Follow the Thing : "West Indian Hot Pepper Sauce"

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Follow the Thing

"West Indian Hot Pepper Sauce"

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In food studies, there are few examples of multi-site ethnographies exploring the hazy relations between commodity producers, consumers, and those in between (see Cook et al., 2006). This article attempts to add to this literature by tracing relations between one North London family cooking fishcakes on a Friday night, and the changing fortunes of a group of farmers in a rural Jamaica town ripping up sugar cane to grow hot peppers: a key ingredient in a bottle of Pepup "West Indian Hot Pepper Sauce" that connected their lives. (The names of places, people, and companies have been changed in this article to preserve the anonymity of those taking part in our research.) This article maps out a constellation of people, plants, bugs, diseases, recipes, politics, trade agreements, and histories, whose multiple, complex entanglements and disjunctures animate this "thing" and its travels. And, in doing so, the article draws upon and contributes to political/academic debates about: (a) conducting "follow the thing" ethnographies in which commodities and their biographies are the organizing principles of post-disciplinary research (Sayer, 2003; Marcus, 1995); (b) producing detailed case studies that illustrate how capitalist relations not only could be, but are, diverse, different, surprising (Leyshon et al., 2003; Miller, D. 1998); (c) presenting evocative, engaging, affecting but jarring accounts of connected lives that readers can hopefully identify with and get wrapped up in as they read (Agger, 2002; Heyman, 2000); and (d) theorizing together, between the lines, marxist, poststructuralist, and postcolonial approaches to food and its globalized, uneven geographies (see Castree, 2002; Cook & Harrison, 2003; Kirsch & Mitchell, 2004).

Keywords: *Caribbean food; material culture; multi-site ethnography; globalization*

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Figure 1. Harvested Sugar Awaiting Collection (left); Colonial Ruins (right)

Sources: http://richs85.tripod.com/j9.htm (left; accessed June 23, 2006; used with kind permission after donation made to Pedals for Progress—www.p4p.org); authors' collection (right).

Jamaica: The Shame in Cane

It was June 1998. We had been on a tour of the Long Pond sugar factory, in Trelawny, Jamaica. In 1991 and 1992, Michelle undertook her PhD research on the survival strategies of people living in the village of Gaythorne, where many small farmers were growing cane for this factory (Harrison, 1994, 2001; see Figure 1). Our Black Jamaican guide—Marshall—took us on a tour of the snaking, flat-bottomed valleys where most of its cane was grown on the best land of former sugar plantations.[2] We stopped the car by some old colonial buildings, got out, and walked toward them, talking. He told us that one was "the prison where they used to lock the slaves in." In the distance was the ruin of a 17th-century sugar mill. Next to it was the ruined façade of what Marshall told us was the old sugar factory. Then he pointed out the slave cemetery. He said that White people like us seemed to like these old colonial-style buildings. But, he told us, a lot of local people "get real [sounds like] ugly against White people, just because of the things that used to go on around here." He continued, "Cos, you know . . . a lot of slaves used to be around here. . . . And the . . . slavery mentality is still in the sugar industry." A few minutes later, we were standing in the middle of a harvested cane field, next to a single gravestone. We read the inscription. It marked the grave of a 21-year-old man who had died in 1833 in the plantation's great house. His father had apparently owned the estate. Marshall told us that a bulldozer had recently "mashed it up, and there's been a ghost" that had pushed a local bookkeeper and his wife out of bed every night until the stone was repaired and put back in place. Centuries of ugly colonial history were still very much alive, then, for the people living and working here (Harrison, 2001; Patterson, 1969; Tilley, 1991).

Later, Marshall called over a passerby to join us. This man was a "driver, like for a group of people. He oversees them. Supervises." The cane cutters, that is. But they didn't live locally. He continued, "The people from Trelawny, they don't want to cut the cane. . . . So they have to get people from, like, [the neighbouring parish of] Westmoreland to cut it." That was because the local people, especially the young men, "they full of pride, you know?" They didn't want to be seen doing this work. Those who worked for the day rate of J$200 (US$5.60, UK£3.37)[3] found it almost impossible to make a living. "Two days of the week" he told us, "the cane cutters . . . come down [to the factory], machete in hands and all of that, and try to get in the main office . . . to harass for more money." Michelle said, "So, if the sugar industry was to

disappear, . . . then all of these lands for the first time, . . . you'd have to think of some other use to put them to." In reply, Marshall pointed along the valley and said he'd heard of an American who "has come here . . . [to] make herbs and spices." He was "going to employ like 150 people." The Long Pond sugar factory employed about 750.

Jamaica: Developing "Nontraditional Exports"

Since the early 1990s, organizations such as the World Bank and International Monetary Fund have imposed structural adjustment policies on Caribbean economies to remove obstacles to free trade. By 2008, the World Trade Organization (WTO) has insisted that all preferential agreements be removed from international trade (Ahmed, 2001). Jamaica relies on these agreements for its sugar and banana exports, which are a significant source of foreign exchange and are "the island's largest employers of labour" (Beddall, 2002, p. 35). So, more than ever, the pressure is on to come up with new agricultural exports that are competitive on world markets (Ministry of Agriculture [MAO], n.d.). In 1998, a report by the UN's Food and Agricultural Organisation and the Inter-American Institute for Cooperation on Agriculture (IICA) identified the hot pepper (*Capsicum chinense*) as a "priority commodity for the Caribbean" (MOA, n.d., p. 2; see also McDonald & Clarke-Harris, 2001; see Figure 2). Unlike others, it could "be profitable and internationally competitive" (McDonald, 2001a).[4] Small islands can't do economies of scale. So they have to latch onto opportunities like the increasing worldwide demand for hot pepper. Here, demand is often in niche markets where volumes are smaller (meaning smaller producers can supply them) and prices aren't as sensitive as they could be in mainstream markets (JAMPRO, 1996/1997; Lawrence et al., 2000).

Rather than all Caribbean economies competing to produce the same hot peppers, each is supposed to specialize "its own specific pepper(s) with special flavour and aroma" (McDonald, 2001a). The Scotch Bonnet has been claimed for Jamaica. This is because, first, it's the only Caribbean pepper known by name in export markets, the others being mostly referred to as "habaneros" (McDonald, 2001b). Second, Jamaica has, for some time, been a major exporter of Scotch Bonnets to the United States (McDonald, 1999a). So, third, Jamaica and Scotch Bonnet fit together as the "premier . . . brand name . . . in the market" (McDonald, 2001b).[5] Fourth, as the Scotch Bonnet is the Jamaican "land race" of *Capsicum chinense*, Jamaica has an "ecological advantage" for its growth (MOA, n.d.). Fifth, hot peppers are relatively easy to grow, and their cultivation can be profitable even for small farmers (the only crops more profitable for small farmers worldwide are marijuana and poppies; Andrews, 1998; Lawrence et al., 2000). Sixth, Scotch Bonnets are indigenous to the West Indies, so this "non-traditional export crop" is nothing new to small farmers because, to them, it's much more "traditional" than the ones it's supposed to replace (McDonald, 1999b, 1999c). They also don't only have to be exported fresh. In the mid-1990s, agro-processing was identified by the Jamaican government as "one of the seven vehicles of socio-economic development" (JAMPRO, 1996/1997, p. 1) and pepper sauce exports had grown throughout the 1990s (see Table 1). By 1999, Jamaica's "champion exporter" awards were being given to food manufacturers such as Grace, Kennedy and Co., Walkerswood Caribbean Foods, and King Pepper (Cook & Harrison, 2003; "Ethnic Food," 1999; "Grace is Champion," 1999; MOA, n.d.). In 2000, hot pepper and sauce production was bringing about US$250 million per annum into Caribbean economies

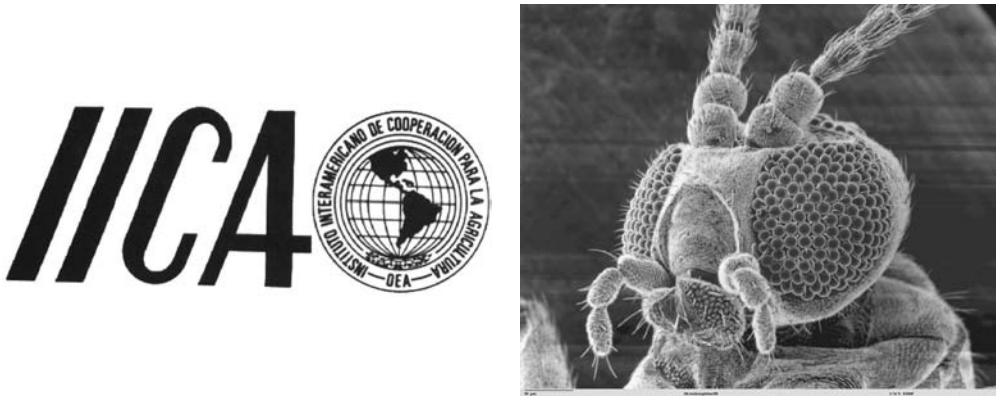

Figure 2. Inter-American Institute for Cooperation on Agriculture Logo (left); Gall Midge (right)
Sources: http://www.iica.int/prensa/Galeriafotos/institucional.asp (left); http://remf.dartmouth.edu/images/insectPart3SEM/source/14.html (right; both accessed June 23, 2006, and used with permission).

and was employing almost 50,000 people (Lawrence et al., 2000). In Jamaica, it was bringing in around US$5 million per annum and providing employment and income for about 3,000 people (IMP CRSP, 2003).

Despite some of the evidence, and all of the hope, for this fledgling competitive hot pepper industry, a number of actors were making things difficult. Take two. First, there were the aphids, whiteflies, broad mites, mealbugs, thrips, fall army worms, and gall midges, in addition to the tobacco etch and potato viruses (Andrews, 1999; IPM CRSP; 2003, Lawrence et al., 2000; McDonald, 1999b; McGlashan, 2003; MOA, n.d.). Scotch Bonnet plants succumb to these relatively easily, making them "unsatisfactory [bearers] when compared to the [West Indian] Red [pepper]" (Clarke-Harris & McDonald, 2000)[6] and causing their production figures to rise and fall, year to year. Second, there were the seemingly never-ending demands of overseas retailers for formalized quality assurance. Detailed, documented procedures, regardless of the size of companies involved, were becoming "[conditions] of market entry for food suppliers and manufacturers" (Marsden, Flynn, & Harrison, 2000, p. 7).[7] But, as one Jamaican exporter told us,

> What the first world has done in terms of trade barriers is to make it incumbent on companies exporting to Europe, for example, . . . that they have a HACCP system and they're ISO approved. This sounds like it's for the benefit of the consumer, but basically what it does is it eliminates many of the small companies that are trying to get into that market from ever getting there.[8]

London: The Thomases' Tastes of Home

> We used to grow these peppers at home. . . . But we didn't have all different names. It was just pepper. My mum used to grate it, you know, pass it in a machine and have the hot pepper sauce. (Mrs. Thomas, Pepup "West Indian Hot Pepper Sauce" consumer)

In 1996, Ian had started a research project with Phil Crang into U.K. consumers' understandings of the biographies and geographies of the food that they ate (Cook &

Table 1. Pepper Sauce Exports From Jamaica, 1993 to 1998

Year	1993	1994	1995	1996	1997	1998
Value	31.66	47.38	63.01	65.06	69.55	78.10
Index	100	150	199	205	220	247
Volume	387	444	440	474	442	486
Index	100	115	114	122	114	126

Source: Statin (1994-1999).
Note: Export value is expressed in millions of Jamaican dollars; export volume is expressed in thousands of tons.

Crang, 1999). They'd concentrated on eight North London households, and their co-researcher, Mark Thorpe, had visited each on a number of occasions. In May 1997, Mark was working with Mr. and Mrs. Thomas, a couple in their late 50s who had moved to London from the Caribbean island of Dominica in the 1950s. Mr. Thomas had recently retired from 30 years working as a railway engineer. Mrs. Thomas was still working as a cleaner. Their three daughters had grown up and left home. Together, they were trying to revert to a more "healthy" "West Indian" diet. In comparison with the food they had grown up with, there was something badly wrong with the "English" food that their daughters had insisted on eating. Sausages, fish fingers, beef burgers, chips, and bread were all "contaminated," he said, because "the [chemicals] is against the body. That's why people getting cramps and they've always got to operate on you." In contrast, he told Mark, "When you're eating . . . the dasheen, the yam, . . . and the banana . . . you get muscles. Not like the English type of food, fat under the skin." Growing up in Dominica, food had always been fresh. There, he told Mark, "you grow everything you want . . . all year round. . . . [So] always fresh food we'd have. We didn't have a fridge or freezer to put that in." But refrigeration did "clean the germs," which, in Dominica, got inside and gave you worms. So although he often seemed obsessed with the contents of English food, she was much more concerned with those germs. She washed all the meat, fish, and vegetables they bought with "lime and things like that, to just get it clean. A lot of people just get meat and just shove it in the oven. We're not doing it like that because you never know who touch it."

Moving to London had been difficult. Like so many others who had made similar journeys, the Thomases had had to get used to living in a big city, dealing with harsh winters, and a different way of life. Then there was the racism. Their neighbor's children, for example, had stoned their girls in the back garden, and there had been talk of a petition to the council to have the Thomases removed. They were the only Black people in the area in the 1960s. Despite such encounters, however, they'd always had people who'd help them in a crisis. They'd found that they could get along better with "English people . . . once they get used to you." They'd made sure that their daughters were seen to be well brought up and to have manners. But they kept their own counsel.

When they came to London, they didn't expect to be able to eat the same food as they had in Dominica. But a lot of things—like rice, flour, and macaroni—were common to both British and Dominican diets. And as the numbers of West Indian migrants grew, demands for dasheen, yams, pawpaw, breadfruit, and other Caribbean foodstuffs were satisfied by market traders. The Thomases' concern to revert back to a West Indian diet was therefore helped by this. Although, she said, "it's not fresh like back home." And shipping costs made it expensive. They both saw London's Dalston Market as a money pit where, she said, "You see things you cannot resist . . . [so] the

money just go. I'm scared to go." Breadfruit, for example, was expensive, but she had fond memories of eating it with her father in his village as a 9- or 10-year-old. In these terms, then, the expense was often worth it.

Both of the Thomases had picked up their food skills as children, from their parents. But she did all of the meal planning and cooking. The kitchen was her terrain. Mark had been in the Thomases' kitchen one day and had noticed a bottle of Pepup "West Indian Hot Pepper Sauce." He asked Mrs. Thomas whether she normally bought it. She said that there were a lot of these sauces that you could buy, including one in a "slim, slim little bottle . . . so you have to know which one to get." She said Pepup was the brand "I usually do buy" even though "it's expensive." That was because it "is better, is more peppery . . . is hot and there's more flavor." It brought up the flavor, "especially if you have fish, you know." This bottled sauce was a key ingredient in the Thomases' Friday night fishcakes. Like breadfruit, it was something that they'd grown up with. This food tradition wasn't, however, one she'd been able to pass on to her daughters. Although one would eat any West Indian food, one liked only dasheen and yam, and one refused to eat it at all. This daughter had, however, married a Jamaican man who loved West Indian food. So, Mrs. Thomas said, "If he want it, she have to come here to see what I'm cooking" and take some home to him. This daughter told her mum that she couldn't cook it herself because "she don't have time, it too hard . . . she couldn't be bothered."

In the Bottle: Capsicum Chinense cv. Scotch Bonnet

Pepup sauces are packaged in a distinctive square bottle. On the front label of its "West Indian Hot Pepper Sauce," there's a picture of two wrinkly peppers, one yellow, one red. They're "Scotch Bonnet Peppers," it says underneath (see Figure 3). On the ingredients list on the back label, they're joined by habanero peppers, spirit vinegar, onion, salt, corn starch, and spices. Both peppers are varieties of the species Capsicum chinense. The genus *capsicum* is part of the nightshade family that includes the potato, tobacco, and petunia. Capsicums seem to have "evolved from an ancestral form" growing on the border between contemporary Brazil, Bolivia, Paraguay, and Argentina (Bosland, 1996). They've been domesticated for 7,000 years. In the wild, there are 23 species. But only 5 are domesticated, the most well known being the *annuum* (including jalapeno, cayenne, and bell peppers), *frutescens* (including tabasco peppers), and *chinense*. Capsicums are perennial subshrubs in warmer climates and annuals in colder ones. In the tropics, plants can live for 10 or more years. They pollinate themselves, if left to their own devices, but they are also easily cross-pollinated by insects, which is a problem for those trying to grow specific types (Andrews, 1995, 1999; Bosland, 1996; DeWitt, 1999; Erwin, 1945).

The regional and international spread of capsicums has involved "subspontaneous" coalitions between people and birds. In the wild, chiles have small, red, upward-growing pods that are easily detached. Attracted by the bright colors and because they don't suffer that burning sensation, birds have been eating them for millennia. Their digestive systems then coat the seeds with fertilizer and sow them from a height to grow among other plants. In many parts of the world, sprouting "bird pepper" plants have become "tolerated weeds." In pre-Columbian times, people and birds were responsible for capsicums spreading to grow in the Caribbean. And Columbus and other birds were instrumental in their further spread. He discovered them the day before he sailed home

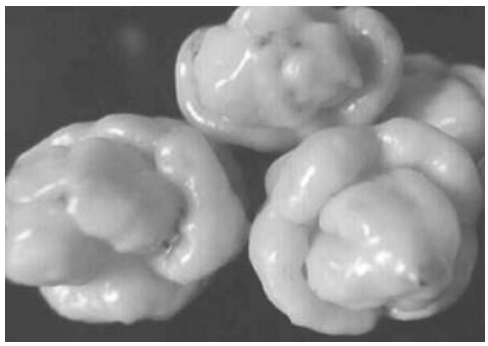

Figure 3. Scotch Bonnet Peppers (left); Columbus's and Capsicums' Early Travels (right)
Sources: http://www.tough-love.com (left; accessed June 23, 2006, and used with kind permission); redrawn from Andrews (1999, pp. 8, 11; right). The map caption from Andrews's (1993, p. 196) combination of these maps reads: "Pre-Columbian migration path from mainland to Caribbean islands and the routes of four Columbian voyages."

to Spain on his first voyage. He was supposed to bring back spices such as black pepper (*piper nigrum*) from the Indies, didn't find any because he'd landed in a "New World" then unknown to Europeans, but named and returned with this other kind of pepper. He brought back pods and seeds of the *frutescens* and *chinense* varieties. Portuguese settlers later took them to west and east African colonial port settlements and grew them in their gardens, a practice picked up by African locals. The birds took them further, spreading fertilized seeds throughout central Africa centuries before European explorers went there, discovering in the process what they thought were capsicum species "native" to Africa (Andrews, 1993, 1995, 1999; DeWitt, 1999; Sokolov, 1991; Tannahill, 1988).

For the Scotch Bonnet, the story is of birds and people spreading *chinense* peppers from the Amazon Basin through the Caribbean islands. The *chinense* developed different "land races" on different islands, and they were given local names such as booney, bonney, and goat peppers (DeWitt, 1999). The "deeply inverted" and "distinctly round [bottomed]" varieties were called Scotch Bonnets because of their resemblance to the "tam-o-shanter" hats worn by Scottish colonists (Andrews, 1998, p. 147; Meaders, 1975; White & White, 1995). Since pre-Columbian times, habanero and Scotch Bonnet peppers have been the "dominant spicy element in the food of the Caribbean" (DeWitt, 1999, p. 94). They are known for being the hottest and most flavorful capsicums. In terms of heat, they are about 50 times hotter than jalapeno peppers. And, in terms of flavor, they have a distinctive smoky, floral, fruity, apricot-like aroma to go with that heat, even after cooking and processing (Dewitt, 1999; DeWitt & Gerlach, 1997). Carib or Arawak peoples used pepper juice for seasoning and flavored their food with coui, a sauce made from chiles and cassava juice (DeWitt, 1999). In colonial times, pepper sauce traveled almost as much as pods and seeds. There is at least one record of hot peppers being added to palm oil, flour, and water to make the "slabber sauce" used to flavor slaves' meager rations on the middle passage (DeWitt, 1999; Falconbridge, 1788). Scotch Bonnets were used in Jamaican soups and pickles as early as 1740, and recipes for "pepper wine" and "vinegar" appear in 19th-century Jamaican cookbooks (Andrews, 1999; Cassidy, 1961; Cassidy & LePage, 1980; Facey, Sutherland, Nunes, & Risden Hunter, 1993; Pringle, 1990). Finally, as Mrs. Thomas revealed to Mark, it's a West

Indian tradition for households to make their own hot pepper sauces (DeWitt, 1999; McDonald, 1999b). More than most things, then, hot pepper sauces made with chinense variety capsicums are a "traditional, indigenous" element of West Indian cuisine. And that matters, both to Caribbean farmers and to overseas consumers.

Home Counties, United Kingdom: "Ethnic" Food Brokers and Brand Managers

> Dead right, and this is where, this is where you get the do-gooders on their bandwagon talking about labor costs in the Third World. You're absolutely right. If it wasn't for the British companies sourcing authentic products from these Third World countries, then they would be in a worse bloody state than they perhaps are at the moment. It's a, um, it's a lifeline for a lot of these people. (Andy, Fervent Food's marketing consultant)

In 1998, as part of the project with Phil and Mark, Ian arranged to meet a marketing consultant called Andy. He worked for Fervent Foods, whose Pepup, Ocho Rios, and other lines constituted the "biggest portfolio of Jamaican food brands in the UK" ("Colour, Fun," 2002, p. 40; see also Buckle, 1996). According to their bottles' back labels, "For over forty years Pepup Hot Pepper Sauce has been prepared in the Caribbean using only freshly picked Scotch Bonnet and Habanero Peppers." Like its main rival Grace, Fervent's core U.K. market was the first generation of West Indian migrants who had settled in the United Kingdom from the 1950s. These were the people who had grown up with hot pepper sauces in the Caribbean and, like the Thomases, had continued to buy them to maintain (culinary) identities and connections (Cook & Harrison, 2003; Cull, 1995). However, given that this first-generation market was now shrinking, both companies had to find new markets for their goods.

During the past decade, there has been a shaky but steady rise in sales of Caribbean (and Cajun) foods in the United Kingdom (see Table 2), and great things have been predicted for the future of this sector. In the early 1990s, jerk seasoning had been getting rave reviews at food trade shows, and Pepup "West Indian Hot Pepper Sauce" had been at the vanguard of Caribbean food's "cross-over" into the U.K. "mainstream" (Cook & Harrison, 2003). In 1996, it had been the first Caribbean food product to get into the Co-op's Cornish stores. Such was its success that, in 1999, managing director Peter Harris was arguing that it could "no longer be classified as ethnic" (Anon, 1999c, p. 39). Arguably, this success was helping Caribbean foods in general to break into the U.K. mainstream, allowing other manufacturers to follow in Fervent's wake. But the company's Caribbean competitors criticized its policy of importing sauces in bulk from the Caribbean and bottling them in the United Kingdom. This, one trade journalist argued, had "stirred a degree of ill-feeling from West Indian producers who resent so much added value staying in Britain" (Whitworth, 1996, p. 14). But Fervent wasn't a manufacturer. It acted more like a broker, negotiating contracts, buying and selling goods made by others, and managing their brands (Mintel Market Intelligence, 1999).

For both Fervent and Grace, maintaining "authenticity" was essential. Their products and packaging couldn't be changed. First-generation Caribbean migrants still composed a significant proportion of their market. So changing labels and formulations wouldn't have been welcome. This notion of authenticity was just as important for mainstream consumers. For Andy and Fervent, authenticity meant "the products we're offering are actually from Jamaica, for example. It's the sourcing

Table 2. U.K. Retail Sales in Cajun/Caribbean Food Market, 1994 to 2004

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
£ (millions)	18	20	20	21	22	22	21	23	27	30	32
Index	100	111	111	117	122	122	117	128	150	167	178
£ (millions) at 1994 prices	18	19	19	20	20	20	19	20	24	26	28
Index at 1994 prices	100	106	106	111	111	111	106	111	133	145	156

Source: Mintel Market Intelligence (1999, p. 18; 2005)

of the product . . . and it's using, even down to the sauces, the recipes that are . . . born in the Caribbean, you know, the different islands." For the international marketing director of a Caribbean-based rival whom Ian met in 1999, however, this claim was suspect.[9] He said,

> If you . . . look at the products that are made in the UK, like the Fervent products, they try to . . . pass off themselves as being Caribbean. They say "Jamaican style." . . . [But], in fact, Fervent goes to the extreme of having their hot pepper sauce made in bulk in Dominica.

For the Thomases, it didn't seem to matter where this Pepup sauce came from (although it's tempting to imagine their likely response had Mark told them that it was made in their home island). However, because it's a Scotch Bonnet sauce, many assume that it's from Jamaica.[10]

Unlike its main Caribbean rivals, Fervent was a marketing-led company. As Simon (a former marketing director of Fervent who was working for a Jamaica-based rival when we spoke) put it, this meant that "although they're not a Caribbean company, . . . they know what the second and third generation and mainstream people want." Andy argued that many wanted more "Anglicized" Caribbean food which would allow Fervent to "capture the convenience market because, even with the ethnic population, . . . the days have gone when the young 20-year-old Jamaican will cook . . . rice and peas as her mum did. She doesn't have the time to do that." For Andy, the mainstream and second-generation Caribbean-Brits needed to be catered to and "educated" slowly. Enthusiasts could write in for a free Caribbean recipe book advertised on Fervent's product labels (Cook & Harrison, 2003, Jenkinson, 1996). Fervent couldn't afford TV commercials. And whether its suppliers could cater to the massive increase in orders that would, hopefully, result was debatable. So the take-up of free recipe books was promising and cost effective. Caribbean food didn't enjoy the cost-free promotion afforded to the Chinese and Indian food sectors throughout the United Kingdom. So, as well as targeting the mainstream supermarkets, Andy said that Fervent would be "making bigger efforts to actually target the food service industry to start educating them about . . . [how, for example] Jamaican food is really quite exciting and, um, the one product that will probably lead the way is actually jerk seasoning."

He agreed with Ian that U.K. consumers' apparent quest for "authentic" Caribbean-made food might have a positive effect on Caribbean economies and livelihoods. But, doing business with what he called "these people" was another matter. Andy and Ian met in May 1998, when the Jamaican "Reggae Boyz" football team were playing in the World Cup finals in France.[11] Andy had wanted Fervent to be a team sponsor but had tried in vain to contact the people in charge of team marketing. He was extremely frustrated. But this was by no means the only time that doing business with Jamaican people had frustrated him:

> I hate to say it, but that's Jamaicans for you. This is typical, absolutely bloody typical. . . . They're an absolute nightmare. With a lot of ethnic communities, they, they, they just haven't got it. They just don't have the commercial nous that is required.

Interestingly, all of Fervent's management at the time were White men. Ian asked Andy if the Jamaican companies he dealt with were run by Jamaican people or "people from the outside or what have you?" He imagined that it was a bit of both. But they had a big problem, he said, because "they don't perform unfortunately. And they are aware of it, in fairness. . . . That . . . they're labeled with that. I mean, they're very laid back people." To Andy's way of thinking, then, the sale of authentic Caribbean foods in the United Kingdom was based on a core contradiction. The way of life that could so easily be attached to these foods in their marketing was the one that made it so difficult to source these foods in the first place. But, when there were supply-side problems, was this really the explanation?

In the Mouth: Pain, Poison, Flavor, Capsaicinoids

Mrs. Thomas said that her Pepup sauce was hotter and more flavorful than others she'd tried. But what was it that this *Capsicum chinense*–based hot pepper sauce added to the experience of eating other foods? These peppers are said to be very hot and aromatically fruity (see Figure 4). Their bite comes from a flavorless, colorless, and odorless substance called capsaicin. This is "one of the most pungent compounds known" and is an "incredibly powerful and stable" crystalline alkaloid whose potency is unaffected by temperature, time, cooking, or freezing (DeWitt, 1999, p. 56), and because "25% of the human population [consume] chilli pepper every day, [it] is the most important pharmacological agent we get from our diet" (Appendino, Minassi, & Daddario, 2005, p. 4). *Capsaicin* is, however, a catch-all term for a complex of related components named capsaicinoids. These are concentrated in pepper pods' placentas (to which the seeds are attached) and in their white veins running from end to end (Wellman, n.d.-a, n.d.-b). Pepper experts identify four capsaicinoids, each having a different taste effect (Andrews, 1999; DeWitt, 1999). The mildest is nordihydrocapsaicin (NDHC), which tasters find "fruity, sweet and spicy." Next, there's homodihydrocapsacin (HDHC), which tasters say produces a prolonged "'numbing burn' in the throat." Then there are the most irritating ones, capsaicin and dihydrocapsaicin, which, tasters find, produce "burning everywhere from the mid tongue and palate down to the throat" (DeWitt, 1999, p. 57).

Different hot pepper species have different combinations of these compounds and, therefore, different flavor profiles and "heat tricks" (Johnson, 1997). Scotch Bonnets, for example, "taste very fruity" and "burn the back of the throat, and linger," whereas tabascos "glow all over the inner mouth" with a "sharp, quickly dissipating burn" (Bosland in Johnson, 1997). Humans experience this heat and flavor differently, in part because each of us has varying numbers of taste and other receptors (DeWitt, 1999; Johnson, 1997). What our bodies do that birds' do not, however, is (a) feel the heat caused by capsaicins' irritation of the trigeminal pain receptors in our mouths, noses, and stomachs, (b) react to these compounds as if they're poisons, and (c) stimulate the secretion of saliva in the mouth and gastric juices in the stomach. Trigeminal receptors are normally activated by damagingly high temperatures and local, mechanically-caused tissue damage ("Why Does Hot," 1997). Activation causes the release of a neurotransmitter called "substance P," which informs the brain about pain or skin

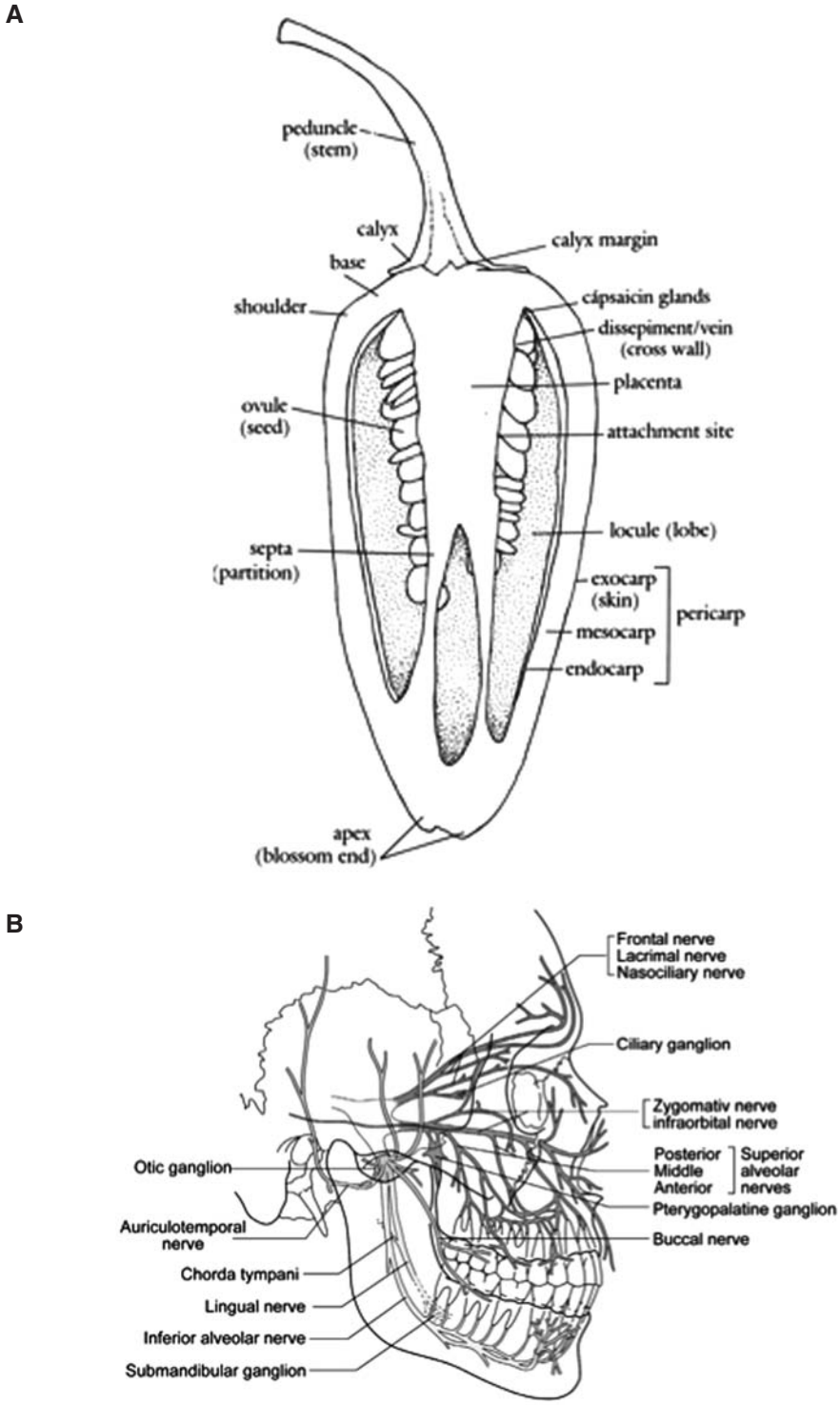

Figure 4. Capsicum Cross-Section (top); Trigeminal Nerve System (bottom)
Sources: Top: From *Peppers: The Domesticated Capsicums, New Edition,* written and illustrated by Jean Andrews, copyright © 1995 by Dr. Jean Andrews. Courtesy of the University of Texas Press. Bottom: Agur, *Grant's Atlas of Anatomy,* 1991, p. 614. Printed with permission of Lippincott Williams & Wilkins.

inflammation (Tominaga & Caterina, 2004). But these receptors are also activated by the bubbles in carbonated drinks, the bite from raw onions and garlic, and the capsaicinoids in hot peppers (Lawless, 1996). With the latter, the initial sensation is of intense pain, a "burning in the mouth [that] gives a feeling of fullness (a meat quality) to repetitious, bland meals" (Andrews, 1999, p. 58). But, after sufficient exposure, these receptors temporarily stop producing substance P, transmit no pain signals to the brain, and leave tasters with that sense of numbness they so often report.[12]

Other aspects of hot pepper sauces' flavor profiles come from the ways that the human body reacts to capsaicin as a poison. Initially, exposure causes the heart rate to fall so as to slow the dispersion of the poison to vital organs via the bloodstream. Then, when the body realizes it's not in danger, the heart rate increases to above-normal rates, increasing blood circulation, initially, to the internal organs and, eventually, to the skin causing vasodilation: the kind of "flushing" that others may see on your face (Bosland, 1996; DeWitt, 1999; "Why Does Hot," 1997). Finally, there's the fact that capsaicin "[stimulates] the mucous membranes of the mouth and stomach and [increases] the secretion of gastric juices" (DeWitt, 1999, p. 67; see also Andrews, 1999; Costa, Liu, Nicolelis, & Simon, 2005). This is why, it seems, hot pepper sauces can improve the flavor of the things to which they're added (Lawless, 1996). To be tasted, food molecules need to be dissolved in saliva and its soluble carrier proteins, which transport them to the receptors in the taste buds of the tongue (Bromley, 2000; Hutchins, 2001; Lugaz, Pillias, Boireau-Ducept, & Faurion, 2005; Mann, 2002; Matsuo, 2000; Parrish, 2003). Although more saliva in the mouth "[aids] in chewing dry, starchy foods and [increases] their flavour" (Andrews, 1999, p. 58), more gastric juices in the digestive system "[reduces] the transit time of food . . . [and] stimulates the appetite" (p. 56). Friday night fishcakes would therefore not be the same if mammalian bodies and hot capsicum peppers did not interact in these ways. This is what birds can't appreciate.

Jamaica: "Mr. Heat," Contract Sauce Manufacturer

> We really have to be sold on [the product] ourselves. . . . I think people see that you've devoted yourself to it and that you'll do anything, work how ever many hours, load the truck yourself if you have to . . . to save some money. . . . So it's these kinds of sacrifices and the hard work and, . . . I just couldn't put something out there that would shame me, that people would talk behind my back. . . . Reputation is everything. (Larry, managing director)

In June 1998, we both visited a small factory on an industrial estate in one of Trelawny's coastal towns. Ian went back in 1999. Both times, we had long conversations with its owner, "Larry," a White American ex-pat who had, for 20 years, been the managing director of a local Chinese-Jamaican manufacturer of soy sauce. In the 1980s, he had found himself "in a family situation and I saw no way out, except that I had to plan for myself to make this change, at some point in time." He had experience in food manufacture, so he "began fooling around" with hot pepper. But it wasn't as if he'd spotted a gap in the market or even ate much of it himself. It was more to do with the fact that

> someone was growing peppers near my factory . . . [and had] a half horsepower motor on a belt and he had improvised this thing so that the motor drove a little, ordinarily

> hand-cranked, meat grinder which you'd have in your house. And, you know, how much can that do? But I began filling up drums, running this thing all day long just to fill up a drum of pepper.

Mr. Heat started out in 1985 with only 10 employees, manufacturing pickled peppers and basic hot pepper sauces under contract. Larry made the most of the contacts he had in the Jamaican food business. At the time, there was just one factory making hot pepper sauces in Jamaica, and it couldn't satisfy everyone. But, as basic hot pepper sauce manufacturing in Jamaica went into decline, because factories elsewhere in the Caribbean could produce them much more cheaply, jerk seasonings and sauces became Mr. Heat's "feature products" despite the fact that the jerk formula he put together and manufactured under contract was the first he'd ever tried. Unlike Walkerswood, Mr. Heat's rival Jamaican jerk seasoning manufacturer (see Cook & Harrison, 2003), Larry chose to contract manufacture "just about everything we do" for other "top Jamaican and international companies."[13] He chose to rely on others to market and distribute his goods. But this had had its risks. One company that, at one time, took 60% of his production suddenly cancelled all of its orders. That had been "extremely brutal." It had taken 2 years to recover. So now he tried to spread things out more, balancing manufacturing for smaller and larger clients. He was also working on developing his own Mr. Heat brand with the kind of label that shoppers would immediately associate with Jamaica. He'd considered images such as "a big map of Jamaica . . . a pirate ship or some palm trees, or reggae." But, on the mock-ups he showed Ian, he'd settled on an artist's depiction of an historic building: the nearby colonial town hall.

Fervent foods was an important client for Mr. Heat. The relationship between the two companies, and between Larry and Peter (its managing director), had been initiated after a British Hazard Analysis Critical Control Point (HACCP) expert had been brought to Jamaica to advise on a factory upgrade for another export-oriented food manufacturer. This company contracted out some of its production to Mr. Heat, so they also were visited. According to Larry, this visitor had been impressed and, when he returned to the United Kingdom, phoned his friend Peter to say, "Listen, any time you out to Jamaica, I can recommend Larry and the Mr. Heat factory. Go and see them." So, out of the blue one day, Peter "called and he asked if he could come and see me. I didn't know him from Adam. And, you know, just being nice, I said 'Yeah. Sure.'" After visiting the Mr. Heat factory, Peter was keen to do business with Larry. But how could he be so sure, so quickly? What impression could Larry have given? As Andy had told Ian in no uncertain terms, Jamaican exporters had a reputation for unreliability. Larry knew that he had to combat this. So, he "keep a tight control" and was determined to give none away, for example, to "any union." This had helped him to gain an enviable reputation when it came to filling Peter's orders. To provide Fervent with this level of service, he expected his workers to make sacrifices when he did and to reap the rewards of success when he did. For him, they were in this as a team.

Larry was constantly "fooling around" with new product formulations and sending samples to people like Peter. But like his jerk seasoning story, this process often seemed to be very happenstance. For example, he told us how his cousin in Chicago had sent him a bottle of hot mustard sauce from Barbados, how he'd loved it, and how this had inspired him to go into his lab, look at its ingredients list, and try to put his own

version together. But this hadn't been easy. A lot of companies, he said, lied on their ingredients lists, gave the wrong proportions, or left something out so that other companies couldn't steal their ideas. A few years later, Fervent foods was selling a new Pepup Barbadian "Yellow pepper sauce with mustard" in the United Kingdom. Because people at Fervent had liked it so much, a jerk sauce that Larry had developed was also due to end up in the Pepup range. But that packaging wouldn't be done in Jamaica. Larry was going to export the sauce in 200-liter drums. Having his sauces put in Pepup's distinctive and recognizable square bottles was very exciting. The brand's "West Indian Hot Pepper Sauce" was a market leader in the United Kingdom and could be found in most mainstream stores. His new sauces were extending that range and would sit next to the number one seller. The labels on all of them said that they were "imported from the Caribbean" and "bottled in the UK." But, sitting on the nearby shelves, U.K. shoppers could also find bottles of Ocho Rios "Jamaican jerk seasoning." Mr. Heat manufactured this, too, but had also been trusted to bottle it. More of the added-value of this Fervent product stayed in Jamaica. In 1999, Larry told us that he had had orders for twice as much jerk seasoning as his factory could make. And Fervent was willing to invest in improvements to his production line.

Most of the ingredients for Mr. Heat products were sourced locally. Larry told us that the company

> supports farmers all over the island. And many of them are small farmers that bring in 100 pounds, 500 pounds of pepper. And we pay them cash. You bring in 500, we multiply it by 15 dollars and we give them a check, and he goes down and cashes his check.

When he'd started out, he'd given free seeds to local farmers. But as volumes had grown, he'd had to secure more reliable supplies. In 1997, a drought had led to a shortage of key ingredients such as scallion, and their price had rocketed so much that he'd had to halt the manufacture of his main products. So in 1998, he was trying to enter into more formal, contractual relations with suppliers in which prices would be fixed and supplies secured. He believed that this would be better not only for him but also for the farmers. Pressure from his export clients regarding "quality assurance" meant that these contracts included requirements to state how much of which agrochemicals were used, when on each crop, allowing Larry to be "able to go right down to the grower if there's a problem" (see also Brown, 2005). So his supply structure had to become more formalized. He would need to deal with fewer, larger farmers. A lot of the smaller ones who had brought what they'd grown to the factory on an informal basis, he said

> have no experience of keeping records. So you have to work with people who understand that, maybe are a little better educated, and they treat it more as a business than those others who are just scratching the ground for a living.

He had lent money to a trusted grower to expand his operation, for instance, and it was up to him if he bought in the produce of smaller farmers.

In 1998, Larry was very excited because an important new member of his management team was on the verge of being recruited. He had every confidence that this person would double the company's sales in 2 years. That was the challenge. Larry couldn't tell us anything about this person. All he would say was that recruiting him would

make people in Jamaica, and internationally, sit up and take notice. A year later, Ian met him. He was a Black Jamaican man called Anthony. The wall beside his desk was covered with framed certificates: postgraduate degree in chemistry, U.K. qualifications in HACCP and International Organization for Standardization (ISO) assessment, and more. Given his export markets' demands for quality assurance and its stereotype of unreliable Jamaican production, Anthony was quite a catch. He was going to modernize Mr. Heat's operations. But, Anthony told Ian that he still needed small farmers at the heart of the operation. He believed that crops tended by hand had a better flavor.

Jamaica: Growing Scotch Bonnets

Recognizing the potential for Scotch Bonnet peppers to increase Jamaica's export earnings, considerable attention has been paid to modernizing their production by national and international agencies. Jamaica's Rural and Agriculture Development Association (RADA)[14] has been investigating hot peppers since 1993; and, in 2002, the Food and Agriculture Organization of the United Nations (FAO) sponsored a project with Jamaica's Ministry of Agriculture (MOA) that culminated in the production of a handbook called *Growing Scotch Bonnet Peppers (Capsicum chinense jacq.) in Jamaica*, the second edition of which was published in 2003 because of "increasing demand from the farming community" (McGlashan, 2003, p. v). Judging by this handbook, modern Jamaican farmers, have a lot of precision work to do to grow quality Scotch Bonnets. Much of its advice concerns ways of growing these vulnerable plants away from the pests and viruses that threaten them and of disrupting the micro-geographical worlds of pest-virus-plant interaction. So, for example, farmers are advised to remove weeds such as cow pops (*Physalis angulata L.*) and jimson weed (*Datura stramonium*) from the perimeters of their fields. These can host the "plump, soft bodied" aphids which "pierce plant tissues and suck the sap. . . . [causing] leaves and twigs to become deformed" and "transmit viruses [e.g., potato virus Y and tobacco etch virus], which cause plant diseases" (see Figure 5).[15] But aphids cannot move from plant to plant alone. For this, they rely on the ants who are attracted by the sweet honeydew that they secrete and who also "drive away [aphids'] natural enemies, causing [them] to multiply and spread" (McGlashan, 2003, pp. 17-18; see also IPM CRSP, 2003; Rural Agricultural Development Authority, n.d.). So, the handbook advises, there are two main ways to prevent harmful viruses getting to pepper plants. First, it is a good idea to plant a barrier crop—such as corn—around your field that does not host them. As aphids, for example, feed on such plants, "the viruses become dislodged from their mouths, and they can no longer transfer them to the fields" (McGlashan, 2003, p. 7). Second, farmers also need to prevent virus carriers and other pests getting to their plants, so they are advised to "allow enough time between ploughing and transplanting so as to expose the soil to sunlight, birds, [ladybirds], wasps and what are known as 'friendly insects,' which will feed on pests and help to destroy weed seeds" (McGlashan, 2003).

Advice on pest and disease control is only one of the "seven vital steps to hot pepper production" (McGlashan, 2003, p. 1), which the handbook advises modern Jamaican farmers must take to produce "optimum fruit quality and yields." So, for instance, farmers are advised that, although they could obtain seeds from their own plants, they are "strongly recommended [to] buy high quality seeds from reliable sources" (e.g., Jamaica's Ministry of Agriculture; McGlashan, 2003, p. 1). They are advised

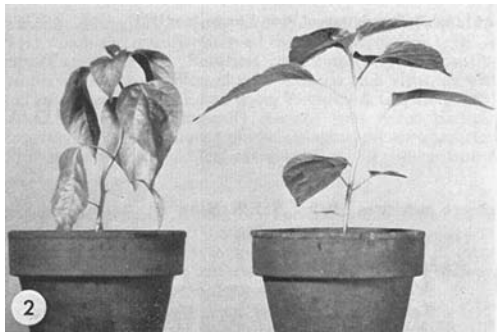

Figure 5. Tobacco Etch Versus Healthy Pepper Plant (left); Ladybird Larvae Eating an Aphid (right)
Sources: http://www.dpvweb.net/dpv/showfig.php?dpvno=55&figno=02 (left); http://www.geocities.com/brisbane_softbugs/images/wpe1C3.jpg (right; both accessed June 24, 2006, and used with kind permission).

to use drip irrigation to ensure plant health and a regularity in pepper hotness because dry, stressful conditions increase their capsaicin content (Andrews, 1999). They are advised to pick each pepper in a way that ensures that "part of the pedicel . . . forms a natural seal that will protect the fruit from disease organisms, which might cause spoilage" (McGlashan, 2003, p. 31; see also Andrews, 1999) and to pick fruits "about seven days after spraying . . . to ensure that there is no chemical residue on the produce" (Brown, 2005; Lawrence, 2003). Finally, they are advised to shun the packaging of peppers in old fertilizer bags in favor of stackable, ventilated plastic crates and to pick, pack, and transport these crates in the cool of the day because warm conditions quicken ripening (as would any ripe ethylene-producing papayas, mangoes, tomatoes, or pineapples in neighboring crates). Keeping peppers cool enhances their fresh shelf life, which can be 2 to 5 days at 25 to 27 degrees centigrade and up to 10 days at 7 to 10 degrees centigrade (Brown, 2005; Lawrence, 2003).

Sales of Scotch Bonnets require fruits that satisfy specifications in terms of color, shape, size, quality, and stem presence or absence. So, for instance, "Export requires large, green fruits, with stem intact for its fresh market. Local requires a mix of green and ripe—25% ripe and 75% green. The processing market requires 100% ripe with stem removed" (Lawrence, 2003). Export markets also require that fruits are free of pests and viruses that could endanger their own pepper production. The repeated interception of shipments with gall midges on board, for example, has led to a dramatic decline of Caribbean fresh pepper exports to the U.S. market (IPM CRSP, 2003). All being well, specification-standard fresh peppers gain the highest market prices, whereas pepper farming for the food-processing industry is more about volume as "basically everything is grinded and mixed into one puree" (Brown, 2005). So for those farmers growing Scotch Bonnets for the food-processing industry, a lot of this handbook advice is not quite so pressing, and they do not have to be quite so "modern" in what they do. In 2000, however, following this kind of advice seemed to promise great wealth to small farmers in Jamaica. According to a 2005 World Bank report, "a plot size of only 0.005 hectares (ha), which can support approximately 1,000 plants, was estimated to produce a weekly income of [J$] 10,000 [US$227, UK£157][16] at current market prices" (Henson & Jaffee, 2005, p. 30). For us, this is remarkable when compared to the J$200 (US$5.60, UK£3.37) daily rate paid to Longpond cane cutters when we visited in 1998.

Jamaica: Pepper Farming in Gaythorne

> Once, you know, one man him come down a school . . . and talk about the pepper. But the bigger folks them kill it down . . . cause they want we slave 'pon the cane.
> *How can they persuade you not to grow pepper?*
> Um, . . . the first thing what them say, when we stop from grow cane, "How we do go manage?" . . . "What you gwan do?!" . . . Me say "Me not telling you what me gwan do" because afraid them kill me Ian.
> *So, you must be, I don't know, dangerous, a dangerous man to the sugar factory, yeah?* [*laughs*] *Cause if you make a success of pepper farming . . .*
> Yeah!!
> *. . . then other people will grow pepper. . .*
> Yeah!! Yeah!!
> *. . . and they'll have less.*
> Them don't like us.
> *That must be a good feeling for you just to be able to say . . .*
> Yeah!!
> *. . . "I don't need you any more."*
> Ahhhh! I don't work pon no cane no more. (Ian talking with Keith, a pepper farmer)

Ten days after meeting Larry and Anthony at the factory, Ian was traveling in a hired car with April, the sister of a local research assistant who'd helped Michelle with her PhD fieldwork. April had helped Ian to find and talk to three of Gaythorne's small farmers who supplied Mr. Heat with hot peppers. In the short time that they had been growing hot peppers commercially, they had all found that this was a vast improvement on growing cane. Keith said he loved growing them because "you can actually go in there [the field] with a necktie and even a coat. You can't do that with cane." Because cane cuts your clothes, Ian suggested. "Yeah man! Yeah man!" he replied, "It's rough!" Not only was pepper easy to grow, Janet said, but "it's a fast crop." A plant would only have to be 4 months old before you could reap from it. You just had to keep it "clean," through weeding and spraying: like the government's RADA "agriculture man" had told them. And, as Keith put it, "The more you care, the more it bear." And you could reap all year round, weekly, or fortnightly perhaps, providing you with a regular income. That never happened with cane. As Keith put it, "The cane not pay, it don't pay the small man nothing at all. . . . Sometime you go out the field and you work and you're hungry. Now the pepper is a different thing." Keith felt that he and his wife could make a good living from their 1-acre (0.4 hectare) plot and that he would be a "rich man" if they had 3. I asked Janet if Mr. Heat provided any seeds, fertilizers, or loans. She replied, "No, nothing at all. You have to do it." But Keith said that "him encourage us to grow red peppers" by giving out seeds. Either way, although Keith had once grown Scotch Bonnets for a middleman to export fresh, when Ian met these farmers in 1999, they were all growing "West Indian Reds" (a.k.a. habaneros) for the Mr. Heat factory.

The main difficulties these farmers experienced seemed to have been caused by the recent changes at Larry's factory. All three had been accustomed to delivering their peppers in an ad hoc manner and getting paid soon afterwards. According to Keith, Mr. Heat took "everything, directly." This was not unusual. Jamaican sauce companies such as Mr. Heat and Walkerswood dealt with small farmers' erratic and unscheduled supplies by part-processing raw materials soon after they arrived at the factory and preserving them in barrels in vinegar. In and around their factories, then, it wasn't

unusual to see dozens of these barrels waiting to be used. This was the way that these companies had ridden out the ups and downs of local agricultural production and supply. When Ian met the pepper farmers, then, Mr. Heat had not taken any of their produce for 3 months because Anthony's plan was to use up the backlog of part-processed ingredients that he'd inherited, to convert the factory's barrel storage space into production space, and to modernize the factory to work on "just-in-time" principles. Mr. Williams said that he had no idea why the factory had stopped taking farmers' goods. Keith said that "him told us that him don't have no market." Janet told Ian that ripe peppers could stay on the trees for about a month before their stems started to go black and they began to spoil. He asked Keith what had happened to all the ones on his trees, and he said "me just pick them and throw them down."

The farmers' version of how and when they were paid differed to what Larry had told us. Rather than paying them by check on receipt of their ingredients, they said, these payments were delayed until Larry was paid for the finished goods. As Janet put it, "I guess that is what turn off most people because some time you take men to work and you have to pay them. You have to find the money." All three told Ian that things could be different. There was a factory in Westmoreland where "once as they weigh it, they pay you." But it was too far away, as Janet said, "No matter the amount you bring there, it just go back in transportation." A week before we met, a group of Gaythorne farmers (including Keith) had traveled there in a taxi to try to sell them their unwanted peppers. They had managed to this time because, Janet said, "They beg and beg until they take it from them." But this was very much a one-off situation. As Keith described it, "When . . . them ask us where we come from and we say Trelawny, them say no. Cause him have to take care of him farmer down there." All three held this factory as a model enterprise because, as Janet put it, "they loan the farmer in Westmoreland money to buy, to plant, produce pepper." So, she concluded, "It seem like [Mr. Heat] want some opposition, somebody who have another . . . pepper factory nearby. Yes!"

Despite the recent downturn in all of their pepper fortunes, these farmers held out hope for the future. April summarized their attitude, "As long as they have the market then the factory will take the pepper, and the people will grow more." Mr. Williams was trying to encourage others—primarily young people—to get involved in pepper. So with someone like him acting as a middleman, April argued,

> You don't really have to have a big farm. If you have a few trees and, maybe, they're ripe, you pick it and you take it to Mr. Williams. Mr. Williams then weigh it and hand it to his [factory], and then he gets paid. He come and pay you.

In 1999, however, Larry hadn't approached Mr. Williams to be one of his new suppliers.

Driving back to the hotel, Ian switched on his tape recorder to record his field notes. These farmers had been hopeful. It seemed to him. The contract manufacturers had been hopeful. The U.K.-based Caribbean food importers had been hopeful. The Thomases were adding some quality heat and flavor to their fishcakes and sharing that culinary experience with Mark. These hot pepper connections between overseas consumers and Jamaican farmers had made a positive difference in the recent past, however fleetingly and for whatever combination of apparently disjointed and fragmented reasoning. And they could be made again, when Jamaican farmers and food manufacturers had to function, post-2008, under so-called free-market conditions. Driving away from the valley, Ian said to himself:

> If the quality is so important and the taste is so important and the price doesn't necessarily have to be rock bottom, you have to wonder whether this might be some kind of sustainable long-term future for small farmers.

Nobody was in any doubt that the overseas markets for these products were present and growing, however slowly. Overseas consumer demands for "authentic" international food "imported from the Caribbean" or "made in Jamaica" (and other countries) was providing Caribbean-based companies with the competitive advantage they would badly need in this new era of international trade. Going against the grain of standard stories of third world agricultural production, this demand for food grown, processed, and packaged in the Caribbean allowed more added value to be retained in the region. And manufacturers such as Mr. Heat and Walkerswood could already sell more of some products than they were able to make. Everything seemed to be more or less in place for something positive to emerge out of the awful, historically embedded, and deepening hardship of sugar. If. . . .

Conclusion/Postscript

> While the territory of a project may not be limitless, neither is it as clear-cut as you make out. The linkages do not just stop at a certain point. The cat-walks do not come to a dead-end. They just get flimsier, more difficult to discern in the failing light, until at some point they crumble beneath one's foot. (Miller, 1998, p. 363)

As you have probably noticed, the Pepup "West Indian Hot Pepper Sauce" that the Thomases liked so much wasn't made by Larry, Anthony, Janet, Keith, or Mr. Williams. Mr. Heat didn't manufacture or bottle it, and the farmers weren't growing Scotch Bonnets for Larry or anyone else. So on closer inspection, this bottle–this thing–couldn't be followed, and direct connections couldn't be traced, between the places and people who were part of our overlapping research projects. If the Thomases had bought any of the other sauce bottles in the Pepup range or one in the Ocho Rios range, this exercise might have been more straightforward. Yet buying and using this sauce did connect them just as much to WTO, FAO, or IICA regulations or expertise, capsicums' and other tropical crops' ecological or imperial histories, HACCP or ISO quality systems, "modern" export-oriented agricultural and manufacturing practices, aphids, ants, ladybirds, and plastic crates, and other farmers elsewhere in the Caribbean. In, and through, that bottle of sauce, an amazing array of complex connectivities and mobilities, at work at starkly different scales, seemed to be being mobilized. In December 2004, when Ian popped into his local Londis convenience store for some soy sauce for a stir fry, perhaps it wasn't too surprising then that he also found a bottle of Ocho Rios "Jamaican Style Hot Sauce" on the shelf. This off-duty shopping propelled him back into the field. Because Scotch Bonnets were pictured and listed in the ingredients on its label. It was packaged in one of those "slim, slim little bottles" that Mrs. Thomas had talked about. And, the label said, it was "Packed in Jamaica." Was Mr. Heat now making and bottling a basic hot pepper sauce for export? (In 1998 Larry had speculated that "we can't get in on that, I don't think, [but] we might be able to in a small way.") Were those Gaythorne farmers now growing Scotch Bonnet peppers for the factory? Things seemed to have been coming together for this to happen, at some point. Either way, 55 pence later, Ian was taking this bottle of "Jamaican" hot pepper sauce home. Making that connection. At last. Quite possibly. We're hoping.

Notes

1. Thanks go to the three anonymous referees and to Miles Ogborn for their written comments; to the audience at the "Food and Mobilities" symposium at Lancaster who first heard this talk; to those in geography at Birmingham and Exeter Universities and those in city and regional planning at Cardiff University who heard it next; to Sarah Gibson for inviting us to speak in Lancaster and to contribute to the special issue; to staff at the Institute for Grocery Distribution in the United Kingdom and at the Ministry of Agriculture in Jamaica for helping us through industry sources; to the University of Wales Joint Collaborative Research Fund, the Department of Geography, University of Wales, Lampeter, the Science Faculty Research Fund, University of Birmingham, and the ESRC (Project R000236404) for funding this research; to Phil Crang, Mark Thorpe, "April," and our research participants for helping us to make and better appreciate these connections; to Max O. Hutchins, Ryuji Matsuo, and John Winer for their help with taste and pain; to Kevin Burkhill and Ann Ankcorn for maps and diagrams; and to the copyright owners of the images used with their kind permissions.

2. The names of places, people, and companies have been changed in this article to preserve the anonymity of those taking part in our research.

3. Rates for June 11, 1998, were calculated using the currency converter at http://www.answers.com/topic/jamaica (accessed November 21, 2005).

4. Other assessments by regional organizations such as the Caribbean Community and Common Market and Caribbean Agricultural Research and Development Institute (CARDI) similarly prioritized hot pepper exports (McDonald & Clarke-Harris, 2001; Ministry of Agriculture, n.d.).

5. The mystique for overseas consumers of buying something made in Jamaica is an important part of this (see Henson & Jaffee, 2005; JAMPRO, 1996/1997; Link Consulting, 1993).

6. The West Indian Red was developed by CARDI in Antigua, and CARDI Units in Barbados and Antigua are sole authentic sources of its basic seeds (Henson & Jaffee, 2005; McDonald & Clarke-Harris, 2001).

7. For details about the history and operationalization of the one that seems to make the most difference, see Marsden, Flynn, and Harrison's (2000) discussion of HACCP (Hazard Analysis Critical Control Point; see also Clarke-Harris & McDonald, 2000; JAMPRO, 1996/1997).

8. See details of the HACCP certification assistance given to small businesses in Jamaica at http://www.fintrac.com/p_jamaica.htm (accessed October 21, 2004).

9. For a discussion of importance, and contested meanings, of the word *authenticity* in the U.K. food trade, see Cook, Crang, and Thorpe (2000) and Cook and Harrison (2003).

10. This information comes from Web sites that cannot be named for reasons of confidentiality.

11. See http://www.thereggaeboyz.com/worldcup98.htm (accessed November 21, 2005)

12. Incidentally, these receptors are also found in the mucus membranes of the anus, which is the science behind the old Hungarian saying that "the good paprika burns twice" (Lawless, 1996).

13. Mr. Heat company Web site.

14. The Rural Agriculture Development Association provides extension services to farmers and farm families. Its research on hot pepper pests such as the gall midge can be found at http://www.radajamaica.com.jm/Technical/gallmidge.htm (last accessed July 6, 2006).

15. McDonald, Halbert, Tolin, and Nault (2003) identified 30 aphid species in rural Jamaica, 7 of which were vectors for the tobacco etch virus.

16. Conversion was based on exchange rates on June 11, 2000, calculated via the currency converter at http://www.answers.com/topic/jamaica (accessed November 21, 2005).

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