From Food Chains to Food Webs: Regulating Capitalism in the Food System

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Annual Review of Law and Social Sciences, 2019, 15, 205-225.

Abstract:

This review addresses food as a topic of socio legal studies. We show that the divide between production and consumption in law and social science is increasingly untenable in the context of contemporary globalizing, industrializing food chains underpinned by a productivist ideology and supported by a “consumptogenic” cultural economy. Socio-legal studies of food are well-suited to grappling with the complexity of production-consumption dynamics, through regulatory governance studies of “hybridized” (public and private) supply chain standards. Yet we argue for an expanded focus on the embeddedness of food chains in social, political, and, importantly, ecological, food webs. We suggest that socio-legal studies into ecological-based regulation, counter-movements, and an expansive version of the human right to food (that includes nature and animals), can particularly contribute to an understanding of the possibilities regulating capitalism by seeking to constrain globalizing, industrialized food chains.

Keywords: food, regulation, governance, capitalism, animal agriculture, rights of nature

Acknowledgements: The authors would like to thank Jane Dixon and Bronwen Morgan for very helpful comments on an earlier draft of this paper and Laura Boehm for assistance with research and referencing.

1. Introduction

Food, as the late Anthony Bourdain, a renowned Chef, once commented “is everything we are. It’s an extension of nationalist feeling, ethnic feeling, your personal history, your province, your region, your tribe, your grandma. It’s inseparable from those from the get-go” (Schulz 2010). As Bourdain observed, food is at the center of much of the human experience, the structures of human societies, the organization of space and communities and the resources that humans direct. As a basic necessity, a valuable commodity, and a cultural artefact, food is symbolic and materially fundamental to human lives. What is more, human demand for food, and the physical, economic and political structures that both influence and realize these demands, have fundamentally shaped how human societies function and how humans interact with non-human animals and ecosystems.

Since early history humans have made cultural and religious rules about what is appropriate to eat when and with whom. Ancient Roman law included detailed regulation of food weights and measures, labelling and adulteration. In modern times, food safety and adulteration regulation proliferate. In the US alone it is reported that “fifteen different federal agencies administer at least thirty federal laws relate[d] to food safety alone, and many more agencies and laws impacts the full breadth of the food system” (Leib & Schneider 2017, p. 2). Food raises fundamental ecological and social challenges for the future too. The twin problems of under and over nutrition in diets remain a major public health governance challenge (Parker & Johnson 2018). At the same time food systems are themselves “a major driver of climate change, land-use change and biodiversity loss, depletion of freshwater resources, and pollution of aquatic and terrestrial ecosystems through nitrogen and phosphorous run-off from fertilizer and manure application” (Springmann et al 2018, p. 1). Accordingly, a number of large-scale, peer-reviewed scientific reports have called for structural transformations of food systems, and consider current approaches to food systems governance inadequate for enabling change on such a large-scale (IAP 2018; IAASTD 2009; FAO 2017; Swinburn et al 2019).

Yet, food has been somewhat neglected as a focus of socio-legal scholarship (but see Linnekin & Leib 2014; Hospes & Brons 2016; Tai 2015). A contributing factor, is that the most significant food governance challenges concern the relationships between food production and consumption. However, legal institutions governing food have tended to separate the regulation of food and the regulation of agriculture, while social science studies of food have also tended to bifurcate between focusing on cultures of consumption and politics of production. This paper outlines how a distinctly socio legal approach to the regulatory governance of food chains is beginning to enrich the literature

and could be expanded to consider the way that food chains raise the central challenges of regulating capitalism to acknowledge its embeddedness in social and ecological systems.

In the second part of this review we show that the divide between production and consumption in law and social science is increasingly untenable in the context of contemporary globalizing, industrializing food chains underpinned by a productivist ideology and supported by a “consumptogenic” cultural economy. This has devastating ecological and social impacts.

The third part argues that the institutional fragmentation of agricultural law (production) from food law (consumption) in national (and international) systems (Tai 2015) fails to address the challenges of globalizing, industrializing food chain governance. We go on to show how social science and socio-legal studies of food have begun to grapple with the connection between production and consumption, and the particular significance of regulatory governance studies of “hybridized” (public and private) supply chain standards.

In the fourth part, we suggest that socio legal scholars extend consideration from hybridized food chain governance to ecological regulation in food webs. While food chains are a largely economic (and hence marketized) construct, we conceptualize food webs as social, political, and importantly, ecological constructs. In particular socio-legal studies of food can contribute to an understanding of the possibilities of “resistant governance” (Hospes & Brons 2016), that is the power of social movements, and we argue nature itself, to regulate capitalism (Levi-Faur 2012; Polanyi 1944). We suggest that socio legal scholars should further explore the resistance of animals and nature itself to commercialized, commodified food systems (Parker, Haines & Boehm 2018; Wadiwal 2015).

2. Globalizing Industrializing Food Chains Produce a Consumptogenic System

Globalizing industrializing food chains

Up until the 1970s, 90% of food was consumed in the country in which it was produced (Braithwaite & Drahos 2000, p. 400). In earlier centuries, relations between consumers and producers, as well as intermediaries, often depended on the personal relations and shared, natural environments of the seller and the buyer. Food production through to consumption tended to be embedded within a smaller geographical area, food moved through less processing stages, and actors had social relationships with each other. Accordingly, information flowed more readily, and food-related processes were embedded into political, cultural and social relations.

Since the 1960s onwards, food chains have become increasingly industrialized and consolidated. This trend corresponded with the shift towards liberal market policies at domestic and international levels

and was significantly driven by the hegemonic dominance, culturally and politically, of the US and EU in global food systems. Subcontracting, outsourcing and similar arrangements, as well as corresponding developments in financing and agricultural and food processing technologies, have further scaled-up food chains and enabled standardized outputs suitable for integration into global capitalist processes.

The term “food chain”, a biological concept used to model energy flows between species, transmogrified into the more economically focused constructs of “food supply chains” and “global value chains” (Gereffi, Lee & Christian 2009). Food (supply) chains conceptualize how food and capital move from production through to consumption. Interest in food chains, and their governance, increased in the 1980s as the actors and processes involved in food from production to consumption became increasingly fragmented and complex (Lummus & Vokurka 1999). Generally, the framework identifies the points of connection between points along the chain, the methods employed through which information and materials flow, and the ways in which uncertainties and risks within the chain are managed. At its broadest, the term food chain encompasses in-put supply chains (e.g. for seeds, machinery, chemicals), production (e.g. agricultural and aquaculture systems), food manufacturing and processing (e.g. changing the condition of foods, combining ingredients, packaging and labelling), distribution (e.g. logistics and transport processes that source food in bulk to re-deliver the products to downstream actors), retail or food service entities (e.g. supermarkets and restaurants), consumption and waste disposal systems.

Eco social implications

The food supply chain, as a conceptual framework, centres on the actions and interests of industry. Thus, the concept of a food supply chain does not capture the social and ecological costs of the activities and outcomes of the chain or the various environments in which the relevant processes occur and actors function. In addition to being a concept disembedded from ecological and social relations, globalising and industrialising food chains function in a way that is disembedded, as much as possible, from particular ecological and socio-cultural contexts. Rather, these food supply chains are significantly determined by markets, which shape how and where food is produced, processed, sold and consumed.

Although the nodes along globalizing and industrializing food chains have separated from each other temporally, jurisdictionally and ecologically, the impacts of these processes and the actors involved are converging. The global nutrition transition is a key example. A growing body of work connects the nutrition transition, in part, to the liberalization of food markets and to advancements in food processing technologies (Baker & Friel 2016; Monteiro et al. 2013). Meanwhile, corporate

concentration among commodity buyers, input producers, food processors and retailers has led to globalized food chains with many producers and consumers on either end, but few and powerful actors between them (Murphy, 2008). For instance, researchers at the USDA found, by the end of 2010, four companies accounted for over 50% of global market sales in each of the following sectors: agrochemicals, seeds, animal pharmaceuticals, animal genetics and farm machinery (Fuglie et al. 2011).

Most of the world's farms and food supply chains are small and based around the family structure, but in middle-income and high-income countries farm numbers have reduced and their size has expanded (Lowder, Scoet & Raney 2016). Correspondingly, farms in these countries are increasingly specialized as opposed to diversifying farm outputs, which has led to a significant decline in agricultural biodiversity corresponding with declines in dietary diversity. The factory-style farm model, however, enables farmers to remain in the business, as globalized food chains require standardized inputs of food (e.g. the same variety of potatoes) for processing (e.g. to make potato chips) (FAO, 2017, p.89).

[“Productivist” food \[security\] policy](#)

At various points in history, fears that Earth's population would outgrow food production have captured political attention. Shaw (2007, p.115) termed these periods ‘waves of food-population pessimism’. It was during one such ‘wave of pessimism’ in the 70s, triggered by a series of famines with multiple causes, that international institutions significantly increased their engagement with the policy and regulations underpinning food chains. A systems-based understanding of food issues gained traction in order to conceptualise the interconnections, and disconnections, between food supply and demand (Timmer, Falcon & Pearson 1983). Yet, it was the narrower policy concept of food security that came to predominate. As Maxwell and Slater (2003 p.531) put it “Remember ‘food policy’? It is what some of us used to do before we discovered ‘food security’.

Food security was first conceptualised as a status of nations, a policy goal aimed at increasing the ‘low levels of per capita intake’ in developing countries due to low food production and price volatility (United Nations 1975, p.14). It followed that developing countries, with their then lower agricultural production levels required governance arrangements (e.g. technology transfers) to increase production. This representation of the problem (food insecurity), and its solution (increase production) is thought to have gained dominance due to its alignment with agricultural “productivist” ideologies (Wilson 2001), which places value largely on intensifying agricultural production (Lowe et al. 1993). Meanwhile, the emphasis on production meant that developed countries were considered “food secure”, which obscured developing issues with inequality of access to healthy sustainable food.

Later, in the 1980s, food security was re-conceptualised as a status held not only by nations, but also by individuals and households, and as a goal that centred on improving individual economic access to food (FAO 1982; The World Bank 1986). Accordingly, the problem of food insecurity was measured not only against national production but also the level of food imports and household income. Thus, the solution that followed was economic growth via market liberalisation, which would ultimately increase individual incomes and decrease the cost of food by increasing supply (Jarosz 2011).

As a broader array of food-related issues beyond hunger have gained prevalence, such as diet-related non-communicable diseases, a more complex understanding of food insecurity has emerged supported by significant social science research on the distributional and social inequities that underpin many food-related problems (Pinstrup-Andersen 2007; Sen 1982). Although food security remains the dominant frame for food-related issues at international and domestic level, the concept itself has since become multi-faceted with a stronger emphasis on economic access to food that supports healthy and culturally-appropriate diets (FAO 2008).

The volatility of world food prices coupled with concerns about new (e.g. climate change) and old (e.g. population growth) problems have led to increased political attention on food security in contemporary times. Nevertheless, multiple studies find that the dominant discourse continues to understand food insecurity as an issue of population outstripping production, which favors solutions that involve intensification of production, capital-intensive technology (e.g. biotechnology and automated robotic agriculture) and market-based solutions (eg labelling for consumer choice) (see, eg, Mooney & Hunt 2009; Kirwan & Maye 2013). The continued dominance of this frame is thought to be supported by the underlying paradigm of productivism that has become entrenched within existing structures (Tomlinson 2013). For instance, private investment into agricultural research and development has increased while public investment has declined, leading to more knowledges and resources supporting productivist agricultural models than ecologically-based ones (Pardey et al. 2016; Pingali & Raney 2005).

“Consumptogenic” impacts of “productivist” food chains

Productivist food security policies are dangerously intertwined with cultures of consumption in contemporary food chains. Jane Dixon and Cathy Banwell (2012) coined the term “consumptogenic” to highlight the relationship between the economic ideology of productivism and the unequal, unhealthy and unsustainable cultures of consumption that are produced and sustained by business and government activity in a productivist food system. Dixon and Banwell take as their point of departure the public health idea of an “obesogenic” environment and point out that the problem contemporary consumer cultures face should not be reduced merely to obesity. Rather it is a

consumptogenic environment that “encourages the consumption of commodities in greater amounts, more quickly and more often” (Banwell et al 2012, p. 182), even where this hyper consumption is detrimental to social equality and inclusion as well as planetary and human health (Friel 2019 p.57). To think that public health policy can simply promote individual behavioural change towards healthy or sustainable consumption is an illusion given that:

“ideas of constraint, going without, voluntary simplicity or doing more with less, run counter to half a century of celebrating excess, abundance, having it all and living the good life by doing more with more... an era when consumption ... acquired nationalistic, social and moral overtones.” (Dixon & Banwell 2012, p. 180)

Indeed, greater consumption is frequently seen as “essential to political and social stability” (Coveney 2011 p. 50) and the answer to inequality, supposedly leading to greater economic growth and therefore a bigger pie for all to share. As John Coveney (2011, p. 150) observes, “so everyday and unremarkable is the environment of consumption, that any attempt to deal with the purported consequences, such as addressing overweight and obesity, becomes in itself an exercise in antisocial behaviour and possible ostracism.” In fact, however, conspicuous consumption by the rich tends to spur further competitive consumption, emulation effects and further and more hyper consumerism. In practice this leads to greater inequality through reinforcing unequal patterns of capitalist accumulation (Lipovetsky & Charles 2005; Wilkinson & Pickett 2009). At the same time, the cultural emphasis on consumption degrades those “core economy” but unpaid, unmarketized human activities that do not enable consumption but do sustain social life and underpin the very possibility of markets; these are things like education, care for the young and elderly, involvement in social movements and civic activities and so on (Gough, 2017, p. 81). It also of course degrades the natural environment on which humans and all our social, economic and political institutions depend (Steffen & Smith 2013; Raworth 2017).

In order to address the ecological unsustainability of the current food system and support sustainable wellbeing for all, sophisticated legal and governance mechanisms that can address these production-consumption dynamics are necessary. Yet as we show in the following part, both law and social science often bifurcate the production and consumption of food, making the connection between productivist food policies and consumptogenic problems difficult to see and address.

3. Food chains in law and social science

[The bifurcation of food production and consumption in legal institutions](#)

Commonly, institutional and legal frameworks across international, regional and domestic levels are locked into governance arrangements for food that separate production from consumption (Alabrese

2017; Schneider 2009). Corresponding with the doctrinal and institutional divide, the weight of legal scholarship has exclusively examined issues associated with either food consumption (“food law”) or production (“agricultural law” or “land law”) (Linnekin & Leib 2014). Both food law and agricultural law are functional categories, that is, they emerged not from a distinct doctrinal area (e.g. contract, torts or statutory law), but from the practical benefits of having lawyers and legal resources that specialize in all aspects of the regulatory arrangements relevant to particular supply chain actors (Meulen 2014, p.1174).

Tai (2015, p.125) described the common thread between food law and agricultural law as “client-centred”, that is, they ‘both have historically focused on use and compliance of legal regimes mainly from the perspective of the grower/producer’. Agricultural law emerged to advance and protect the particular interests of clients involved in agricultural businesses and related to the business and practice of farming (e.g. Kelley 1975; Hines 1965). This area of law traditionally, and increasingly, covers a broad range of laws relevant to the material aspects of food production, the governance arrangements for farming-related businesses, and the relationships between producers and food processors, exporters and retailers. Similarly, food law, as it is understood in practice and in legal tradition, centres on the public interest in food safety and information, the government interest in creating food laws that satisfy the public interest but do not overly burden the industry, and the industry interest in legal compliance and profit.

The divide between food production and consumption in regulatory frameworks is often most obvious at the domestic level. However, Johnson (2018) has shown how the public international regulation of food and agriculture further exemplifies and reinforces this division. At the international level, food law is largely comprised of the food safety, marketing and quality standards set by the Codex Alimentarius and the World Trade Organization’s (WTO) *Agreement on Sanitary and Phytosanitary Measures*. Both of these instruments reinforce each other and seek to harmonise the food standards governments impose on food sold within its jurisdictions, such as the maximum pesticide residue level that can remain on food products. They also seek to harmonise information provision in food systems by setting standards about what information should be provided (and not provided) in national dietary guidelines, on food labels and in related marketing. To a lesser extent, the aspects of the WTO’s *Agreement on Trade-Related Aspects of Intellectual Property Rights* (TRIPS) regarding trademarks is also relevant to food labels (See, eg, *Tuna-Dolphin* cases). Meanwhile, domestic agricultural arrangements are largely influenced by a mishmash of international agreements and policies, namely the WTO’s *Agreement on Agriculture*, which reduces tariff and related barriers to trade in agricultural products, TRIPS as it relates to seeds and animal genetics, international investment law as related to land deals, and multilateral environmental agreements concerning land use, water and biodiversity.

For multiple reasons, the legal, institutional and regulatory divide between production and consumption in the governance arrangements for food is strong on paper but weak in action. Food chains are not regulated by disparate areas of national and international law in a linear fashion. Rather, an ecology of regulatory institutions, processes and tools apply across globalized supply chains (See, eg, Clapp & Fuchs 2009). Instead of regulatory interventions influencing one node along a chain and the others that proceed from it like a chain reaction, the regulatory processes are more circular – influencing aspects of the supply chain in ways that feed back into how the supply chain functions and its outcomes. Thus, regulatory interventions into one node along a food chain will necessarily influence the entire chain to varying extents. The distinction between those regulatory governance processes relevant to food consumption and those relevant to food production is, therefore, losing its practical function.

This distinction between food chain activities also makes it difficult for existing governance arrangements to be receptive, in the short term, to integrative ways of understanding and addressing food-related issues. As regulatory actors target one artificially discrete aspect of the food chain (such as food production, processing or consumption) issues and their solutions are understood in isolation from each other. This “instrumental regulation” approach conceptualises regulation as designed to identify and address “externalities” or “market failures” (environmental or social harms caused by business activity) case by case, problem by problem (Parker, Haines & Boehm 2018; see also Baldwin, Cave & Lodge 2012). Moreover, the problem to which the regulatory intervention is responding changes depending on the particular context i.e. social and political arrangements (Bacchi 1999). Multiple, and sometimes competing regulatory regimes exist, each premised on the need to reduce a discrete harm, with as little burden on business as possible (e.g. Productivity Commission 2016).

In the context of food chains, which are associated with many, varied but interconnected social and environmental harms, the instrumental and piecemeal approach to law and regulation leads to many such harms falling outside of the regulation’s instrumental purview. Where regulation does exist, conflicts can arise between legal regimes or legal regimes are traded off against one another in silos that displace problems rather than transforming them (see Young 2011). This fragmented landscape creates many opportunities for regulation to be shaped by short-term political interests and not social and ecological realities. In particular a number of socio legal scholars have shown how food safety and biosecurity regulation tends to privilege larger industrial agriculture producers and processed food operators, who can more easily afford to comply with these obligations and can fit their operations to the dominant industrial production methods. On the other hand smaller economic operators may be eliminated due to their inability to afford compliance with environmental protection (eg McMahon & Glatt 2018), while smaller alternative producers, who use diverse, context-dependent agro ecological

production methods that better respect nature and animals often struggle to fit their production methods into rules shaped by the dominant industrial agriculture interests (Linn 2018; Baur, Getz & Sowerwine, 2017).

Regulatory responses to food surplus and food waste epitomise the instrumental approach. Food surpluses are over-produced foods above human nutritional needs, while food waste is both food surpluses that have become wasted (i.e. “avoidable food waste”) and “unavoidable food waste” such as the peels and trimmings from vegetables. In national and regional regulatory responses, food surpluses are subsumed within food waste; meanwhile, food waste is framed as a downstream problem that can, therefore, be regulated in three main ways: by influencing consumer behaviour (e.g. education programs and other “nudges”), enabling re-distribution schemes (e.g. food surpluses redirected to food banks), and providing incentives for reformulating food surpluses (i.e. composting and developing technologies that extract components of food to make other products) (Papargyropoulou et al. 2014). However these approaches fail to *prevent* avoidable food waste (i.e. food from existing only to be wasted) and overlook the possibility of more transformative ‘long-term shifts towards sustainability that limit the creation of surplus, for example through shorter food chains’ (Mourad 2016, p.462; see also Bradshaw 2018).

Scholarship shows how regulatory interventions to appropriately limit food surpluses, and therefore re-direct resources, could simultaneously address multiple issues such as household food insecurity, food waste, diet-related NCDs and the degradation of natural resources via intensive farming (Parker & Johnson 2018). Yet as Devin and Richards (2018) show, Australian supermarkets for example promote their food waste reduction policies (e.g. redistributing food), while at the same time using their “gatekeeper” position in supply chains to impose standards (such as cosmetic standards or price controls) that result in large-scale waste at other points along the supply chain.

Contemporary trends in food production and consumption regulation

Consistent with the instrumental approach taken to the regulatory governance of food chains, many contemporary regulatory developments regarding food chains have been the direct result of crises and traumas. A number of high-profile and widespread food safety scares since the 1990s exposed the links between poor production practices and consumer health, especially foot and mouth disease and then BSE (or “mad cow disease”) in the UK and Europe (Hutter 2011, p. 66; Lee & Marsden 2009, p. 133; Oosterveer 2007, pp.81-110). More recently the horsemeat scandal in UK, melamine in infant formula in China and other food “frauds” have made the identity of food and its traceability of great concern to media and consumers throughout the world, re-opened calls for greater public interest

oriented regulation of food identity and integrity throughout the supply chain (Lord, Flores & Spencer 2017; Corini & van der Meulen 2018).

These highly publicized events spurred new forms of domestic, regional (especially in the EU) and international regulations to respond to both the declined public confidence in food supply chains and the demands of social movement campaigns. Lee and Marsden (2009) argue, for example, that after an initial phase of government regulation aimed at food safety and local public health in the UK and EU up to about 1990, food governance evolved into an emphasis on “supply chain management, and food standards strategies, designed and applied by large multiple food retailers” (p. 132) combined with a *laissez faire* government approach to food safety and security. Private business to business governance schemes such as GlobalGap for food safety, which originated in the EU, have become dominant risk management approaches for retailers (see Verbruggen & Havinga 2017).

The application of comparatively new and intensive technologies to agriculture have likewise prompted supply chain regulation. Particular pesticides and then later genetically modified seeds have garnered the most attention (Oosterveer 2007, pp. 111-146) leading to regulatory frameworks that address the entire food chain. How pesticides are sprayed on farms and the ways in which genetically modified organisms including the foods containing them, are imported/exported are now the subject of international standards largely for the purposes of enabling international trade (Oosterveer 2007; Johnson 2018).

Labelling logo and certification schemes are a further example of approaches that regulate the entire food chain. The end consumers distance from, but increasing awareness of, the harms associated with intensive agricultural practices has led to a proliferation of third-party (business-to-business, and retailer to consumer) schemes in which a third-party communicates through a proprietary logo (such as fair trade, organic, higher welfare, local provenance and quality assurance trademarks) that the producer and/or processor have followed particular standards. The logo itself does not communicate the specific standards followed or the reliability and veracity of the verification process (Guthman 2007; Klintman & Bokstrom 2004; Parker, Johnson & Curll 2019).

Although these labelling and certification schemes often seek to address whole-of-supply chain governance arrangements, they tend to be at best incremental and at worst a form of greenwashing, and not transformative (see Guthman 2007; Scrinis & Parker 2016; Carey, Parker & Scrinis 2017). That is, they have not altered the overall nature of globalizing, industrialized food chains or mitigated, in a widespread way, the social and ecological harms associated with it. This is because regulatory actors consider an issue in isolation and only reactively once it has captured public attention. Government regulatory responses are also narrow and do not consider ultimate causes, which in turn maintains

the status-quo. As Lee and Marsden (2009, p. 135) observe of these scandals and regulatory responses, “the intensive system of production and supply [is] taken as given, with regulatory agencies aiming to uphold consumer confidence in this system through increasingly elaborate sets of public and private standards.”

Cultures of consumption and politics of production in social science studies of food

A socio legal understanding of food therefore needs to deal with the fact that food production and consumption are so tightly interconnected that each process forms the other. Yet, it was not until the late 1980s and early 1990s that social scientists began paying more attention to the role of food in society, materially and symbolically, as a site from which to examine and critique cultures and societal structures (McIntosh 1996, p.3; Lockie & Kitto 2000; Ilbery & Maye 2006; Dixon 1999, 2002). The catalyst for the increased sociological attention on food was the increasing influence of globalization and related capitalist processes on food chains, albeit unevenly, throughout the world. Yet, social science attention tended to bifurcate towards the two ends of (frequently globalized) food supply chains.

The first, sometimes termed food studies, focuses on the consumption of food in the context of consumer culture, social relationships, and status drawing on methods and theories from anthropological and historical studies (Fischler 1988; Goody 1982; Warde 1997). A key theme in this area of work is how individuals self-regulate their food choices, including the external and internal factors that influence how individuals govern themselves ‘as subjects of food choice’ (Coveney 2006, p.3). The second body of social scientific work on food, termed agri-food research, uses Marxian theories and methods to critique the unequal distribution of resources and harms associated with the globalization and industrialization of food chains and the varied forms of resistance against these trends (Busch 2010; Carolan 2006; Lawrence 1987; McMichael 1993).

Despite common themes, the contours of social science research on food emulates the distance between consumers and the producers in contemporary industrial food systems and the doctrinal distinction between food law and agricultural law. Only a few years ago, Hughey (2016 p.354) described the space as still ‘...polarised by those that debate the cultural and historical materialism of food production and food insecurities on the one hand and, on the other, those that emphasize the structural and symbolic explanations for food usage in relation to human behaviour....’. The divided focal points is thought to stem from the larger rift between ‘Marxian and production-oriented perspectives and more “cultural” and consumption-oriented views of society’ (Goodman & DuPuis 2002, pp.5–6).

A broader framework of analysis than food chains is food systems, which was popularized by sociologists in the 1990s (McMichael 1993; Tovey 1997), and later developed by an interdisciplinary project (Albright, 2001; Ericksen, 2008). The concept of food systems nests food chains within it. Similar to food chains, the term “food systems” may be used to refer to a specific food system or to food systems generically as an archetype e.g. “global food systems” or “sustainable food systems”. Unlike food chains, however, the food systems approach is non-linear and encompasses dynamic interactions. These include the interactions between activities (i.e. along the food chain), feedback loops, the collective outcomes of the activities, the impact of these outcomes on the activities and a broad range of external drivers (e.g. environmental conditions, socioeconomic trends) (Ingram 2011). Thus Friel (2019 p70) describes a food system as:

...the path that food travels from field or farm to fork. As well as the growing, harvesting, processing, packaging, transporting, marketing, consuming, and disposing of food, the concept of a food system includes all the inputs needed and outputs generated along the way. It also includes the mix of social, political, economic, and environmental factors that influence and are influenced by food supply pathways. Food systems contribute to or undermine nutrition and food security through their influence on the amount of food available for consumption, its safety, nutritional quality, price, physical accessibility, and cultural acceptability. (references omitted)

In the food systems framework, regulation however still tends to be seen as an external element that can be utilised to influence the internal workings of the system. In regulatory studies scholarship, however, regulation is also constitutive and integrative - a key strategy used by actors within the food system to achieve their goals, respond to other actors and seek to stabilise certain relations. Regulation helps create and legitimate how activities in the system function, the relations between parts in the system and the outcomes of the activities. It is also a key resource for social movements seeking to contest the boundaries of marketization and the impacts of the food system, as we explain further below.

Importance of governance exposed in new integrated understandings of food issues

Social science investigations of food chains that connect food production and consumption inevitably uncover the importance of both public and private regulation in sustaining and challenging food chains (eg Dixon 1999; Guthman 2004, pp. 110-171; Nestle 2003; Richards, Lawrence & Burch 2011). This indicates that regulatory governance analyses have an important role to play in bridging the production-consumption divide in legal institutions and social sciences. Morgan, Marsden and Murdoch’s (2006) seminal work on “worlds of food” for example shows that regulation – formal legal-

contractual arrangements, logo accreditation schemes, legislative frameworks and informal conventions – are all integral to stabilising those chains and defining which values, interests and assumptions about how food production should be organised prevail in different links in the chains (Morgan, Marsden & Murdoch 2006; Murdoch & Miele 1999; see also Dixon 1999 and Gereffi, Lee & Christian 2009 on the importance of governance in global value chains). Miele and Lever's (2013) study of the "techno-ethics" of high welfare meat chicken production in the EU argues that the emergence of ethically qualified products in the market requires constant work by actors in the supply chain to construct and sustain the market. This work includes convincing consumers to buy and trust certain label claims, updating the producers' own skills and technology (eg barns designed appropriately to facilitate free ranging, managing chicken health under different conditions), and ensuring investment in new technologies and products (eg retailers and brand-owners may need to assist growers with the capital to buy new barns).

Socio legal studies of food too point to the significance of hybridized governance across food chains and food systems. This draws out insights regarding how power and resistance is asserted and constrained along food chains (Verbruggen & Havinga 2017). Food chains have always been governed by a mix of internal and external public and private regulatory mechanisms. But, the actors and the mix of tools deployed to influence actions has significantly altered from the 1980s onwards corresponding with structural changes within food chains and markets more generally. As food chains have expanded, so too has the range of actors seeking to regulate food production and consumption. In addition to states, international agencies, industry associations, advocacy groups (for animals, labor, environment, peasant farmers, international development, technological innovation), retailers (including supermarkets, multinational processed food chains and local farmers' markets and organic stores) all propose and seek to create regulatory governance interventions at various scales (local, national and international) (see Cohen 2015). They do so in varying degrees of competition and alliance with one another across public, private, industry, civil society divides. As Havinga, Casey and van Waarden (2015, p. 3) have shown, 'These changes have occurred across two dimensions: (i) *national* systems of food governance have been increasingly subject to *international* influences; and (ii) *public* food governance has been challenged, complemented or at times superseded by *private* governance mechanisms' [Emphasis by authors]

This observation accords well with the insights of "responsive" approaches to regulation that understand regulation as a plural socially and politically embedded "regulatory space" in which different actors – market, state and civil society – engage in regulation of one another (Braithwaite & Drahos 2000). Regulatory governance of any particular area at any particular time is thus the result of ongoing interactions (contests, conflicts, alliances, modelling and mimicry) between multiple actors

at multiple levels (Eberlein et al, 2014; Parker et al 2017). This approach understands regulation as potentially highly responsive to a range of social, political and economic influences and motivating factors. Because of this, regulatory governance scholarship tends to start from a specific network or context, such as a food chain, and work back to the often overlapping and fragmented rules and perspectives that underpin actor interactions and influence outcomes using rules as material and symbolic artefacts of these relations along with empirical methods (eg Parker et al 2017; Parker, Johnson & Curll 2019). Beaton-Wells and Paul-Taylor (2017), for example, examined how regulatory responses to problems in supermarket-supplier and supermarket-consumer relationships are influenced by and mediated through processes embodied in regulatory discourses and responses. The work of Parker and co-authors suggests that in order to understand how the commodification of animals in intensive confined systems can be constrained and regulated in the interest of intersecting animal welfare, environmental and public health concerns - or conversely when attempts at regulating markets are co-opted and transformed into new forms of marketisation - we must start by looking at the shape of the market and then work backwards to understand the dynamic interactions in regulatory space that have shaped that market one way or another. From there we can work forwards again to imagine what might work better to unblock the potential of social movements and regulatory agencies to constitute the boundaries of the market and tame capitalism (Parker et al 2017).

Regulatory capitalism in globalized food chains

As David Levi-Faur (2012 p. 289) observes in his theory of regulatory capitalism, 'regulation made, nurtured and constrained the capitalist system' through the creation and enforcement of concepts such as private property, companies, stock markets, competition law, insurance, and so on. Law and regulation have thus helped create the contemporary globalized food chain, through contract, international trade law and globalized food safety standards.

On the other hand, and at the same time, social, political, and financial risk constantly creates new demands for regulation. Despite capitalism's attempts to prioritize the market and competition, the social and political constantly reassert themselves to re-embed the market. Regulation results from constant contests over the embedding and disembedding of the economic within the social (Lange 2015; Polanyi 1944), or as Levi-Faur (2012) puts it, regulation results from contests over commodification, decommodification, and recommodification of social and environmental resources.

A key theme in social science studies of food production and consumption is similarly whether the emergence of counter-movements and third party certification schemes which seek to re-embed products into social and environmental relations (such as fair trade, local food movement and organic agriculture) are powerfully transformative. Or do they reinforce the status-quo by being exclusionary

and positioning the individual as capable of and responsible for governing their own food choices to bring about food system change over structural reform (Gilson 2015; Goodman, 2004; Guthman, 2007; Parker, Johnson & Curll 2019). As Reynolds (2000, p.298) aptly observed in relation to the organic agriculture movement and the fair trade movement '[t]heir true significance lies...in the challenge they raise to the abstract capitalist relations that fuel exploitation...Both initiatives critique the subordination of agriculture and food to capitalist market principles that devalue, and thus encourage the degradation of, environmental and human resources'.

In the following and final part we take these counter-movements as our departure point for suggesting some fruitful directions for socio legal regulatory studies of food.

4. Directions for Socio Legal Scholarship of Food

In this part we suggest, first, that socio-legal studies of food should shift our gaze from food chains (an essentially market-based concept) to socio-ecological food webs. Socio-ecological food webs understand plants, animals and local, regional and global ecologies as central to and inextricably interconnected with human food production and consumption. From this standpoint, socio-legal scholars can meaningfully address the challenge of re-embedding food chains and broader food systems within social and ecological systems, rather than perpetuating unchecked productivist, consumptogenic markets. Second, we suggest the promise of "resistant governance" (Hospes & Brons 2016, p.32), that is the challenging of industrial capitalism agri-food system by social movements, towards a more just and sustainable food system. We discuss how a human rights-based approach to food sovereignty could assist in conceptualising this type of resistant governance.

[From food chains to food webs](#)

Popular deployments of the biological heuristic of the food chain often imply an over-simplistic hierarchy of those who eat over those who are eaten. This idea of a hierarchical chain naturalizes domination of humans over animals used for food (Adams 1997) and also exploitation and oppression of humans further "up" the food chain over other humans further "down" (eg Gibbon & Ponte 2005). Yet no "food chain" exists as a single independent strand – all are embedded in complex and diverse ecological systems. Analyses of global value chains in food too tend to concern themselves with the way powerful "lead" firms extract value further back down the chain (Gereffi, Lee & Christian 2009). Yet, these analyses overlook the ways in which those down the chain (such as local farmers) are themselves both socially and also ecologically embedded in complex webs of relations and interdependencies (Cohen 2019; Parker, Haines & Boehm 2018).

Food systems analyses acknowledge the significance of environmental and social factors and conceptualize complex, dynamic interactions (eg Ericksen 2008). Yet Hospes and Brons (2016, p. 23) meta-review of food systems literature suggests that food systems analysis often fails to emphasise that ecosystems bound food systems and how “politics, polity and policies... interact with and are part of food systems”.

To re-orientate socio-legal analyses of food within social-ecological systems, we suggest recovering the ecological concept of food webs. In ecological science the concept of food webs refers to the flow of resources (energy and nutrients) between actors in ecological systems (e.g. plants, animals, natural resources and micro-organisms). McCann (2012, pp.9–10) explained ‘When considered at all scales, from a local patch to the entire biosphere, a food web governs the flux of energy and nutrients throughout our natural world. This flux and its fate ultimately drive a number of critical functions.’ The critical functions to which McCann refers are ecosystem services such as the recycling of nutrients, climate regulation, growing plants, and decomposing waste. Rockstrom et al. (2009) proposed seven planetary boundaries thresholds, all of which are interlinked with food systems (see Springmann et al 2018) such as freshwater use, biodiversity loss and cycles in climate, nitrogen and phosphorus as one way of conceptualising the biophysical boundaries that should not be transgressed by human activity to avoid catastrophic effects on the flow of resources and nutrients. Focusing on food webs brings attention to beyond human social, economic and political systems to the embeddedness of humans and our systems within ecological webs in relationship with other living species. As eco-feminist and food justice scholars suggest, the myriad of food-related injustices stem from shared roots: the denial of our dependency on each other and other living beings and eco systems and hence denial of our relationality and vulnerability (Gilson 2015; see also Holt-Giménez 2017).

Socio-legal research is particularly well-placed to re-situate food systems within food webs by developing conceptual frameworks and legal strategies to better account for the interest of a particular landscape or natural resource and non-human actors in a given context. For example, some propose a framework that joins ecology and law through eco-system based regulation, that is, regulation that recognises how ecosystems function and has as its objective the maintenance or improvement of existing ecosystems (e.g., Brooks & Jones 2017, p.3; Capra & Mattei 2015).

Earth jurisprudence acknowledges that ecosystem dynamics and restraints ultimately determine human existence and are intrinsically valuable (Burdon 2014; Berry 1990, p.202; Maloney & Burdon, 2014). As such, human law is subordinated to the interests and dynamics of ecosystems. In their articulation of a theory of ecological regulation, Parker and Haines (2018, p. 137) comment that a ‘defiant earth’ is already regulating and transforming the way humans will be able to survive in the

future through climate change and other ecological responses to anthropogenic activity at a planetary (as well as local and regional) levels. Correspondingly, Wadiwel (2015), and others, are increasingly giving voice to the agency of animals and the ways in which they resist industrial, global food chains merely through the exercise of their natural instincts and their struggle to survive even when faced with slaughterhouses.

This approach to regulation could entail, among other things, personifying the interests of particular ecosystems and animals and tailoring rules and institutions to the particular ecological context. For example, given that industrial food chains are a key source of animal exploitation and cruelty, the discussions in animal law scholarship on the particular agency of animals, and how to incorporate this into legal frameworks, makes important contributions to ecological regulation in the context of food systems. Yet, an on-going point of contention at the intersection of animal law and ecological-based regulations is how to reconcile the interests of individual animals with those of the broader socio-ecological assemblages where they come into contradiction with each other. Going forward, socio-legal scholarship that deals with the contradictions and convergences between animal law, animal rights and ecological-based regulation, especially in the context of food and agriculture, will be important as part of the move towards re-orienting regulatory governance around environmental and social relations (Murray, 2018). Starting down this track is Head (2016, chap.7), who argues for an ecological approach to animal husbandry and comprehensively details how such an approach could be enabled via international law.

The global rights-of-nature movement has also operationalised ideas from socio-legal scholars, and more broadly indigenous and traditional knowledges, regarding the need for regulatory governance that aligns with, and respects, ecosystem dynamics. This movement has contributed to jurisdictions, such as New Zealand, India, and Colombia, granting legal personhood to a particular ecosystem (e.g. a river or a forest). Meanwhile, pressure to adopt a more inclusive understanding of who and what can possess legal rights and be owed legal duties is mounting in most jurisdictions supported by indigenous and environmental groups (Espinosa, 2017).

[Resistant governance and the expansion of the human right to food](#)

The continued expansion of capitalist food chains has been met by resistance that conceptualizes and mobilizes counter-movements. The organic agriculture movement, interconnected with environmentalism, was perhaps the first wave of resistance (Tovey 1997), followed by specific food-focused counter-movements, namely: food sovereignty, food justice, the slow food movement and food chain re-localization efforts. These counter-movements argue that the market should not be the main determinant of how food chains function, and instead should be subordinate to other social and

environmental relations. Hospes and Brons (2016) label such movements as ‘resistant governance’ because they seek to dramatically change existing governance arrangements.

The food sovereignty movement is perhaps the most direct example of ‘resistant governance’, as it directly challenges and formulates alternatives to the ideology of capitalist markets that underpins industrial, globalizing food chains (Holt-Giménez 2017). The food sovereignty movement itself, which mobilizes the concept of food sovereignty, has led to better representation of small-scale producer interests in domestic and international debates on food policy (Claeys & Lambek 2014; Lee 2013). Furthermore, food sovereignty has driven and been enshrined into innovative law reforms largely at the local level (Bellinger & Fakhri 2013). As a concept, food sovereignty critiques capitalist food chains, the privatization of resources used in agriculture (e.g. seeds and water), and related, neoliberal governance approaches to food supply chains.

The recognition of the human right to adequate food in international law has been a useful resource for counter-movements based on food sovereignty ideals. In recent years, scholars, international institutions and courts have significantly developed the meaning and deployment of the right to adequate food (De Schutter 2012; Gonzalez 2014; Chilton & Rose 2009; FAO 2008). Perhaps the most authoritative interpretation comes from the United Nations Committee on Economic, Social and Cultural Rights (1999), who described the elements of the right to adequate food as:

The availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture.

The accessibility of such food in ways that are sustainable and do not interfere with the enjoyment of other human rights.

This interpretation, and the notion of a human entitlement to adequate food in itself, makes visible the non-market-value of food, and of the systems that create and distribute it. For instance, the right to adequate food is realized only where the labor force in the supply chain are working in just and favorable conditions. The absence of such conditions is particularly noticeable in globalized, industrial food chains, which historically, and to this day, intersect with unsafe working conditions (e.g. pesticide exposure) and forced labor arrangements. The broader ability of the human right to food to provide a frame that de-commodifies food, combined with the cultural and legal significance of rights-claims, has given food counter-movements a useful legally and institutionally recognized basis on which to challenge the dominant construct of food as a commodity (Johnson 2018).

The right to food, like animal rights, will also have dimensions that need to be reconciled with the interests of specific ecosystems. As the second element of the right to food indicates, the intersections

between, and indivisibility of, the right to food to a range of other human rights are well-recognized (eg De Schutter 2009), and increasingly so are the links between realizing the right to food and conserving and restoring ecosystems (Knox, 2018). Building on these developments, a clearer conceptualization of how these various claims, ecological, human and animal rights, can be deployed collectively through regulation is required. Alternatively, a re-thinking of rights as a framework for distributing burdens and entitlements, rather than trying to reconcile various rights within the same framework, may provide more transformative models for regulatory governance supported by resistance efforts. In this approach, the right to food would not necessarily function as a “trump card” against other rights and concerns, but rather the right to food would take the form of an integral aspect to ecological regulation.

3. Conclusion

Food justice activist Eric Holt-Giménez has pointed out that “No consumer, farmer, or activist participates in the food system without participating in capitalism” (Luchette 2017; Holt-Gimenez 2017, p.13). We suggest that because food is so central to everyday life, it also sits at the intersection of the most pressing regulatory governance challenges for capitalism – human rights to adequate food and a healthy environment, rights to meaningful work and labour justice, the responsibilities to care for animals and ecologies and the need for meaning and social identity.

Currently, much of the socio legal literature on the food system is concerned with the role of private regulation and consumer choice (Smith, Lawrence & Richards 2010; Bartley et al 2015). Neoliberal hybridised governance suggests that consumer choices send market signals through supply chains to the actors that influence where and how the supply chain functions, and under what conditions. We have suggested a more transformative agenda for socio-legal studies of food, one that contributes to an understanding of “food webs” and the possibilities of “resistant governance” (Hospes and Brons 2016), that is the power of counter-movements to regulate capitalism by seeking to constrain globalizing, industrialized food chains, and to imagine embedded alternatives (Morgan 2018). We suggest that precisely because food is so central to both everyday life (the culture of consumption) and to capitalist food chains (the political economy of production) – that food is a neglected yet extremely fruitful topic for further socio legal study of the potential for regulating capitalism.

References

- Adams C. 1997. "Mad cow" disease and the animal industrial complex: an ecofeminist analysis. *Organization & Environment* 10: 26-51.
- Alabrese M. 2017. Agricultural law from a global perspective: an introduction. In *Agricultural Law: Current Issues from a Global Perspective*, Vol. 1, ed. M Alabrese, M Brunori, S Rolandi, A Saba, pp. 1 - 12. LITES: Springer International Publishing
- Albright M. 2001. *Global Environmental Change and Food Systems (GECAFS)*. [Online]. Available at: <http://www.gecafs.org/publications/index.html> [Accessed 6 June 2013].
- Bacchi CL. 1999. *Women, Policy and Politics: The Construction of Policy Problems*. London: SAGE Publications
- Baldwin R, Cave M, Lodge M. 2012. *Understanding Regulation: Theory, Strategy and Practice*. Oxford: Oxford University Press. 2nd ed.
- Baker P, Friel S. 2016. Food systems transformations, ultra-processed food markets and the nutrition transition in Asia. *Globalization and Health*. 12: 1 - 15. <https://doi:10.1186/s12992-016-0223-3>.
- Banwell C, Broom D, Davies A, Dixon J, eds. 2012. Restoring coherence to a stressed social system. In *Weight of Modernity: An Intergenerational Study of the Rise of Obesity*, pp. 173 - 89. New York: Springer
- Bartley T, Koos S, Samel H, Setrini G, Summers N. 2015. *Looking Behind the Label: Global industries and the Conscientious Consumer*. Bloomington, IA: Indiana University Press
- Baur P, Getz C, Sowerwine J. 2017. Contradictions, consequences and the human toll of food safety culture. *Agric. Hum. Values*. 34: 713-28
- Beaton-Wells C, Paul-Taylor J. 2017. Problematising supermarket–supplier relations: Dual perspectives of competition and fairness. *Griffith Law Rev*. 26: 28–64
- Bellinger N, Fakhri M. 2013. The intersection between food sovereignty and law. *Nat. Resour. Environ*. 28: 45-48
- Berry T. 1990. *The Dream of the Earth*. San Francisco: Sierra Club Books
- Bradshaw C. 2018. Waste Law and the value of food. *Journal of Environmental Law* 30: 311-331.
- Braithwaite J, Drahos P. 2000. *Global Business Regulation*. Cambridge: Cambridge University Press
- Brooks RO, Jones R. 2017. *Law and Ecology: The Rise of the Ecosystem Regime*. London/New York: Routledge
- Burdon PD. 2014. *Earth Jurisprudence: Private Property and the Environment*. London: Routledge
- Busch L. 2010. Can fairy tales come true? The surprising story of neoliberalism and world agriculture. *Sociologia Ruralis*. 50: 331–51
- Capra F, Mattei U. 2015. *The Ecology of Law: Toward a Legal System in Tune with Nature and Community*. Oakland, CA: Berrett-Koehler Publishers

- Carey R, Parker C, Scrinis G. 2017. Capturing the meaning of “free range”: the contest between producers, supermarkets and consumers for the higher welfare egg label in Australia. *J. Rural Stud.* 54: 266-275
- Carolan MS. 2006. Do you see what I see? Examining the epistemic barriers to sustainable agriculture. *Rural Sociolog.* 71: 232–260
- Chilton M, Rose D. 2009. A rights-based approach to food insecurity in the United States. *Am. J. Public Health.* 99: 1203-1211
- Claeys P, Lambek NCS. 2014. Introduction: in search of better options: food sovereignty, the right to food and legal tools for transforming food systems. In *Rethinking Food Systems: Structural Challenges, New Strategies and the Law*, ed. NSC Lambek, P Claeys, A Wong, L Brilmayer, pp. 1-25. Dordrecht, Netherlands: Springer
- Clapp J, Fuchs D, eds. 2009. Agrifood corporations, global governance and sustainability: a framework for analysis. In *Corporate Power in Global Agrifood Governance*, pp. 1-26. Cambridge/London: The MIT Press
- Cohen A. 2018. The law and political economy of contemporary food: some reflections on the local and the small. *Law & Contemporary Problems* 78: 101-145.
- Cohen A. 2019. Negotiating the value chain. A study of surplus and distribution in Indian markets for food. *Law & Social Inquiry*. In press.
- Corini A, van der Meulen, B. 2018. Regulating food fraud: public and private law responses in the EU, Italy and the Netherlands. In *A Handbook of Food Crime: Immoral and Illegal Practices in the Food Industry and What to Do About Them*, ed. A Gray, R Hinch. pp. 159 - 74. Bristol, UK: Policy Press
- Coveney J. 2006. *Food, Morals and Meaning: The Pleasure and Anxiety of Eating*. London/New York: Routledge. 2nd ed.
- Coveney J. 2011. In praise of hunger: public health and the problem of excess. In *Alcohol, Tobacco and Obesity: Morality, Mortality and the New Public Health*, ed. K Bell, D McNaughton, A Salmon. pp. 146 - 60. London: Routledge
- De Schutter O. 2009. *Seed policies and the right to food: Enhancing agrobiodiversity, encouraging innovation*. Background document to the report A/64/170, 64th sess of the United Nations General Assembly.
- De Schutter O. 2010. *Agroecology and the right to food*. Human Rights Council Rep. A/HRC/16/49, United Nations General Assembly, Geneva
- De Schutter O. 2012. Reshaping global governance: the case of the right to food. *Global Policy* 3: 480-83
- Devin B, Richards C. 2018. Food waste, power, and corporate social responsibility in the Australian food supply chain. *J. Bus. Ethics.* 150: 199–210
- Dixon J. 1999. A cultural economy model for studying food systems. *Agric. Hum. Values.* 16: 151–60
- Dixon J. 2002. *The Changing Chicken: Chooks, Cooks and Culinary Culture*. Sydney, Aus: UNSW Press

- Dixon J, Banwell C. 2012. Choice editing for the environment: managing corporate risks. In *Risk and Social Theory in Environmental Management*, ed. T Measham, S Lockie. pp. 175 - 85. Melbourne, Aus: CSIRO
- Eberlein B, Abbott KW, Black J, Meidinger E, Wood S. 2014. Transnational business governance interactions: conceptualization and framework for analysis. *Regul. Gov.* 8: 1-21
- Ericksen PJ. 2008. Conceptualizing food systems for global environmental change research. *Global Environ. Change.* 18: 234–45
- Espinosa C. 2017. Bringing about the global movement for the rights of nature: sites and practices for intelligibility. *Global Networks* 17: 463-482.
- Fischler C. 1988. Food, self and identity. *Soc. Sci. Information.* 27: 275–92
- FAO. 1982. *Director-General's report on World Food Security: A Reappraisal of the Concepts and Approaches*. Rome: Food and Agricultural Organization of the United Nations
- FAO. 2008. *An Introduction to the Basic Concepts of Food Security*. Rome: Food and Agricultural Organization of the United Nations.
- FAO. 2017. *The Future of Food and Agriculture - Trends and Challenges*. Rome: Food and Agricultural Organization of the United Nations
- Friel, S. 2019. *Climate Change and the People's Health*. New York: Oxford University Press.
- Fuglie K, Heisey P, King J, Day-Rubenstein K, Schimmelpfennig D, et al. 2011. Research investments and market structure in the food processing, agricultural input, and biofuel industries worldwide. Economic Research Rep. 130, USDA, Economic Research Service.
- Gereffi G, Lee J & Christian M. 2009. US-based food and agricultural value chains and their relevance to healthy diets. *Journal of Hunger & Environmental Nutrition*, 4: 357-374.
- Gibbon P & Ponte S. 2005. *Trading Down: Africa, Value Chains, and the Global Economy*. Philadelphia: Temple University Press.
- Gilson E. 2015. Vulnerability, relationality, and dependency: feminist conceptual resources for food justice. *International Journal of Feminist Approaches to Bioethics.* 8: 10-45.
- Gonzalez CG. 2014. International economic law and the right to food. In *Rethinking Food Systems: Structural Challenges, New Strategies and the Law*, ed. NCS Lambek, P Claeys, A Wong, L Brilmayer. pp.165–94. New York: Springer
- Goodman D, DuPuis EM. 2002. Knowing food and growing food: Beyond the production–consumption debate in the sociology of agriculture. *Sociologia Ruralis.* 42: 5–22
- Goodman MK. 2004. Reading fair trade: Political ecological imaginary and the moral economy of fair trade foods. *Political Geography.* 23: 891–915
- Goody J. 1982. *Cooking, Cuisine and Class: A Study in Comparative Sociology*. Cambridge: Cambridge University Press
- Gough I. 2017. *Heat, Need and Human Greed: Climate Change, Capitalism and Sustainable Wellbeing*. Cheltenham, UK: Edward Elgar Publishing

- Guthman J. 2004. *Agrarian Dreams: The Paradox of Organic Farming in California*, Vol. 11. Oakland, CA: University of California Press. 2nd ed.
- Guthman J. 2007. The Polanyian way? Voluntary food labels as neoliberal governance. *Antipode*, 39: 456–78
- Havinga T, Casey D, van Waarden F. 2015. Changing regulatory arrangements in food governance. In *The Changing Landscape of Food Governance: Public and Private Encounters*, ed. D Casey, pp. 3–18. Cheltenham, UK: Edward Elgar Publishing
- Head JW. 2016. *International Law and Agroecological Husbandry: Building Legal Foundations for a New Agriculture*. London: Routledge
- Hines NW. 1965. Real property joint tenancies: law, fact, and fancy. *Iowa Law Rev.* 51: 582–624
- Holt-Giménez E. 2017. *A Foodie's Guide to Capitalism: Understanding the Political Economy of What We Eat*. New York: Monthly Review Press
- Hospes O, Brons A. 2016. Food system governance: a systemic literature review. In *Food Systems Governance: Challenges for Justice, Equality and Human Rights*, ed. A Kennedy, J Liljeblad. pp. 13–42. London: Routledge
- Hughey MW. 2016. You are what you eat: the sociology of food. *Humanit. Soc.* 40: 353–4
- Hutter BM. 2011. *Managing Food Safety and Hygiene: Governance and Regulation as Risk Management*. Cheltenham, UK: Edward Elgar
- International Assessment of Agricultural Knowledge Science and Technology for Development (IAASTD). 2009. *Agriculture at a crossroads*. Washington, DC: IAASTD
- InterAcademy Partnership (IAP). 2018. *Opportunities for future research and innovation on food and nutrition security and agriculture: the InterAcademy Partnership's global perspective*. Trieste, Italy/Washington, DC: IAP
- Ilbery B, Maye D. 2006. Retailing local food in the Scottish–English borders: A supply chain perspective. *Geoforum*. 37: 352–367.
- Ingram J. 2011. A food systems approach to researching food security and its interactions with global environmental change. *Food Secur.* 3: 417–31
- Jarosz L. 2011. Defining world hunger: scale and neoliberal ideology in international food security policy discourse. *Food, Culture and Society: An International Journal of Multidisciplinary Research*. 14: 117–139.
- Johnson H. 2018. *International Agricultural Law and Policy: A Rights-Based Approach to Food Security*. Cheltenham, UK: Edward Elgar
- Kelley DH. 1975. The farm corporation as an estate planning device. *Neb. Law Rev.* 54: 217–61
- Kirwan J, Maye D. 2013. Food security framings within the UK and the integration of local food systems. *J. Rural Stud.* 29: 91–100
- Klintman M, Bostrom M. 2004. Framing of science and ideology: organic food labelling in the US and

Sweden. *Environ. Politics* 13: 612-34

Knox J. 2018. *Framework principles on human rights and the environment*. Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, human Rights Council, United Nations General Assembly.

Lange B. 2015. Regulating economic activity through performative discourses: a case study of the EU carbon market. In *Regulatory Transformations: Rethinking Economy - Society Interactions*, ed. B Lange, F Haines, D Thomas, pp. 151-80. Oxford/Portland, OR: Hart Publishing

Lawrence GA. 1987. *Capitalism and the Countryside: The Rural Crisis in Australia*. Sydney, Aus: Pluto Press

Lee R. 2013. The politics of international agri-food policy: discourses of trade-oriented food security and food sovereignty. *Environmental Politics* 22: 216-234.

Lee R, Marsden T. 2009. The globalization and re-localization of material flows: four phases of food regulation. *J. Law Soc.* 36: 129-44

Leib EM, Schneider S. 2017. A call to action: the new academy of food law & policy. *J. Food Law Pol.* 13: 1-5

Levi-Faur D. 2012. From 'Big Government' to 'Big Governance'? In *The Oxford Handbook of Governance*, ed. D Levi-Faur. pp. 3-19. Oxford: Oxford University Press

Linn A. 2018. Making milk with conscious care: raw milk ontologies and the practices of 'bath milk' producers in Victoria, Australia. *J. Rural Stud.* In Press.

Linnekin B, Leib EMB. 2014. Food law & policy: the fertile field's origins and first decade. *Wis. Law Rev.* pp. 557-613

Lipovetsky G, Charles S. 2005. *Hypermodern Times*. Cambridge/Malden, MA: Polity

Lockie S, Kitto S. 2000. Beyond the farm gate: production-consumption networks and agri-food research. *Sociologia Ruralis*. 40: 3-19

Lord N, Flores Elizondo CJ, Spencer J. 2017. The dynamics of food fraud: The interactions between criminal opportunity and market (dys) functionality in legitimate business. *Criminol. Crim. Justice* 17: 605-23

Lowder SK, Skoet J, Raney T. 2016. The number, size, and distribution of farms, smallholder farms, and family farms worldwide. *World Dev.* 87: 16-29

Lowe P, Murdoch J, Marsden T, Munton R, Flynn A. 1993. Regulating the new rural spaces: the uneven development of land. *J. Rural Stud.* 9: 205-222

Luchette, C. 2017. Is capitalism a barrier to food justice? *Civil Eats*.
<https://civileats.com/2017/12/08/capitalism-is-a-barrier-to-food-justice/>

Lummus RR, Vokurka RJ. 1999. Defining supply chain management: a historical perspective and practical guidelines. *Industrial Management & Data Systems*. 99: 11-17.

Maloney M, Burdon P. 2014. *Wild Law - In Practice*. Abingdon, UK: Routledge.

- Maxwell S, Slater R. 2003. Food policy old and new. *Dev. Policy Rev.* 21: 531–53
- McCann KS. 2012. *Food Webs*. Princeton, NJ: Princeton University Press
- McIntosh WA. 1996. *Sociologies of Food and Nutrition*. New York: Springer
- McMahon M, Glatt KL. 2018. Food crime without criminals: agri-food safety governance as a protection racket for dominant political and economic interest. In *A Handbook of Food Crime: Immoral and Illegal Practices in the Food Industry and What to Do About Them*, ed. A Gray, R Hinch. pp. 27 - 42. Bristol, UK: Policy Press
- McMichael P. 1993. World food system restructuring under a GATT regime. *Political Geogr.* 12: 198–214
- Miele M, Lever J. 2013. Civilizing the market for welfare friendly products in Europe? The technoeconomics of the Welfare Quality® assessment. *Geoforum.* 48: 63-72
- Monteiro CA, Moubarac JC, Cannon G, Ng SW, Popkin B. 2013. Ultra-processed products are becoming dominant in the global food system. *Obesity Rev.* 14: 21–8
- Mooney PH, Hunt SA. 2009. Food security: the elaboration of contested claims to a consensus frame. *Rural Sociol.* 74: 469–97
- Morgan B. 2018. Telling stories beautifully: hybrid legal forms in the new economy. *Journal of Law and Society.* 45: 64-83.
- Morgan K, Marsden T, Murdoch J. 2006. *Worlds of Food: Place, Power, and Provenance in the Food Chain*. Oxford, UK: Oxford University Press
- Mourad M. 2016. Recycling, recovering and preventing “food waste”: competing solutions for food systems sustainability in the United States and France. *J. Cleaner Prod.* 126: 461–77
- Murdoch J, Miele M. 1999. 'Back to nature': changing 'worlds of production' in the food sector. *Sociologia Ruralis.* 39: 465-83
- Murphy S. 2008. Globalization and corporate concentration in the food and agriculture sector. *Development.* 51: 527–33
- Murray J. Placing the animal in the dialogue between law and ecology. *Liverpool Law Review.* 39: 9-27.
- Nestle M. 2003. *Food Politics: How the Food Industry Influences Nutrition and Health*. Berkeley, CA: University of California Press (can leave out if too many references)
- Oosterveer P. 2007. *Global Governance of Food Production and Consumption: Issues and Challenges*. Cheltenham: Edward Elgar Publishing.
- Papargyropoulou E, Lozano R, Steinberger JK, Wright N, bin Ujang Z. 2014. The food waste hierarchy as a framework for the management of food surplus and food waste. *J. Cleaner Prod.* 76: 106–15
- Pardey PG, Chan-Kang C, Dehmer SP, Beddow JM. 2016. Agricultural R&D is on the move. *Net. News.* 537: 301 -3

Parker C, Carey R, De Costa J, Scrinis G. 2017. The hidden hand of the market: who regulates animal welfare under a labelling for consumer choice approach? *Regul. Gov.* 11: 368-87.

Parker C, Haines F, Boehm L. 2018. The promise of ecological regulation: the case of intensive meat. *Jurimetrics* 59: 15-42.

Parker C, Haines F. 2018. An ecological approach to regulatory studies? *J. Law Soc.* 45: 136-55

Parker C, Johnson H. 2018. Sustainable healthy food choices: the promise of 'holistic' dietary guidelines as a national and international policy springboard. *QUT Law Review: Special Issue on Law and Non-Communicable Diseases: International and Domestic Regulation of Food and Alcohol*. 18: 1-44

Parker C, Johnson H, Curll J. 2019. Consumer power to change the food system? A critical reading of food labels as governance spaces: the case of açai berry superfoods. *Journal of Food Law and Policy*. In press.

Pingali P, Raney T. 2005. *From the green revolution to the gene revolution: how will the poor fare?* Work. Pap. 05-09, The Food and Agriculture Organization of the United Nations, Rome, Italy. <http://www.fao.org/3/a-af276t.pdf>

Pinstrup-Andersen P. 2007. Agricultural research and policy for better health and nutrition in developing countries: a food systems approach. *Agric. Econ.* 37: 187-98

Polanyi K. 1944. *The Great Transformation: The Political and Economic Origins of Our Time*. New York: Farrar & Rinehart Inc

Productivity Commission. 2016. *Regulation of Australian agriculture*. Inquiry Rep. 79. Canberra, Aus.

Raworth K. 2017. *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist*. White River Junction, VT: Chelsea Green Publishing

Raynolds LT. 2000. Re-embedding global agriculture: the international organic and fair trade movements. *Agric. Hum. Values*.17: 297-309

Richards C, Lawrence G, Burch D. 2011. Supermarkets and agro-industrial foods. *Food, Culture & Society*. 14: 29-47

Rockström J, Steffen WL, Noone K, Persson A, Chapin III FS, et al. 2009. Planetary boundaries: exploring the safe operating space for humanity. *Ecol. Soc.* 14(2): 1-33.

Schneider SA. 2009. A reconsideration of agricultural law: a call for the law of food, farming, and sustainability. *William & Mary Environmental Law and Policy Review*. 34: 935-64

Schulz K. 2010. Eat your words: Anthony Bourdain on being wrong. *Slate*. <https://slate.com/news-and-politics/2010/06/eat-your-words-anthony-bourdain-on-being-wrong.html>

Scrinis G, Parker C. 2016. Front-of-pack food labeling and the politics of nutritional nudges. *Law & Policy*. 38: 234-49

Sen A. 1982. *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford: Oxford University Press

Shaw J. 2007. *World Food Security: A History since 1945*. New York: Palgrave Macmillan

- Smith K, Lawrence G, Richards C. 2010. Supermarkets' governance of the agri-food supply chain: is the 'corporate-environmental' food regime evident in Australia? *Int. J. Sociol. Agric. Food.* 17: 140-61
- Springmann M, Clark M, Mason-D'Croz D, Wiebe K, Bodirsky BL, et al. 2018. Options for keeping the food system within environmental limits. *Nature.* 562: 519-525
- Steffen W, Smith MS. 2013. Planetary boundaries, equity and global sustainability: why wealthy countries could benefit from more equity. *Curr. Opin. Environ. Sustain.* 5: 403-8
- Swinburn B. et al 2019. The global syndemic of obesity, undernutrition, and climate change: *The Lancet* Commission report. *The Lancet* 393: 791-846.
- Tai S. 2015. Food systems law from farm to fork and beyond. *Seton Hall Law Rev.* 45: 109–72
- Timmer CP, Falcon WP, Pearson SR. 1983. *Food Policy Analysis*. Baltimore, MD: John Hopkins University Press
- Tomlinson I. 2013. Doubling food production to feed the 9 billion: a critical perspective on a key discourse of food security in the UK. *J. Rural Stud.* 29: 81–90
- Tovey H. 1997. Food, environmentalism and rural sociology: on the organic farming movement in Ireland. *Sociologia Ruralis.* 37: 21–37
- United Nations. 1975. Report of the World Food Conference. 16 November 1974.
- United Nations Committee on Economic, Social and Cultural Rights. 1999. General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant). 12 May 1999.
- van der Meulen B. 2014. Food law. In *Encyclopedia of Agriculture and Food Systems*, Vol. 1, ed. NK van Alfen. pp 186- 95. London: Elsevier
- Verbruggen P, Havinga T, eds. 2017. Hybridization of food governance: an analytical framework In *Hybridization of Food Governance: Trends, Types and Results*. Cheltenham, UK: Edward Elgar Publishing
- Wadiwel DJ. 2015. *The War Against Animals*. Leiden, Netherlands: Brill Rodopi
- Warde A. 1997. *Consumption, Food and Taste*. London: SAGE
- Wilkinson RG, Pickett K. 2009. *The Spirit Level: Why More Equal Societies Almost Always Do Better*. London: Allen Lane
- Wilson G. 2001. From productivism to post-productivism...and back again? Exploring the (un)changed natural and mental landscapes of European agriculture. *Transactions of the Institute of British Geographers.* 26:77-102.
- The World Bank. 1986. *Poverty and Hunger: Issues and Options for Food Security in Developing Countries*. Washington DC: The World Bank.
- Young M. 2011. *Trading Fish, Saving Fish: The Interaction Between Regimes in International Law*. Cambridge: Cambridge University Press.