DRAFT. Reworked version of paper presented at the 7th European Conference on African Studies. Published online 10 November 2017. Please cite as Haugen, H.Ø. (2017) Creating new pathways: The role of logistics in the emergence of trade from Guangzhou to Africa. Paper presented at the 7th European Conference on African Studies, Basel, Switzerland. Paper retrieved from http://www.sv.uio.no/iss/english/people/aca/heidiha/haugen-logistics.pdf

Under pressure: Disordering and reordering of space in China−Africa container logistics

Abstract: Whereas a large body of popular and academic literature explores how containers have reconstituted the spaces they travel through, the space within *containers remains largely unexamined. This article leverages the concepts of "pressure" and "earmarking" to open up the inside of containers for analysis. In container freight from South China to African ports, logistics agents apply pressure to goods as they are loaded. The practice manipulates asymmetries between modes of calculating space by disrupting the relationship between the container's measurements and the shipment volumes sold. The materiality of the container, which is defined by exact qualifications and measurements, creates opportunities for such revaluation. However, the pressure renders the relation between containers and goods unstable and shipments vulnerable during customs inspections. In the context of logistics, "earmarking" describes the practice of attaching segments of shipment space to specific sets of social relations, which in turn defines appropriate usage. African traders who export goods from China earmark space as a way to manage their capital in volatile economic environments. Contrary to the image promoted by the state-led Belt and Road Initiative, China's successful logistics integration with Africa has relied heavily on political tolerance for disorder and localized solutions rather than uniformity.*

Introduction

In China's Belt and Road Initiative, the entanglement of logistical and political worlds is clearly evident. Roads, rails, ports, pipelines, and other infrastructure will be built to join China to Central Asia, Europe, and Africa by land and sea. A variety of Chinese banks and credit funds will finance infrastructure investments currently estimated to amount to about $900bn (Financial Times, 2017). The initiative is branded as a revival of the ancient Silk Road and an effort to, in the words of President Xi Jinping, "promote world peace, stability and shared development"

(Xinhua, 2017). While logistics infrastructure has only recently been assigned a central place in discourses about Chinese national identity and China's role in the international system, the Belt and Road Initiative represents an extension of long-established strategies to build infrastructure that supports export-oriented economic development in China. For example, deep-water ports have been constructed on a massive scale over the past decades: China now is home to seven of the world's ten largest ports (World Shipping Council, 2017). However, as this article will demonstrate, successful logistics integration in China−Africa exports has been achieved as much through a high tolerance for disorder and localized solutions as by way of centrally devised economic strategies.

This article opens with an examination of the effective logistics integration between China and African countries. The analysis takes a "logistics-in-action" approach that considers logistics as a provisional achievement (cf. Gregson et al., 2016; Steinberg, 2015). The concrete workings of mobilities that fall under the broad category of "container freight" are subjected to scrutiny to highlight both diversity and the effort and costs implied in causing goods to move across space. The analysis focuses on how containers and the goods they carry are managed between production lines in China and distribution in various African end markets, and demonstrates the merit of applying two analytical concepts – "pressure" and "earmarking" – in analyses of container logistics. The concept of pressure encapsulates how stress transmits between physical, political, and economic domains. Actors alleviate pressure by shifting it towards new groups and fields, but the ever-present possibility that pressure is transferred anew preserves volatility. Earmarking denotes the attachment of resources to social relations in ways that prescribe how they may be spent. The focus on space *within* containers sets the analysis apart from the large body of popular and academic literature that explores how containers have reconstituted the spaces they travel *through*. Indeed, the container itself is often written off as uninteresting — it "has all the romance of a tin can," as an author of a best-selling volume put it (Levinson, 2016: 2).

Chinese politically sanctioned projects, such as investments in maritime structures, integration of ports with land-based transportation modes, and improved infrastructure for aeromobility, certainly helped enable the emergence of exports from China to Africa, which according to reported trade figures increased 19-fold between 2000 and 2015, surpassing US $90bn (UN Comtrade, 2017). However, physical infrastructure was not sufficient for this trade to thrive. The traders operate in unstable economic and political environments, often with limited capital, and have relied upon logistics agents to creatively adapt the scale and rhythm of container-based circulation to suit it to their needs. Logistics agents have achieved this by, for example, reappropriating physical infrastructure, investing in relations with customs officers, and extending credit to customers. The agents operate with narrow profit margins and high risk, resulting in frequent bankruptcies in the industry. The authorities in Guangdong display a high tolerance for informal freight brokers, and the greatest political risk currently facing the logistics operators is a current tightening of visa restrictions.

The paper is organized as follows. The first section discusses how space within containers can be opened up for theoretical analysis. Through the two notions of pressure and earmarking, insights from studies of other social phenomena are brought to bear on logistics scholarship. Pressure is an inherently spatial concept. Work on hydraulic infrastructure as well as supply chain capitalism examines how pressure as physical application and pressure as a political expression are closely intertwined. Earmarking has been acknowledged to play an integral role in the circulation of money. Importing this notion into logistics studies enables the circulation of goods to be understood as a social and political process. The second section provides a brief account of the research methodology. The third and main section employs the concepts of pressure and earmarking in analysis of ethnographic material on container-based trade by African traders who export goods from Guangzhou, a hub for production and trade in the Pearl River Delta (PRD), South China. First, I discuss how standardization — the equivalence between units — has made the container an object of aspiration and achievement while simultaneously representing a constraint for cash-strapped traders operating in economic and politically volatile environments. Second, I analyze how applying pressure to container-shipped goods has disrupted the relations between units. While this brings down shipment costs, it also makes good political relations more crucial to running logistics agencies. Finally, I examine how traders use earmarking to manage uncertainties.

Opening the container to analysis

Standardization is the defining feature of the shipping container. Containers have a fixed height, length, and width, which produce volumes of 33 and 67 cubic meters (CBM) for 20- and 40-foot containers, respectively. The walls conform to exact technical specifications to allow the boxes to be stacked, lifted, and transferred across modes of transportation. However, alongside the order produced through the standardization of containers emerges the potential for disruption. For example, the containers' productive ability to hold goods turns into awkward bulkiness when incoming containers are emptied and pile up because there are no goods to load for export (Neilson, 2015). The enclosed space in containers entails an ever-present possibility that they hold smuggled wares, stowaways, or even terrorist bombs, and the desire to control what containers carry must be balanced against the need to move goods along in the supply chain (Cowen, 2010a; Nordstrom, 2007). Such disruptions indicate that standardization is a reversible achievement. The container has been introduced to organize the encounters between diverse bodies in a predictable manner, but the relationality upon which it is premised is vulnerable.

This paper approaches the container a spatial formation that is produced through practices and relations between human and nonhuman actors (cf. Thrift, 1996). It follows that the character of these encounters differs between contexts. As the container circulates the world, the social relations and meanings attached to it shift and multiply. To avoid fetishizing the moving object and the space it traverses, Steinberg (2015) proposes that cargo mobilities are approached *as actions* located with a broader universe of social and material connections. The power implicated in the movement of cargo ensures great regularity in the ways in which it circulates; "certain forms of space tend to recur, their repetition a sign of the power that saturates the spatial", as Rose (1999: 248) notes. The notions of pressure and earmarking are useful analytical tools for examining the power implicated in making things circulate.

Pressure

Recent work in urban geography has brought into view the relationship between material infrastructure and social and political formations in the city (Kaika, 2005; Swyngedouw, 2004). Anand (2011) introduces the concept of "pressure" to examine this relationship in research on access to water in Mumbai. He employs the notion of "hydraulic citizenship" to denote a form of urban inclusion that comes through social and material claims made on water infrastructure (ibid., 545). Beyond enabling settlers to live in the city, access to piped water both signifies and results from political belonging. Settlers cannot secure such belonging once and for all: Hydraulic citizenship must be renewed through an iterative process that relies on repetition and revalidation. Physical pressure is mobilized for water to flow through pipes and into households. When water pressure is unacceptably low, citizens generate political pressure to make claims on the city's infrastructure. However, as water is diverted to new groups, political discontent builds up in disadvantaged sections of the city. The materiality of water contributes to an inherent volatility of its distribution regime. Pressure helps “apprehend the simultaneity of the social, political, and physical cities of Mumbai as they matter to those who live in them” (ibid., 558).

The priority of logisticians in just-in-time production systems is to keep goods moving (Cowen, 2010b). Whereas traditional warehouses stored stocks of goods, contemporary distribution centers are designed to perpetually keep goods in motion (Cidell, 2015). Some capital must be embedded in the ground in order for other capital to flow unobstructed. For example, the smooth travels of container-carried goods is enabled by massive place-bound investments at every link in the cargo chain (Danyluk, 2017). China’s logistics expansion has inspired both admiration and wariness in other countries, in contrast to Africa’s logistics infrastructure, which has been characterized by international institutions as inefficient, unreliable, and wanting (Stenmanns and Ouma, 2015). The World Bank (2016) characterizes African ports as bottlenecks in global cargo circulation, and quantifies the inefficiencies of African countries’ logistics infrastructure through the logistics performance index. West and Central Africa score the lowest score of all world regions on this ranking.

Neoliberal turns in African politics are associated with a rise in commercial traffic into the continent’s ports (Chalfin, 2010). Containers literally pile up inside African ports, where cargo dwell time is longer than anywhere else in the world (Refas and Cantens, 2011). African politicians and bureaucracies are, in turn, under pressure by international agencies to instigate reforms that will increase the amount of twenty-foot equivalent units (TEU) that their ports can process (Chalfin, 2010; Stenmanns and Ouma, 2015). As in the case of water piping in Mumbai, there are points of translation between the physical pressure associated with containers piling up and the pressure exerted upon government actors.

In the process of facilitating flows while maximizing profits, pressure is deferred and displaced along the logistics route. Repairs in one site may create blockages elsewhere. The utilization of logistics infrastructure is maximized and temporal breaks minimized to enhance profits. The loading and unloading of containers represent critical junctures along the route. Gregson and colleagues (2016) describe how, as a result of efforts to take full advantage of the container’s carrying capacity, charges for demurrage (slow unloading) are barely avoided: A container load of polyethylene plastic bags shipped from Ningbo, China, was opened at its destination in rural England, where the people in charge of unloading realized that it was stuffed with small, unconsolidated cardboard boxes. In four hours, two manual workers managed, with great physical exertion and under duress, to empty the container just in time to avoid charges for exceeding the lay time. In this case, the pressure was absorbed through physical toil during unloading. In other instances, truck drivers ultimately absorb the costs of delays in the form of compulsory roadside stops to rest following delays in containers' departures (Gregson, 2017).

The capacity to redirect pressure onto other actors, in the form of both lower profit margins and higher risks, is a characteristic of global supply chains that extends beyond the stretches during which goods travel. As Tsing (2009) demonstrates, the cost-cutting power of supply chains rests largely on the power to make independent contractors assume relentlessly increasing costs and accept fewer benefits. To understand how this is possible, one must look to the cultural and social foundation for self-exploitative practices among suppliers of goods and services. Various groups attach their identity to specific socioeconomic niches and place great value on being a business owner and self-employed, which in turn make them prone to absorbing costs and contributing to the downward pressure on prices along supply chains (ibid., 168). Precarity is not a an exception under current forms of capitalism; rather, vulnerability resulting from living between shifting assemblages is integral to how capitalism currently works (Tsing, 2015). By extension, the pressure identified emerging at various points along logistical chains (and supply chains more generally) will not dissolve, but take on novel forms and relocate.

Earmarking

Earmarking denotes the dedication of a specific resource for a particular purpose by attaching it to certain social relations. The social earmarking of money is a classic topic of anthropological studies of currencies and circulation in non-Western societies. Primitive currencies reserved for specific purposes have been described in great detail and contrasted with the single currencies of modern societies, with the latter supposedly unburdened by rituals and constrictions (Dalton, 1965; Bohannan, 1955). Some of these accounts have recently been revisited. In a reexamination of the spheres of exchange among the Tiv in northern Nigeria, Guyer (2004) demonstrates that the three hierarchically arranged categories of goods, of which each was associated with a specific currency, were much more permeable than Bohannan's study half a century earlier had indicated (Bohannan, 1955). Regional trade enabled conversion between low- and high-prestige items in both directions (Guyer, 2004: 31). Where direct conversion was deemed socially unacceptable, equivalence was achieved by way of intermediation through commodities circulated in regional trade systems. Gains were extracted by playing on the disjunctures between multiple coexisting systems of value. Within this system, asymmetry in exchange was understood and expected rather than "masked by market ideology of equivalence," as in contemporary market societies (ibid.: 40).

The earmarking of money does not call for multiple currencies. In psychology and microeconomics, scholars working within Western contexts have noted that people's spending behaviors are influenced by how they mentally code gains and losses (Thaler, 1985). While economists point to the irrationality of mental accounting and the suboptimal results it produces, anthropologists and sociologists have approached the multiple symbolic meanings of modern money as an integral aspect of social life (Parry and Bloch, 1989; Zelizer, 1994). In her seminal work, *The Social Meaning of Money*, Zelizer (1994) catalogues different types of social interaction and attendant earmarked monies. People employ a number of conceptual, legal, and organizational techniques, ranging from fruit jars to trust funds, to distinguish between various monies. The phenomenon of earmarking is not restricted to money; it applies to all socially exchangeable objects (ibid.: 29). However, distinctions and directives that defy instrumental calculations are particularly conspicuous in the case of money because it often is assumed to represent depersonalized and rational exchange. Writing against such fetishization of money, Latour (1990: 20) argues that money "has been thought of as something special, deeply inserted in the infrastructure of economies, whereas it is just one of the many immutable mobiles necessary if one place is to exercise power over many other places far apart in space and time."

The container resembles money in important ways. Like the coin, the container travels the world, has a standard shape, and is valued through the ways it is put into circulation rather than for its physical qualities. In the same way as the literature on the social life of money demonstrates that the relational origins and effects of circulating money should explored rather than presumed, logistics studies open up the attachment of social relations to container space to examination. Arguments concerning the social life of money can thus usefully be extended to container logistics.

The process of earmarking money is both complex and social, so disputes may arise because the parties assess the situation differently, pursue opposing interests, or subscribe to conflicting values. Zelizer's work (2011; 1994) has been rich in accounts of conflicts over the proper use of specific funds. A study of containers shipped home by Nigerian migrants in Europe provides an example of how the earmarking of goods within a container may become a subject of dispute (Jedlowski, 2016). The container shipment shared by a Nigerian migrant couple in Italy came to be at the center of a tense interaction involving the two migrants' extended families. The couple had achieved what many of their Nigerian peers aspired to do: ship home a container full of goods. The man had placed electronics and two vehicles in the container; the woman had filled it with tomato paste, clothes, and shoes. Both assumed that the proceedings from the sale would enable them to establish businesses in Nigeria and return to live there with their firstborn child. Once the container reached Nigeria, however, the couple's families started questioning how to divide up its contents. Furthermore, they did not support the emigres' plan to return from Europe, which would halt future remittances. These conflicts were exacerbated when the container got trapped in customs because the couple had underestimated the costs of clearing it. Goods were removed from the container and sold in order to pay clearing agents. The man was stuck in Italy waiting for his residence application to be processed, and he began to question his fianceé's ability to deal with the container import. He eventually also doubted her intention to honor their understanding about how the goods would be divided. Although the earmarking of the goods in the shipment had seemed straightforward at the outset, conflicts over the moral legitimacy of claims to those goods ultimately created irreconcilable differences. The container, instead of being a vehicle for achieving the couple's long-term goal of building a life together in Nigeria, precipitated their breakup. The earmarking, which initially consisted of a social contract between two people, was permeated by a number of other social relations, and the different definitions and interests eventually proved irreconcilable.

Methodology

The analysis draws upon 16 months of ethnographic fieldwork between 2009 and 2016 in the Peral River Delta, South China, as well as shorter data collection periods in the Makola market (Ghana, along the Nigerian section of the trans-West-African highway), the Eastleigh market (Kenya), and the two trading hubs of Lomé (Togo), and Banjul (the Gambia). I first became interested in the role of logistics in China–Africa exports when I spent several weeks in the office of a Chinese logistics agent and her Nigerian colleague, who allowed me to recruit informants among their customers during my PhD fieldwork in Guangzhou in 2009. Watching everyday life in their office inspired me to learn more about the organization of logistics between China and Africa through interviews and observation among other freight providers. I was particularly intrigued by how devices I had taken for granted, including the shipping container, were employed in unexpected ways.

The methodological approach in this research has been inspired by global ethnography, which applies an ethnographic microscope to enrich theories about global processes from the ground up (Burawoy and Verdery, 1999). The field in global ethnography is defined empirically through the spatial reach of the processes and social relations at hand; relations do not merely play out in space, they are space-making. In my study, I started by conducting participant observation in logistics offices of West and East African agents in the center of Guangzhou. The fieldwork was then extended to the warehouses used by these agents in the outskirts of the city. I reconnected with the agencies at their warehouses in Lagos, Nigeria, and Nairobi, Kenya, from which they distributed the shipments to their customers. I also followed traders who exported goods from China to their home countries and conducted semi-structured interviews with providers and users of logistics services from the PRD to African cities.

Names and identifying details have been changed in this paper to protect the anonymity of the research participants.

The logistical foundation for the China−Africa shuttle trade

The PRD has been a center for global trade since pre-modern times (Wyatt, 2010). At the pinnacle of the British Empire, Hong Kong emerged as an entrepôt city in trade between Asia and Europe (Ho and So, 1997). After the establishment of the People's Republic of China, Hong Kong industrialized and became a site for production as well as trade. The post-1978 Chinese reform policies allowed Hong Kong manufacturers to move production into Guangdong, where land and labor were cheaper (Smart and Smart, 1991). At the same time, Hong Kong strengthened its position as an intermediary for trade between the People's Republic of China and the rest of the world. The Port of Hong Kong was the main gateway for exports from South China at the time. Today, however, the ports of Shenzhen and Guangzhou have gained a place among the top ten world container ports, and compete with the Port of Hong Kong to ship goods from the PRD to the rest of the world (World Shipping Council, 2017).

The first West African traders set up their businesses in Hong Kong in the late 1970s (Bertoncello and Bredeloup, 2007). Through the 1980s and '90s, African traders from Commonwealth countries and many other nations could freely enter Hong Kong, where the colonial government focused more on curbing immigration from Mainland China than restricting intercontinental arrivals (Chen, 1987). Hong Kong benefited greatly from entrepôt trade, capturing a 24 percent average markup on re-exported Chinese goods (Feenstra and Hanson, 2004).

The container as an achievement and an aspiration

The high markup charged by suppliers in Hong Kong provided incentives for African traders to source goods directly from Mainland China. However, inadequate logistics infrastructure presented a barrier to less-than-container load (LCL) shipment from China, and traders who managed to navigate the messy manufacturing landscape in Mainland the 1990s often lacked the capital to ship full containers. The infrastructure in Hong Kong allowing African traders to share containers represented a key competitive advantage of Hong Kong trading agents. Interested in cutting the Hong Kong intermediaries out of their deals, manufacturers would offer traders credit to buy full container loads even though they had no guarantees that they would be reimbursed. One of the Africans whose trading careers was boosted in this way was Seydou, a Guinean businessman. Seydou had already made a few trips to Hong Kong to buy footwear when he first ventured into Mainland China in 1998. He quickly realized that the shoes sold by factories in Guangdong were much cheaper than those peddled by Hong Kong trading agents. With the help of a Nigerian man, he located a suitable shoe factory. The factory owner was eager to increase her turnover, and when it became apparent that Seydou lacked the funds to buy a full container, she offered him credit to ship a 20-foot container to Guinea. When the shoes arrived, Seydou sold them and repaid the factory owner promptly. Sixteen years later, Seydou had become a wealthy businessman, and he was still doing business with the factory owner who once took a leap of faith and entrusted him with more capital than she could afford to lose. In his narrative about the road to success, the first container shipment represented a defining moment.

As Seydou's experience illustrates, the resources required to fill a container attach symbolic value to them. While cargo ships are *en route* to their destination, the value of the goods they carry is unavailable. The net worth of traders can thus be deduced from the amount of goods they have locked up in containers. "He now had four containers at sea. I am telling you, he has [made it] big!" a Nigerian pastor said about a former congregant. The standardized size of containers allows wealth to be expressed such terms. The container is also a unit for articulating financial aspirations. The pastor prophesized to a cheering crowd of congregants: "Chinese factories will be calling you when you are asleep begging to give you credit. You will say no to the factory calling to give you 120,000 RMB credit, because there is another that is giving you credit for ten containers!" Presented in this way, the container is not merely a means to transport material objects that enhance the economic and social status of the owners; it is itself a marker of success. Shipping containers are aspirational because of their size and capital requirements. At the same time, these qualities served as barriers against direct trade from Mainland China to Africa. The introduction of LCL shipment in Guangzhou changed this, as discussed next.

Partitioning the container through groupage

While still operating from Hong Kong, Seydou coordinated his shipments with fellow Guinean traders with enough combined capital to send full containers. The establishment of logistics agencies in Guangzhou who offered LCL, locally dubbed "groupage," propelled exports to Africa. Groupage agents commission full containers to be shipped to African ports and resell container space to traders according to their shipment volumes. Groupage renders container shipment more flexible by altering the unit of calculation for shipping space from container loads to cubic meters. This eradicates the need for traders to coordinate among themselves to fill a container. Traders deliver goods to their logistics agent's warehouse, where the goods may be checked and repacked for shipment. Once the logistics agent amasses enough volume, a 40-foot container is booked, and the bales and packages are loaded. The container is backed into the warehouse, and forklifts fill it with pre-packed goods in less than an hour. Next, it is transported to either the Nansha or Huangpu port, together with a packing list that itemizes the load. In most cases, the logistics agent is also responsible for clearing customs both when the containers leave China and when they arrive in African ports. At the port, the container may be opened to compare the content against the packing list and identify potential illegal and counterfeit goods. When the containers have been loaded on board the carrier ship, the logistics agent receives a bill of lading (BoL). The BoL is presented at the destination port to release the goods. In most African ports, a clearing agent is employed to get the goods through customs at the destination. Unregistered logistics agents request licensed companies to lodge declarations in their name or pay a well-connected person to deal with the customs officers (Cantens et al., 2014; Schwarz, 2006). Customs clearance is particularly complicated for LCL shipments, for which there are numerous ways to define the value of the load and quantify import taxes (Refas and Cantens, 2011). Once the goods are brought through customs, they are transported to warehouses for pickup by the customers.

One of the first groupage agencies in Guangzhou was started in 1999 by a Chinese woman, who had taken the name Mary, and her Nigerian acquaintance, Chibuzo. Mary had left the People's Liberation Army two years earlier to work for a Chinese logistics company in Guangzhou. She encountered one of the few Nigerian traders coming to the PRD at the time, and she helped him locate manufacturers. To expand her network of potential customers, Mary started frequenting a Nigerian-led church, where Chibuzo sat down next to her one Sunday. He asked whether she knew anything about shipping and explained that he needed a Chinese partner to set up groupage freight from Guangzhou. He knew how to clear the goods on the Nigerian side, while Mary would take care of the communication with the shipping line and customs in the Chinese ports. They founded *God's Way Logistics* with a combined capital of US $2,500, which allowed them to commission a container, recruit customers, and clear the goods in Nigeria. God's Way had few competitors and grew quickly. The company is now one of the largest of several hundred logistics agencies in the PRD that ship to Africa.

The initial destinations for groupage shipments were Lagos and Port Harcourt in Nigeria and Cotonou in Benin. Cotonou was a point of transit to circumvent import bans and high taxes in Nigeria under the Obasanjo government (1999–2007). The goods were transported into Nigeria via the Cotonou-Lagos highway or across the border with Niger in the north, where checkpoints were less frequent and informal duties lower. Around 2010, when Goodluck Jonathan was elected president in Nigeria, import bans were lifted, and Nigerian logistics agents no longer shipped goods via Cotonou. As the group of African traders who travelled to Mainland China grew more diversified, logistics agents started shipping to ports across the continent.

Logistics has reconfigured who the long-distance traders are and what they can accomplish. Cheap, low-volume shipping options enable traders with capital as low as US $5,000 to order customized products from small, low-tech factories in South China and ship them home. Even wealthy traders sometimes prefer groupage over full container loads because it helps mitigate risk, sustain a diverse product portfolio, and introduce merchandise in the market at different times. In combination with cheaper and more frequent passenger flights, the possibility of shipping by sea at low rates regardless of capital and contacts has indeed made trading accessible to new groups. The figure of "the trader" has consequently been reimagined. A common complaint put forward by wealthier merchants, discontent that their status as well as market shares has come under threat, is that "everyone is a trader these days." The development illustrates how "[l]ogistics makes its subjects anew, which is to say that it produces and composes the parties that it brings into relation" (Neilson, 2012: 337).

Groupage logistics in Guangzhou has largely emulated the logistics agencies that were already in place in Hong Kong and Dubai, the main distribution points for Asian exports to Africa (Feenstra and Hanson, 2004; Sigler, 2013). However, logistics agents in the PRD offer a much broader range of services that allow traders to customize goods in addition to shipping ready-made products. They often help customers identify manufacturers, review prototypes, and inspect deliveries before shipping the merchandise to consolidate loyalty and enlarge shipping volumes. The agents furthermore seek to pull together bands of loyal customers by turning the logistics offices into social spaces, offering traders sugary tea of coffee, meals, and free internet access. Like the matsutake buyers courting mushroom pickers described by Tsing (2015), logistics agents know that customers represent an evanescent asset: Traders are quick to leave if they sense that another agent ships goods more effectively, trusts them with additional credit, and shows more care for their wellbeing while in China.

The warehouses of groupage agents are located on the outskirts of Guangzhou, where trucks with containers for loading can enter unobstructed. The traders order goods to be delivered to these warehouses. Warehouses represent permanent and concrete links to the traders when suppliers provide goods on credit, and logistics agents may be pushed to mediate in conflicts between traders and suppliers. An incident handled by an agent who shipped to Kenya is a case in point of logistics providers serving as mediators. The Chinese manager of a jeans factory came rushing into his warehouse with three other men. The factory had delivered goods for shipment, but the trader had not paid as agreed. The manufacturer now wanted the goods back, using physical force if necessary. The logistics agent, who knew the factory owner from previous transactions, asked for a chance to work it out, aware that his customer would be upset if her partially paid goods were removed from the warehouse. He contacted the trader, who promised to pay shortly. The manufacturer left the goods in the logistics agent's custody in the meantime, and told him once the trader's payment came through and the wares could be loaded them into a container.

The articulation of Guangzhou as a logistics hub in China-Africa value chains has entailed disarticulations. Wholesalers and factory representatives based in Hong Kong as well as some of the logistics infrastructure in the city have been made redundant in exports to Africa. One exception is the transport of illegal goods, particularly copies of brand-name products. These are still often moved to Hong Kong by truck, from whence containers with counterfeit goods get through customs more easily than in the Mainland (Mathews, 2015). More generally, informality and illegality are institutionalized through logistics. Logistics agents predict the costs of bringing both legal and contraband goods through customs, and they offer traders fixed prices for shipping merchandise in the two categories. The agents are also expected to ensure that goods avoid getting trapped in customs.

Traders commonly pay for logistics service upon collecting the goods, and they may even be allowed to postpone the payment further to sell some merchandise first. The prepayment of import tax and duty on behalf of customers sets the African logistics agents in Guangzhou apart from large international logistics companies in South China, which offer such services only in exceptional circumstances (Wang and Cheng, 2010). The informal credit extended by logistics providers is particularly important because traders rarely have access to formal bank loans.

Logistics also provide traders with a mode of storing value. In relation to just-in-time production, it has been noted that containers operate as a method of storing goods, holding inventories in slow motion rather than placing them in place-bound storage shelves (Gregson et al., 2016). For African traders, the moving container is useful for the storage of value as well as goods, which is useful in contexts where liquid assets is associated with pressures for redistribution (cf. Smith, 2001). Furthermore, the arrival of a full container attracts attention and enables others to roughly quantify one's wealth. By using groupage services instead, traders ensure that they do not hold large amounts of money that others feel entitled to lay claims on, but tie their wealth up in goods that remain in transit. This is not to discount the contributions of traders to the larger community. Indeed, proceeds from the sale of groupage shipments may go toward school fees, hospital bills, funerals, and more for an extended group of people. Resources that trickle in slowly and steadily allow the traders greater control over social spending and help them retain business capital.

Applying pressure: Disrupted relationship between container and content

The competition in the logistics sector in the PRD today is fierce, leading high turnover. Bankrupt agencies try to transfer their warehouse leases to newcomers and resell essential equipment, including forklifts, security cameras, office furniture, and hydraulic baling machines.

The balers are designed for crushing scrap metal, but logistics agents have employed them to compress goods, especially clothes, before loading them into containers. The compression allows more pieces to fit into each CBM, thus enhancing the value of the space within containers. An ear-piercing sound fills the warehouse during the compression process. Jeans buttons, plastic adornments, and other pieces occasionally break loose under pressure, bursting out of the packages and endangering warehouse workers and traders that stand too close to watch the process. Next, the merchandise is wrapped in tarpaulin sheets held together by packing strips, and the packages are measured to calculate the freight. The traders' names and phone numbers are written on the bales. "What's your marker name?" logistics agents ask traders, who may prefer to use aliases to avoid identification by competitors who catch a glimpse of their bales in warehouses on the Chinese or African end of the logistics chain.

Logistics affect production processes and styles. In the trading malls catering to Africans, clothing suppliers ensure that the goods on offer can handle crushing pressure. Traders want shirts with traditional buttons rather than unreplaceable snap fasteners and prefer embroidery to metal decorations. Of course, some fashionable, high-quality items justify container shipment where no pressure is applied or even air cargo transportation. However, the low profit margin on clothes made for mass consumption demands that African traders, like multinational fashion companies supplying clothes to Europe, minimize shipment costs.

Clothes and mannequins are complementary goods; demands for the two products increase in tandem. Mannequin wholesalers have set up close to apparel suppliers in Guangzhou. The mannequins marketed to Africans are taller and curvier than those seen in Chinese stores. They can be fitted with any wig, but their bodies are beige (ethnocentrically labelled "skin color"). Chinese mannequin vendors in Africa import containers full of mannequins directly from the producers. Nevertheless, some African traders prefer to buy them in Guangzhou. For logistics providers, the mannequins represent the clothes' opposite: They are bulky, irregularly shaped, brittle, and — sometimes to the customers' surprise — more expensive to ship than to procure. At a company catering to Ghanaian customers, female garment traders who had bought mannequins kept returning to the logistics agent to haggle on the shipping price. They accepted the company rate per CBM but asked that the amount of CBMs charged for the mannequins be lowered, threatening to take all their logistics orders elsewhere unless the logistics agent conceded. With no opportunity for transmitting this pressure to the commodities by compressing them, the agent saw no other option but to bill for a lower CBM count than the mannequins occupied and shipped the mannequins at a loss.

The baler compresses the goods into cuboids with slightly bulging sides. Logistics agents charge traders according to the volumes of their bales, calculated based on their widest points. An employee measures the height, width, and depth of the bales, sometimes in front of the customer and showing the numerical values on the measuring tape in a theatrically exaggerated fashion. Due to the somewhat irregular shape of the bales, differences occur between the volumes traders pay for and the actual volumes that the bales contain. This discrepancy provides the logistics agent with opportunities for gains. After the bales are stacked into the container, a forklift presses them together. The pressure causes the bales to shift and fill any empty spaces. By exploiting the spaces between bales, the logistics agent can charge for greater volumes than the containers held. One logistics agent pointed out that the margin between the calculated and the actual space was where he found it possible to make a profit; noncompressible goods, such as electronics and furniture, allowed him only to recover expenses. Creating and employing disjuncture in measurement scales as a means of profit has a long history in Atlantic Africa, as described in Guyer's book *Marginal Gains* (2004). Ordinal scales with socially agreed threshold values create opportunities for gain when numbers on a continuous scale are matched with them (ibid.: 51–60). In the case of ocean carriage, the containers represent the ordinal scale (TEU), while the volume of the bales is on a continuous scale.

The marginal gains generated through the shuffling of bales are lost if a container is intercepted for inspection at the Chinese port. Hodan, a logistics agent, complained that the port authorities would lift goods back into the container after inspection but stack them without applying any pressure. "When they close it, they will not push [it] for you," he grumbled. About ten percent of the content was left out after inspections, and port officials called Hodan to make him collect the surplus goods. Hodan dreaded this phone call, which implied that he lost the profit on the shipment and that his customers would wait longer for their goods to arrive. The system of containerization is premised upon the stability of relation between its constituent elements (Martin, 2015). This stability is unsettled by the practice of applying pressure. Customs inspection no longer merely delays the container; it is a disruptive event that redefines the volume the container holds. As customs inspections undo the idea of the container as a fixed unit, the logistics agents' opportunities for value capture are lost.

Logistics agents take both spiritual and practical precautions to reduce the chances of customs inspection. The prosperity gospel — the belief that financial blessings are the will of God for Christians — is popular in African-led churches in the PRD, where the congregants are either accomplished or aspiring businesspeople. Prophesies, prayers, and testimonies often concern the smooth passing of containers. One logistics agent testified in church that ever since he started touching each container and praying before he sent it off, the government had not inspected any of his shipments. Pragmatic measures were also called for to protect the container. Logistics agents estimated that about one in ten containers leaving from the ports in Huangpu and Nansha were opened for inspection, with fluctuating interception rates. This could be exploited to ensure the smooth passage of the containers. "It depends on [where] they are trying to be strict," Hodan replied when I asked how he chose which port to use. He would call contacts in the ports before deciding where to direct a container truck. "This week there is a lot of checks," the liaison in Huangpu Port might say, in which case he would send the container to Nansha Port instead.

The logistics agents often prefer to check whether the goods their clients ship are copies, some employing a person dedicated for this purpose. Copies cost more to get past customs on both the Chinese and the African side, and the logistics agents charge more to ship them. For example, a logistics company shipping goods to Nigeria quoted two prices on one of their flyers from 2009: Customs clearance for air-carried non-contraband goods cost 80 Naira per kilo, whereas the equivalent charge for contraband goods was 280 Naira per kilo. Manual checking prevented customers from lying in order to save costs or sending counterfeits out of negligence, simply because they were unfamiliar with the original brand name. As described by Mathews (2015), bribes to customs officers are common. Logistics agents inform customs officers in advance that the container holds illegal copies, either in its entirety or in packages stacked in the back, and pay to protect it from inspection. The relative ease with which counterfeits pass customs reflects a basic conflict of interest between national and local officials. At the national level, politicians want China to shed its global reputation as a source of copies and ensure compliance with international commitments, such as the World Trade Organization membership (Zimmerman, 2013). Locally, by contrast, officials may place greater priority on the protection of manufacturing jobs and avoiding blockages in ports due to inspections.

The vulnerabilities of the logistics order described above are most currently noticeable through the effects of increasingly restrictive Chinese visa policies. These have made procurement trips more expensive and prevented some traders from travelling to Guangzhou altogether. Without the opportunity to personally pick out goods for highly fashion- and price-conscious African consumers, many traders opt not to import from China at all. This puts pressure on logistics providers, whose business models rely on high turnover, and has already forced shipping agents out of business. Paradoxically, the Chinese government invests billions of dollars in the Belt and Road Initiative to enhance long-distance trade while simultaneously pursuing populist anti-immigration policies that place tacitly tolerated and highly effective logistics systems under threat.

Earmarking of shipping space

When an empty 40-foot container is backed into a warehouse in the PRD and opened, logistics agents have 67 CBM of space to fill. In groupage shipping, the agent has already earmarked this space for specific customers by the time their container arrives. This section discusses how traders who ship full containers use earmarking techniques to distinguish the categories of social relations attached to different sections of the container space. Based on these categories, traders divide the physically homogenous space within a container into separate segments and impose different principles for governing how these sections are used. The earmarking of freight space is a response to uncertain political and economic circumstances as well as a tool for coping with the social expectations associated with transnational travel. The rest of this section discusses one particular case of earmarking, whereby a Senegalese trader organized the movement of goods to secure the sustainability of her business as well as her social relations.

Bintou was a middle-aged woman from the suburbs of Dakar who was proud of how she had managed to build herself up as a businesswoman from a humble start decades earlier. She liked to talk about her respect for Hillary Clinton as a woman who stood by her unfaithful husband and thus secured her family's future. Bintou described herself as a quiet person who was in China to do business, not to fool around. To illustrate her point, she identified a young Gambian man who attempted to gain her attention, most likely to offer sexual intimacy and be gifted some money. She highlighted the difference between herself and the women who allowed such men to court them. The self-identification as a family-oriented person turned out to be central to her descriptions of her commercial activities.

Like many African traders, Bintou was expected to bring gifts when she arrived home from China. Such gifts can deplete the business capital of traders who fail to show restraint.

However, as a woman who cared mainly about her immediate family and did not like to throw money around, Bintou announced that buying presents for her close family sufficed. Moreover, she would not bring more gifts than could fit in her suitcase. The combination of spatial restrictions, gendered identity, and moral framing allowed Bintou to restrain expenditures on presents.

A Senegalese logistics agent would commission a 40-foot container on Bintou's behalf at the end of her stay. As she bought goods, she had them shipped to the agent's warehouse, where he measured and stored them. She mentally partitioned the space in the container before she started the procurement. Bintou reserved one section for goods that allowed her to recover travel expenses: A section set aside for China-made cloth would pay for the air ticket and visa to China She worked with a wholesaler in Dakar to distribute the textiles to retailers, who paid her back in weekly installments and reimbursed her fully within a month's time. She dedicated another section to recover the costs of accommodation and living expenses in China. She filled this space with tampons and mattresses, goods that, like the cloth, had low but predictable profit. The money Bintou received from the sales of the textiles, tampons, and mattresses would fund her next trip to Guangzhou.

The remaining space in the 40-foot container was designated for furniture and household appliances, which Bintou imported and sold on credit to people living in her suburb. This business yielded higher profits than textiles and sanitary products but had slower returns and higher risks. Bintou gave customers furniture pieces one at a time, for which they paid 325 CFA (US$ 0.56) every day through a credit plan. "That is not a lot, but in a month it makes 9500 CFA. If you have many clients like that, it adds up to millions per year," she said. She had recently struck a deal with a landowner in her community that would expand her group of customers. This time, she had filled the container with bathroom fixtures, living room furniture, television sets, refrigerators, and air conditioners. Similar furniture payments plans have served as avenues for financial inclusion in many parts of Africa, particularly among black South Africans (James, 2014). Affordable container shipment makes such schemes viable for China-made goods.

At first sight, Bintou's earmarking of space may come across as a way to separate the resources allocated to social reproduction (the suitcase) and those allocated for business purposes (the container). However, just as anthropologists focusing on money have proven that the distinction between social and profit-oriented spending does not hold (Parry and Bloch, 1989), the space earmarked by Bintou does not fit neatly into one category. When I asked if she included gifts for her housemaid in the suitcase she had devoted for gifts to family members, Bintou replied "Of course! I have to." She went on to explain that her business trips were only possible because she trusted the maid's ability to take care of the household in her absence. In other words, the social act of gift-giving was necessary for Bintou to keep her economic independence. Furthermore, Bintou's economic ventures were enabled by her social respectability. The arithmetic practices by which Bintou allocated money and shipment space for various purposes included both monetary and social variables. She presented her retailing plan as a development scheme for women in her hometown that allowed them to realize aspirations for a middle-class lifestyle, and she had established a non-governmental organization for women and community development affiliated with the business. The shipments of furniture enabled Bintou to purposefully reproduce and strengthen her community relations.

The thriving furniture industry in Guangdong relies on imported hardwood. Some of the wood originates in Casamance in Southern Senegal and is illegally exported to China via the Gambia. Ironically, therefore, the furniture Bintou imported from China may have derived from wood that was once shipped in the opposite direction. However, the case also illustrates how unevenly balanced flows of exports and imports can lead containers to be employed even when they are not the most physically efficient way of moving goods. Forty-foot shipping containers lined with plastic have recently been employed to transport agricultural products, such as soybeans and barley, from North America to Asia, where trade imbalances have produced low westbound freight rates (Levinson, 2016: 364). However, as a Chinese trader exporting hardwood from the Gambia explained, there is an additional reason for shipping round lumber in closed rather than open-topped containers, which would have allowed for easier loading and stacking: The closed container makes the illegal export easier to conceal due to the ubiquity of closed containers and the way they keep the goods they store out of view. Two-way container trade between China and Senegambia decreases the freight costs for traders like Bintou, while at the same time illustrating how the growth in legally sanctioned global cargo mobilities is impossible to disentangle from illicit movements (Martin, 2015; Nordstrom, 2007).

Conclusion

Logistics flows from the PRD to African cities are remarkably effective at getting goods from producers in China to end markets in Africa. Flows of goods ensue when actors navigate on the edges of what the doable, adopting creative and risky strategies to squeeze out profits in intensely competitive and politically unpredictable environments. The space within a container is a social and political construct, and the concepts of “pressure” and “earmarking” allow us to analyze it as such. Via reappropriations of the hydraulic baling machine and forklift, logistics agents pass the downward pressure on profits onto bales of goods. Through earmarking shipment space, traders who experience threats to some funds manage to salvage other fragments of their capital.

Successfully assembling logistical flows depends – paradoxically − on adaptations to disorder. The disorder inherent in China–Africa petty commodity chains becomes discernable when goods topple out of containers opened by customs officials or debtors default and instigate liquidity problems that transmit between actors. From the perspective of those involved in Sino-African exports, the intensified commercial integration between China and African countries looks neither smooth nor inevitable. Rather, moving goods and shifting money require considerable effort and creativity, *ad hoc* solutions for which the political tolerance so far has been high.

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