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Articulating upgrading: island developing states and canned tuna production

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Abstract. Recently, researchers have drawn attention to an inclusionary bias in commodity chain research and proposed a 'dis/articulations' project aimed at drawing out how things included in, as well as excluded or expulsed from, production processes mutually, and often simultaneously, constitute commodity chains. The purpose of this paper is to situate the dis/articulations project in debates and policy proposals that identify 'upgrading' within a commodity chain as a pathway to development. We draw on foundational uses of the term 'articulation' in historical materialism to complicate linear notions of 'upgrading as development' before developing a framework for capturing the nonlinear dynamics of upgrading in a particular commodity chain. Our case study explains how small states that interact with the tuna commodity chain rise and fall (individually and in relation to each other), and have remained surprisingly relevant, though often at high cost, in competitive standardized manufacture. We suggest that, with careful attention to method in concept building, researchers can develop the dis/articulations project to create space for systematic assessment of the inclusionary bias in upgrading debates and policy formulations.

Keywords: commodity chains, dis/articulations, small island states, tuna, upgrading

1 Introduction

Over the last twenty years the commodity chain construct (and the many forms and variations that it has spawned) has become an important methodological and analytical approach to studying international trade and production, and the opportunities and constraints that they present to processes, projects, and prospects of 'development'. As the construct has emerged, so too have sympathetic critiques from scholars who see a need to 'embed', 'territorialize', and/or 'spatialize' commodity chains in the broader social, political, and economic dynamics within which they operate (Bair, 2005; Leslie and Reimer, 1999; Smith et al, 2002). Within this nexus, Bair and Werner (2011a) point out that, in general, chain methodologies and analyses tend toward an "inclusionary bias" (page 989). That is, chain approaches prioritize investigating the processes, people, and places that are inside of commodity chains, and tactics for drawing more people and places into chains in order to generate 'development', while downplaying, if not ignoring, that changing geographies of global production reflect moments of inclusion *and* exclusion.

Asking how our perception of commodity chains and global capitalism "might be different if analytical attention focused upon the layered histories and uneven geographies of capitalist expansion, disinvestment and devaluation", Bair and Werner (2011a, page 989)

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propose a 'disarticulations' project aimed at broadening our understanding of how global production–consumption networks (broadly defined) are continually given expression in concrete historical, ideological, and geographical relations. They posit the disarticulations approach as a framework for exploring how things included in, as well as excluded or expulsed from, production processes mutually, and often simultaneously, constitute commodity chains. In short, Bair and Werner conceptually and methodologically reject the inclusionary bias of chain constructs and promotion of a linear development trajectory via participation in chains, and call for analyzing fissures, fractures, divestment, and devaluation as part and parcel of global production processes. This welcome and ambitious project, which has evolved into 'dis/articulations' in this theme issue to emphasize "the conjunctural connections … and complex processes of separation and exclusion, that together constitute circuits of commodity production" (Bair et al, 2013, page 2545), is situated between two literatures: one on the intersection between commodity chains (broadly conceived) and development, and a second on how material and ideological practices 'articulate' with and through capitalism.

A potential of the nascent dis/articulations project, then, is the possibility that it presents to repackage the disparate uses of 'articulation' concepts to make them available to empirical research undertaken in the vein of commodity chain analysis. The contents of this and Bair and Werner's 2011 theme issue indicate interest in deploying 'dis/articulations' to study a wider array of dynamics (eg, social and environmental) associated with commodity chains than are generally assessed in mainstream approaches, though the methodological bases, conceptual particulars, and analytical potential of the dis/articulations project are still in progress. To contribute to the project, this paper undertakes three tasks.

In section 2, we revisit foundational conceptual uses of 'articulation' in historical materialism to which Bair and Werner refer in their (2011a) editorial introduction. We explore these foundations of the project as a way to think specifically about what the dis/articulations project is. We draw out how the uses of 'articulation' are useful in explaining development dynamics that accompany many commodity chains, but have largely been absent from most of the commodity chain literature.

In section 3 we narrow our point of inquiry to 'upgrading', a core concept and policy usage that links chain analysis to development narratives. The mainstream upgrading narrative suggests that 'development' emerges when people and places link with important firms in an industry and move 'up' to more rewarding positions. As such, 'upgrading' is emblematic of the inclusionary bias that the dis/articulations project points to. We situate dis/articulations in recent, heated upgrading debates. We find that some of the central insights of the dis/articulations project have been previously developed and applied to inform upgrading debates, but that with attention to method in concept building, the project can help to develop more systematic assessments of the inclusionary bias in upgrading discussions and policy formulations.

Building from this overview, in section 4 we build a case-specific framework for capturing the nonlinear dynamics of upgrading in a commodity chain. The four dynamics that we highlight are constituted by the kinds of determinations (eg, historical, multiscalar, and contingent) of central concern in the antecedent uses of the term 'articulation'. In section 5, we deploy the framework to explain several puzzles and nuances that have been associated with 'upgrading' in canned tuna manufacturing in four small island states over the last forty years. We chose this case because, although small developing economies are often thought of as 'noncompetitive' in contemporary global production, those that we identify have maintained processing investments over time and some have even attracted new investments in recent years. Our analysis allows us to complicate the direct, linear linkage between 'upgrading' and development 'success' in this case.

We conclude with general thoughts on the relations between the dis/articulations project and the upgrading debate in the commodity chain literature. More specifically, we highlight how our case-specific framework for exploring upgrading helps to explain the surprisingly long-lasting and, more recently, growing relevance of small island states within a highly competitive commodity chain.

2 Articulations

The dis/articulations project is centrally concerned with drawing the actually existing dynamics of a world economy characterized by unevenness, planes of economic inequality, and racialized, politicized, and gendered structures of domination into commodity chain analysis. In our understanding, the project encourages researchers to combine historically and geographically particular sets of social relations necessary to secure commodity production and exchange (eg, upgrading) with related processes of divestment and devaluation (eg, downgrading) that facilitate the constant remaking of production networks. By putting these dynamics together, the dis/articulations project endeavors to demonstrate that constructions of social difference are linked with the value-form and accumulation, and that the emergent constructions reproduce difference (across time) by connecting and/or disconnecting places to/from particular chains.

Before moving to a discussion of the dis/articulation project's relationship to notions of upgrading, we revisit two of the antecedents that Bair and Werner (2011a) highlighted as important conceptual building blocks in their initial intervention. It is beyond the scope of this paper to offer a comprehensive review of the many ways the term articulation has been deployed in the social sciences; we have narrowed our account to these two prior uses of 'articulations' to better situate dis/articulations within upgrading debates.[1]

First, we turn to Althusser's argument (in its crudest form) that capitalism cannot be understood as a single totality but as "the unity of complexity itself" (1969, page 202). 'Articulation' is key to Althusser's explanation of capitalism: this unity of complexity is constituted by a set of articulations of different and contradictory social levels and practices (ie, the 'overdetermination' of ideological, politico-legal, economic, and other structures which are not directly reducible to one another). The various (relatively) autonomous levels and practices of the articulated whole develop and reproduce themselves at different speeds and temporalities (Althusser and Balibar, 1970), albeit determined in the last instance by the economic structure (Elliot, 2006). Furthermore, the productive forces and relations of production under capitalism cannot be reduced simply to techniques, machines, and their productivity on one hand or to human relations in a given society on the other. Instead, the mode of production is doubly articulated by these forces and relations *in combination* (Althusser and Balibar, 1970).[2] In short, Althusser and Balibar's use of articulation entails drawing connections between and across social levels and practices as a part of a wider theorization of capitalist structures.

Hall (1980) builds from Althusser's foundational work to argue that racially structured social formations cannot be reduced to economic structures alone, but also cannot be understood outside of them, especially their class dynamics. Directly echoing Althusser and Balibar (1970), this combination

[1] Use of the term dis/articulations is expanding; researchers can contribute to its development by making their conceptual vantage point explicit and avoiding expanding the sheer scope of the project into analytical redundancy.

[2] This deployment of articulation may be of limited theoretical utility to the dis/articulations project because it does not incorporate dynamics of exclusion and its structuralist rigidity is explicitly antihistorical (eg, Thompson, 1995 [1978]).

> "is always, necessarily, a 'complex structure'. … This requires that the mechanisms which connect dissimilar features must be shown … [S]ince the combination is a structure (an articulated combination) and not a random association[,] there will be structured relations between its parts, i.e., relations of dominance and subordination" (Hall 1980, page 325).

Hall's project is to understand "how and why racism has been specifically overdetermined by and articulated with certain capitalisms at different stages of their development" (1980, pages 338–339). He emphasizes how discourse can do the work of 'disarticulating' class struggle (eg, through reformist projects framed in ways that undermine class unity) and that class experiences can be "rearticulated" through "racist ideological syntax" (page 341). The malleable building blocks that Hall's work offers is what matters most for the dis/articulations project. First, it emphasizes that "structured relations of dominance and subordination" should be central to the analysis of social relations within and between territories in their interactions with commodity chains. Second, it encourages an examination of "the mechanisms which connect dissimilar features". For the dis/articulations project, this idea translates into using commodity chain analysis to explore, for example, how investment in or divestment from one place at a particular time might be influenced by a seemingly unrelated dynamic elsewhere.[3] Third, it relates that an articulation is always contingent and "a linkage which is not necessary, determined, absolute and essential for all time", pointing to the dynamic nature of social formations (Hall and Grossberg, 1986, page 53).

These antecedents show that 'articulation' has been used as a part of wider attempts to theorize capitalism. In both cases, moments of articulation (or disarticulation) are set within theoretical frameworks that attempt to explain the wider dynamics that produce or shape those moments (eg, the essential relations of generalized commodity production). As a result, Althusser's and Hall's works can serve to inform the dis/articulations project by theorizing what is included and excluded from an understanding of 'capitalism' and creating conceptual approaches for exploring how things, people, and places that are excluded from particular dimensions of production contribute to the reproduction of actually existing dynamics of capitalism *through their exclusion*. These usages connect to debates from the 1980s about how both perceived 'insides' and 'outsides' contribute to and are a part of generalized commodity production (eg, Bernstein, 1988; Gates, 2006; Gibbon and Neocosmos, 1985). They are in direct contrast with ideal–typical conceptions of capitalism based solely on its essential relations, such as the firm-centric accounts most common to commodity chain approaches.

As Hall makes clear (and it is his work that most clearly influenced the dis/articulations project), articulations are *always* contingent; if so, how do we explain the existence of articulations and the forms that they take? This, we think, is the work that the dis/articulations project seeks to undertake. However, because there has not yet been explicit attention to theorizing dis/articulations, the project might to date be best typified as an important thematic area[4] within critical political economy (rather than a new conceptual framework) that researchers can deploy to indicate their interest in exploring capitalism's perceived outsides as well as its insides, and the ways that moments of divestment are related to moments of investment, and the like. One potential approach to doing so is to emphasize that understanding the diversity and complexity of "specific phenomenal characteristics" of capitalism requires careful empirical investigation (Bernstein, 1988, page 262); an effort which we now turn to exploring through the lens of upgrading.

[3] As Bair and Werner (2011b) demonstrate by highlighting the importance of seemingly 'dissimilar features' around land reform in Mexico to apparel production in La Laguna.

[4] Or an investigative tool, much like the 'chain' metaphor which Gibbon et al (2008) label as a "heuristic device".

3 Articulating upgrading

Upgrading is a core concept (and increasingly, policy recommendation) that is used to demonstrate how commodity chains offer options for generating 'development' gains, especially for countries considered economically and institutionally marginalized, like those with small economies. In its ideal–typical, linear formulation, upgrading, and capturing associated 'development' gains, involves linking with lead firms in a particular chain (Gereffi, 2001, page 1622), and moving 'up' the chain to more rewarding functional positions or to making products that have more value added and provide better returns to producers (Gibbon and Ponte, 2005, pages 87–88).

This discrete concept of, and approach to, upgrading is fundamentally at odds with the efforts of those using 'articulation' to explore what constitutes capitalism and capitalist relations of production. This is because the upgrading discourse selects only particular moments and sites of inclusion (the bias noted by the dis/articulations project) and narrowly measures the upward 'development' trajectories associated with them around economic metrics. By contrast, Althusser's and Hall's attempts to theoretically specify the articulations of different and contradictory social levels and practices beyond a simple capital-centric logic is one way of moving past the firm-centric and apolitical conceptualizations of upgrading. Unlike Althusser, Hall also seeks to explain difference at the level of specific social formations, moving beyond idealized thinking about how capitalism works, such as that employed around upgrading. Further, that Hall interrogates discourse (noted above) is significant, given the political and policy-making power recently affiliated with the discourse of upgrading.

The dis/articulations project offers the potential to bridge the complexity of the various uses of articulation to the concept of upgrading by simply, and decisively, deconstructing idealized and linear concepts of capitalist development in favor of examining "the reproduction of uneven geographies of capitalism as they relate to *processes of incorporation and exclusion* from global commodity circuits" (Bair and Werner, 2011b, page 1000, emphasis added). Given the emphasis in 'upgrading' on linear trajectories of development, the concept and policy approach is emblematic of the inclusionary bias that the dis/articulations approach highlights, as did Gibbon and Ponte's (2005) monograph on simultaneous processes of inclusion/exclusion, upgrading/downgrading in Africa's interactions with commodity chains before it (see below).

Several researchers have engaged the upgrading concept to argue that the current emphasis on firms in commodity chain analysis can and should be broadened to include social and environmental upgrading. These scholars are exploring when and under what circumstances social and environmental objectives intersect with the narrow 'economic' objectives of firms (eg, Barrientos et al, 2011; Milberg and Winkler, 2011).[5] This framing investigates the 'business case' for improved working conditions and pay and environmental sustainability, including through mechanisms like corporate social responsibility. The approach focuses on improving conditions at points of existing interaction with chains, and is illustrative of the tendency to study existing chains, rather than the moments of devaluation, divestment, or exclusion related to them.

More critical approaches emphasize that upgrading constitutes a set of relations of power, rather than only technical policies and connections between and within firms. Studies in this vein demonstrate that the creation and enforcement of rules (eg, trade policy, labor regulations) and market conditions (eg, global competition) discipline the structure of commodity chains (eg, Daviron and Gibbon 2002). In doing so, they take steps towards placing upgrading specifically and commodity chains more generally in a broader narrative

[5] This effort has some parallels with the International Labor Organization's "Decent Work Agenda".

of capitalist dynamics. In particular, in their monograph on commodity chains, Africa, and the world economy, Gibbon and Ponte point out that much chain analysis fails to account for processes of exclusion and *down*grading, and argue that: "Marginalization/exclusion and upgrading/participation are the axes along which (re)distributional processes take place" (2005, page 3). Likewise, in his study of the timber commodity chain connecting Indonesia to Japan, Gellert shows that upgrading within or across nodes in a commodity chain "is a socio-political process" and is based on distributional *struggles* over the capture of value (2003, page 55; see also Palpacuer, 2008). These studies demonstrate that chains are constituted by people, places, and processes that are *both* inside and outside of the discrete nodes of any particular chain.

Recent literature extends this work, developing foundational critiques of attempts to link technical approaches to 'upgrading' with doctrines of development that assume a linear progression for all. These works connect with the dis/articulations project by shedding light on the people, places, and things that support the functioning of commodity chains through being excluded from, harmed, or exploited by them; an approach that greatly complicates the 'upgrading as development' narrative. For example, from the perspective of Marxist political economy, Selwyn (2012) points out that class relations have been broadly absent from commodity chain analysis, an exclusion that ignores that capital and labor codetermine dynamics of change, upgrading and development in commodity chains. As a counterpoint to the capital-centrism of chain frameworks and the technomanagerial interventions associated with discourses of upgrading, Werner (2012) deploys feminist political economy to show how gendered assumptions about 'ability' in the workplace contribute to reworking the labor process to recreate an exploitable workforce. She moves beyond an upgrading discourse centered on interfirm relations by showing that firms 'upgrade' *through* labor and revealing how. Finally, Brewer (2011) uses world-systems theory to argue that generalizable development for all is an illusion under global capitalism because the system "is based on relational processes of exploitation and relational processes of exclusion that presuppose the continually reproduced poverty of the majority of the world population" (Arrighi, 1990, page 16). Brewer shifts our analytical gaze from firm-level upgrading in single chains toward the dynamics of global capitalism, including the "global hierarchy of wealth" (2011, page 323) in which they operate.

When read together, these inquiries into upgrading offer two insights relevant to the nascent dis/articulations project. First, by highlighting the range of power dynamics that shape chains, and the social outcomes that coexist with them, they reveal a 'need' for a coherent approach for not only describing and highlighting the opportunities and limits of upgrading, but for explaining how and why they emerge along specific chains. Second, they reiterate, as antecedent articulations projects have done, that a diversity and complexity of specific, rather than ideal-type, phenomenal characteristics contribute to the forms that capitalist relations take. 'Dis/articulations' opens the door for further attention to creating systematic assessment of the inclusionary bias in 'upgrading' by offering (1) opportunity for careful theorization of the concept and/or (2) its use as a strategic thematic area to guide descriptive research.

Within this nexus, our primary goal is to use a comparative case study to explore the nonlinear dynamics of upgrading. To do so, we build a framework for investigating how and why moments of upgrading, downgrading, marginalization, and exclusion occur dynamically, and often simultaneously, across a range of four small island developing states seeking to participate and upgrade in the same chain. Our framework consists of four mediating dynamics that draw from commodity chain analysis, but as per the tradition of Hall and other historical materialists such as Banaji (1977, page 9), reflect the interplay between the essential relations of capitalism "at the level of the social totality of enterprises" and their concrete dynamics "at the level of the individual enterprise" (or commodity chain), including

emphasis on contingency and relations of domination and subordination. In the following analysis, we do not use 'dis/articulations' as an explanatory or investigative tool. Instead we focus on illustrating moments of upgrading, downgrading, marginalization, and exclusion in the tuna commodity chain as a way to situate dis/articulations in upgrading debates.

4 Island developing states and the global tuna industry

Our case study is based upon document analysis and hundreds of individual and joint semistructured interviews undertaken since 2005 in the Indian and Western and Central Pacific Ocean regions as part of a larger project on the global tuna commodity chain. The data collected enable us to trace the historical evolution of investment and divestment and capitalist restructuring in four island economies over forty years and to draw out the primary mechanisms that mediate these changes and the moments of 'upgrading' associated with them. The principal contribution of this work is not to ask if 'development' happens when island states attract and 'upgrade' standardized manufacturing nor to construct an overall balance sheet of 'successes' and 'failures' in upgrading. Instead we seek to develop a case-specific framework capable of illuminating the workings of (often simultaneous) upgrading/downgrading and inclusion/exclusion in a particular commodity chain.

Island developing states' roles in the world economy are historically complex and variable. Following World War Two and decolonialization, geographic isolation, high cost structures, and nondiversification in many developing countries with small economies were inherent disadvantages to participating in the globalizing world economy. Policy interventions including preferential trade arrangements offering duty-free access to developed country markets were designed to offset these disadvantages and promote development by supporting domestic production of goods for export. As many preferences have been eroded alongside the liberalization process from the 1980s onward, countries with small economies have frequently been *excluded*, and also *removed* from former positions as producers in global commodity chains; a process primarily explained as a result of being subject to the competitive dynamics of contemporary capitalism (Gibbon and Ponte, 2005; Kaplinsky, 2005).

In this framing, small island and land-locked developing states are portrayed as plagued by a condition of relative noncompetitiveness caused by permanent geographical isolation and associated extreme economic volatilities (Campling, 2006; Grote, 2010). According to one account, under the contemporary conditions of the world economy, countries with small economies will simply be eliminated from most global commodity chains: they "face such great absolute disadvantages that exports at world prices is either impossible or generates factor incomes that are too low to subsist. *In the limit, free trade could mean no trade for these economies*" (Winters and Martins, 2004, page 348, emphasis added). Indeed, following structural adjustment and the expiration of preferential trade arrangements such as the Multi-Fibre Arrangement and the EU Sugar Protocol in the 2000s, apparel manufacturing downgrading and decline of sugar exports in places like Mauritius and Fiji have transpired (Heron, 2012; Richardson, 2009).

In the midst of this broadly pessimistic industrialization trajectory, canned tuna production was the primary upgrading 'success' in the African, Caribbean, and Pacific Group of States (ACP) under the EU regime of preferential trade between 1976 and 2008, during which time several small island states entered into and 'upgraded' within the manufacturing of canned tuna (Campling, 2008). Four main dynamics mediated the forms of these small island states' inclusion in the tuna commodity chain. After elaborating these dynamics we detail their role in an historical analysis of upgrading that illustrates how moments of exclusion and inclusion are produced and reproduced as part of island economies' relations with the commodity chain.

4.1 Four mediating dynamics of inclusion and exclusion in the tuna chain

The four dynamics that we identify are similar in scope to the four steps originally outlined as a method for mapping commodity chains (input–output structure, territoriality, governance, and institutional structure) (Gereffi, 1994; 1995), but are adapted to the nuances of the case in question. Our method links the prior discussion of 'articulations' with debates around upgrading by translating abstract notions of what constitutes capitalism ('the social totality of enterprises') through careful study of empirical phenomenon to explain how and why actually existing capitalist processes emerge at the level of the individual enterprise (or commodity chain). In this case study we explain how small states rise and fall in competitive standardized manufacture (individually and in relation to each other) and have remained surprisingly relevant, though often at high costs. Our approach draws out puzzles and nuances in what has otherwise been considered a series of 'upgrading as development' success stories.

World-market conditions in global commodity chains determine the parameters of relations between small developing economies and canned tuna manufacturing**.** Historically, the international division of labor in the tuna chain was organized around raw material extraction in the fish's ecosystems, which are located in the waters of countries in the Global South (see below). Raw materials were then exported for processing and consumption in the EU, Japan, and the US. With the 1970s global shift to the new international division of labor, a growing quantity of raw material was processed into canned tuna in the Global South, still for export to the North. Sharp competition on production costs (particularly labor) of this highly standardized product remains at the heart of this shift. More recently, concentration and associated market power of lead firms in the branded manufacturing and supermarket retail nodes of the commodity chain has deepened competitive pressures. Big supermarkets compete horizontally for market share by attracting consumers with lower prices for 'core category' products, including canned tuna. At the same time, grocers compete vertically against branded firms by stocking 'private label' (supermarket own-brand) canned tuna. These competitive market pressures intensify horizontal competition among nonbranded tuna processing firms that are engaged in a range of forms of contracts to supply lead firms. Overall, labor costs, corporate concentration, and related downward price pressure are the world market conditions most important to possibilities of upgrading or divestment and downgrading in economies involved in the tuna chain.

A range of sector-specific *regulatory mechanisms* shape the range of possibilities in which resource-based commodity chains take form. In the tuna sector, national declarations of sovereignty over marine resources in the mid-1970s—and the enshrinement of these principles in the 1982 UN Convention on the Law of the Sea—transformed island and other coastal states from merely being proximate to rich tuna resources into active agents able to deploy regulation to control the terms under which resources are exploited. Resource sovereignty has enabled coastal states to charge for fishing licenses and dictate the terms of extraction, including by controlling resource access to attract onshore investment. As a result, coastal states can complicate the highly competitive dynamics of production as they engage in the struggle to capture greater gains from the commodity chain (Campling et al, 2012). However, control over the terms through which resources are accessed and extracted are mediated by a second set of regulatory mechanisms over which small developing states have far less control: international trade policy (including trade preferences and associated rules of origin), food safety, and, increasingly, 'sustainability' requirements. In particular, EU and US trade policies shape the conditions under which small island states compete with 'more efficient' processing sites in the Global South and those based in the North that are protected by tariff barriers. Control over resource regulation, trade policy, and food safety and sustainability standards is central to the geography of global production and associated opportunities for upgrading in the tuna sector.

At the level of national production, states and firms formulate policies and practices to at once capitalize on proximity to fisheries resources, combat high cost structures and capture greater gains from the chain. The *contingent state–firm relations* that emerge interface with the imperatives of competitive accumulation within the microeconomies of many island states. While island states use national and international law, political agency, and policy tools to generate opportunities (eg, export processing zones and investment incentives), firms build economies of scale and 'efficiency' into their production models through larger, more capital-intensive fishing vessels and processing factories, and often attempt to extract incentives or reduce costs by threatening relocation. Such dynamics yielded (for a period) the world's two largest canned tuna factories in two of the world's smallest economies: American Samoa [(6)] and Seychelles. When taken together, such contingencies reflect the delicate balance between nationally oriented policy formulations and firm-level decision making formulated in the context of world market conditions. The constant negotiation over such contingencies takes place at multiple sites (often simultaneously) and determines the ways that the production network invests and then upgrades or downgrades in various locations (Liu and Dicken, 2006; Taylor, 2007).

Though many chain studies are of a particular commodity, surprisingly few researchers take seriously the historical and relational specificity of the commodity in question and the implications for chain activities and governance. The particular characteristics of any natural resource—referred to here as the *environmental conditions of production*—are constituted through biological/geophysical specificities in concert with the social priorities of any mode of production and commodity sector (Campling, 2012a). Tuna is an extractive resource that moves, but within its biologically specific geographical range (eg, depth and temperature ranges). These natural features in turn exert "a powerful influence on the location of competition in the production network, the form that competition takes and on relations of dependency between holders and seekers of resources" (Bridge, 2008, page 412). Such forms of competition intensify as resources become 'scarce'—whether in absolute terms, or as a result of policy frames that limit access (eg, Huber, 2011). These points draw out the possibility, even under highly competitive world market conditions, for small island states to use the combinations of environmental conditions and regulatory mechanisms to participate in the tuna commodity chain whose starting point—the fish—is located within their waters. However, upgrading studies have left unexplored the role of politics in relation to raw material production. This is an important gap because access to natural resources often involves *contestation* as well as collaboration in relations between firms, between states and firms, and *within* societies 'hosting' investments and segments of production chains (Bridge, 2008; Gellert, 2003; Levy, 2008).

From here, we explore the kinds of chain dynamics and upgrading relations that emerge from these four mediating dynamics. We find that moments of downgrading, exclusion, and marginalization simultaneously exist for small island states as they seek to attract and retain tuna manufacturing. This analysis captures the non-linear dynamics of upgrading by revealing the actual and perceived exclusion from chains and moments of 'downgrading' that are used to retain interactions in a range of sites seeking to participate in the same sector.

[(6)] American Samoa is an outlier because of its subnational relationship with the United States. However, this relation offers an example of the kinds of contingent state policy that small economies use to attract and retain manufacturing investment. See Campling and Havice (2007).

4.2 Small island economies and tuna canning I: upgrading and downgrading

Governments in Fiji and the Solomon Islands first attracted canned tuna processing in the 1970s through a combination of environmental conditions of production and regulatory mechanisms. Japanese multinational firms invested in joint ventures with each state. The initial driver was these firms' interest in securing strategic access to tuna resources as island states declared sovereignty over their own 200-mile exclusive economic zones. The rationale for investment strengthened further when in 1976 the Lomé Convention offered duty-free access to the EU market for the ACP states, offering considerable savings for production within the high cost structures of these two island economies. Each investment was only one 'medium-sized' (relative to other production facilities) factory—Pafco in Fiji (by C Itoh, now called Itochu) and Solomon Taiyo (by Taiyō Gyogyō, now called Maruha) in the Solomon Islands (Barclay, 2008; Ram-Bidesi, 2003).

State–firm relations, particularly in the form of home and host state support for foreign direct investment (FDI), were critical to these initial investments and their sustained presence. In the Solomon Islands, joint-venture fleets were legally registered as 'local' and, unlike competing 'foreign' fishing fleets, did not pay access fees to fish. They also gained privileged access to bait fisheries in reefs and lagoons that were essential for the pole-and-line fishing technique, and off limits to foreign fishing vessels (Barclay, 2008). Over time, this initial joint venture upgraded from a fishing base to producing canned tuna, an investment that generated infrastructure and jobs. Firm ownership structure of 51% government, 49% Taiyō Gyogyō enabled the firm's fishing vessels to meet strict EU rules of origin and qualify for the trade preference; these regulatory mechanisms were critical for keeping the investment cost effective. However, the 'minority' Japanese multinational was still allegedly able to engage in transfer pricing from the factory's operations (Grynberg et al, 1995), in effect, using the investment to generate cost structures at the expense of the Solomon Islands shareholding, even in this period of successful 'upgrading'. Over the following twenty years of operation, the tuna processing plant in the Solomon Islands remained operational; however, a prolonged competitive decline (below) saw the Japanese investor Taiyō Gyogyō pull out of the venture by 2001. To maintain the jobs, infrastructure, and foreign exchange earnings associated with processing, the state stepped in as sole owner of the dilapidated firm.

Like the government of Solomon Islands, the postindependence Fijian state aimed to use tuna resources to generate local employment and foreign exchange earnings, and environmental conditions of production and contingent state–firm relations were critical to the effort. Since the early 1960s East Asian fishing interests had used Fiji as an export base for tuna fishing fleets, but their activities generated few jobs and limited infrastructure investments. To improve on this record, beginning in the mid-1970s the Fijian government entered into a joint venture as minority partner with the giant Japanese multinational C Itoh, upgrading Fiji's intersection with the tuna chain to include tuna canning for the EU market. However, the plant suffered from raw material shortages because it did not have supply that met EU rules of origin (Ram-Bidesi, 2003). This, along with the fact that Fiji does not have large tuna populations in its waters, contributed to C Itoh's 1987 withdrawal from the insolvent plant. Again, the state became sole owner of the cannery, supporting the faltering business through subsidies and Australian development assistance (Barclay with Cartwright, 2007).

Meanwhile, in addition to the supports that these island states offered the enterprises, in both cases the Japanese government supported its home firms' distant water fishing activities. The Japanese state provided official aid to support cannery and port infrastructure development, utilized its political might to secure fishing licenses for Japanese fleets through active involvement in access negotiations, and offered aid and development assistance to island states in exchange for the successful conclusion of such agreements. This direct and

indirect subsidization of Japanese fishing and processing interests made Japanese firms' investments in the Solomon Islands and Fiji more economically feasible (Bergin and Haward, 1996).

The outcomes of the interactions of these environmental conditions of production, regulatory mechanisms, and state–firm relations were notable in the midst of a rapidly changing international division of labor in the 1970s which saw growing processing investment in the Global South. Within this shift, Fiji and the Solomon Islands were relatively important manufacturing sites in the global industry, despite their high production costs. By 1987, when C Itoh pulled out of Fiji, the single cannery had made Fiji the second largest supplier of canned tuna to the rapidly growing UK market and Solomon Tayo had made the Solomon Islands the sixth largest. Sainsbury's, the leading UK supermarket of the period, promoted canned tuna from Fiji through its private label and purchased 70–80% of Solomon Taiyo's product. Notable in the 'upgrading' discourse, Pafco and Solomon Taiyo's 'high level of acceptance' in the UK import market was "reflected in the high prices that the Pacific product command[ed]" (Elsy, 1987, page 92). Aside from duty-free market access, two factors explain this commercial success. First, the UK market price for canned tuna was relatively high compared with alternative markets. Second, both canneries received a price premium because their fish was caught using labor-intensive pole-and-liners. Sainsbury's marketed the product at a premium because of the reduced environmental impact of pole-and-line gear (Campling, 2012b).

In time, as competition in the world market intensified, supplying just one major market (the UK) and one buyer (Sainsbury's) proved a commercial risk to the two firms. In the late 1990s Sainsbury's put a price squeeze on first-tier suppliers of several of its own-brand products, including canned tuna as part of a bitter battle for share of the UK grocery market. As one industry insider exclaimed: "Sainsbury's always showed us a good price, but at the end of the day they didn't … US$ 34 per case became US$ 21!"[(7)] Price pressures generated through competition in the UK retail market had a devastating impact for the two canneries already contending with the higher costs associated with production in small remote economies, *despite* their 24% preference margin offered through EU trade policy. EU industry managers maintained that customers were not willing to pay for 'green philosophy', and Sainsbury's 'pole-and-line preference' came to a (temporary) end.[(8)]

In response to these competitive conditions, both firms downgraded from their positions as nonbranded manufacturers of *canned* tuna into contract processors for labor-intensive production of tuna *loins* (skinned and boned tuna that are vacuum sealed and then reprocessed into cans elsewhere), a significant fall on the 'value-added' steps of the chain. Pafco entered into an exclusive contract to supply loins to the only remaining canning plant on the US mainland. Likewise, Solomon Taiyo (renamed Soltai) entered into a contract with a major tuna trading company to supply loins to canneries in Italy and Spain. These islands' loss was another's gain. Sainsbury's shifted its source of supply to lower cost nonbranded canning manufacturers in Ecuador and Seychelles (Gomez-Sanchez, 2004).

This section has demonstrated components of (rapid) upgrading and downgrading of manufacturing sites in two island states. Initial upgrading emerged in the 1970s when environmental conditions of production, regulatory mechanisms, and contingent state–firm relations at the national scale enabled states to attract tuna manufacturing investment in the midst of rapid restructuring of the global commodity chain. The investments yielded hundreds of jobs in two countries with chronic unemployment and provided opportunities for multinationals to secure resource and market access and engage in transfer pricing. However,

[(7)] Interview, Pacific industry representative, Solomon Islands, 2005.

[(8)] Interviews, EU industry representatives, Thailand, 2006.

sharpened competition in the 1990s UK retail market and among a growing number of tuna manufacturers eroded Pafco's and Solomon Taiyo's positions in the chain and forced downgrading as a mechanism for retaining the investments (Campling, 2012b). Each shifted from non-branded canned manufacturing to become contract processors of lower value loins for 'branded firms' in return for a set processing fee. Under these conditions, Pafco and Soltai lost scope for 'upgrading' on their own terms and were instead subject to the interests of lead firms purchasing product from them. Lead firms benefited from this downgrading: they became the sole client of parastatals that had local political influence over tuna access (thereby maximizing supply) while outsourcing the risks and costs associated with factory ownership.

4.3 Small island economies and tuna canning II: marginalization and exclusion within moments of upgrading

As Fiji and the Solomon Islands downgraded, the Seychelles and Papua New Guinea (PNG) leveraged environmental conditions, world-market conditions, and regulatory mechanisms in their favor, yielding surprising new moments of upgrading in the era of neoliberalization and ever-increasing competition in the tuna chain. Though both governments successfully attracted significant tuna processing investments, which have created jobs and infrastructure, the contingency of state–firms relations also generated a range of exclusions and marginalizations within the process of upgrading. Reviewing these outcomes reveals that in these two cases local 'upgrading' is structured according to the mandates of multinational firms which, in turn, shapes 'development' outcomes.

Seychelles' tuna-rich waters in the Western Indian Ocean have been exploited primarily by EU fishing interests since the early 1980s (Campling, 2012a). This environmental condition plays a major role in this country's strategic interactions with the commodity chain. The capital, Port Victoria, is the primary transhipment hub for fishing vessels in the regional canning-grade fishery, which means a large local supply of raw material. Since all catch is taken by French and Spanish owned vessels, catch meets EU preferential rules of origin.

Seychelles initially participated in the tuna chain solely by selling fishing licenses and goods and services to foreign vessels offloading catch in Port Victoria. In the mid-1980s the government attempted to upgrade to tuna canning to generate employment and foreign exchange earnings by following a joint-venture model similar to Fiji and Solomon Islands. Also like the two ventures in the Pacific, the small factory in Seychelles that emerged from a joint venture with a French firm quickly encountered challenges: the high cost structure of the economy as a whole and lack of plant-level economies of scale meant that it was a 'price taker' in raw material negotiations and finished product sales. In another parallel with Pafco and Soltai, the factory and its associated port infrastructure construction were heavily subsidised by both the Seychelles and French states (Campling et al, 2011). In 1995, this initial government investment attracted the US multinational H J Heinz, which acquired the plant as majority partner in a 60:40 joint venture. Exploiting incentives in a new tax-free export processing zone that the Seychelles' government established to support Heinz's investment, Heinz rapidly expanded the factory's productive capacity to generate firm-level competitive economies of scale. It supported its own rapid growth through backward and forward integration in the chain; the firm controlled a large fleet of industrial vessels and owned major British, French, and Italian canned tuna brands.

Seychelles' place in the canned tuna chain is widely touted as an upgrading success story. By the 1990s Seychelles was not only the most important tuna transhipment hub in the Western Indian Ocean, but also host to the second largest canned tuna factory in the world. The plant generated considerable local employment: almost 9% of private sector workers

were directly employed at the factory in an economy otherwise dominated by tourism (Campling, 2012b).

Likewise, in a series of moves contra the conventional wisdom on island states' roles in competitive commodity chains, from the mid-1990s, the government of PNG—a country with resource-rich waters, and relatively advanced physical infrastructure (in comparison with much smaller Pacific Island countries)—upgraded from only selling fishing licenses into tuna manufacturing. Since 1997 the government mediated investment in three small to medium-scale tuna processing factories. At the time of writing, at least four additional plants were coming on line, under construction, or being negotiated, all after firms had spent decades resisting investing in the country because of high operating costs and a poor business climate. Environmental conditions of production are key to this upgrading: the state controls access to these rich resources in an era characterized by growing resource scarcity and related supply insecurity for both fishing and processing firms (Havice and Reed, 2012). Over the last several years, PNG's waters supplied the highest volume of tuna of any country in the world: an astounding 616 000 tonnes in 2011 alone, a volume three times greater than Kiribati, the Pacific Island country with the next largest volume of fish extracted from its waters.

In 1997 the government secured the first of these investments by offering a Filipino firm long-term and low-cost fishing licenses. It replicated the model for two subsequent investments, one with a second Filipino firm and the other from a complex investment between a Taiwanese trading company and Taiwanese vessel owners. In 2012, the three factories generated roughly 6000 jobs in exchange for about fifty fishing licenses. Following this model, the government has offered forty-four more fishing licenses to secure four new plants, which are expected to generate several thousand jobs as well as new investments in infrastructure and related sectors necessary to build economies of scale in processing, a critical step in improving PNG's relative competitiveness (Havice and Reed, 2012). The upgrading opportunities provided by these investments is distinct in a national economy otherwise dominated by export-oriented agriculture, raw material extraction, and more recently 'green commodities' such as sustainable palm oil and bioethanol that yield few jobs but generate extensive localized environmental damage and land conflicts (eg, Filer, 2011).

Beneath the surface of these success stories are a series of marginalizations and exclusions that complicate the 'upgrading' narrative, not least because they have been critical to maintaining the investments. In Seychelles, political elite collaborated with senior management at the cannery to maintain the country's position in the commodity chain through direct and indirect state subsidies, both when the factory was owned by Heinz and under its subsequent control by Lehman Brothers from 2006 until its 2008 collapse. In the initial shareholder's agreement establishing the joint venture, the government gifted important assets and accepted an exclusivity clause which blocked competing onshore investment in processing, in effect limiting the potential to grow national economy-wide scale economies necessary in contemporary world-market conditions. The government also absorbed considerable debt in a series of leaseback deals, allowing Heinz to keep nonperforming assets off its books. Further, the agreement incorporated a mechanism for Heinz (and Lehman Brothers after it) to structurally limit profit sharing with its junior partner: the state. Other subsidies included rebates of employer contributions to the local social security fund which were negotiated through the threat of relocating the investment (Campling, 2012b). In these negotiations, the joint venture was not subject to public scrutiny and, instead, a political elite with close connections to Heinz/Lehman Brothers executives appeared to rely uncritically on competitive benchmarking provided by the cannery's management. The combination of limited profit sharing and subsidy costs led some observers to argue that the factory may

cost the government more than the various net benefits gained through local employment generation and spin-offs.[9]

In PNG the state also attracted firms into manufacturing by offering a wide range of formal and informal subsidies, two of which highlight the costs associated with upgrading in the tuna production chain. First, formal investment incentives included extensive tax breaks, political action to secure land for investments—particularly contentious since customary land rights are recognized in the country's constitution and nearly 98% of land is in customary holdings—and most recently, government financial commitment to develop an export processing zone (EPZ) within which tuna processing will be a priority investment. Second, labor conditions have become a critical subsidy for investors. Justified with arguments about competitive pressures in the sector as a whole and the lack of experience with factory work and waged labor, people working in PNG's tuna factories earn some of the lowest wages in the world in a highly disciplined work environment. Resistance to labor conditions, disputes over land apportioned for processing plants and the EPZ have delayed construction and processing activities and become a key point of contention overshadowing the 'success' of upgrading (Havice and Reed, 2012).

The combination of environmental and world-market conditions play a critical role in shaping the form that processing investments take in PNG. Since firms have invested in processing primarily to secure tuna, they have employed a range of strategies to limit costs associated with processing in a high-cost location while maximizing the benefits of resource access.[10] For example, in 2010 one firm recategorized the licenses associated with its investment in order to gain access to a wider range of waters and increase catch volumes. A second firm maximized license numbers and the geographical range of permitted fishing activities, *and* minimized the quantity of its catch processed in its PNG-based plant. This firm sells its 'surplus' catch via its parent company: a firm that specializes in tuna trading. In essence, the business model of running the plant is more closely associated with a fishing access strategy than a processing investment. Finally, though several of the plants have historically engaged in value-added tuna canning, they are increasingly recognizing their downgraded position in the international division of labor: PNG firms are specializing as loin producers not least because inputs like brine, oil, and cans are costly to import.

In sum, the PNG and Seychelles cases reveal dynamics of marginalization and exclusion as key components of national-level 'success' in upgrading into tuna processing. Exclusions have included noncompete clauses that limit the number and type of investments, diversion of fish to lower cost processing sites and exclusion of local populations from land sited for new processing investments. Marginalizations have come in the form of low-wage, highly disciplined work conditions inside plants, 'downgrading' from canning into nonbranded contract loining, and intensification of fishing effort on the resources required to attract processing. While these compromises have created new jobs and infrastructure in the present, the four mediating dynamics continue to shape the trajectory of upgrading. Firms continue to extract gains by threatening to exclude these small island economies from processing altogether by relocating to more competitive production sites, and island states seek to use their control over increasingly scarce tuna to retain or improve their position in the chain.

[9] Multiple interviews, Seychelles government officials and international financial institution representatives, 2009 and 2012.

[10] Although wages are very low, labor productivity is low enough that PNG labor costs are as high, or higher, per unit of fish processed than in competing firms in Thailand and Ecuador that pay significantly higher wages. In addition, communication, transportation, and input costs are very high in PNG.

5 Conclusion

How then, do the review of articulations, the case-specific framework, and case study help to situate the dis/articulations project within current debates on upgrading in the commodity chain literature? We used the review of the two uses of 'articulation' to highlight those structural dynamics that shape commodity chains, but that have largely been absent from most work on these chains. These antecedents use articulation (and disarticulation) as a part of an effort to explain the wider dynamics and essential relations of generalized commodity production. Our framework for exploring small island states' interactions with the tuna commodity chain links the discussion of articulations with upgrading debates. Our four mediating dynamics translate abstract notions of what constitutes capitalism (the social totality of enterprises) into a detailed exploration of how and why actually existing capitalist processes emerge at the level of the individual commodity chain.

The combination of mediating dynamics—in particular, small island states' control over the environmental conditions of production (a factor frequently absent from commodity chain studies)—explains the puzzle of why small island economies have survived in this highly competitive chain over a forty-year period. The mediating dynamics also provide a lens for revealing several nuances associated with 'upgrading': that it is an historically highly changeable process, it is multiscalar and includes competition between production sites, and that its material outcomes are highly contingent. This approach speaks to the effort of the dis/articulations project to target the inclusionary bias in commodity chain approaches. It suggests a method to capture the nonlinear, actually existing dynamics of upgrading in this chain, one of many potential approaches that researchers might deploy to engage critically with upgrading and to inform the continued development of the dis/articulations project.

And what of the fate of small island states in the tuna commodity chain? While we have identified that 'upgrading' has come at great cost (financial and political) to those states attracting tuna processing, that it requires compromises in production techniques (eg, downgrading from canning to lower value, contract loining) and labor conditions that activists call exploitative but industry defines as necessarily 'cost efficient', we would be remiss to point only to fractures and fissures. On the contrary, small island states have quite surprisingly drawn on environmental conditions of production to exert high levels of control over the chain. They attracted new investments seemingly against all odds. More recently, they have continued to use environmental conditions to shift the structure of chains: for example by setting limits on fishing days and closing their zones after limits are met (Havice, 2013) and by seeking control over 'sustainability' certifications and potential revenues associated with their (increasingly required) use. In short, the states highlighted here have been able to use some of the mediating dynamics to confront and refute the structuralist assumptions in much development and upgrading literature. This reveals that, although economies of scale and world-market conditions matter in shaping political economies, so too do states, even the smallest among them.

This summary is not to offer an evaluation of if 'development' has (or has not) occurred as a result of small island state interactions with and upgrading/downgrading within tuna chains. Instead, it points to the highly dynamic and nonlinear nature of interactions that are evident when the chain is analyzed across an historical period and with attention to the determinations of capitalist relations which Althusser and Hall highlighted in their development and deployment of the term 'articulation'. Illustrating the moments of downgrading, exclusion, and marginalization that are part and parcel of upgrading, and are of central concern to the dis/articulations project, highlights how continued attention to method in concept building can create space for systematic assessment of the inclusionary bias that has characterized upgrading.

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