Organic Certification as Assemblage

1 INTRODUCTION

Organic honey is growing as a high value Cuban export, ranking 12th in value among Cuban exports in 2016, at $14.3US million (Workman 2017). In recent years, Cuba exported over 97% of its organic honey production to eight European countries (Simoes and Hidalgo 2011). For Cuba as for other exporters, honey's organic-ness in the global marketplace is assured and documented by private third-party certifiers, NGOs which evaluate the honey against a set of standards for production. Third-party certification has become common for a range of primary commodities in the agricultural and forestry sectors over the last 25 years, and is contested by grassroots movements in favor of less hierarchical systems (Hatanaka et al. 2005, Ponte and Cheyns 2013).

As a mode of sustainability governance (Bush et al. 2015), third-party certification schemes are premised on the notion that the market can achieve that which states cannot (Wijawa and Glasbergen 2016). As they grow more pervasive, third-party sustainability standards and related certification schemes are argued to effectively pre-empt state regulation of markets (Loconto and Busch 2010) and put pressure on primary production sectors of economies in the Global South (Ponte and Cheyns 2013; Wijawa and Glasbergen 2016). The embrace of such private sustainability standards enables Cuba to develop a lucrative export market for organic honey, yet stands in apparent contradiction to Cuba's promotion of state control of its economy and self-sufficiency and autonomy in its food system.

Cuba's recent internal liberalization has transformed its agricultural sector and produced new markets for quality food for Cuban consumers and international tourists alike. Such markets call for new systems for ensuring reliability that are consistent

with Cuba's emphasis on autonomy. In 2017, the Cuban Association of Agricultural and Forestry Technicians (ACTAF) published a formal proposal for a participatory guarantee system to meet this need. Whereas third-party certification schemes are inherently hierarchical, vetting products and practices against standards derived from expert knowledge systems, participatory guarantee systems work laterally, creating epistemic communities through which producers learn from each other, while keeping each other accountable to shared standards.

Loconto and Busch (2010, 525; Busch 2011) note that setting standards is both a technical and an ethical practice, that "standardizing practices…do not merely reflect reality as it is; they create new realities" and objects of calculation, and, while standards reduce the space of political contestation, they remain contestable. The system of standards such as that used for organic honey – developed 'at the top of the value chain' (Wijaya and Glasbergen 2016, 220) remain contestable and ACTAF's proposal in part contests them. Furthermore, the third-party certification system and the participatory guarantee system each create new realities for participant producers, distinct objects of calculation, and indeed quite different epistemic communities. Standards, as used in these different systems, are a codification of different quality conventions, institutionalized understandings of what makes the food 'good'. Third-party certification for organic honey is grounded in an industrial quality convention, verified with instrument-based testing; the participatory guarantee system is recognizably grounded in a domestic quality convention (Callon et al. 2002, Ponte and Gibbon 2005; Ponte and Sturgeon 2014), 'in which quality is determined through trust, repetition, and history' (Ponte and Sturgeon 2014, 209).

While sustainability standards, standard-setting practices, and quality conventions have been examined in relation to various commodity chains, production

networks and value chains (Bush et al. 2015; Fouilleux and Loconto 2017), scholarship tends to focus on one or the other type of institutional context, e.g. third-party certification systems, or multi-stakeholder initiatives, or participatory guarantee systems, etc. The juxtaposition of two quite differently assembled quality assurance systems intended for Cuban agriculture allows a rich opportunity to revisit the ways in which power moves through the assemblages of actors, objects, procedures and relations which comprise systems of sustainability governance, with attention to openings for alternative possibilities. In doing so, we build from Ponte and Cheyns' (2013) concept of a sustainability network, the "assemblage of actors, objects, procedures and relations coalescing around addressing or managing social and/or environmental aspects of commodity production, processing, exchange and consumption' (Ponte and Cheyns 2013, 460). This paper parallels the project of Forney et al. (2018) to consider 'the ontologically disruptive power of assemblage thinking' (Forney et al. 2018, 12), offering a different approach to conceptualizing relations of power as they infuse assemblage(s).

We theorize organic certification broadly as a '*dispositif-assemblage*', which indicates simultaneous, multiple, and conflicted 'wills to govern'. Our work advances assemblage thinking by providing a case study through which we can explore the organic dispositif-assemblage, mapping out the political effects of having multiple competing 'wills to govern': that of a third-party certifier effectively governing production at a distance, and that of a Cuban NGO foregrounding the expertise and standards of local producers in line with intentions of the Cuban state itself. In doing so, we address a gap in how assemblage thinking has been used to understand agrifood governance through sustainability standards and private certification schemes. The embrace of assemblage thinking yields disruptive new insights into

these increasingly pervasive mechanisms of agrifood governance, and places the ontological openness of assemblage in dialectical tension with the Foucauldian 'will to govern'. Beyond agrifood governance, the argument here can be broadened to complicate wider geographical debates about power and topological spaces (e.g., Allen and Cochrane 2010). Understanding how multiple actors struggle within assemblages to push those topologies into new formations within the possibility space is central to geographical understandings of how politics unfolds.

The paper is organized as follows. First, we sketch a brief overview of key developments in Cuban agriculture in order to set the context for juxtaposing these systems of evaluation of the qualities of organic agricultural products as they move through different markets and networks. We then offer a conceptual discussion of certification as a will to govern, developing the concept of a dispositif-assemblage. We use this framework to trace elements of the two certification systems in relation to different possibility spaces and argue that by depoliticizing the certification systems through the dispositif-assemblage, the Cuban case demonstrates that third-party certification and participatory guarantee systems are not inherently in conflict, but can be understood as commensurable.

2 CONTEXT AND BACKGROUND: CUBAN AGRICULTURE

2.1. Agroecological production

Following the collapse of the Soviet Union, Cuba's Soviet-subsidized industrial agriculture collapsed as well, which led to deep austerity during what was called the 'Special Period in Peacetime'. In order to build a more self-sufficient agricultural sector moving forward, the Cuban government adopted agroecological principles as the basis for food production (Reardon and Alemán Pérez 2010; Rossett

et al. 2011). Today, Cuba is globally recognized as an agroecological leader for its encouragement of sustainable food production. It has provided policy and material support for agroecology through heavy restrictions on the use of agricultural chemicals, major land tenure changes designed to break up large state farms into smaller production units, distribution of fallow land to individual and cooperative farmers, significant investment in agroecological research and extension programs, and the development of biocontrol production centers (Nelson et al. 2009; Spadoni 2014).

Low-input farming is now firmly institutionalized and promoted by farmers as well as by the Cuban state, research institutions and NGOs. With the exception of agricultural exports such as honey, sugar, and citrus fruit, food is grown through a network of cooperative-affiliated small farmers who support and promote agroecological principles. Farmer networks are supported in large part by the nationwide Farmer-to-Farmer Agroecology Movement in Cuba (MACAC), an agroecological farmer training program coordinated by the National Small Farmers Association of Cuba (ANAP) (Rosset et al. 2011, 170-173).

The presidency of Raul Castro ushered in a new economic era of partial economic liberalization in Cuba. Agricultural reforms lead the way, shaped by President Castro's 2011 *Lineamientos* (Guidelines) (Mesa-Lago and Pérez-López 2013, Spadoni 2014). The 2011 *Lineamientos* outline substantive policy reforms, including the opening of agricultural land to redistribution, the expansion of private enterprise (including *paladares* or private restaurants), and the legalization of the sale of private property between individuals. The *Lineamientos*' purpose to promote economic growth across multiple sectors, increase employment and bolster domestic food production have led to what Sweig and Bustamante (2013) termed 'a gradual

but, for Cuba, ultimately radical overhaul of the relationship between the state, the individual, and society, all without cutting the socialist umbilical cord' (101).

The *Lineamientos* reforms, though halting, resulted in exponential growth in the food service sector—including private restaurants, cafeterias, bed & breakfasts, street venders and caterers. A related policy change authorized farmers to sell directly to tourist hotels and restaurants, allowing the emergence of private food supply chains linked to tourism (Ríos 2015; Spadoni 2014; Graddy-Lovelace 2018). Small farmers and cooperatives are increasingly selling seasonal, local food directly to restaurants that cater to both tourists and Cuban patrons, creating the need for more dependable sourcing of high-quality food.

Newly emerging domestic markets for organic produce create challenges that the Cuban state, research institutes and NGOs are eager to solve with home-grown—not foreign—solutions. Peer-to-peer certification is one means of upholding agroecology principles in the context of increasing domestic food production and sales, assuring the quality of domestically produced food.

2.2 Apiculture for export

Honey production in and export from Cuba is managed by the Cuban Apiculture Enterprise (APICUBA), a state-run entity that oversees the aggregation of honey and other apicultural products. Its primary functions are processing honey and aggregating it for export, training beekeepers, technical and methodological assistance for the organic operation of beekeeping throughout the country. An estimated 2000 beekeepers in Cuba, organized into different types and sizes of cooperatives, sell all but a tiny fraction of honey produced to APICUBA, which is exported through the state-run exporting company Cubaexport (Rodriguez 2015, 1).

Because of Cuba's adoption of agroecological principles across most of its agricultural sector, most of Cuba's agriculture is de facto organic. As a result, Cuban honey bees are far less likely to encounter pollen sources treated with agricultural chemicals and other non-allowed substances than just about any other honey bees. Certified organic honey fetches a price more than three times that of conventional honey, yet due to the steep price of organic certification only an estimated 21.5% of Cuba's honey production was certified organic for export in 2018 (Diaz 2019).

3 CERTIFICATION AS A WILL TO GOVERN

The operation of markets for quality food, such as certified organic products, relies on bringing people, things, regulations, and discourses into relation with one another in a way that enables supply and demand to meet, and for products with guaranteed qualities to circulate. As such, organic products can be understood as 'informed materials', that is, something that is 'constituted in [its] relations to complex informational and material environments,' (Barry 2005, 52). For food to be certified as organic, it must be understood not just as the thing itself, but also in relation to the affixed traces that enable it to be known as such – the documents that attest to the chemical-free nature of the production system, appropriate veterinary care, and so on. An audit of these traces – and of the product itself– is always possible and can potentially downgrade the organic product into a less valuable commodity. Therefore, we can see organic-ness (and its subsequent valuation in the market) as the emergent effect of a regulatory regime, itself reliant on the proper assembly of chemical use, land use regimes, documents, storage containers, and so on. For organic products to exist at all requires acquiescence to a third-party audit of production, which as described above, potentially runs counter to Cuban values of autonomy and

domestic self-reliance. As Bain and Hatanaka note (2010, 69), third-party certification lacks space for stakeholder engagement, and therefore 'is problematic because it allows the standards-makers and the certifiers to be more selective about which standards they intend to monitor and less accountable for how they are monitored and enforced.' The imposition of an external will to govern is acceptable in the case of a valuable export, but it is less so for newly emerging domestic production and markets. Rather, a strategic combination of multiple forms of certification emerges, which can be viewed as various iterations of an overarching food quality dispositif-assemblage.

We theorize our concept of the dispositif-assemblage by putting Foucault into productive tension with Deleuze. Foucault defines the dispositif as

> a thoroughly heterogeneous ensemble of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions. (Foucault 2007, 194)

Crucially, the dispositif is not those things themselves, but the 'system of relations that can be established between those elements' (ibid.). Silva-Castañeda and Trussart (2016, 492) note that a dispositif 'is a common matrix through which knowledge and power are co-produced', which is intersected by various lines of power, some of which shape it, and some of which disrupt it. Nonetheless, for them, the dispositif 'remains primarily defined by the movements of stabilization that tend to put heterogeneous elements into order'.

Foucault (2007) theorized the dispositif in the course of his evolving theory of power; thus a dispositif 'seeks to organize the various and heterogeneous ideas, agents, and institutions that create a particular field of social life,' (Salter 2013, 12), operating with an intent to govern. The field of governmentality studies can be seen as

the extension of this logic, foregrounding the "will to govern", as a process aimed at controlling the conduct of individuals and groups in various contexts (Rose 1999, 5). As Li (2007, 264) notes, the will to govern concerns improving organizations and social processes toward some desired end. The animating force behind the will to govern could be the state, or -- crucially for our argument -- it may be some other force: '[t]he state now appears simply as one element – whose functionality is historically specific and contextually variable – in multiple circuits of power, connecting a diversity of authorities and forces, within a whole variety of complex assemblages,' (Rose 1999, 5).

In a study of palm oil sustainability standards, Silva-Castañeda and Trussart (2016) demonstrate that certification schemes are *multiple and distributed* rather than singular and holistic. They disaggregate the elements of a dispositif, such as an organic certification regime, to focus on how

> the development and enforcement of standards partly depend on the extent to which the interests of plural actors are translated and enrolled in a third-party certification process and therefore depend on a number of concrete devices.

They emphasise the orderliness of dispositifs as a contrast with the emergence and creativity of assemblages. Salter (2013, 12) notes in parallel that assemblage "liberates Foucault from a desire for an underlying organizing principle." Rather, "Deleuze and Guattari explain assemblages through rhizomatic expansion, heterogenous actors, and uncoordinated action that have effects that are both constrictive of individual areas of play and enabl[ing].'

We argue, following these thinkers, that a dispositif is simply an assemblage with a (perhaps incoherent) will to govern, paralleling how DeLanda (2006) argues for 'social assemblages' as a special subset of assemblages that incorporate humans as

elements within and therefore must account for humans' reflexivity and sometimes conflicting intentions. This move both prevents the dispositif from being understood as static and un-dynamic while also accounting for its frequent inarticulateness. Indeed, Deleuze (1992) notes that dispositifs are composed by lines of stratification and lines of flight that destabilize a seeming-hegemony. As Stephen Legg (2011, 131) argues

> What we have […]is, then, an acknowledgement that apparatuses are etymologically and genealogically indissociable from regulation and government, but that their very multiplicity necessarily opens spaces of misunderstanding, resistance and flight. What we can also see, through the increasing exploration of the utility of assemblage theory, is that stability is assembled as much as destabilization.

In the case study examined here, our novel combination of the *dispositif-assemblage* in a single hyphenated term allows us to examine the relationship between *different distinct wills to power within the certification regime*. That is to say that *some* might label third-party certification as dispositif while identifying the more bottom-up participatory guarantee system as assemblage. However, our argument is that *both* of these systems are intersecting in the Cuban apicultural sector, intra-acting with one another.

While previous scholarship has indicated that dispositif and assemblage describe different states of being for relational constructs (Silva-Castañeda and Trussart 2016), we highlight their simultaneous intra-action with one another by entangling the words themselves through hyphenation. Barad (2007, 152) uses the term 'intra-action' to refer to the 'mutual entailment' of discursive-material processes, such as when ''Distinct agencies' […] in fact mutually constitute one another and can

emerge as such only through their intra-action.' Therefore, we conclude that the two wills to power cannot be dis-entangled from one another, and must be understood through their mutual entanglement in the multiplicity of the Cuban certification regime.

Further, we conclude that the analytic tools of assemblage theory – such as possibility spaces – can be used to dissect and understand the competing agencies that are catalysed when food is becoming-organic. A possibility space is the diagram of an assemblage that not only outlines what an assemblage *is*, but also the multitudes of what an assemblage *might be*. That is, the assemblage as it is actualized is laid alongside all the other virtual forms that are potentially real given the components available. Therefore, the possibility space is not infinite, and indeed many of the virtual instantiations of the assemblage may look more or less like the real one. Nevertheless, the possibility space is useful for the way it denaturalises the actualised 'real' and offers purchase for alternative political projects.

With those insights, we turn our attention to how certification regimes can specifically be understood as a dispositif-assemblage, reliant on an emergent affect of trust between consumers and producers. Consumers must invest the organic certification with a degree of trust that it speaks to actual conditions and processes of production when it very well may not (Trauger and Murphy, 2013). This outcome both stabilizes the certification regime for some valuable exports, but also reveals a possibility space that includes alternative certification regimes, which can generate similar emergent properties domestically without the imposition of an external will to govern on Cuba.

3.1 The emergent affect of trust

Significantly, the elements of an assemblage have properties, but these do not determine the outcome of processes of assemblage. Rather, it is the relation between elements of the assemblage that lead to the emergence of something greater than the assembled parts. Similarly, the immanent *qualities* of products do not themselves make those products organic. It is, instead, the way the product is enmeshed in social relations that enable the food to be identified as having the properties that people seek in quality food (Callon et al, 2002; Ponte and Gibbon 2005). Certified organic foods are understandable as having 'organic' qualities as a result of entering into assemblage with a wide array of people and materials – from the expert to the technologies of scientific measurement, and so on. As Barry notes (2004, 250), 'the designation "organic" does not represent an absence of technology. Rather it depends on the use of forms of technology and expertise that are attuned to the peculiarities of geography.'

If organic products are the result of specific practices of agriculture, then *trust* in their organic-ness can be understood as the emergent effect of the organic dispositif-assemblage. That is, while there may be differences between the composition of organic and non-organic products, those compositional differences are likely to be undetectable to most consumers' senses. Therefore, for consumers interested in either organic products or organic production processes, the certification system is freighted with great expectations (Makatouni 2002). Trust must emerge from the organic dispositif-assemblage, as the organic label is a fetish for those processes and qualities (Guthman 2007; Trauger 2014).

Significantly, such trust cannot be assumed. First, there is no singular 'organic' (Smith and Marsden 2004). In fact, there may be multiple, competing

organic certifications for a given product, which may undercut trust in the overarching 'organic' label. Guthman (2004), for example, demonstrates that industrial agricultural corporations have increasingly captured the United States Department of Agriculture organic label, co-opting a movement intended to differentiate agroecological farming from industrial farming. Early modes of organic certification in California were grounded in rent-seeking solutions to rising land prices and an agroecological ethos that understood farming as a holistic system focused on soil health (Guthman 2000; Guthman 2004; Seufert et al. 2017).

As demand for products of organic agriculture grew, the certification system grew more focused on controlling inputs rather than guiding agroecological practices. The schematic simplification of organic certification in standards issued by the United States Department of Agriculture facilitated the rapid growth of the organic sector. The National Organic Standards (NOS) replaced standards implemented by state-based certifying agencies - standards which were grounded in place-based mutual recognition and trust among producers and consumers, with rather more industrial standards 'in which the quality rules are formalized and controlled in an instrumental way' (Mundler and Bellon 2011, 59, author translation).

Second, the trust created by predominant third-party certification schemes for valuable export products such as honey is predicated on a narrow swath of material traces of the complex assemblage of organic agriculture. Organic regulations, in practice, define organic agriculture reductively as that which is free of chemical input (Seufert et al 2017, Guthman 2004). It is more feasible, after all, to verify the presence or absence of materials in an annual inspection, than to evaluate production practices throughout the year. Thus, trust that producers are following certification

standards is an effect of an assemblage of documentation about materials more so than practices.

Third, trust percolates throughout relations constituting the assemblage of organic certification. Most obviously, trust is intended to emerge as an affect of the assemblage to be acknowledged and acted upon by consumers. That is, consumers are part of the dispositif-assemblage itself. *European Council Regulation (ECR) No 834/2007 on production and labelling of organic products* (2007, 6, Clause 5) is quite clear on this point, noting that

> It is…appropriate to define more explicitly the objectives, principles and rules applicable to organic production, in order to contribute to transparency and consumer confidence as well as to a harmonised perception of the concept of organic production…

At the same time, the episteme guiding third-party certification schemes such as that enacted by *ECR No 834/2007*, coded through a set of standardized and measurable attributes, enable the linking of equivalent systems in ever more expansive circuits of trade. That is, the dispositif-assemblage of organic certification is coded along lines which standardize or harmonize control arrangements, such that one set of rules are made equivalent to the other (Trauger and Murphy 2013). The affect of consumer trust in the certification is standardized across cultural, regional and agronomic difference as dispositif-assemblages of organic certification interlock and become equivalent to each other. Thus *ECR No. 834/2007* subjects Cuban apiculture to control arrangements that align Cuban organic honey production with European standards. These interlocking assemblages are made coherent through a 'will to govern' emanating from European institutions.

Fourth, the organic label fetishizes valuation of ethical and environmental commitments in the (global) market for organic honey. Early scholarship on the rapid growth of labelling initiatives (Mutersbaugh 2005) tended to view labels as elements of society's push back against the force of expanding market relations, in what Polanyi (1944) called the 'double movement' between market liberalism and state regulation. In this view, labels act to protect social and moral values in the face of capitalist expansion (Barham 2002), an effect that would align well with Cuba's revolutionary ethos. Guthman's (2007) analysis argues quite the opposite. She argues that 'labels not only concede the market as the locus of regulation, but in keeping with neoliberalism's fetish of market mechanisms, they employ tools designed to create markets where none previously existed' (2007, 456). That is, labels -- as elements of agricultural and policy assemblages - highlight the 'growing penetration and importance of private rules, conventions, and market forms of regulation in sustainable food production' (2007, 180). Economic relations, including market valuation, are ineluctably embedded in a suite of social relations.

If we understand certification as a dispositif-assemblage, with trust as an emergent effect, then Guthman's analysis further complicates our understanding. It suggests that rather than protecting social and moral values, labels commodify them, allowing ever deeper incursion of fundamental social and ecological relationships by market forces. This effect would seem to run counter to Cuba's resistance to dependency on inputs and imports, such as how Cuban cooperative farmers resist the threat of US industrial agricultural imports undermining domestic—and agroecologically-produced—food (see Graddy-Lovelace 2018).

A deeper engagement with the Polanyian contradictions inherent in this tangle is beyond the scope of this paper. But to sum up, scrutinizing the dispositif-

assemblage's emergent affect of trust suggests a set of possibility spaces inclusive of alternative certification regimes. If we understand possibility spaces as marking out those tendencies and capacities of an assemblage which are latent, or virtual, but not currently manifested (DeLanda 2016), then possibility spaces are evident in the recognition that a) there is no singular organic; b) focusing on material properties is conceptually distinct from (and narrower than) focusing on practices and relations, and c) valuations of work and knowledge are socially embedded and not reducible to mathematical market calculations.

In what follows, we discuss two different certification schemes and how they operate, or might operate, within the territorial space of the Cuban state. We conceptualize both the existing third-party certification scheme for exported honey and the proposed peer-to-peer scheme for a range of organic produce as dispositif-assemblages. Each certification system embeds a will to govern the food system. Each of these systems, one actual, one proposed, are constituted in and through relations of trust, although the authorities associated with trust are arrayed quite differently within each scheme. We juxtapose the two schemes in order to highlight these divergent iterations of the dispositif-assemblage, suggesting that these are commensurable, and not directly in conflict with one another.

4 POSSIBILITY SPACES FOR CERTIFYING FOOD QUALITY

We move now to consider the certification dispositif-assemblage as a multiplicity of forms, some actualized and some not yet in practice. We do so through careful attention to the guidance documents which code the (European) BCS Oko Garantie third-party system on one hand, using a rare and valuable export (honey) and the proposed participatory guarantee system of the Global South on the other as a

certification system for domestic certification of produce. These expressive components, one of an actual and the other of a possible agricultural-economic assemblage, recursively shape the identity of the whole. At the same time, each document figures as part of the assemblage of power and governance, one of myriad forms of documentation and parameterization.

4.1 Third-party certification: certification and commercialization of ecological honey in Cuba

Cuba exported 7200 tonnes of organic honey in 2014 (Arsenault 2016), with the majority of it (5935 tonnes) going to Europe, according to Eurostat Comext data. Organic standards for imports to Europe are guided by the *ECR No 834/2007 on production and labelling of organic products*, and implemented by a third-party agency, KIWA BCS Öko-Garantie. As a mode of sustainable governance (Bush et al. 2015), the KIWA BCS Öko-Garantie certification system and label translate between domains of economic relations – the dispositif-assemblage of Cuban chemical-free apiculture and a European market of ecologically conscientious consumers.

For apiculture, which rests on the management of flying insects (*apis melliflura)*, organic standards set limits on the material qualities of the pollen accessible to the bees, the veterinary care of the bees, and the material construction of bee boxes. The quality of these materials can be controlled in an instrumental way, yet none of these standards is met in isolation from other elements of the apicultural assemblage. *ECR 834/2007 on production and labelling of organic products* indicates that apiaries

> shall be placed in areas which ensure nectar and pollen sources consisting essentially of organically produced crops or, as appropriate, of spontaneous vegetation or non-organically managed forests or crops that are only treated with

> low environmental impact methods. Apiaries shall be kept at sufficient distance from sources that may lead to the contamination of beekeeping products or to the poor health of the bees; (x) hives and materials used in beekeeping shall be mainly made of natural materials.

That is to say, achieving organic honey production is a deeply relational affair. The availability of chemical-free pollen is assembled through land management practices and ownership patterns in surrounding areas. Approved veterinary care is the effect of the technical and commercial availability of allowable treatments for apicultural pests and diseases. Approved boxes are assembled from materials which are available through varying kinds of commercial networks.

Third-party certification of Cuban honey for export enables an expansion of capital accumulation in the organic sector through an assemblage coded through hierarchies of authority. That is, the trust engendered by the application of this label, and concomitant valuation in the marketplace, is predicated on a steeply hierarchical bureaucratization of knowledge and expertise.

According to *ECR 834/2007*, the most recent EU legislation regarding organic agriculture,

> Organic products from non-EU countries can be distributed on the EU market only if produced and inspected under conditions that are identical or equivalent to those applying to EU organic producers. … Control bodies (Certifying organisations) operating in non-EU countries are directly authorised and monitored by the European Commission and EU countries. This allows the EU Commission to supervise and monitor the import of organic products and the checks carried out on organic guarantees.

Thus, Cuban exports of organic honey are certified as such by KIWA BCS Öko-Garantie, acting effectively as an agent of the EU Commission. The certification process is thoroughly hierarchical, establishing KIWA BCS Öko-Garantie at the top of a multi-level, bureaucratized process. The *Manuel de manejo ecológico Certificación y comercialcisión de mieles ecologías en Cuba* (hereafter referred to as the '*Ecological Management Manual'*), describes KIWA BCS Öko-Garantie as

> an independent entity whose corporate purpose is the certification and control of organic productions, for which it has a team of highly qualified specialists in the agricultural sector and in all branches of the food industry. Its action integrates all productive levels within the ecosystem on a scientific-technical basis and is in high demand globally. In addition, it has developed its own control endorsement using methods of production and transformation that do not harm the environment.

This passage rewards scrutiny. The certifying agency is not a state agency, it is a corporate entity outside of the state, yet it acts with the authority tantamount to that of a government, having developed and deployed 'its own control endorsement'. The corporate entity acts to translate and impose standards in service to organic standards legislation such as *ECR 834/2007* or the USDA's National Organic Production (NOP) Standards, in other words, in service to capital accumulation in the largely private, increasingly corporate, organic sector.

In doing so, KIWA BCS Öko-Garantie assembles and codes authority and knowledge in ways that align with tendencies in industrialized agriculture more broadly. First, KIWA BCS Öko-Garantie relies on heavily credentialed expert knowledge in the form of 'highly qualified specialists'. The third-party certification system locates expertise in a technocratic 'outsider', in alignment with longstanding

tendencies within industrial agriculture to drain expertise from producers themselves (Fitzgerald 2003; Lewontin 2000). The will to govern the dispositif-assemblage of organic apiculture is coded through a bureaucratized 'scientific-technical rationality' here and throughout the document. The imposition of scientific-technical knowledge systems on producer networks by state apparatuses is well documented in the history of industrializing agriculture (see Fitzgerald 2003; Scott 1998).

Second, as with other corporate entities comprising a globalized industrial food system, KIWA BCS Öko-Garantie is horizontally integrated so as to dominate certification as a sector, employing specialists 'in the agricultural sector and in all branches of the food industry' (*Ecological Management Manual*, 6). Horizontal integration was introduced early on into agricultural industrialization as a strategy of control by corporations over producers (Watts and Goodman 2000). The strategy taken by transnational food processing corporations such as Archer Daniels Midland (ADM), serves a parallel purpose for a certifying agency.

Third, the Certification Process is described in the *Ecological Management Manual* as deeply hierarchical, with levels of authority defined by scales of oversight, and by proximity within the assemblage to the state-like authority through which certification is enacted – KIWA BCS Öko-Garantie. Organic products as informed materials become trust-worthy through the assemblage of materials and traces that are attached to the substance itself; the *Ecological Management Manual* highlights the hierarchical organization of these as an expression of the will to govern through the apicultural dispositif-assemblage.

The *Ecological Management Manual* characterizes the hierarchical bureaucratic procedures through which new beekeepers are admitted to the program (or not), as actions that 'have been defined between the control body (KIWA BCS

Öko-Garantie) and the Center for Apicultural Research *which must begin at the base and end at the superstructure*' (emphasis added). The phrasing signals the hierarchical incorporation of new elements to the assemblage. The ensuing text highlights ways in which the assemblage homogenizes its own components, a key effect of entering into assemblage (DeLanda 2016, 22), and an effect deeply embedded in a history of (neo)colonialism. That is, apiculturists who wish to sell organic honey in Europe are drawn into a regulatory process that positions Europe as the source of relevant technical knowledge and Cuba as the source of land and labour.

The process begins with a provincial commission that evaluates 'Basic Apicultural Business Units (UEBs)' for their potential to meet certification standards. Those UEBs with adequate 'collegiality of commitment to the program' sign intention letters and producer agreements, which are forwarded to an APICOLA technician "designated for this purpose in the internal control system," (*Ecological Management Manual*, 9) who then inspects and diagnoses the apiary. The inspector generates a list of actions the beekeeper must take to qualify for certification and forwards the report and all relevant documentation to a central commission of CIAPI (Beekeeping Research Center) and APICUBA. CIAPI then 'control[s] 100% of the approved producers and will define their inclusion in the list of ecological apicultural producers depending on the results of the investigation.'

The *Ecological Management Manual* continues, explaining that

> On the visit of the BCS inspector, he [sic] will effect the inspections in correspondence with the level of territorial risk and all the documentation established for the inspection process will be evaluated, at the end of which a report should be made that will be discussed with the participation of the

UEB, together with the units to be certified and APICUBA with national responsibility for organic production (ibid).

Note that the beekeeper his or herself is stripped of authority in this system. They do what they are told they must do, or their product will not be included in the certification system, and they cannot participate in the market for certified organic honey.

The techniques and conventions by which KIWA BCS Öko-Garantie serve to strip producers of authority and their own expertise are so vertically integrated across agricultural production and processing as to exert nearly totalizing control over an agricultural sector seeking certification, which territorializes or homogenizes components according to a bureaucratized scientific-technical rationality. Yet in using powerful rule-making authority to override beekeepers' own socially embedded valuations of work and knowledge, the third-party dispositif-assemblage opens up a multiplicity of alternative understandings and enactments of 'organic'.

4.2 Participatory guarantee systems

An alternative organic emerges in the form of participatory guarantee systems, which are 'systems of quality assurance that are locally oriented. They certify producers on the basis of the active participation of the stakeholders concerned and are built on confidence, networks and sharing knowledge' (IFOAM n.d.). Participatory guarantee systems take a range of forms, which originated largely with the development of the Certified Naturally Grown (CNG) system in the United States. CNG was developed in response to (and protest of) the centralization of USDA Organic Standards, and launched in 2002 as a wholly voluntary association of (agroecological) farmers. Rather than paying a steep price for federal organic

certification, CNG participants audit and learn from one another. The CNG scheme was designed to do what the U.S. National Organic Standards do not: attend to, and account for, a set of place-specific processes and practices rather than focus on regulating allowable materials.

Similar localized systems, many modelled on the CNG, took form across Latin America over the ensuing decade. The International Federation of Organic Agriculture Movements (IFOAM) convened a 2004 workshop in Porto Alegre, Brazil to take stock of a wide range of initiatives for 'alternative certification' as alternatives to "big anonymous markets and national regulations on organic labelling' (IFOAM 2004). These initiatives included, but were not limited to, what IFOAM referred to at the time as 'Guarantee Systems', 'group certification schemes' and 'participatory network certification'. By 2008, IFOAM had adopted the terminology of 'Participatory Guarantee System' or PGS. As the IFOAM infrastructure in support of PGS schemes developed, a regional emphasis across Latin American countries quickly emerged that expanded or recalibrated the scope and intent of PGS schemes.

The *Manual of the Participatory Guarantee System (PGS) in Cuba* (hereafter referred to as the *Participatory Manual*) describes a proposed participatory guarantee system that would enroll Cuban producers in certifying one another's production standards. Peer-to-peer schemes typically are far less costly to enact than third-party certification, locating the authority to evaluate and certify production practices (or not) with producers and consumers rather than with institutions, or in the case of many organic standards, with a synoptic view from bureaucrats in state agencies (Scott 1998). The participatory scheme has its roots in the economic reality that third-party certification is too expensive for anything but very valuable products, usually exported. With the expansion of Cuba's private restaurants and new demands for

quality food domestically, new forms of certification were proposed to guarantee quality for the lower value domestic market (Interview, Gavilanes Díaz, June 2018).

The proposal laid out in the *participatory manual* is modelled on the U.S.-based Certified Naturally Grown (CNG) certification scheme and affirms the IFOAM positions described above. It is the second phase of a larger project named PAAS (Aid Project for Sustainable Agriculture in Cuba) funded by the Swiss Agency for Development and Cooperation, and administered by a Cuban NGO Cuban Association of Agricultural and Forestry Technicians (ACTAF) and the research institute, Institute of Tropical Agricultural Investigation "Alexander Humboldt" (INIFAT) – it has four authors, who are associated with ACTAF and INIFAT.

In the following discussion, we focus specifically on the importance of trust, but a different form of trust than emerges from third-party certification.

> Participatory Guarantee Systems are locally-focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange (IFOAM 2008, quoted in Nelson et al. 2016, 375).

According to Pedro Gavilanes Díaz, an agronomist and an author of the proposal, which seeks PGS recognition from the Cuban state, the PGS proposal 'signifies a change in the mechanisms of how guarantee systems (of food quality) are produced, the mechanisms of how trust is generated. Participatory systems are based in trust' (Interview, Gavilanes Díaz, June 2018). Gavilanes explains that in assembling trust in agroecological production practices, the authors of the *participatory manual* are 'looking for recognition in the market for these products, and these practices they're using, that are "good (agricultural) practices" and also in manufacturing and production.'

These positions inflect the dispositif-assemblage of peer-to-peer certification in ways that differentiate it notably from the more centrally bureaucratized organization of third-party certification. Significantly, they invoke an organic *movement* rather than the organic sector of globalized agriculture on which third-party certification schemes are premised. They push against the influence of market requirements imposed by such systems, to suggest that organic production entails the empowerment of (localized) communities. Finally, they invoke the values and sensibilities of a broader range of potential consumers than the European market of ecologically conscientious consumers on which the *European Council Regulation (EC) No 834/2007*, for example, is centered.

The *Participatory Manual* proposal explicitly recognizes dynamism in the agricultural sector. Gavilanes explained that the PGS includes both an organic and an 'in transition to organic' category of certification.

> Why? Because there are farms…that could obtain this certification, and this recognition. In fact, they're striving towards it, by building a relationship of *trust* between the farm and the consumers. (Interview, Gavilanes Díaz, June 2018, emphasis added).

He described changing conditions and contexts for Cuban agriculture, discussing producers who have emerged as successful farmers and who want to sell their high quality agro-ecologically produced foods directly to tourist-oriented restaurants and hotels.

The *Participatory Manual* positions the proposed PGS as an extension of national governance of agro-ecological production – a set of state priorities, on one hand, and of ACTAF's method of farmer-to-farmer education and concomitant social control on the other. The proposed guarantee system is portrayed as an obvious

outgrowth of these overlapping assemblages – an enmeshing in which new relations and articulations come into being, constituting a new (as yet anticipatory) assemblage.

The *participatory manual* begins thus:

> In our country, … the development of organic certification has been limited, oriented mainly to foreign (external) markets and made by foreign (external) certification companies. Nor is there a national certifier or an internal market for quality products with differentiated quality attending to its attributes of organic value…The participatory guarantee systems are an alternative to the third-party system of certification prevailing at the international level, which by definition is an external certification (certifiers). The PGS shares the same purpose, to generate guarantees, but they differ both in the process and in the concepts of certification (Gavilanes Díaz et al. 2015, 7).

It is made clear at the outset of the document that the authors propose to assemble organic certification differently, and to position Cuban producers and consumers as meaningful elements of the assemblage in a way that the third-party certification scheme does not.

The document signals the involvement of many existing institutions and organizations, ranging from large to small, from national/state based (ministries) to sectoral (women's groups, farmer's groups) organizations. Without specifying the nature of their involvement (which must differ somewhat among them), the proposal signals the complexity of material and relational qualities of the proposed PGS assemblage. Trust emerges as the effect of a markedly different assemblage, one with a strong emphasis on horizontal learning, education, and participatory expertise throughout the proposal, as in the following passage from the introduction:

> The PGS takes agroecology as its scientific base and practice since it contemplates a group of participatory principles and methodologies that manage to combine local knowledge of the farmers with local scientific knowledge…the actors involved in the production chain evaluate compliance with the requirements of organic production, generate confidence in the system of production and commercialization; preferably through a direct relationship between producers and consumers. Additionally, knowledge and practices are shared, which favors learning and continuous improvement.

The *Participatory Manual* explicitly names 'horizontality' as a guiding value, expressed thus:

> Horizontality: The evaluation of conformity (the degree of compliance with requirements for organic production) is not concentrated in the hands of a few. Ideally, all those involved in the process of participatory guarantee have the same level of responsibility and capacity to establish the organic quality of processes and products. It is a process basically developed in the municipality.

Participants include both producers and consumers, and the PGS as a vehicle for continuous training of the producers is cast as integral to local sustainability. Significantly, the proposal embraces both scientific and 'popular,' or experiential, knowledge, and alludes to the goal of 'continuous improvement' in multiple places in the document. Thus, knowledge is understood as relational, as social or networked, and as dynamic, in contradistinction to the *Ecological Management Manual* in which knowledge is credentialed, bureaucratic and seemingly static.

Trust emerges, then, as an affect of a markedly different assemblage in the proposed peer-to-peer guarantee system. The definition of 'confidence' (*confianza*) invokes social and cultural dimensions of—and is often directly translated as—trust:

Confidence: The actors of the PGS maintain the idea that the power conferred on producers and on which the system of organic certification depends is an expression of confidence (in it), expressed through the application of different social and cultural mechanisms of control.

These approaches – because they are built on 'trust, networks and sharing knowledge' – tend to emphasize the role of place, face-to-face social interaction, and long-term bonds of trust in ways which appear utterly absent from the third-party certification rules. Like the third-party verification approach discussed above, this territorializes local producers into the organic dispositif-assemblage, but codes them differently while doing so. Rather than passive subjects of a will to govern, the local producers are simultaneously *experts* in their field and also co-authors of the standards to which they are being held. In this way, will to govern is, as described in the above discussion of dispositif-assemblage, fragmented and contradictory – both representing a desire to uphold standards but also to avoid the governmentality of a technocratic state and neo-colonial relationships with supranational organizations.

Where third-party certification seeks to impose a global space of standards and uniformity, participatory guarantee systems allow for a product that is informed by the materials and practices that compose its origin. From the perspective of the dispositif-assemblage, if trust in 'organic' is emergent from participatory guarantee systems, they are as useful as the third-party certification system, and are far more commensurable with each other than their histories in other contexts might suggest.

5 DISCUSSION

Bailey (2013, 807) notes that policy is a 'contingent formation of diverse discursive and extra-discursive elements, and policy institutions, practices and micro-

settings as constituted by and enmeshed within multiple relations of power.' He differentiates between what he refers to as 'micro-dispositifs' – such as the organic label and the assemblage through which it attempts to govern – and 'policy macro-dispositifs', or 'spaces and locations where policy is performed and disposed in particular ways.' For our purposes, this distinction points to how certain policies may emerge in some contexts and then circulate within international policy circles, landing in new contexts and entering into assemblage with those locales (Robinson 2006; McCann 2011). It is this narrative, of policy choices emergent from one assemblage, such as peer-to-peer certification systems, circulating through and then enmeshing in another milieu, such as organic food certification, that opens up an affective politics of the unexpected, in which informed materials such as organic products can re-work wider social relations within and beyond the territorial bounds of the state.

In particular, we are interested in the potential of organic honey and its certification regimes to resonate (or not) with other dynamics in the diplomatic and trade networks in which Cuba itself is enmeshed. Agriculture remains one of the sectors through which Cuba is most engaged with the outside world, with Cuban tobacco, organic honey, and rum highly valued around the world, and with 60-80% of food imported from overseas, although this wide-ranging figure is contested by numerous scholars.[1] The interface of global capitalist markets and the Cuban state in this area has posed very particular challenges. The reestablishment of diplomatic relations between the United States and Cuba introduced new concerns for Cuban farmers and the promoters of agroecology and a participatory guarantee system.

[1] The World Food Programme (2017) reports that 70-80% of Cuban food is imported from overseas. Cuban scholars point out that this statistic does not account for Cuba's urban agriculture production, which is sold in local farmer's markets, or for semi-subsistence production in Cuba, and give estimates of 60% or less (see Altieri and Funes-Monzote 2012 and Graddy-Lovelace 2018).

While the US embargo of Cuba was modified in 2000 to allow American farmers and agribusiness to sell agricultural products to Cuba, they are still prevented from obtaining credit and must purchase food products on a cash basis. Cuban farmers have protested US attempts at circumventing their collective farming systems and the state-sponsored organizations that support them by offering aid to individual farmers rather than to cooperatives (Graddy-Lovelace 2018). Cuban farmers and their newly developing direct food supply chains are also at risk in the face of an anticipated expansion of industrialized food trade with the United States.

Maintaining the centrality of the state dispositif to economic exchange in Cuba has been a central aim since the 1959 revolution. This has led to the subjectification of apicultural labour in a top-down formation that has located authority for decision-making in APICUBA. The maintenance of the revolutionary ethos in the face of global capital is justified through an anti-colonial stance that legitimates substantive hierarchical control by the state dispositif. However, as described above, recent liberalizations of the Cuban agricultural sector have allowed more locally-produced food to be sold directly to private buyers, including tourist-oriented restaurants and hotels. This has re-worked the political subjectivities of some agricultural labour, to a limited extent, as they come to exercise some hitherto unexperienced economic agency. Nevertheless, by and large the Ministry of Agriculture remains the primary mediator between these workers and the market, insulating the revolutionary interior from the capitalist exterior.

The state remains a mediator between Cuban apiculture exports, US agricultural imports and the capitalist economy, with the organic dispositif-assemblage of third-party certification locating expertise in a European bureaucracy rather than solely in the Cuban Ministry of Agriculture. This subjectifies Cuban

apicultural labour within not only the Cuban state, but also within a European audit regime. This relation does not resonate with the wider affective landscape of Cuban anti-colonialism, as demonstrated by the conditional support given by the Cuban state for the alternative peer-to-peer certification dispositif-assemblage. As we have seen, the proposed peer-to-peer certification scheme would subjectify Cuban agriculturalists as experts in their field, working in a flat assemblage marked by horizontality rather than the hierarchical relations of audit bureaucracy. Best practices are understood as dynamic and local in nature, rather than external and in need of imposition. This dynamic not only undercuts the authority (and expense) of third-party certification, but – crucially – resonates with Cuban notions of the local and its ability to filter up in the socialist state.

6 CONCLUSIONS

Too often, politics is narrated as two assemblages competing for dominance. Rather, we see the assemblage as a field of politics that can be reshaped by actors working within it. To that end, we read Cuban organic agriculture as a dispositif-assemblage, a heterogeneous network made partially coherent through multiplicitous 'wills to govern'. The use of assemblage theory to examine Cuban organic agriculture allowed us to trace the relations between agricultural produce, organic certification regimes, and the producers' expertise and position within the Cuban agricultural sector and global markets. Each of these exists in relation with the others, and assemblage theory allows us to see each as dynamic and unstable as a result of intra-acting wills to power. We examined the third-party certification system for organic honey alongside the Cuban proposal for an alternative peer-to-peer certification system as an anticipatory strategy for new opportunities for farmers to direct quality

food to market. We follow Cuban experts' lead in reading these as complementary to one another as Cuba continues to forge paths in global agroecological leadership.

We find that one effect of the dispositif-assemblage is the way in which third-party certification codes Cuban farmers as subjects of governmentality rather than as experts in their field. The peer-to-peer system that is currently being developed by Cuban research institutes and NGOs repositions Cuban farmers as arbiters of quality for domestic markets that emerged in the context of recent liberalizations. Cuba is willing to strategically engage with a third-party to certify its valuable exports, while at the same time developing a peer-to-peer process for its domestic markets. In this way, organic certification in Cuba for foreign and domestic markets can take a multiplicity of forms, each of which exists in relation to a different will to govern. This arrangement can work to protect natural environments in the case of a valuable export, such as honey, but can also protect its farmers, workers and consumers from foreign interference and neoliberal influences.

We conclude by noting that the polyvocality of the 'will to govern' in our dispositif-assemblage framing helps us to avoid a romanticized notion of peer-to-peer organic certification as pro-Cuban and anti-colonial. Rather, we take the frequent criticism of assemblage theory as depoliticizing (e.g., Storper and Scott 2016) to be a virtue for this study. Much writing on Cuba is implicitly or explicitly aligned with either a broadly liberal American perspective on Cuba (i.e., the regime is despotic and crumbling) or a Cuban romanticism (i.e., the regime is a heroic socialist resistance to global capital). The assemblage approach, by contrast, imagines Cuban governmentality in terms of a multiplicity and asks us to engage with the messy interfaces between Cuban producers, the Cuban state, and the global capitalist political economy. We thereby refuse to think of the Cuban state as either one thing or

the other, but rather as understandable only through the relations that compose it. Cuba offers us a chance to examine how power, like food itself, is emergent from complex relations and institutions.

Theoretically and conceptually, this article has focused on trust as emergent from dispositif-assemblages (in this case, trust in an organic labelling process). Our use of the term dispositif-assemblages stems from our earlier review of the literature on these concepts, which found that the concepts differ in degree rather than categorically, with dispositifs exhibiting a 'will to power' that is exercised through the dispositif while assemblages emphasize a more diffuse notion of power and causation. Our fusion of the terms 'dispositif' and 'assemblage' reflects the multiciplicity of wills to power, complicating previous accounts of governmentality by showing the multiple and simultaneous (as opposed to oscillating) state or state-like actors seeking to govern through standards. In the case of Cuban honey, we see this fragmented notion of the will to power that justifies our straddling/hyphenating of the two terms. On the one hand, the Cuban state dispositif seeks to maintain a sharp delineation of the revolutionary ethos of the Cuban economy from the encroaching (and potentially re-coding) assemblage of global capital. Possibility spaces for complementary certification schemes open up through mediating the relations between the Cuban socialist economy and the outside (capitalist) world through strategically engaging with external, hierarchal modes of certification for valuable exports, and using internal, horizontal networks for domestic markets.

It is too soon to know whether the political potentials of this future will be realized – for Cuban organic honey, for Cuban agricultural expertise, or both – but this case study has advanced our understanding of the complex interrelationship between the human will to exercise power, the significance of materials, and the

transnational circulation of anti-colonial and anti-capitalist policies such as peer-to-peer certification. Cuba's role in furthering the global peer-to-peer certification movement is yet another example of the island's role in contesting neoliberal capitalist regimes. It also breaks new ground through its use of the possibility spaces of complementary forms of quality certification to continue to play a role as a leader in agroecology.

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