

The unmaking of a commodity: Intermediation and the entanglement of power cables in Nigeria

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Abstract: Nigerians once trusted power cables to be safe and compliant with international standards. Today, however, the Nigerian market is rife with substandard cables, which may overheat, shoot out sparks, and cause fires. Power cables have been transformed from commodities with stable and precisely defined properties into entangled objects that can only be known through the actors accompanying them. Marketization scholarship has conventionally focused on efforts and investments to disentangle things from their networks of connections, affording less attention to the specifics of how entanglements are produced. This article examines the role of intermediation in creating entanglements and undermining market orders. The analysis first identifies intermediaries that endeavor to translate the market logic into concrete realities in Nigeria. The second and main part of the analysis draws upon data from ethnographic fieldwork in Nigeria and China to assess how intermediaries destabilized the commodity of cables by forging new connections between traders and producers and by enabling inferior products to enter the market. The article proposes intermediation as a meso-level concept for connecting concrete and empirically observable events to theories of marketization. The approach moves marketization scholarship forward and away from its oft-vague operationalizations, while also suggesting new avenues for research on intermediation beyond the study of markets.

Keywords: Intermediation, marketization, trade, China, Nigeria

Introduction

Pick up a newspaper in Nigeria and you will likely read a story about fakery. Feverish malaria patients unwittingly buy medicines missing active ingredients. Truck drivers transporting cement for construction companies steal from their loads and dilute the remaining product. Even fake rice, unfit for human consumption, makes its way to kitchens and dining tables. The threat of deception taints all transactions, but the extent to which merchandise is marked by suspicion varies. Some goods have stable, precisely defined properties that allow them to be exchanged independently of buyer–seller relationships. Other products are so deeply distrusted that their qualities are only ascertainable through the actors selling them. Power cables have become relegated to the second category: their qualities were once widely trusted,

but the introduction of substandard cables imported from China made the properties of all cables in the Nigerian market indeterminable and subject to misgivings.

The question of how objects are converted into commodities so that they can be transferred as property is at the heart of marketization studies (Çalışkan and Callon, 2010). This approach's foundational principle is that markets represent achieved states. The various components of the market, including tradable commodities, methods for calculating values and prices, and sites that structure encounters between goods and agencies, constitute practical enactments of economists' models (Berndt and Boeckler, 2009). Boundaries demarcating the inside from the outside of the market are created by selecting and ordering certain elements while excluding others, a process known as 'framing' (Callon and Muniesa, 2005). The opposite movement, whereby objects are reinserted into networks of connections, is labeled 'entanglement' (Thomas, 1991). Market orders are inherently unstable, with a constant pull for foreign relations to enter the frame and create new entanglements.

Marketization literature provides concepts and an epistemological framework for studying how market orders expand and contract. The scholarship has conventionally focused on efforts to disentangle things from their network of connections, affording less attention to the production of entanglements. Furthermore, the practical and contingent ways in which movements towards framing and entanglement are instigated, sustained, or discontinued remain obscure (Ouma, 2015). This article proposes intermediation as a meso-level concept that connects observations of concrete events in empirical studies of marketization to analyses of market trajectories.

'Intermediation' describes work within boundary spaces to create new connections between actors, artifacts, and places (Moss, 2009). Sociological approaches to intermediation have focused on identifying individuals who are located at the intersection of social networks and use their position for entrepreneurial advantage and personal gains (Burt, 2005; Simmel

and Wolff, 1950). Marketization literature, by contrast, does not approach social space as a pre-existing complex of network relations, but rather focuses on tracing the ways actors, both material and human, link with other actors (Fourcade, 2007). This implies that intermediaries must be identified *ex post* by the connections they create rather than *ex ante* by their network position.

The concept of intermediation provides opportunities for analyses that are cognizant of contingency while committed to theorizing processes of marketization overall. This article analyzes developments in the Nigerian cable market to further the notion that intermediation may produce thrusts towards tighter framing or stronger entanglements. Some forms of intermediation have stabilized market orders by facilitating the creation and implementation of product standards. Other types of intermediation have reinforced entanglements by producing connections that undermine the above-mentioned standards and destabilize market boundaries. The case study draws attention to the diversity both in market forms and processes that contribute to the unmaking of markets. Documenting such variation is particularly important in a non-Western context, where few marketization studies have been carried out so far (Ouma, 2015).

The rest of the paper is structured as follows: The first section reviews the concept of intermediation, processes of framing and entanglement, and the role of intermediation therein. The subsequent section describes the study's context, the structure of the Nigerian cable market, and the methodological approach. The empirical analysis focuses on the role of intermediation in creating framing and entanglement. The first part examines the role of international intermediaries in framing the Nigerian market for power cables. The second part draws on ethnographic data from Nigeria and China to discuss how intermediation transformed the cable market by creating new connections between traders and manufacturers in a time of crisis, thus undermining product standards and enabling the import of substandard

goods. The conclusion draws attention to how studies of intermediation can advance marketization scholarship and vice versa.

Intermediation in framing and entanglement

1.1 Intermediation

Intermediation has proved a fruitful lens for examining development dynamics across a broad range of sectors. Nongovernmental organizations promise to deliver development on behalf of international donors (de Sardan, 2005; Lewis and Mosse, 2006); migration brokers increasingly control the international mobility of people and labor power (Lindquist et al., 2012); and financial arbitrageurs find new ways of generating and benefiting from pricing differences (Miyazaki, 2013).

Several related characteristics defines intermediation. First, intermediation – whether by individuals, groups, or institutions – is only possible from a position between two or more actors. Such interstitial positions may be permanent or temporary, and the actors who intermediate do not necessarily self-identify as intermediaries. Whether “intermediary” or “intermediation” is the more useful analytical term should therefore be determined by the empirical situation under study (de Sardan, 2005: 176). Second, intermediation is most effective when it spans gaps between actors that are otherwise poorly connected. There is a cap on the added value of connecting actors who are already joined through many other channels (Burt et al., 2013; Simmel and Wolff, 1950). Third, the value of mediated relationship depends on the social context around them (Bilecen and Cardona, 2017).

Intermediaries are only important if benefits can be derived from making new connections, for example, through information transfer or coordination (Lee, 2015; Spulber, 1999). Classic sociological network analysis has focused on the value created through bringing together actors who are equally powerful, but embedded in different networks (Granovetter, 1973).

Anthropological studies carried out in the context of decolonialization elucidated how

intermediaries allow values to be exchanged across scales (Geertz, 1960; Wolf, 1956). Recent work within political anthropology draws attention to how intermediaries take advantage of and modify unequal power dynamics, and how the scale at which political brokers currently work no longer is immediately obvious (James, 2011; Lindquist, 2015).

Key skills for effective intermediation include navigating between cultural contexts and negotiating different moral frameworks. Sociological network analysis acknowledges the linguistic and cultural translation work involved in initiating communication, and points out that intermediaries who link structurally separate actors may display “different beliefs and identities to each contact” (Burt, 2005: 17). In contrast to this depiction of seamless conversion between cultural codes, anthropologists flag the moral suspicions that may arise because intermediaries embody contrasting sets of attributes and switch between registers (James, 2011). The latter scholarship moreover emphasizes that intermediaries do not negotiate between fixed identities and actors, but rather bring these into being.

1.2 Framing and entanglement

Framing and entanglement represent opposite movements towards and away from a market regime, respectively (Callon, 1999). Framing denotes the process of delineating markets by ‘bracketing’ connections with the outside world to ‘allow calculation and coordination through calculation’ (ibid.: 186). The creation and valuation of commodities constitute central framing processes. First, goods are converted into transactable commodities by rendering their qualities stable and known, severing the links between objects and the relations involved in their conception, production, exchange, and use (Berndt and Boeckler, 2009). Furthermore, calculative agencies are created to attach values to commodities. These agencies bring entities together in a single space, transform them, and fix the relationship between them to produce a result, such as a ranking or a tally (Callon and Muniesa, 2005). Finally, encounters between commodities and calculative agencies must be structured in ways that allow for socially

distanced exchanges, for example via computer screens or auction procedures (Berndt and Boeckler, 2009).

The mobilization required for framing presupposes a wider context from which the frame can summon specific elements. These connections imply that markets never can be fully delineated from other social relations; they are incomplete and temporary achievements. Framing and entanglement are dialectic processes: framing entails selecting and ordering links, while entanglement denotes the intrusion of foreign elements into the frame (cf. Thomas 1991). The framing of commodities is reversed when they become re-entangled with the social relations of production, ownership, and exchange. Standardization and certification procedures make commodities less prone to such re-entanglement (Çalışkan and Callon, 2010). There is a constant pull towards entanglement – for objects, actors, and places to be inserted back into networks of non-market connections.

Marketization scholars treat economic theory as performative, arguing that social realities are constructed according to prevailing economic models (MacKenzie et al., 2007). For example, economists frame markets by intervening to force actors to incorporate externalities (i.e. consequences of economic activities experienced by unrelated third parties) into their decision-making. The boundaries of the market become evident as externalities are identified, and efforts to minimize externalities highlight the costs and efforts required for market framing. All-encompassing framing is impossible because interventions to internalize externalities inevitably put new relations outside the frame. (Callon, 1999).

A geographical interpretation of the framing–entanglement dialectic is offered by Berndt and Boeckler's (2011) contention that the expansion of markets involves twinned processes of bordering and de-bordering. Social and economic differences are materialized in the form of spatial borders, which conceal the adverse outcomes generated by marketization. People, things, and places are variously articulated with market structures through integration

in global commodity circuits and disconnected from them. While economists uphold the ideal of the free market, in practice they often help accomplish a tightly bordered world with exclusionary differentiations. Borders are porous, and can only be sustained because of their permeable and movable nature that allows outside elements to be a constituent part of the inside (Berndt, 2013).

1.3 The role of intermediation in framing and entanglement

Analyses of intermediation in marketization research bring to the fore questions concerning the ontology of actors. Marketization scholarship is developed within the actor-network theory tradition, in which ‘actor-networks’ designate a combination of agency and structure rather than a dualism. Actors and networks are co-constitutive: actors are both enmeshed in networks of interdependencies and continuously contributing to them (Law, 1999). Human and non-human actors are treated equally in analysis of marketization. Furthermore, the psychological makeup and motivations of an actor’s activities are not predetermined (Callon, 1999). It follows that intermediaries cannot be dissociated from the networks of interdependencies in which they are embroiled, and that intermediation does not require intention.

The marketization literature is rich in references to *non-human* intermediaries. The research tradition as pioneered by Garcia’s (1986) study of a strawberry auction in Fontaines-en-Sologne, France, which used the case of the auction as a real-world realization of the model of perfect competition to unsettle the idea of ‘the market’ as a state of nature. When the strawberry auction was established, material devices were introduced to restructure relationships between goods, buyers, and sellers. These included standardized, plastic-wrapped strawberry baskets and a trading room and electronic bidding technology that separated buyers from sellers. The intended effect of these material intermediaries was to align the strawberry trade better with the clean market encounters of economic theory by

stabilizing the commodity and restricting social interaction between transactors (ibid.). The employment of material devices as market intermediaries has been explored in several studies, covering topics ranging from the electronic order book at the Paris Bourse (Muniesa, 2007) to the shopping cart in American grocery stores (Cochoy, 2009).

Human intermediaries were also central in Garcia's 1986 study, which offered a detailed account of the role particular individuals played in making the strawberry auction feasible. For example, a fresh economics graduate, hired by the agricultural department of the regional government to reorganize the production of fruits and vegetables, ambitiously put economic knowledge into practice by establishing the strawberry auction to replace direct transactions between growers and buyers. Individual intermediaries largely fell out of focus in subsequent studies of marketization. An exception is Ouma's (2015) critical ethnography of Ghanaian agricultural exports, which analyzed the creation of connections that enabled direct export of fresh fruits from Ghana to European supermarkets. Specific people and groups forged links needed to secure land for the fresh fruit export (ibid.:66) and brokered contractual arrangements between exporter and growers (ibid.:116). The attention to human intermediaries in Garcia's and Ouma's works expose the contingencies that affect how markets evolve without detracting from the larger forces at work. Marketization scholars have introduced the term 'economists in the wild' to describe actors who arbitrate between academic and policy spheres. They may be consultants, managers, or policy advisors who devise strategies informed by the discipline of economics, aligning realities on the ground with theoretical models (Çalışkan and Callon, 2009).

A crucial difference between sociological network analysis mentioned above and marketization studies is that while the former understands social structures as the foundation for markets, marketization scholars largely focus on the reverse causality: markets construct societies and understandings of the world (Fourcade, 2007). Insights from the anthropological

studies on intermediation provide marketization research with particularly relevant conceptual tools for studying how identities are brought into being in interstitial spaces and the ways combinations of attributes from different spheres make brokers into figures of moral uncertainty. This enhances analyses of how intermediaries as economic actors are constituted and the social foundations for support for or opposition against specific acts of intermediation.

Context and method

‘There is no steady light!’ is a commonly heard complaint in Nigeria. The lack of reliable electricity supply (dubbed ‘light’) in one of the world’s largest petroleum exporters is a supreme manifestation of political mismanagement. At the same time, oil-fueled growth finances construction projects on a large scale. New buildings and neighborhoods are fitted with copper-core conductors that connect them to the electricity grid. Most of these conductors are produced in Europe, though cable imports from India and China are rising (UN Comtrade, 2016). Nigerian cable manufacturers have a good reputation, but struggle to up their output due to high operating costs.

Inferior power cables have become a serious problem in Nigeria over the past few years (Victor, 2016). Cables are no longer a commodity with known qualities; they have been converted into a good with ambiguous attributes that potentially make them lethal. Particularly rampant are cables with illegally narrow conductors that allow manufacturers to skimp on copper and other conductive metals, which represent the costliest factor of production. When electricity travels through overstrained strands, they may heat up and shoot out sparks. Furthermore, insulation made from cheap, recycled PVC rather than new material can become brittle, peel off, and put electrical circuits in contact with conductive liquids. Cables that fail to carry their current react by ejecting the excess energy, resulting in fires that have caused human fatalities and material damage.

The growth in power cables imports to Nigeria from China mirrors a greater pattern of change in international trade. The world economy's center of gravity shifted towards the global South following the 2008 financial crisis, all during which the African continent and China experienced GDP growth (World Trade Organization, 2011). Trade between non-OECD countries has increased, and China has overtaken the United States as the largest exporter to Nigeria, with India ranking third (UN Comtrade, 2016). Nowadays, Nigerian traders order customized products from a broad base of Chinese manufacturers for distribution in specific segments of the country's regionally differentiated markets. Weak government enforcement of standards in both countries enables poor-quality, potentially dangerous Chinese exports to reach Nigeria.

The topic of deficient goods first caught my attention when I first started researching trade from China to West Africa in 2003. The data on intermediation in Nigeria's cable market, on which this article is based, was obtained as part of a larger project on Sino-African exports. My vantage point for studying this trade has been the city of Guangzhou, a hub for Chinese manufacturing and trade with Africa, where I have carried out a total of 16 months of fieldwork between 2009 and 2017. Research participants included factory owners, wholesale dealers, trading agents, logistics providers, and visiting traders. My main method has been participant observation, complemented by semi-structured interviews and analysis of policy documents and media reports. Observation allowed me to follow a sequence of events without relying on retrospective narrations from research participants, which were often poor in detail. I adopted a multi-sited approach whereby I 'followed the thing' (Marcus, 1995) to its end markets through short fieldwork periods in several West African countries, including Nigeria.

The opportunity to study cable exports to Nigeria arose when Wendi, a Chinese woman in her early twenties whom I had known for a couple of years, decided to go to Nigeria as a self-appointed representative of a cable factory in 2011. The factory was located

in Wendi's hometown, and she was familiar with the Nigerian business environment through her work as a logistics agent in Guangzhou. Relationships of trust built with Wendi and other informants through sustained presence in the field of China–Nigeria trade granted me access to information about string-pulling, corner-cutting, and obligations that were fulfilled gradually rather than immediately. Wendi brought me along to meetings in China and Nigeria. Sometimes, she deliberately involved me in her projects. More commonly, I was briefly introduced and my presence was barely acknowledged by her business associates. Although she had never before been abroad, Wendi navigated the cultural environment and business codes in the Nigerian construction markets with ease, an aptitude that proved invaluable in her work as an intermediary in the cable trade.

Market making: Intermediation to pacify the unruly character of cables

[World] Bank technical assistance for privatization of the ports contributed to a genuine success story that has sharply lowered waiting times in Nigerian ports. The Bank, however, was unable to pursue the reform of customs procedures because of lack of government receptivity. (World Bank, 2010)

This quote, excerpted from a self-evaluation of the World Bank's country assistance program, exemplifies how international organizations and development agencies systematically and forcefully attempt to translate the market logic into concrete realities in Nigeria. They act as intermediaries by transmitting product standards, legal frameworks, valuation procedures, and technical devices from Western countries to Nigeria. The interventions are designed to align Nigerian economic spaces better with the market model. The World Bank, along with other development agencies discussed below, transfer the *idea* that unentangled exchange is achievable, albeit no such reality exists in the economies their programs are modelled on.

From a neoclassical economics perspective, two main market failures render the Nigerian cable market inefficient. First, the consumption of substandard cables produces *negative externalities*. When consumers accept the risk of installing such cables in order to

save money, the consequences are also borne by the third parties who suffer damage if the cables catch fire. The failure to stabilize the quality of cables highlights the extensive efforts required to construct a market and protecting it from the intrusion of foreign elements.

Second, substandard cables create situations of *asymmetric information*. The end users have limited opportunity to physically check the quality of the cables, which are stretched underground and inside walls. By contrast, the cable traders and entrepreneurs installing them generally have full knowledge about their quality.

The work to frame markets is particularly intense in the frontier regions of global capitalism – the areas portrayed as not-yet effectively regulated by rational states (Tsing, 2005: 28-29). For foreign donors, making markets work in Nigeria is important due to the country's large consumer base, petroleum export, and role in securing regional stability. Table 1 provides an overview of the foreign intermediaries discussed in this section, along with keywords describing the resources they transfer to Nigeria and the market framings such transfers are intended to support. Efforts to enforce international product standards and customs procedures have been significant for the Nigerian power cables market.

TABLE 1 ABOUT HERE

1.4 Product standards: Stabilizing the qualities of power cables

Product standards render certain properties of objects unambiguous and fixed. Substitutability – the ability of buyers to make choices based solely on prices as the qualities of products are identifiable independently of social contexts – is essential for markets to work. Precise descriptions, often legally grounded, enhance substitutability and make the commodity less vulnerable to the pull of entanglement (Çalışkan and Callon, 2010: 6). Quality specifications for power cables establish the material of the conductor and insulation, its ability to withstand

cold and flammability, insulation thickness and, most importantly, conductor dimension. The electric current supported by the cables is directly proportional to the cross-sectional area of the conducting core. Standards require copper conductors connected to regular electrical circuits to measure at least 50 square millimeters, implying an eight-millimeter diameter. A 30 percent margin of safety built into this standard.

The product standards for cables installed in Nigeria are defined by the Nigerian Electricity Regulatory Commission (NERC). The NERC (2012) has committed to ensuring compatibility between its own national standards and those of the International Electrotechnical Commission (IEC). Internationally standardized products facilitate global trade, while deviant standards are considered ‘technical barriers to trade’ and violations of agreements to which Nigeria is a signatory. The IEC endeavors to remove technical barriers to global trade by promoting universal product and process standards (IEC 2016).

The standards defined by the two above-mentioned agencies are enforced by the Standards Organization of Nigeria (SON), which has the power to prosecute parties importing or selling substandard cables. The SON has received substantial international development assistance to become more effective (Vanguard, 2016). Germany’s federal agency for international development (GIZ), for example, initiated a partnership with the SON to enhance its enforcement capacity and fight the proliferation of substandard building materials on the market (World Bank, 2013). In assisting the SON to ensure that commodities follow international standards, the GIZ facilitates market access for commercial actors from Germany, the second-largest exporter of copper cables to Nigeria (UN Comtrade, 2016). The multitude of agencies and initiatives involved in constructing the market for power cables draws attention to the instability of market orders.

Intensive national and international attempts to limit externalities in the Nigerian cable sector notwithstanding, cables remain untrustworthy divorced from the social context of

transactions. The wide-ranging efforts to define and enforce standards in the cable sector illustrate that commodities represent relational outcomes of contingent social processes rather than self-contained units that are innately transactable. The SON's implementation of standards highlight the contradictions of marketization. Interventions to disentangle the product from social relations are intended to improve market framing, but in the process, it creates new entanglements. Like other federal agencies, the SON had a presence in Nigerian ports, where it inspected imports. The amount of time being spent on the inspections, however, created blockages: clearing goods could take weeks and the formal and informal costs of importing kept mounting. To mitigate the congestion, the SON and nine other agencies were expelled from the port in 2011 (Port Strategy, 2011). The SON then commissioned Swiss-based multinational Cotecna and two other foreign contractors to carry out inspections and certifications on its behalf. Cotecna (2013) announced that it was proud to 'protect Nigerian consumers from counterfeit or dangerous goods'. Privatizing Nigeria's customs inspection reduced clearing times, but subcontracting costs were high and corruption continued to plague the ports. After two years, the federal government terminated the contracts with private inspectors (Ojadi and Walters, 2015). The work of disconnecting the market from non-market relations continues to take on new forms, and is effectively impossible take to a conclusion.

1.5 Customs procedures: Effecting new modes of valuation

The capacity to move goods across space in a predictable manner hinges on standardized customs procedures. A number of interventions by international organizations and development actors have endeavored to streamline the Nigeria Customs Service (NCS). The NCS is a member of the World Customs Organization (WCO), whose slogan ('borders divide, customs connect') evokes a sense of unencumbered movements of goods between nation-states. To implement efficient revenue collection, the WCO disseminates calculation tools for

producing classifications and valuations that are unburdened by social obligations. One mode of calculation imposed on West African countries is ‘transaction value’, which was intended to replace more particularized methods for determining customs fees where customs officers exercised greater discretion (Chalfin, 2010). Transaction value is computed according to documentary evidence accompanying a commodity, such as invoices, receipts, and bank transfers. This valuation method transferred power from customs officers to clearing agents, who oversee the examination of documents and goods in the port.

In 2013, Nigeria initiated a pre-arrival assessment report system to comply with the World Trade Organization agreement on customs valuation and WCO conventions and guidelines (Nigeria Customs Service, 2013). Pre-arrival assessment serves simultaneously as a border-drawing tool and a means for advancing the free trade model. Assessments are supported by material devices, including container scanners that allow for quick verification of the submitted documents. The scanners were installed in Nigeria’s ports by Cotecna and other foreign contractors (Ogah, 2015). These devices were intended to extricate goods from networks of social interaction through objective appraisals in much the same way as the non-human intermediaries described by Garcia (1986), Muniesa (2007), and Cochoy (2009).

Officials who process goods for customs clearance use a prescribed set of calculative tools to provide a supposedly disinterested assessment. However, the tools have been unevenly implemented, and their efficacy limited by the customs officers’ ability and/or willingness to use them. International agencies thus provided training programs and devised plans for transferring best practice to Nigerian customs officials. For example, the United States Agency for International Development (USAID, 2013) arranged a workshop in which British customs officers trained the NCS in correct tool usage. USAID also commissioned a consultancy firm to modernize Nigerian customs. Other initiatives to cultivate disinterested customs officials were implemented by the WCO and the World Bank (WCO, 2016).

These extensive, costly efforts to transfer product standards and customs procedures from developed countries to Nigeria illustrate Berndt and Boeckler's (2011) argument that the free-trade model is an effective rationale for regional and global integration projects. Despite great endeavors to homogenize products and reduce friction between borders, however, it remains debatable whether Nigeria's reality on the ground has come any closer to the ideal of free trade. In the case of power cables, attempts at framing the market have created apertures and, in them, new kinds of entanglements have emerged, as I discuss next.

The unmaking of markets: Entangling cables in networks of connections

Cables have become more deeply entangled in networks of connections through the activities of international intermediaries. The intermediation that brought about entanglement differs radically from the intermediation that promoted market framing. The actors furthering entanglement were neither backed by large resources, nor exerting purposeful and coordinated efforts. Rather, entanglement was an unintended outcome of actors navigating a volatile and hypercompetitive environment. A number of studies have demonstrated that markets are not achieved through a singular course (Çalışkan and Callon, 2010). The present discussion highlights that the *unmaking* of markets does not follow a preset path either. The ways societies withdraw from a market regime raises questions. How do a good's properties fall back into a state of qualitative ambiguity? Why are valuation tools abandoned? What spurs demolition of formative settings that regulate encounters between goods and agencies?

Before addressing these questions, the circumstances creating the critical moment that provided the thrust for change in the Nigerian cable market must be briefly outlined. 'Critical moments' represents breaks with the ordinary course of action resulting from creative adaptations to structural crises (Boltanski and Thévenot, 1999). The structural challenge facing Nigerian copper cable traders a surge in procurement costs as world prices of copper

reached a historical peak in February 2011, without a corresponding increase in the retail price of cables (World Bank, 2016). Some traders kept inventories that allowed them to sell cables at prices below the costs of restocking in order to retain their customer base. Others held off on all transactions, waiting for procurement rates to drop or retail prices to rise. Cable traders, who commonly start their careers through apprenticeships and face structural barriers to changing their line of work, sought new ways to eke out a profit or merely keep their businesses afloat through the crisis.

A decade ago, Nigerian cable traders were not connected to manufacturers that would supply cables with lowered copper content. Cables imported to Nigeria originated mainly in Europe (UN Comtrade, 2016), and Nigerian traders I interviewed in 2011 recalled how European factories declined to produce substandard cables. The framing of the cables as a commodity through textual, material, and legal devices had thus remained effective in spite of occasional copper price hikes. The creation of new entanglements was made possible through the intervention of intermediaries put cable traders in contact with manufacturers that supplied cheaper, substandard cables on demand. The entanglement were further entrenched by clearing agents, who mediated encounters between the cables and customs officers in ways that permitted substandard goods to pass into the Nigerian market.

1.6 Mediated connections between traders and producers

Wendi had not planned to sell substandard goods when she travelled to Nigeria on behalf of a cable factory. February 2011, she landed in Lagos with a small, conspicuously heavy carry-on, having sold off the rest of her luggage allowance. Apart from business attire purchased for the trip, the bag was filled with samples – stretches of light wires and wedges of thick cables from the factory she represented. Wendi also carried business cards that allowed her to present herself as a company envoi. She planned to access the market through the network of

Nigerian commercial contacts she had acquired by working as a logistics agent for African traders in Guangzhou.

Although the Chinese cable factory was eager to break into the Nigerian market, it did not sponsor Wendi's travel. Instead, she would get a commission on transactions brokered on the factory's behalf. She hoped to make money from successful deals, while also proving to her neighbors back home that she was doing legitimate business. Most young people from her hometown were factory workers in coastal China who had difficulty imagining other forms of articulations with global commodity circuits. Local rumor had it that Wendi's financial success was due to a Ponzi scheme, which her neighbors deemed a more probable way of making money than business with foreigners.

The spatial layout of the construction material markets in Nigeria allowed Wendi to meet with a high number of traders in a short time. Cable traders were clustered in one section of Dei-dei market in Abuja and Alaba market outside of Lagos, two sprawling trading zones. In a country where confidence schemes are rampant, however, Wendi could not simply walk into a cable trader's office with a sales pitch. At each market, a Nigerian intermediary introduced her to potential customers. Wendi's commission from the factory had not been subject to explicit negotiation, and the two intermediaries' professional relationships with Wendi were also based on tacit understanding that she would share with them returns from deals they helped broker.

Wendi suspected that Chukwu, her Alaba market associate, would attempt to further align their interests by asking her to marry him, and she used me as a chaperone to prevent him from making these intentions explicit. When he finally managed to propose, she turned him down. Marriages that consolidate business partnerships between Chinese women with manufacturing connections and Nigerian men with market knowledge have become common. While the fusion of economic activity and intimacy is plainly observable in these unions,

there is nothing exceptional in mixing economic interests and intimate ties (Zelizer, 2005). Chukwu made an effort to render his and Wendi's interests identical through marriage and thus make them more effective business intermediaries. Wendi had indeed entertained the thought of entering such a marriage, but rejected Chukwu's proposal. She had previously been engaged to a Nigerian man who embezzled her family's savings, after which she resolved to exercise more caution when combining romance and business. The rejection notwithstanding, Chukwu continued introducing Wendi to cable traders.

Understanding how prices are constructed is central to illuminating processes of marketization. Complete information about prices is one of the condition for markets to approach a state of perfect competition. Çalışkan's (2007) study of the world cotton market introduced the notion of 'prosthetic prices' to describe rates used not for specific exchanges, but rather introduced to enable calculability and market-based exchange. Prosthetic prices played a key role in Wendi's interactions with traders. Their meetings typically started with Wendi placing cable samples on the large hardwood desks that were the centerpieces of the traders' offices. The traders felt and bent the cables to assess their qualities. At the end of each meeting, Wendi summarized the types and quantities of cables the traders requested, and emailed these requests to the factory. The factory prepared pro forma invoices for the traders. The foremost role of the price quotes on these invoices was to make prices from different manufacturers comparable.

1.7 Destabilizing the commodity of cables through quality depreciation

Wendi's experiences resemble classical Simmelian brokerage work (Simmel and Wolff, 1950). As a third party, Wendi connected the Chinese cable factory with Nigerian traders. The commission benefitted her as an intermediary, a situation known as *tertius gaudens* – 'the third who enjoys' (ibid:154-162). If Chinese cable factories outperformed manufacturers in other countries, Wendi's intervention would ultimately contribute to altering the paths of the

value chains for cables consumed in Nigeria, incorporating Chinese manufacturers at the expense of European producers. However, the contacts Wendi initiated did more than just articulate a Chinese producer into the value chain; they altered the nature of the Nigerian market for power cables. The ways in which Wendi and other intermediaries disrupted market orders are summarized in Table 2.

Wendi had brought standard electric and fiber-optic cables to Nigeria. When a trader asked for the price of cables with a copper core diameter of 7 millimeters, a measure that neither was part of the factory's assortment nor matched international product specifications, she was mystified at first. Chukwu intervened to explain that the reduction in copper content would lower production costs, while substandard cables could be passed off as eight-millimeter standard conductors to the end customers. The shortening of the diameter reduces the surface of the conductor (and thus the copper content) by 23 percent, less than the safety margin in the product standard. Such substandard cables function well as long as the electric current is stable, but minor power fluctuations can cause overheating and ignition.

On contacting the factory, Wendi confirmed that they indeed could supply cables with narrower copper cores at reduced costs. The factory required traders to pay in full before they initiated production, as an inferior product would be impossible to resell if the customer defaulted. Once Wendi realized that there was a demand for substandard cables, she volunteered information about them in sales meetings. She also agreed to imprint the China-made cables with the name of a well-known Nigerian cable factory, a request from another potential customer. Although Wendi had not planned to facilitate importation of products that violated national and international standards, she did not hesitate to take advantage of the opportunity to broker such sales once she discovered its feasibility.

TABLE 2 ABOUT HERE

The links forged between cable traders and factories that produce substandard goods produced new entanglements: Cables were transformed from a passive and discrete commodity into an object that can no longer be identified independently of the social relationship in which they are entangled. Low-quality cables that pervade the market have made all cables suspect, leaving consumers to question whether or not they come from substandard batches. *All* cables thus came to embody the potential to self-destruct and spark fires.

As a consequence of the entanglement, cables can no longer be transacted separate from context and the social ties between buyers and sellers. Trust is placed in the seller rather than the product, and reputation has become crucial in securing sales. A well-heeled trader explained this point to Wendi when she offered to sell him substandard cables. His office was physically removed from busy market streets and stowage space. This spared him from the public's comings and goings and messy overflows of stocked goods that typically characterized the offices of cable traders. He also set himself apart by offering Wendi carrots rather than sugary beverages or alcohol. Being a member of a global Christian movement with a mostly elite following in Nigeria, he could elude many of the social obligations Nigerian businessmen face. Wendi, who also identified as Christian, effortlessly discussed religion with him before pulling out her samples. When she mentioned the cables with reduced copper content, he matter-of-factly told her that short-term gains from selling low-quality products were not worth risking his standing as a supplier to large contractors.

The problems generated by the substandard cables spilled into inter-ethnic relations in Nigeria, further intensifying entanglements. Identity politics informed how the quality problem was understood, and the dangerous cables reinforced ethnically based identities. Accusations between ethnic groups rooted in ideas about how the market *should* operate have

a long history in Nigeria. For example, the Bohannans' work from the 1950s on exchange among the Tiv documents allegations that Igbo Nigerians were 'spoiling the market' for staple crops (Bohannan & Bohannan 1968, quoted in Smith, 2014: 42). Igbos were instrumental in integrating Tiv networks of exchange with more market-based trade systems, a process that left the Tiv at a disadvantage. Today, a large share of Nigeria's import and trade in cables is carried out by Igbos. The Igbos, who fought for independence in the 1967-1970 Biafran War, point to political and economic marginalization to explain their predilection for trade (Smith, 2007). Igbo traders have blamed non-Igbo ethnics, who largely control the Nigerian customs and construction industries, for quality deterioration of the cable market. By contrast, other ethnic groups have attributed the inflow of dangerous goods to the Igbos' alleged desire to make money at any cost. '[T]here are a lot of fake cables in the market which our Igbo brothers import to the country [...]. They sell it cheaper and many people don't know,' a user on a popular Nigerian internet forum claimed. An Igbo commentator retorted: 'What has your 'Igbo brothers' [...] to do with a prospective landlord, electrician or contractor who deliberately buys substandard cables or who cannot tell a substandard cable from a standard one?' (Nairaland, 2015).

For those who believed that the cable market's quality problems ultimately were caused by questionable morals among importers and distributors, the perceived solution was not the free trade model promulgated by development actors and international organizations, but rather for Nigeria to stop the import of cables altogether. Electrical engineers, well-to-do cable traders, and SON officials have advocated banning cable imports and strengthening national production (Iroegbu-Chikezie, 2014; Oladunjoye, 2014; Today, 2015). In their view, gaining control over the quality of imported cables is unviable. Confidence in the market model may in other words be weak even among officials in charge of promoting it.

1.8 Customs intermediation: Injecting substandard products into the market

To enter the Nigerian market, substandard cables must clear customs. Traders hired clearing agents to mediate with customs officers on their behalf. Clearing agents were responsible for ensuring unobstructed customs clearance, short dwell times, and low customs payments. They charged preset fees to bring goods through customs. Calculated into this amount were formal customs duties, informal expenses, and the clearing agent's profit. Small-scale importers generally worked with unlicensed agents, who are more flexible than formally registered customs brokers (Cantens et al., 2014). The goods were identifiable to the customs officers through their relationships with clearing agents rather than by way of the documents that accompanied them.

Copper-core cables are transported coiled around wooden drums that get loaded into containers on the factory premises. According to Nigerian customs regulations, the entire load of electric cables should be checked at the importation point. However, the heavy drums and unwieldy cables make such controls cumbersome, and only parts of the shipments are in fact inspected. Wendi asked traders how the factory should pack the cables to minimize the risk of interception. Drums holding standard cables should be placed in the front row of the containers and stretches of standard cables coiled around drums holding substandard goods, the traders instructed. To ensure that shipments pass through customs without incident, clearing agents charged a premium, some of it spent on bribing customs officers. The clearing agent is an ambiguous moral figure among Nigerian consumers, seen as both a manipulator who unscrupulously benefits from his position in the middle and a hero who maneuvers dense bureaucratic systems to ensure imports reach customers at the lowest possible cost.

Automated container scanners were intended to replace the clearing agent as an intermediary between goods and customs officers. These devices could objectively appraise the container content, allowing containers with pre-arrival clearance to move through customs with minimal friction. This would free up capacity to inspect high-risk goods, such as power

cables, more carefully. However, a rearrangement of the Nigerian border was only partially accomplished. The scanners broke down and fell into disuse after the contract with Cotecna, which first had introduced them, ended. The quantities and qualities of goods enclosed in containers could no longer be ascertained, and the Nigerian market deviated further from the free-trade ideal of a globally homogenous space for product distribution. Various explanations have been forwarded for scanner failure, including that they were old, that service agreements had expired, and that customs officials lacked operating skills or deliberately sabotaged the scanners (Anumihe, 2016). Pre-assessment procedures for customs valuation, formerly enabled by the scanners, had to be suspended, which goes to show that framing is fragile and reversible.

The clearing agent is a force for entanglement, but at the same time indispensable to the preservation of the frame. Manually inspecting goods causes congestion in Nigerian ports, with ensuing demurrage fees, exhausted storage capacity, delay, and breakage. If the NCS and the other agencies present in the ports did carry out inspections without deviating from the formal procedure, the ports would be completely clogged. Traces of such entanglement were in part concealed. For example, evidence of Chinese cables being imported to Nigeria was removed from NCS reports that are recorded in global trade statistics. In 2015, only US \$268,000 worth of copper wire from China was recorded in the United Nations Comtrade (2016) database, which merely equals the value of two 20 feet containers full of 50 square millimeter cables. The low number suggests that Nigerian cable imports from China mostly remain unreported, misclassified, or recorded under a false country of origin. The near erasure of Chinese cables from official statistics contrasts with the animated Nigerian public debate about these imports.

Conclusion

Foreign intermediaries were instrumental in imposing the market logic on Nigeria through initiating reforms to harmonize Nigerian product and valuation methods, advanced under the banner of ‘good governance’. However, as the second part of the analysis in this paper demonstrates, quality standards were never successfully enforced. Substandard products entered the Nigerian market once intermediaries put cable traders in contact with Chinese producers. Furthermore, clearing agents inserted themselves between the traders’ goods and the customs officers to enable the import of inferior products.

Over the past five decades, the market model – and more specifically the neoliberal version of this model – has become a dominant ideal for the organization of economic life. The term ‘emerging markets’, adopted by international financial institutions and development agencies, suggests that Nigeria steadily marches towards market consolidation and catching up with high-income economies. The substantial investments that accompany the discourse on emerging markets tell a different story: The market model is propped up by extensive programs to qualify commodities, create calculative agencies for valuing these commodities, and regulate the encounters between commodities and agencies as goods cross borders and change ownership. The dissemination of the market model is facilitated by intermediaries who transfer ideas and practices from developed to developing country contexts, yet market framings remain partial and fragile. What the literature terms “the constant pull of re-entanglement” (Çalışkan and Callon, 2010: 7) is a process that takes on a variety of forms and thus ought to be subject to contextually sensitive analyses.

Intermediation provides a lens for analyzing how market orders expand and retreat while heeding to the contingencies of these processes. The intrinsic incompleteness of framings is evident from the ways intermediaries create new forms of interaction as they work within boundary spaces to forge new connections between actors, values, and spheres.

Whether these new interactions lead to framing or entanglement cannot be answered a priori: New relations may be structured in ways that stabilize market organization or, conversely, contribute to entangling economic entities in wider sets of connections.

This paper has highlighted three main ways in which the marketization literature can augment conventional social network approaches to intermediation. First, the focus in marketization studies falls on the dynamics of intermediation rather than the intentions behind the intermediary's action. While intermediaries may unite actors as an instrumental means to achieve certain ends, intermediation can also be an unintended outcome of engagements between actors, whether human or non-human. Acknowledging that intermediation does not require intentionality opens up new avenues of inquiry. Second, marketization research takes as its point of departure actors who are able to make decisions only *because of* the web of relations in which they are entangled. This approach to brokers as non-bounded actors can enhance sociological network analysis of brokerage, which thus far has approached actors as discrete, self-contained entities bound together through by weak and strong links. Finally, studies of intermediation in marketization elucidate macro-scale consequences of micro-social interactions channeled by intermediaries, thereby expanding the scope of relevance of intermediation research.

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