper 2008, and Fortun 2008. The pressure on drug companies to show significant signs of growth usually cannot be met by simply generating new products but, rather, by mergers and acquisitions and, quite importantly, by dumping nonproductive markets and assets. In the instances I have described, coping strategies amounted to Nigerian market abandonment and drug industry consolidation.

This history is intertwined with the transformation of patent law's fair exchange premise when it comes to African consumers. As a result, the patent's role increasingly shifted toward accommodating the drug industry, which is highly dependent on securing intellectual property law to function. The brand-name manufacturers thus have

been afforded the freedom to pursue marketing strategies that revolve around protecting price as a primary way to secure monopoly across markets. Global pricing standards produce an absence of patented drugs in Nigeria and much of Africa and a surfeit in high-earning markets. In recognition of this situation, the patent's role needs to be evaluated beyond its technical legal life of 20 years. It should additionally be understood as a tool perpetuating the speculative practices of the drug industry, which include high price setting and the nonmarketing of patented drugs in low-income markets, both of which animate the effects of monopoly over the long term. The history of market abandonment in Nigeria is especially important in generating long-term monopolistic effects because structural adjustment policies contributed to the Nigerian public's inability to purchase patented drugs as well as the Nigerian industry's inability to significantly produce life-saving medicines that match human health needs.

The scholarly attention paid to patents and pharmaceuticals often focuses on middle-income countries, where generic industries can easily make and market copies of advanced, patented therapies. In these situations, the strategy that brand-name manufacturers use to maintain monopoly power is to adjudicate patent claims in the courts or via the WTO. For example, in 1998, 40 brand-name manufacturers jointly sued the South African government, asserting that the country's medicines policy violated the TRIPs Agreement ('t Hoen 2003). Following much bad press, they withdrew the suit. After being propped up as a good example of compliance with the WTO, Brazil faced trade sanctions over quibbles the United States had with compulsory licensing policies in its Industrial Property Act (Biehl 2009; Shankar 2002), which were later resolved via negotiations over drug prices. And, in India, disputes have taken place over how to define *new* under patent law. This was the case in Novartis's Gleevac, for which the Indian government refused to grant patent rights. Novartis took the Indian government to court but lost in early 2013, and India's interpretation of TRIPs flexibilities (see Kapczynski 2009) were upheld. Marketing patented drugs in these middle-income countries is about ensuring that competitive generic industries will not undermine pharmaceutical price within these national markets as well as within higher-earning North American and European markets.

While drug-marketing strategies in Nigeria may be different from the legal approach taken in South Africa, Brazil, and India, they need to be situated within a larger global landscape of monopolistic strategies that directly respond to high financial risk: increasing drug development costs, inevitable patent expirations, and the pressure to grow markets at substantial rates. Sunder Rajan explains the contradictions the brand-name drug industry negotiates to mediate these risks:

There is a pipeline crisis because there are not enough drug candidates coming in. Yet, the short-term focus on mergers and acquisitions as the way to mitigate that crisis (and as the way that is suggested by the speculative logics of financial markets) leads to a further inattention to research and development within companies, ensuring the continuing lack of an in-house pipeline ... one sees a fundamental shift away from the research and development model that has defined the industry for much of the past two decades. Pharmaceutical industries, it could be argued, function less and less as discoverers of new therapy and more like investment banks, controlling, regulating, and betting on the flow of capital. [2012:326]

Certainly, these politics are a far cry from Joseph Schumpeter's (2004) description of the monopoly as producing a low-risk environment for business innovation. What Schumpeter did not expect was the influences of investment firms (Ho 2009; Sunder Rajan 2012), whose high-risk business practices reproduce both the logics and contradictions of pharmaceutical value. As pharmaceutical valuation (and patents deployed to secure value) protects the speculative practices of the industry, the drug monopoly becomes both the end game and the exception. This emphasis means that the monopoly's place in markets is guaranteed as necessary for business survival. The ultimate result is that a politics of valuation is dissociated from the actual health needs of a population and, instead, connected to the speculative dynamics of pharmaceutical markets and industry practices.

## Notes

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1. Title 35 of the United States Code specifies these legal rights and governs all aspects of patent law. United States patent law is authorized by art. 1, sec. 8(8) of the U.S. Constitution.

2. Interview conducted June 17, 2005.

3. There are several avenues through which the drug monopoly becomes "indefinite." Two examples involve data exclusivity and are entirely linked to the patent. The first, "evergreening," entails several legal and business strategies that attempt to extend the life of the patent, which ultimately establishes very long delays for generic producers to materialize new drug applications and

enter new products on the market. Strategies can include extensions to patents that do not always pertain to the active pharmaceutical ingredients but to chemical delivery systems, new pharmaceutical mixtures, new dosages, new packaging, and so on. The second example is more directly linked to data exclusivity, through invocation of the Bolar Exception. To secure a patent, an inventor must disclose how an invention is made. The Bolar Exception allows the inventor to keep the data secret until the expiration date of the patent. Drug companies that make generic versions of patented products usually acquire the data that allow them to reverse engineer a product prior to patent expiration so that its generic version can be launched as soon as the patent expires. Keeping data secret until expiration effectively reduces the generic drug industry's capacity to quickly manufacture generics coming off patent and extends the life of the patent.

4. According to Silverman and Lee 1974:27, total pharmaceutical sales in the United States for 1970 and 1972, respectively, were \$4.3 billion and \$5 billion; foreign sales amounted to \$2.6 billion and \$3.0 billion for the same years.

5. As Melinda Cooper (2008) and Carroll Estes (2001) point out, this shift in the federal budget meant a redistribution of funds away from public health and nonprofit clinical services toward for-profit health services and commercial research.

6. For anthropological works analyzing these changes within intellectual property law, see Coombe 1998, Strathern 1999, Fortun 2008, and Reardon 2004.

7. See Biagioli 2011:25–33 on the evolution of patent criteria.

8. The *Diamond v. Chakrabarty* decision allowing patenting of molecularly altered microorganisms led to global debates, new convergences in the market and the law, and new analytical conundrums (Anderson 2009; Coombe 2003; Hayden 2003; Juma 1989; Nnadozie et al. 2003; Peterson 2001).

9. Technology is very important in shaping the way new property forms can be made, but it is not my focus here. Marilyn Strathern (1999) describes how intellectual property, articulated via technology, creates divisions between people as well as between people and things. These divisions set the terms of negotiations and debates on dispersal of “benefits” from inventions; see also Peterson 2001, Ekpere 2003, Hayden 2003, and Van Rinsum and Tangwa 2004.

10. These companies included pharmaceutical, software, media, and agricultural industries led by Pfizer and IBM (Drahos and Braithwaite 2002:72–120).

11. Although this understanding constitutes the legal rationale for a patent, Biagioli (2006) has discussed the convoluted nature of patent description. Michael Carolan (2010) argues that the purpose of patents and what they produce in terms of material effects can vary.

12. By the 1970s, almost all of the top 20 brand-name drug manufacturers were marketing and selling pharmaceuticals, and many had set up manufacturing premises. Companies such as May and Baker, Pfizer, and Glaxo had set up distribution outlets as early as the 1940s and 1950s, and others, such as Ciba, Wellcome, Boots, Roche, Imperial Chemical Industries, Sterling, and Parke Davis arrived in the 1960s (Okoli n.d.). Indian generics companies had also joined European and North American companies by the 1970s. In addition to those listed above, the following were present: Smith-Kline Beecham, Imarsel, Polfa, Afrab Chem, Vitabiotics, May and Baker, Boots, Ranbaxy, Bayer, Hoechst, and Farmex (Okoli n.d.).

13. Interviews conducted in Lagos with ten former Nigerian managers of brand-name pharmaceutical companies, June 11, 12, and 15, 2007; May 6, 7, and 12, and June 2 and 3, 2009.

14. On the cultural politics of the oil-boom period in Nigeria, see Apter 2005. For work on the social meaning of pharmaceuticals in Africa and elsewhere, see Whyte et al. 2003.

15. The United States, under President Nixon, pulled out of the Bretton Woods Accord by delinking itself from the gold exchange standard. Prior to doing so, the U.S. dollar had been pegged to gold, and all other currencies were pegged to the U.S. dollar. Other industrialized nations followed the United States and soon floated their own currencies. In anticipating the stabilizing of international currencies, they also increased their reserves by printing more money. These events led to the devaluation of the U.S. dollar. Because oil was priced in dollars, oil-producing states found themselves receiving less real income. In an attempt to hedge against this decline, OPEC increased the price of crude oil by fourfold and pegged oil to gold instead of the dollar, which sparked further economic problems for the United States; this became known in the West as the “second oil shock” at the end of the 1970s (Arrighi 2002; Cooper 2008; Hudson 2003).

16. According to Arrighi,

This was a reversal of historic proportions, that reflected an extraordinary, absolute and relative, capacity of the US political economy to attract capital from all over the world. It is likely that this was the single most important determinant of the contemporaneous reversal in the economic fortunes of North America and of the bifurcation in the economic fortunes of Third World regions. For the redirection of capital flows to the United States reflatd both effective demand and investment in North America, while deflating it in the rest of the world. At the same time, this redirection enabled the United States to run large deficits in its balance of trade that created an expanding demand for imports of those goods that North American businesses no longer found profitable to produce. [2002:22]

17. Interview conducted June 15, 2007, in Lagos, Nigeria.

18. Interviews conducted May 12 and June 3, 2009.

19. Citing pharmaceutical industry reports, Kaushik Sunder Rajan states that,

to reach even a 10 percent growth rate requires three to five new chemical entities to be approved each year, which is difficult to achieve. If only one in five drug candidates entering clinical trials makes it to market, then in order to generate three to five new chemical entities a year, a pharmaceutical company would need a large pipeline of drugs entering clinical trials. [2012:323]

20. Nollywood is one of the largest film industries in the world. See Saul and Austen 2010 for a detailed analysis.

21. There are no official numbers to confirm this estimate.

22. There are over 1,000 traders in Idumota market. While I did not conduct extensive surveys, a senior second-generation trader whose father was one of the first traders in the market, estimated to me that 40–50 percent of all people working in Idumota are from Orlu. Others confirmed this range, some providing higher estimates (interviews conducted July 6 and 10, 2009; July 23, 2010). The traders I met over the course of this research, who were from other parts of Igboland, also believed that most of the traders were from Orlu. No official figure confirms these estimates.

23. Interviews with Idumota pharmaceutical traders conducted July 6, 10, and 13, 2009.

24. On what regulation and regulatory politics produce in West Africa, see Roitman 2005 and Chalfin 2010.



25. A multivitamin containing iron that usually sells in liquid form.

26. Interview, July 12, 2009.

27. Interviews conducted with pharmaceutical marketers working for brand-name company, June 19, 2005.

28. Currently, the U.S. President's Emergency Program for AIDS Relief, launched by George W. Bush in 2003, is the largest free antiretroviral drug program in Nigeria.

29. These data were derived from 2010 NAFDAC Registered Products Catalog by Nadia Nikroo, David Liu, and Kristin Peterson. As Charles Wambebe and Nelson Ochekepe (2011:38) note, Nigerian manufacturers produce enough drugs to account for 20 percent of this market. They account for 25 percent of the analgesics, 15 percent of the antibiotics, 15 percent of the multivitamins, and 14 percent of the antimalarials.

30. For an overview of the TRIPs Agreement, see WTO 2013.

31. The Ministry of Health did not actively participate and was not invited to many of these conferences, as there were attempts on the part of the United States to delink health from trade and to publicly focus more on copyright.

32. Solomon Ojo and Adeyemi Oluwakemi Ojo (2012) document the availability of counterfeit software and music products in Computer Village and other Lagos and Ibadan markets.

33. Interview July 5, 2005, Lagos, Nigeria.

34. The law in question was the UK Patent Act of 1949.

35. The Patent and Designs Act of 1971.

36. For all of these years, 100 percent of the applications were filed by foreign industries. Of these, nearly 30 percent were from the pharmaceutical industry (World Intellectual Property Organization 2013).

37. Following Boatema Boateng (2011:93), the law brings different legal subjectivities into being. The ways that musicians and AIDS activists act or make demands are partly a function of intellectual property law as well as how they are positioned in relation to the state. Musicians are intellectual property owners. Making demands on the state to secure property rights is critical to securing their livelihoods. In contrast, AIDS activists are positioned in relation to international donor money, some of which is provided by or linked to drug companies who provide free (or reduced-cost) HIV treatment programs. Here, AIDS activists are situated between the state and the private sector, that is, within NGOs, where they can only advocate for treatment access as a human rights qualification. They cannot seek redress in the same way that musicians can, because they are not intellectual property owners. Consequently, their demands differ from U.S. desires to develop strong intellectual property protection for the U.S.-based pharmaceutical industry.

38. I conducted interviews between June 2002 and October 2003 with one of the hired attorneys as well as with three other Nigerian attorneys based in Lagos. Additionally, I obtained copies of two different drafts of the law during this period that verified the interview material.

39. To view the listing, see Nigerian Customs Service 2013.

40. In regard to the former, Giovanni Arrighi explains,

While (structural adjustment) did not deliver on its promises of development, it did—knowingly or unknowingly—succeed in inducing Third World countries to adapt their economies to the new conditions of accumulation on a world scale created by the redirection of capital flows towards the United States. The Washington Consensus thus contributed to consolidating the bifurcation in the fortunes of Third World regions. [2002:23–24]

In regard to TRIPs, Raghavan explains,

Launched at US initiative, with the support of most of the major ICs [industrial countries], the Uruguay Round negotiations [which led to the establishment of the WTO] are really about global production and production capacities, and other wider issues ... The new round is essentially for reorganizing the international economy and international economic relations into the 21st century. It also has to be seen in the wider geopolitical context of the efforts of the United States to maintain its position as a global superpower. The US finds its power under challenge not only militarily, but also in terms of its post-1945 status as the dominant center in the capitalist world. [1991:37]

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