Agriculture and Human Values (2020) 37:175–185
https://doi.org/10.1007/s10460-019-09987-2

Constructing freshness: the vitality of wet markets in urban China

Shuru Zhong[1] · Mike Crang[2] · Guojun Zeng[1]

Accepted: 18 September 2019 / Published online: 17 October 2019

Abstract
Wet markets, a 'traditional' form of food retail, have maintained their popularity in urban China despite the rapid expansion of 'modern' supermarket chains. Their continued popularity rests in the freshness of their food. Chinese consumers regard freshness as the most important aspect of food they buy, but what constitutes 'freshness' in produce is not simply a given. Freshness is actively produced by a range of actors including wholesalers, vendors as well as consumers. The paper examines what fresh food means to consumers in the Chinese market. It argues that wet markets create a sense of freshness that resonates with this culinary culture through their sensoria, atmosphere, and trust between food vendors and consumers. Together these respond to desires for and reproduce criteria used to evaluate freshness. Within a fragmented food trade system, wet market vendors have an advantage in offering 'freshness' through their ability to connect various wholesalers, agencies, and middlemen, and shorten supply chains. The paper is based on participatory observation, a consumer survey and in-depth interviews of various stakeholders in southern China, especially Sanya in Hainan and Guangzhou in Guangdong. This study suggests that this cultural construction of freshness creates a niche for small-scale players and 'traditional' markets in an increasingly concentrated global food system.

Keywords Freshness · Food retail · Urban market · China · Consumers

Introduction

This paper explores the cultural formations of food retail in South China. It argues that the way that consumers understand and value the qualities of food, especially freshness, has led to the rise and persistence of a particular retail form. In the cities of South China, the most popular type of food market is the "wet market" (*caishichang*). A typical wet market is a partially open commercial complex with vending stalls organized in rows; they often have slippery floors and narrow aisles along which independent vendors primarily sell "wet" items such as meat, poultry, seafood, vegetables, and fruits. Wet markets not only thrive in China, but also continue to be important food providers in Malaysia, Indonesia, the Philippines, and Vietnam, as well as in more economically developed regions such as Taiwan, Hong Kong, and Singapore (Francesca 2013; Huang et al. 2015; Liu 2008). Our study suggests the appeal of these markets lies in how they shape retail practices to create a quality of freshness desired by consumers. That quality, we shall show, is neither innate nor unchanging but produced.

Some scholars have predicted the rapid decline of traditional food markets, such as wet markets, as the global "retail revolution,[1]" with technological innovation, economic concentration, and geographical expansion of modern retailers, especially supermarket chains, reaches them. Food vending enterprises in wet markets tend to be small in scale,

✉ Guojun Zeng
zenggj@mail.sysu.edu

1 School of Tourism Management, Sun Yat-sen University, 135 Xingangxi Rd, Haizhu Dist, Guangzhou 510275, China

2 Department of Geography, Durham University, Lower Mountjoy South Road, Durham DH1 3LE, UK

[1] The so-called "retail revolution" brought about a nearly complete transformation from small-scale groceries to supermarket chains in developed countries such as the US and UK (Burch et al. 2013; Wrigley and Lowe 2002). Wet markets and other small-scale food retailers were eliminated or relegated to the margins. Furthermore, aggressive global expansion of transnational retailers such as Wal-Mart (USA), Carrefour (France), Metro (Germany), Aldi (Germany) and Tesco (UK) has facilitated retail modernization beyond the West (Dakora 2012). By combining the emergence of transnational retailers with the rapid growth of domestic supermarkets, in the early 1990s in much of South America and South Africa, supermarkets' share of food retail sales grew from about 10% in the 1990s to approximately 60% in the mid-2000s (Reardon and Gulati 2008), with Mexico, Central America, and later West Africa following that trend (Coe and Wrigley 2007, 2009).

labor-intensive, require little financial investment, and be subject to few regulations. Considering these features, wet markets seem to be economically inefficient and are often figured as 'backwards' compared to modern retailers especially supermarket chains (cf. Polsa and Fan 2011; Reardon et al. 2007). However, the explosive growth of both domestic and international supermarket chains in China since the 1990s has not been a harbinger of doom for wet markets. Recent consumer studies have demonstrated that instead of being an inferior choice to supermarkets, wet markets continue to be the most significant fresh food source in many metropolises, including Shanghai, Guangzhou, Nanjing, and Qingdao (Bai et al. 2008; Si et al. 2019).

Some studies have argued that the competitiveness of wet markets against supermarkets in China derives from cheaper prices and proximity to consumers (Chen 2017; Humphrey 2007; Zhang and Pan 2013). The trend on which studies agree is that wet markets have an advantage over other retail formats in fresh food, meeting a demand for everyday fresh supplies sustained through a practice of frequent shopping that is especially strong in China (Goldman et al. 1999; Goldman 2000; Zhong et al. 2018). Some have suggested that wet markets and supermarkets are complementary shopping choices rather than competing ones. The pattern emerging is of multi-channel shopping where people tend to shop for dry goods, processed and packaged food in supermarkets but purchase fresh produce, especially vegetables, from wet markets (Maruyama and Wu 2014). This raises the question of why Chinese consumer have preferences for sourcing fresh food in wet markets or, to frame it more exactly, what is the nature of 'fresh food' that wet markets can provide but supermarkets cannot.

Although existing studies have identified fresh food as the key to wet markets' continued success in urban China, they have viewed freshness as a more or less self-explanatory quality meeting a simple consumer desire, and thus they have not problematized what actually constitutes freshness for (Asian) consumers (Zhang and Pan 2013). This paper shows the kind of food freshness that is assessed by local consumers, constructed by wet market vendors, and delivered by a fragmented food trade system. Therefore, this work offers a deeper explanation of wet markets' continued vitality and resilience in today's urban China. Using consumer surveys, as well as interviews with vendors, managers of wet markets and supermarkets, wholesalers, and food producers, this study unpacks consumers' multidimensional understanding of freshness and explores the detailed mechanisms operating in wet markets to construct this sense of freshness. Wet markets serve as a space for cultivating close relationships between consumers and their food, and trust between food vendors and consumers; which, in turn, provide assurances of freshness as local and immediate. Finally, this work traces the food supply chain operating in wet markets, arguing that freshness is produced through a fragmented food trade system in which wet markets connect different wholesalers, agencies, and middlemen in order to guarantee a fresh food supply. Overall, wet markets bring together multiple actors and practices that deliver the quality of freshness, that facilitates these markets' ongoing competitive advantage, so that they are likely to remain key elements in the retail food landscape of urban China.

Freshness as multiple ontologies and materialites

The contention of our paper is that the category of freshness is ontologically multiple—it can be different things and formed of different material properties for different cultures and consumers. Further, the epistemic practices of how those qualities are signified, assessed and known are also specific. This paper outlines the specific ontologies in South China, though they extend more widely, and how that ontological freshness is assessed there. In so doing, we broaden the multiple ontologies and materialites outlined by Freidberg and Jackson. Freidberg's (2009) historical account of the evolution of the cold chain in North America points to the work needed to persuade consumers that products stored under refrigeration for long periods were indeed 'fresh'. She refers to this as the production of 'industrial' as opposed to natural 'freshness':

> mass-produced, nationally distributed, and constantly refrigerated. Far from a natural state, it depended on a host of carefully coordinated technologies, from antifungal sprays to bottle caps to climate-controlled semi trucks. It was a "state of being" that Americans of the not so-distant past—and people in many other countries still today—would have considered nowhere near fresh (p. 2)."

As she says, freshness seems unquestionably a good thing but few food qualities are actually as complex and contested (p. 3). Jackson et al. (2018) revisited this complex and contested category with a comparison across the UK and Portuguese food sectors, to show that currently freshness there can be enacted through multiple ontologies entailing different material properties. They recognize Freidberg's 'technology-based freshness' (standardized and consistent material qualities), but add senses that convey varying other qualities such as small producer-based freshness (local and seasonal material qualities), and food-quality-based freshness (natural and authentic) and consumer-based freshness (sentient and lively). More than just different interpretations of a singular thing, freshness is thus multiple. This multiplicity is then compounded by different semiotic regimes promoting different qualities of freshness and different epistemic regimes of assessing these differing qualities among consumers.

In South China, we found little resonance for the senses of 'technology-based' or 'technical' freshness among either consumers and wet market vendors. In contrast, understandings of freshness are a semiotic antinomy to refrigerated food, and instead connected to the pursuit of freshness as 'immediacy', which might in terms of meats be a sense of 'freshly killed', and localness. Consumers exhibit elements of what Freidberg (2015) terms *Frigoriphobie*. In making this case we also then connect the creating this sense of freshness with the affordances of 'wet markets', as places that smell of produce, that have a sense of unruly material presence from varied foodstuffs (as opposed to the sterile, standardised freshness afforded by supermarkets). The lively shopping and retail experience, where that liveliness is both in the environment and the produce, serves to enact this quality of freshness as immediacy. It is a quality of freshness that carries through to the practices of cooking with frequent or daily shopping trips to provide 'fresh' ingredients rather than allowing prolonged storage in the home. In Chinese, the word for freshness is *xinxian* (新鲜), which literally means new and savory; the Chinese character *xian* is a combination of the characters for fish and goat, meaning a savory taste brought out by cooking these two ingredients together. *Xian* is an appetizing taste, considered to be the soul of many Eastern cuisines. In Japan, for instance, *xian* is translated as *umami*, meaning good flavor. For thousands of years, *xian* had been regarded as fundamental to Chinese cooking (Chong 1993). Especially in southern China, people are obsessed with the idea that only the freshest possible ingredients, such as live fish, can bring out the natural flavor of *xian*. This is seen as especially important in Guangdong cuisine as it relies less on spices and instead foregrounds the taste of the ingredients (Lu and Fine 1995).

Coupled to the ontology of freshness as immediacy and localness there are also epistemic practices. If wet markets are able to produce this quality of immediacy then it needs to explore how people actually determine and assess this kind of freshness. The relationship between freshness and wet markets should be considered a complex amalgam of food culture, values and practices, (cf. Applbaum 2004, 2005; Bestor 2004) in which consumers' routinized actions instantiate specific patterns of desire and localized rationalities in provisioning conducts and practices of food valuation. Chinese consumers have their own particular criteria for judging various food items. They may prefer vegetables that look plump and lack withered leaves, live fish swimming in a tank, live chickens with red and sturdy combs, iced sea fish with crystal-clear eyes and red gills, pork still warm and just delivered from the slaughterhouse, etc. These criteria, however, do not use formalized indicators. For Chinese consumers, freshness is judged through practices without universal yardsticks (Liu 2008). Freshness is found when experienced food shoppers mobilize as many senses as possible to select food, via their looking, poking, squeezing, smelling, and so on. The wet market thus enables the kinds of valuation practices that ascertain the type of freshness Southern Chinese consumers seek. It is not enough to say 'freshness' makes wet markets attractive; it is also the case that they enable the kind of freshness, and its evaluation, that consumers seek.

Field study

This study is based on fieldwork conducted in Hainan Province of China from May 2016 to July 2017. Additionally, we did observations and interviews in Guangzhou City in 2018. We visited wet markets, supermarkets and wholesale markets in all 18 municipalities of Hainan Province, with a focus on Sanya City, the third largest city in the province (population 0.7 million). Sanya has a per capita disposable income on par with the national average, a diverse population of long-time locals and rural–urban immigrants from different regions of the country, and a vibrant food retail sector with thriving wet markets (with 33 sites) and rapid-growing supermarket presence (with 13 stores). Methods included participatory observation, consumer surveys (n = 304), vendor surveys (n = 113), and in-depth interviews (n = 30) with wet market managers, supermarket managers, wholesalers and food producers.

The first author lived in Hainan Province for 14 months and acted as a researcher, migrant resident, ordinary food shopper and as a food vendor. We engaged in what Bestor (2004, p. 41) called "inquisitive observation," roaming around and watching the busy transactions occur again and again. We asked random people who seemed to have time and an interest to answer what must to them have seemed arbitrary questions, addressing topics such as the sources of goods and how to assess the freshness of a fish. We also participated in the commerce by purchasing food. We thus came to understand the consumer's shopping experience in wet markets and supermarkets. In-depth understanding on the food trade system could not be gained solely by market observation because many food vendors exhibited hostile attitudes at the beginning of the research, fearing we were trying to steal their business secrets. So the first author became an unpaid assistant at a seafood stall in the largest wet market in Sanya and through this built rapport with the vendor community. The first author took part in vendors' everyday lives, helped them when they replenished stocks of goods from wholesale markets, and delivering goods to their clients, chatted with them during idle hours of business, and often ate in their homes after the day's hard work was done.

We designed a trader survey to collect data that would: first, examine how traders operate their enterprises in wet markets, and second, investigate the composition and structure of traders' social relations. We conducted 113 trader surveys in 14 wet markets in Sanya. There were 18 cases among the 113 that came from nonprobability sampling. The majority of the cases were based on systematic sampling techniques (Bernard 2011). When possible, we walked into a wet market and approached a random trader, introduced the project and asked all of the questions, and then approached the fifth stall away from the stall previously contacted. If the trader of that stall was busy or rejected the survey, we moved to the next fifth stall. While immersed in the often smelly and extremely chaotic and noisy environment of the wet market, we had to remember all of the survey questions, use no recorders, and keep the survey process as natural as possible, in order to resemble a conversational interview. Information was then recorded in pocket notebooks. Interviews lasted from one to several hours, depending on the respondent's willingness. On most occasions, there were regular distractions and pauses as traders needed to take care of customers. In cases where we were unable to complete the survey in a single day, we arranged additional meetings with the respondents.

The consumer survey was administered to assess how consumers used and perceived wet markets (as opposed to supermarkets), and how consumers' food culture and consumption patterns impacted wet markets' survival. At first, we tried the intercept method to sample survey participants at the entrances and exits of marketplaces, but consumers often refused the survey because they were busy with the shopping trips. We found a better tactic was to use the local habit, common across socioeconomic status, age and occupations, of taking an after-dinner stroll. We picked the four most popular areas for after-dinner strolls in Sanya city, switching the survey site every night, and approached random individuals who appeared to have spare time, introduced ourselves and the project, and asked the screening question: are you the frequent food shopper in your family or knowledgeable regarding how your family engages in food shopping? Once we received a positive answer, we began to ask the survey questions. When the first respondent finished, we moved on to the fifth-next person encountered and repeated the process. When conducting the survey, we asked interviewees each question, one by one, and elaborated upon the question if any misunderstanding was apparent. We selected the answers on our smartphones. At the end of the survey, there was space to record interview notes, including respondents' interesting opinions, stories, and characteristics not reflected in the survey questions. A typical survey lasted from fifteen to thirty minutes, though hour-long conversations occurred with enthusiastic respondents.

Interviews with other key informants who had a rich knowledge of wet markets occurred in different cities. We met them in locations such as marketplaces, stores, offices, cafes, and restaurants; some were structured interviews while the others were open-ended. We spoke with some key informants on multiple occasions. We asked the wet and wholesale market managers about their daily operations and their understanding of local food culture. Supermarket managers informed us about their self-evaluation on freshness and competition with wet markets. Furthermore, producers and traders in the wholesale sector provided us with information on the upstream food trade system, allowing us to better situate wet markets within the greater food trade structure.

Freshness as a principle of food shopping

Urban residents grew used to purchasing food at wet markets and accepted them as a part of daily life during the socialist era (1950s to 1970s) when a number of wet markets were constructed and served as important points of food sales. Classic urban planning suggested a standard wet market should serve a population of 20,000 to 30,000 living in a 2-km radius. Major metropolises have struggled to achieve the planned ratio: Shanghai in Southeast China (population 24.2 million), as of 2018, has 985 wet markets (i.e. 1 per 25,000) (Shanghai Government 2018). Beijing in North China (population 21.7 million) had 182 wet markets (i.e. 1 per 130,000) within its third ring road as of 2009, but the number has dropped rapidly recently under city government policies to suppress informal settlements. Guangzhou in South China (population 14.5 million) possesses more than 400 in the urban district (i.e. 1 per 36,000). In these tier one cities, a number of wet markets have been demolished because local governments, performatively enacting the rhetoric of a modernizing 'retail revolution', deemed them as outdated and damaging to a city's appearance (Maruyama et al. 2016). But Sanya (population 0.7 million) as a medium-size city, had 33 in 2017 (1 per 21,000), with average 280 vending stalls in each wet market, and there and in similar middling cities, the local government is planning new wet markets with modern facilities in the newly urbanized areas.

Our consumer survey in Sanya city shows that 77% of the survey participants choose wet markets as the primary channel for fresh food, despite the rapid expansion of supermarkets in the city. We also found food freshness was the primary consideration in shopping for vegetables and meats. Echoing the study conducted in Nanjing, Jiangsu Province, and commented upon by Veeck and Burns (2005, p. 648), we too found "…the preoccupation with buying food that is as fresh as possible is an everyday pursuit of consumers." The consumer survey distributed in Sanya City and interviews of wet market managers in Guangzhou City revealed that freshness has become the foremost priority among food shopping concerns, and the pursuit of such freshness is closely associated with the use of wet markets. The emphasis on freshness is shaped and continually reinforced by the local culinary culture.

We surveyed 304 food shoppers in Sanya City (196 females and 108 males), ranging in age from 20 to 84, and found that these shoppers devoted their highest level of concern to food freshness. Approximately 70% of the survey participants described themselves as "extremely concerned", whilst a further 23.5% were moderately concerned about the freshness of their food. The concern over food freshness and quality is not unique to China, the Eurobarometer (2010, p. 29) report on food-related risks suggests that 68% of Europeans express worry about the quality and freshness of food, ranging from 37% in the Netherlands to 94% in Latvia. However, such surveys conflate concerns over what we have argued to be ontologically different kinds of freshness. Ranking their topics of concern in daily food shopping from highest to lowest, Sanya respondents indicated the following order of priorities: food freshness, food quality, food price, food safety, trade integrity, food origin, food assortment, hygiene of the marketplace, retailers' service, and shopping atmosphere. This result suggests that Sanya locals are driven by food quality. When selecting suitable marketplaces for their food shopping, they are primarily concerned with food-related factors such as freshness, quality, and safety, and relatively less concerned about the shopping environment. Food freshness tends to be the major point of competitiveness for wet markets, where they are considered superior to supermarkets. Approximately 67% of interviewees believed the food in wet markets to be substantially fresher than what could be found in supermarkets; only 10% expressed the opposite opinion. This suggests a key dimension to understanding wet markets continuing success is how the local culinary culture constructs the category of freshness.

Ontologically freshness is not a self-evident category but one that varies over space and time. Whilst in Sanya one can find some elements that Jackson et al. (2018) identified in the agri-food sector of UK and Portugal, with people speaking of fresh food being local and seasonal, natural and authentic, there is a stronger concern to feel freshness by touch, by signs of 'life' still being in the food. However, the British and Portuguese concern for freshness that is "uniform and consistent," a technical accomplishment enabled by modern refrigeration technology, is largely absent in Sanya and Guangzhou. Instead, food freshness is more associated with good taste, levels of purity, and implied nutritional value. But above all, for Chinese consumers, freshness first means immediacy; the shorter the time between harvesting and consumption, the better the food is. Consumers like to see live birds and swimming fish, observing them being butchered at the point of purchase, and consuming them in hours. A wet market manager in Guanghzou told us that on-site slaughter of birds was only stopped in the markets in 2015 because of concerns over avian flu. Some consumers felt upset with this change, abandoned the market and instead bought live chickens in the countryside and processed them in their own homes.

In this assessment Chinese consumers' resistance to the claims of refrigeration to present fresh food in home kitchens, show the contested norms regarding food's naturalness and freshness. As Freidberg (2009, 2015) argued, historically refrigeration not only facilitated de-localizing and industrializing food supply, but also aroused controversy as it challenged social norms of the time especially regarding transparency of origin and freshness. Reaching further than the global 'cold chain' of supply, refrigeration began arriving in home kitchens from the 1920s and 1930s. Chinese home kitchens have not widely used refrigeration until 1980s and 1990s, and at the time, people hailed possessing refrigerators, together with television, washing machine, and air conditioner, as "the four major items", as a symbol of economic abundance. However, many people are still not used to storing just-purchased meat and leafy vegetables for long periods in refrigerators. Right up until today, many Chinese consumers are still suspicious of refrigerators. To avoid long-term refrigeration at home, Chinese shoppers make frequent shopping trips—despite busy work schedules. More than half of the interviewed consumers in Sanya went food shopping daily, in contrast to only 7% who purchased food weekly or less. It was common to purchase only the food that was necessary for the next 24 h. Once food was purchased, respondents felt it was best to consume it as soon as possible; the longer the items were left to sit, the more flavor and nutrition they were felt to lose. A 28-year-old stay-at-home mother refused to use a refrigerator, and instead purchased ingredients at nearby wet markets before every meal. The proximity of wet markets facilitated this habit of frequent shopping (Zhong et al. 2018). There is often one on the main street within residential neighborhoods. Unlike the controlled ingress and egress from supermarkets, they generally have multiple entrances on the ground floor to allow an open flow of consumers. In Hainan and Guangzhou, people described easily accessing a wet market within a 10-min walk.

The aversion to the cold storage of foods extends from the household to the supply chain. Individually, consumers tend to be acutely aware of, and extremely sensitive to, what they like and dislike (Falk and Campbell 1997). Their aversion to "non-fresh" food, that has been chilled or frozen, can at times be much more socially diagnostic than their desire for freshness (cf. Wilk 1997). The percentage of consumers who said they rarely or never purchasing frozen food was 44%. Chilled or frozen meat was regarded as inferior to warm, fresh meat. Iced sea fish was considered less fresh than purchasing live fish. Some consumers did at times buy frozen dumplings and steamed buns to serve as breakfasts. Frozen foods such as fish balls were considered more acceptable for use in special dishes such as hot pot. Respondents were skeptical about the ingredients in industrially produced frozen food, and deemed such goods as lacking in nutrition. Cooked, processed or preserved food is also not welcomed. Interviewees stated that they purchased cooked food such as roast pork and duck only when they lacked the time to cook themselves. The consumption of canned food was rare, with 81% of survey respondents reporting that they rarely or never purchased canned food. Respondents called canned goods "stale," "junk," and "full of preservatives," believing that the food additives in canned goods had hazardous health effects. This resistance contrasts to other post-socialist food cultures where canned goods are seen as symbolizing globalization and modernization and where the acceptance of canned goods was part of growing consumer competences to distinguish various branded, processed foods (Jung 2009). The avoidance of canned food in China, is not about a lack of consumer competence, rather, the inverse—that being a skillful consumer means buying fresh food.

Freshness is also associated with localness. Interviewees expressed their belief that locally produced food was fresher and of a higher quality than nonlocal food. As Blake et al. (2010) put it, the adoption of local food by consumers is often reflexive and relational, and connected to their understanding of time and space, quality and value. If in the West, slow/local food initiatives have been bound up with notions of sustainability (Leitch 2003), interest in supporting local farmers and protecting the environment (Feagan 2007; Hinrichs 2000), Hainan people have a different motivation for prioritizing local food. Hainan consumers' preference for local food, from the island, stemmed from their belief that it tasted better. Some vegetables (*bendicai*) are indigenous to the island, such as towel gourd, long beans, and lettuce, but among everything else available for purchase, Hainan consumers believed locally grown items to be sweeter and tastier, while nonlocal produce was bitter and smelled "of pesticide," (no matter that local farmers also used pesticide). Consumers favor the abundant assortment of local produce recently harvested and transported from nearby farms to the wet markets.

Freshness as sensation in wet markets

In wet markets, the food, the shopping environment, the people, and the way of displaying the goods all combine to fit the image of freshness consumers in Southern China seek. We shall go on to show how the social interactions and trust between food vendors and consumers further reinforces the image of freshness.

The vibrant sensory experience of shopping in wet markets helps to construct the sense of freshness. Although wet markets in urban China have been decried by some on social media for their coarse and unsanitary environment, many shoppers relish the slippery floors, humid air, noisy atmosphere, narrow aisles, and fishy odour. Interviewees explained how much they enjoyed the vitality and energy of the wet markets, calling them "lively and boisterous (*renao*)".

> Ying: I am used to go[ing] to the wet market near my house [at] 6 a.m. because food [at that] time is the freshest. Walking through the gate, I am immediately embraced by an extremely busy scene. I see pork vendors move whole pigs just delivered from the slaughterhouse to their stalls and begin to dismember [them]. Hundreds of vendors are busy sorting goods. I like live shrimp and fishes swimming in water tanks, and vegetables with roots and dirt just pulled out from local farms. I can see and feel the fresh food.

Informants also claimed that wet markets have a smell of "smoke and fire" (*yanhuoqi*), an allusion to wood burning cookery smells, and a metaphor for a natural and lively atmosphere as part of the pleasure of home cooking. Some white-collar workers bemoaned the lack of *yanhuoqi* during busy weekdays but used wet markets to help them to recover it at weekends.

> Mr. Yan: Strolling at wet markets is my way of relaxation after exhausted workdays. I like wet markets because it has Yanhuoqi. Yanhuoqi is possibly a sense of being alive. You cannot escape from the strong feeling of yanhuoqi in wet markets because you are always surrounded by diverse, vibrant foods, throngs of shoppers, and the loud voices of talking and vendor hawking. Everything comes to alive in the market. Sitting in the office, I have no sense of season. The seasonal, colorful, fresh food in wet markets tell me the season.

If the industrial freshness of supermarket food is warranted and assessed through technologies like vacuum seals and standards like 'best before' dates, how is the immediate freshness of wet markets assessed? Consumers develop varying repertoires of practices to judge this latter ontological construction of 'freshness'. In wet markets, freshness as immediacy becomes a sensation; consumers are able to look at, touch, smell, and even taste the food before they make a purchase. Such intimacy between people and their food is difficult to achieve in supermarkets, where meats are frozen and goods are cleaned and packaged. Wet market freshness is closer to western farmer's markets and 'seasonal' freshness, where consumers use the dirt on vegetables as indicators (Eden et al. 2008).

The assessment of freshness in pork may depend on its firmness, smell, or color, with different cuts having different criteria. Liang, a wet market shopper with 30 years of experience, claimed that he could tell the freshness of a watermelon by tapping it and listening to the resulting sound, and estimate how long ago a sea fish had been caught by examining the fish's eyes and gills. Wet markets resemble public laboratories where people are at liberty to engage in food experiments and reconnect with their food. Consumers believe that their skills of judging freshness will be enhanced by the accumulated shopping and cooking experience. Lili had cooked for her large family of eight people for 7 years, and she learned to sort out the freshest ingredients in wet markets through practices day by day. She said, "foodstuffs can talk themselves. Fresh food has distinct look and tastes. If the food tasted good today, I would recognize how it looks like and buy some with similar appearance another day."

In addition to making detailed, active assessments, consumers use their social networks with food vendors in wet markets to procure the highest quality in their food. Because vendors are independent and have complicated supply sources, wet markets in today's China chime with Geertz's (1978, p. 29) bazaar economy, where "information is poor, scare, maldistributed, inefficiently communicated and intensely valued." To reduce risks, shoppers and vendors establish long-lasting reciprocal relationships. In China, regular customers are called *shuke* (cf. Dannhaeuser 1980). Being a *shuke* to a vending stall does not mean only shopping there, but is essential to accessing their freshest food, especially, we were told, with regards to food varieties such as pork and leafy vegetables.

The 113 Sanya-based vending enterprises investigated in this research had operated for an average of 10.5 years, with a minimum of 2 months and a maximum of 33 years. Most vendors had a number of *shuke*. *Shuke* do not necessarily purchase food every time they encounter their vendors. Interviewees explained that they did not interact socially with vendors outside of wet markets, but did enjoy casual chats while shopping; these were often brief and mundane, but gave them a feeling of warmth. The solicitude of vendors is called *reqingwei*, literally being considerate and showing concern (Liu 2008). A senior manager of a wet market in Guangzhou claimed that supermarkets did not have "soul," because they lacked this quality. In other cultural settings, notably Singapore and Italy, such social functions of conventional food markets are salient in and of themselves. Urban food markets often serve as public spaces where informal and wide-ranging social interactions occur. They strengthen the feeling of belonging to a community, build up a group's sense of identity, and facilitate communication across different classes, ethnicities, generations, and social statuses (Black 2012; Mele et al. 2015). In south China the sociality was valued, but was mostly valued for access to the freshest produce.

Wet market vendors are extremely sensitive to the food preferences and health concerns of their *shuke*, and accordingly, *shuke* rely on vendors when making their shopping decisions.

> Huang: It really bothers me every early morning in the wet market because I do not know what to buy, but I have some ideas after the familiar vendors passionately recommend their fresh supply of the day. One time I wanted to try the white radishes, but the vegetable vendor told me that [they] had been … there for days, and instead she suggested [I] buy eggplant which [had] just arrived.

It is vendors who commend and vouch for the freshness of commodities and reserve special ingredients for their *shuke*, based on their dietary habits. *Shuke* continue to purchase exclusively from these vendors as repayment for the favour. Consumers do not need to carefully examine the goods for freshness when they buy from familiar vendors with whom they have solid social relationships. A string of food scandals, such as melamine-tainted milk, in China not only highlight food safety as one of most urgent challenges to Chinese society but has also disrupted institutional trust in official certification of food (Yan 2012). To reduce risks of unsafe food, people respond individually by "everyday approaches" (Klein 2013). Consumer's trust in these vendors is what serves as the certification of freshness, quality and safety. This "politics of reconnection" or indeed continued connection contrasts with the distancing from food production felt in supermarkets (Hartwick 1998, p. 433). In wet markets, vendors perform as intermediaries, reconnecting consumers with their food by sharing information related to the food's provenance and guaranteeing the freshness of the goods sold. The *shuke* relationship in wet markets offers more transparency of sourcing, and certifies the food's quality.

> Xiang: I have purchased pork nearly every day from [the] same pork vendor. We are acquaintances. He greets me every morning. He is very trustworthy. I know that he chose pigs from small farms in [the] nearby countryside. His pork is much fresher, more tender, and moister than the others.

Vendors then invest a great deal of labor into maintaining and communicating the freshness of their goods, because they recognize how much this means to consumers. Vegetable vendors peel the withered old leaves off Chinese cabbage, leaving the inner crisp and blooming stems; this is despite the fact that this results in a significant amount of waste. They also regularly spray water on leafy vegetables and reorganize their products to ensure an appealing display.

Wet markets are the absolute winner in terms of freshness competing with supermarket. Several studies suggest an emerging multi-channel food retail pattern. Chinese consumers use supermarkets for manufactured goods and packaged food while wet markets meet their needs for fresh food (Mai and Zhao 2004; Wang et al. 2009). According to our consumer surveys, 66.7% of interviewees perceive the food in wet markets fresher than in supermarkets, with only 10.3% expressing the opposite idea. The first reason is that the retail-consumer social interaction is largely absent in supermarkets, so they failed to provide 'knowability' of source. Wet market consumers either gain sourcing information from vendors or witness produce being directly delivered from wholesalers early in the morning. They are able to immediately touch the fresh food just put on display in the stalls. In contrast in supermarkets, consumers are kept from observing the preparation process of food items, and thus believe that their food may have been stored in refrigerated warehouses for days before reaching the shelf. Furthermore, supermarkets stand for standardized perfection but offer few sensual opportunities (Isaacs et al. 2010). Vegetables and meat are pre-sorted nicely and pre-packed in plates or bags in assembled groups and measures in supermarkets, yet many consumers prefer to pick through every piece of food for close examination. Ironically, it is the lack of storage space and refrigeration in wet markets that is interpreted by local consumers as meaning that the vegetables and meat sell out daily, further enhancing the perception of freshness (Goldman et al. 1999). This indicates how the different sourcing strategies in the food trade system connect to these different versions of freshness.

Consolidating freshness in the food trade system

The food trade system in urban China is vertically and horizontally fragmented with no particularly dominant players. The food trade system consists of many diverse and competitive producers, wholesalers, agencies, middlemen, and retailers. Horizontally along each trade level, actors compete with one another (Zhang and Pan 2013) so the food market is far from coordinated at any given trade level. Trade systems with this low level of integration are also apparent in present day Japan and Vietnam (Aoyama 2007; Gerber et al. 2014). Because they serve as an aggregation of creative and flexible vendors, wet markets connected different trade levels; vendors could obtain supplies from all market participants, ranging from small producers to wholesalers and agents, on or off Hainan Island. Wet market vendors establish links through social networks and franchise dealerships, from both upstream middlemen and wholesalers. These adaptable linkages result in the competitive freshness of the food in wet markets.

In today's China, neither food producers nor retailers dominate the food trade system. At the production end, industrialized farms and millions of small-scale farmers coexist. At the distribution end, the top food retailers, including Walmart, Carrefour, and domestic supermarket chains far from monopolize the market (Kantar World panel 2017). Few food retailers have the negotiating power necessary to control the supply chain. The uncoordinated market channels mean many supermarkets are unable to create consistent, uniform produce and technology-based freshness (Jackson et al. 2018). Most retailers thus use conventional channels such as local wholesale markets to replenish their stock of agri-food. Supermarkets and wet market vendors have to compete in the local wholesale markets where social networking is still a prominent factor for obtaining fresh and high-quality stock. Wet market vendors take advantage of wide-ranging social connections with different suppliers.

Taking seafood as an example, Hainan seafood producers range from local large-scale fishermen or fishery companies, local small-scale fishermen, through to non-local suppliers. Small-scale fishermen incapable of long-distance voyages sell their catch to fishmongers in wet markets, who are often familiar acquaintances or relatives. These catches are popular in wet markets because they retain intrinsic freshness, with gaps of less than a day from catch to table. Local supermarkets, in contrast, have no sources of small boat suppliers. Catches from larger vessels are first handled by seafood agents. At the fishing harbors, agents sell seafood to jobbers (i.e., secondary wholesalers). Fish mongers in wet markets obtain seafood directly from agents if they buy in bulk; otherwise, they turn to jobbers for smaller amounts. In order to secure freshness, fishmongers must have a clear division of labor; some are responsible for supply procurement at the harbor, while others stay at the wet market to process deliveries and sell to customers. Supermarkets in Hainan who operate with longer term contracts sell only limited varieties of seafood, primarily provided by wholesalers. They rarely form ties with seafood agents or fishermen, since the supply from them is so volatile in terms of both timing and amount. Because Hainan people regard sea fish as the most important dish, the abundant and fresh fish provision in wet markets is one of their advantages.

Social connections between wet market vendors and their suppliers became key to securing freshness at times. Among the 113 vendors interviewed in Sanya, 75 (66%) reported having at least one regular supplier. The familiarity and closeness between two business people is measured by their *guanxi* (Luo 2008; Yang 1994). Vendors are inclined to deal with suppliers with whom they have close *guanxi* because such a relationship offers a range of benefits, such as guaranteeing freshness. If there is close *guanxi*, it is a vendor's obligation to return such favors in times of need. For instance, a vendor must continue to purchase their supplier's commodity even when the market is oversupplied, and when other suppliers offer lower prices (Finan 1988). Otherwise, the trader's *guanxi* with the supplier will be seriously jeopardized. This is what Plattner (1985, p. 136) called an "equilibrating relationship," meaning that profits between trading partners can be balanced through long-term cooperation, rather than solely short-term gain (Kiong and Yong 1998). Equilibrating relationships, based on close *guanxi,* are extraordinarily valuable to fishmongers because their yield can be significantly affected by weather, and supply tend to fluctuate frequently and intensely. Many fishmongers actually have kinship ties or long-term friendships with boat owners and agents; such connections assist them with regularly accessing a fresh supply.

In terms of vegetable sales, in Hainan, non-local vegetables comprise the bulk of the mainstream retail market. Non-local vegetables are distributed by two wholesale markets in Haikou City and Sanya City. Wholesalers request provisions from either non-local large-scale corporate farms or the Guangzhou Jiangnan Wholesale Market, the largest wholesale market in southern China. Local vegetables grown on farms are collected by middlemen (i.e., aggregators) and then distributed to wholesale markets. A small portion of local vegetables grown by family farms are sent directly to wet market vendors, often family members. Commonly, wet market vendors strive to diversify their vegetable varieties, obtaining their supply from aggregators of local vegetables, wholesalers of non-local vegetables, and jobbers (i.e., secondary wholesalers) for supplementary items. What is notable is that in Hainan, as compared to supermarkets, the wet market supply chain is much shorter and more diversified, and as a result, vegetables in wet markets are fresher than in supermarkets.

Conclusion

Our research demonstrates that the ongoing vitality of wet markets in urban China primarily rests in their competitive advantage with regards to a particular kind of freshness. This freshness corresponds with consumers' consumption habits and food culture. Consumers' pursuit of this freshness dictates vendors' behavior; vendors' social networks with suppliers foster the fragmented food trade system, which in turn improves the resilience of wet markets. This echoes Bestor's observation regarding Tsukiji, the most prominent fish market in Japan. "Tsukiji is highly embedded in complex social institutions that are sustained by the cultural logic of cuisine and trade, and, in turn, these logics are generated in part through the day-to-day operations of the market's institutions. The marketplace socially reproduces itself in an endless cycle." (Bestor 2004, p. 309).

Freshness represents the most desired food quality, and it is for that reason that consumers stated preferences for locally produced food with a short supply chain rather than concerns for sustainability (cf. Morgan 2010). For many consumers, wet markets are the most convenient and secure channel for accessing this kind of freshness. They provide a systematic mechanism of socially and culturally constructing freshness. In wet markets, consumers experience freshness through their senses of sight, touch, hearing, smell, and taste. Freshness is not simply found but enacted through complicated negotiations and levels of understanding. Furthermore, the *shuke* relationship and frequent social interactions among food vendors and consumers provide quality assurance in a food system marked by low levels of trust. The sensoria of the wet market and warm attitude of food vendors combine to enable judgements about freshness.

Wet market vendors identify niches in the fragmented food trade system to offer the freshest goods. Food commodities move via a number of fragmented channels such as producers, aggregators, wholesalers, agents, middlemen, and retailers. Vertically, there is no oligopolistic power; neither producers nor wholesalers drive the supply chain. Horizontally, there are no dominant players residing at the same trade level; both wholesale and retail markets see competitors with comparable strengths. Wet market vendors as non-integrated retailers function well within such a distribution design. Wet markets bring together numerous food vendors who can obtain supplies via different routes from local farmers, wholesalers, or jobbers at local wholesale markets, from middlemen off the island, or themselves become franchise dealerships for agricultural companies. Such an adaptable nexus between wet market vendors at different trade levels has led to wet markets becoming a venue for great diversity and freshness.

The contributions of this study are twofold. First, this work qualifies the growing body of work on the increasing concentration and scale of actors in food systems in which small-scale players tend to struggle (Coe and Wrigley 2009; Hu et al. 2004). The case of urban China, shows there are twists and turns rather than a simple trend of supermarkets replacing conventional marketplaces. Despite the rapid expansion of modern retailers, wet markets have been resilient, because they fulfil people's long-standing preference for food freshness. Second, the vitality of these wet markets is neither static nor one-dimensional, due to the systematic linkages between and interactions among food production and distribution, and the consumption culture.

Although we suggest wet markets are thriving because they fit culinary and economic dynamics in China, their future is far from secure. In some Chinese cities and other developing areas, conventional food markets face serious challenges from state policies. They are deemed outdated, disorderly, and unsanitary by local governments preoccupied with modernizing and beautifying urban spaces. Future research might examine the discourses of modernity and hygiene encoded in policies, and what impact these may have on small-scale food vendors, common urban residents, and the broader food system.

Acknowledgements Our sincerest gratitude goes to the individuals who have shared their stories with us. Our deepest appreciation also goes to ESRC (Award Number ES/R005303/1), the National Natural Science Foundation of China (Grants Nos. 41571129, 41901164, 41971190), and Institute of Belt and Road Studies, Sun Yat-sen University for funding this study.

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Shuru Zhong is a Postdoctoral Fellow in School of Tourism Management, Sun Yat-sen University. She received her Doctoral degree on Anthropology from Texas A&M University. Shuru Zhong's research interests include food markets, food ethics, and consumption culture. She is a research associate on the ongoing scholarly project "Sustainable Consumption, the Middle Classes and Agri-food Ethics in the Global South" funded by Economic and Social Research Council, UK.

Mike Crang is a Professor of Geography, Durham University. Mike Crang's interests lie in the field of cultural geography. He has worked extensively on the relationship of social memory and identity, waste and value, and sustainable consumption. Mike Crang has authored three monographs, edited eight books, and more than 80 journal articles and book chapters. His research has been funded by various agencies including the UK Economic and Social Research Council and the Swedish Research Council.

Guojun Zeng is a Professor at the School of Tourism Management, Sun Yat-sen University. Guojun Zeng has authored over 60 publications in various journals and books. His publications reflect his research interests in food geography and hospitality management. His most recent book entitled "Restaurant Chains in China: The Dilemma of Standardization versus Authenticity" is published by Palgrave Macmillan in 2019.