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**Geographies of food beyond food: transfiguring nexus-thinking through encounters with young people in Brazil**

Engaging contemporary forms of nexus-thinking with interdisciplinary food scholarship and childhood and youth studies, this paper explores the social, cultural and political implications of young people’s entangled connections with – and beyond – food. The paper draws on a large-scale research project investigating young Brazilians’ relationships with and understandings of the water-energy-food nexus. Based upon ethnographic, mixed-methods research, we attend to young people’s everyday, material experiences of water-energy-food, and call for a *transfigured* nexus-thinking, alive with the lives, cares, relationalities and politics at the heart of ‘the nexus.’ Through examples ranging from participants’ routines, rhythms and mobilities to experiences of food insecurity, we show how young people express a range of social-political sensibilities that articulate with food and expand nexus-thinking in several interconnected ways. First, by exposing the multi-scalar and multi-temporal processes underlying their everyday ‘nexuses’. Second, by destabilizing the water-energy-food nexus to include ever-new elements emerging from lived experiences of resource access. Third, by showing the embeddedness of resources in the cultures, politics and social fabric of communities. Fourth by uncovering the workings of social difference in articulating nexus dis/connections. It is through these encounters with youths in Brazil that we propose a (re)politicisation and critical transfiguration of nexus thinking.

Keywords: geographies of food; nexus-thinking; young people; Brazil; water-energy-food nexus; childhood and youth studies.

**Introduction**

Owing to perceived threats to survivability within Earth's physical, biological and human systems, encapsulated by notions of Anthropocene, sustainability has become a central concern of academic and policy debates. In particular, the United Nations Sustainable Development Goals (UN-SDGs) provide an important framework for thinking and enacting social-environmental sustainabilities. Among the Goals, water, energy and food feature as fundamental resource sectors to be radically rethought to constitute more equitable and sustainable geographies. Researchers, activists, NGOs and policy-makers working in this context have considered the inextricable interdependence of water-energy-food (W-E-F), prompting new forms of ‘nexus-thinking’ (Leck et al., 2015) and nexus-oriented policymaking (Bazilian et al., 2011), which theorize and advocate more integrated, interdisciplinary approaches to addressing issues of W-E-F security.

The development of nexus-thinking has been demonstrably important in affording many notable political-technological interventions in diverse global contexts (FAO, 2019) and constituting interdisciplinary and cross-sector collaborations around contemporary global challenges. However, in this paper – extending critiques of the typically weak theoretical grounding and limited empirical detail of nexus-thinking (Kraftl et al., 2018) – we develop two major critical claims about nexus-thinking. First, empirically, we highlight the problematic absence of children and young people (and, by extension, plural forms of aged and other social-geographical difference) from mainstay nexus-thinking. Second, conceptually, we argue that attending to affecting everyday, material details with/in young people’s narratives of water-energy-food requires us to profoundly *rethink nexus-thinking*.

Reflecting upon ethnographic, mixed-methods research with young people in Brazil, we call for a *transfigured* nexus-thinking, alive with the lives, cares, relationalities and politics at the heart of ‘the nexus.’ Although aware that this manoeuvre to some extent ‘single out’ a component of the W-E-F nexus, we focus in this paper upon young people’s engagements with *food*. Our principal argument for doing so is that, thus far, scholarship on the W-E-F nexus has tended to place water as its centre-point (e.g. Leck et al., 2015), effacing the manifold, everyday ways in which *food* constitutes and is constituted relationally with/in other parts of the nexus. A central contribution of the paper is, therefore, to use an expanded form of nexus-thinking in order to make linkages between young people’s everyday engagements with food and questions of what we term ‘food beyond food’ – the ways in which young people articulate a range of social-political sensibilities that articulate with food. More broadly, this enables us to argue for, and to exemplify, a more nuanced conversation between nexus-thinking and extant geographical scholarship about food, childhood and youth.

**Rethinking nexus-thinking: three interventions**

This section develops our call to rethink the nexus via a threefold argument. First, we contextualize the development of nexus-thinking and call for greater attention to nascent critical theorisations of the ‘water-energy-food (WEF) nexus’. Second, we question the often limited engagement between nexus-thinking and multidisciplinary food studies, arguing that longerstanding theorisations of embodied, interconnected geographies of food suggest some important lacunae within much nexus-thinking. Third, drawing upon multidisciplinary studies of children and young people’s food practices, we problematize the limited attention to childhood and youth within most nexus-thinking.

***Critiquing the ‘water-energy-food’ nexus***

Over the past decade, academic and policy discourses around sustainable development have focused increasingly upon resource interdependence (Allouche et al., 2015). Amongst an array of languages for describing and analysing the relational constitution of resources – their flows, materialities and entangled threats – forms of ‘nexus-thinking’ have gained considerable traction (Leck et al., 2015). Nexus-thinking and nexus-policymaking purportedly offer forms of analysis and intervention that overcome the silo-ing of resources, by delineating the complex interdependencies, feedbacks and trade-offs that occur between sectors (Bazilian et al., 2011; Hoff, 2011). Following the adoption of nexus approaches by international organisations (e.g. World Economic Forum, 2011; FAO, 2019), nexus-thinking has become increasingly mainstreamed in sustainable development contexts – including Brazil, as we detail below.

The water-energy-food (W-E-F) nexus has come to dominate nexus-thinking in both academic and policy circles. Work around this concept has demonstrably led to advances in the complex and interdisciplinary modelling of resources, with some important attempts to combine (for instance) engineering and social-scientific methodologies (e.g. Bazilian et al., 2011). Moreover, it has offered scholars another language for witnessing the complexity and intractability of sustainable development challenges. Thus nexus-thinking has become and important point of articulation for a very wide range of large-scale (sometimes global, sometimes national, sometimes city-scale) analyses of entangled challenges in W-E-F sectors (Allouche et al., 2015).

However, nexus-thinking has latterly been subject to a range of inter-related critiques: that it promotes a problematically technocentric, anthropocentric approach to sustainability (Cairns & Krzywoszynska, 2016); that it is commonly focused upon large-scale, ‘top-down’ analyses (and interventions) that efface the details of everyday lives, “overlook[ing] community and household-level interactions” (Leck et al., 2015, p. 454); that, as a result, it ignores gendered, aged, and other social differences, particularly in terms of what is often termed the ‘domestic nexus’ (Foden et al., 2017); that – via its imposition by (inter)national agencies and thinktanks, often originating in the Minority Global North, nexus-thinking and policy-making is underscored by a questionable politics that has so far been left largely unscrutinized through a sense in which it affords a neutral, technocratic framework (Schwanen, 2018); and, thus, that nexus-‘thinking’ is, ironically, fairly *theoretically* vacuous (Leck et al., 2015). As a result, a range of more critical approaches have emerged, which attempt to theorize nexuses with, alongside and against other forms of relational thinking (such as assemblage, ANT and topology: see Müller & Schurr, 2016; Schwanen, 2018). For instance, for Schwanen (2018), there are opportunities for geographers to (re)theorize – through ‘slow’ modes of interdisciplinary collaboration – how sustainability transitions are articulated with/through greater attention to power relations inherent in experiences and governance of W-E-F sectors.

This paper responds to and extends these emergent critiques of nexus-thinking in several ways. In particular, in its focus on everyday experiences of the water-energy-food nexus, it provides one of the first empirically-grounded studies not only of the water-energy-food nexus but from the 'bottom-up’ (Leck et al., 2015; Kraftl et al., 2018). As a result, this paper *starts from* (but does not necessarily end up at) a smaller geographical scale, affording a different sense of the nexus as configured by/from materials, bodies and sites of governance as well as questions of identity and social justice orientated towards the national scale (Ansell, 2009). Moreover, it emerges from research undertaken in a Majority Global South context (Brazil) where, as we note below, largely Minority World policy imperatives around nexus-thinking have taken hold in the formulation of recent sustainable development policies. As we argue in the following sections, this paper’s critical transfiguration of nexus-thinking also emerges from our concern at the limited engagement with interdisciplinary food studies within most nexus-thinking, and from our encounters with young people (a group whose voices have rarely figured in nexus scholarship).

***Engaging nexus-thinking with interdisciplinary food studies***

It seems ironic and problematic that theorisations of the W-E-***F*** nexus so rarely acknowledge or engage the longstanding body of work within interdisciplinary food studies. In this section, we identify two important contributions made by longstanding work on geographies of food which seem to be problematically underexamined in most models of the W-E-F nexus.

First, we suggest that most models of the W-E-F nexus could be deepened and extended via engagement with multi-site ethnographic accounts of the complexly interconnected geographies of food. Authors like Cook (2004) and Cook & Harrison (2003) have constituted a rich, provocative, engaging resource of empirical-theoretical work tracing the interconnected materialities and unjust ethico-politics which constitute contemporary foods. This concern with the often-hidden interconnected politics of geographies of food can also be traced through, for example, Mintz’s (1985) work on the (post)colonial organisation of the global sugar trade, or theorisations of the politics of food networks in terms of enduring postcolonial power relations (Cook & Harrison, 2003), feminist visceral politics (Hayes-Conroy & Hayes-Conroy, 2008), agri-capitalist structural inequalities (Coles, 2016), or moral economies of food (Clarke et al., 2008; Coveney, 2000; Jackson et al., 2009; Morgan et al., 2006). In addition to underscoring the persistence of unjust food politics, these lines of work draw attention to the complex plurality of everyday food nexuses, thus destabilising any neater sense of ‘a’ or even ‘the’ water-energy-food nexus (Allouche et al., 2015). However, to date, very few formulations of the W-E-F nexus have engaged these theorisation of politicized interconnectedness.

Second, we are surprised that many versions of the W-E-F nexus say so little about everyday food practices and their importance in (re)constituting identities and social-cultural geographies, inclusions and exclusions. This is despite a significant recent wave of studies explicitly theorising everyday practices of/with/around foods (Abbots, 2017; Warde, 2016), as well as a longerstanding body of social scientific empirics foregrounding the important role in constructing and understanding social lives and identities in diverse contexts, and at different scales (Bell & Valentine, 1997). Thus, a major body of work has mapped out some of the ways in which everyday food practices are fundamental to (individual and collective, local and global) identities (Cook & Crang, 1996), not least through their centrality to discourses of national identity and nationalism (Appadurai, 1988; DeSoucey, 2010; Wilson, 2006), their symbolic value as markers of social status (Fielding-Singh, 2017), their mobilisation in material-cultural processes of ethnic or religious identities (Nukaga, 2008) and discourses of place/culture ‘authenticity’ (Coles & Crang, 2011; DeSoucey, 2010; Sims, 2009), or their constitution of globalized spatio-temporal habits and phenomena such as ‘convenience food’ (Jackson et al., 2018). However, again, we suggest that there could be a much greater degree of conversation (perhaps in both directions) between nexus-thinking and this kind of careful multidisciplinary empirical-theoretical work.

This paper has emerged from a sense that work on the materialities, everyday practices, identities and ethico-political sensibilities articulated with/in food are profoundly important to, and challenging for, nexus-thinking. However, it has also developed from a sense that, when one conducts qualitative and ethnographic research with young people, these kinds of relationalities come to the fore powerfully, but also as a matter of course. For instance, as we explore more extensively in the first part of our analysis, these relationalities question and enliven debates about young people’s snacking practices and the entanglements of food with/in the purported ‘speed’ of contemporary life (Warde & Yates, 2017; Jackson et al., 2018). Thus, this paper foregrounds young people’s own narratives of the ways in which young people’s eating practices are constituted relationally through entangled socio-materialities of food. As such, these narratives illuminate the complex web of matters, resources, spaces, rhythms and movements through which food is constituted, as well as the potential of such socio-material assemblages to articulate wider questions of politics and social justice in relation to food security, resource access and sustainability.

We argue, then, that there has been a persistent disconnect between many key formulations of nexus-thinking and theorisations of connections, practices and bodies within interdisciplinary food studies. Certainly, nexus-thinking could be productively complicated, deepened and extended via greater engagement with these lines of work (and, perhaps, vice versa). However, we also want to argue that *both* nexus-thinking and food studies might be radically unsettled – and conceptually *transfigured* – via greater engagement with the still-widely-overlooked experiences and narratives of children and young people.

***Transfiguring nexus-thinking through encounters with young people***

Children and young people have rarely been a focal concern, and have rarely been research participants, within nexus-thinking (for a key exception, albeit with a very different focus on ‘nature(s)’, see Kraftl et al., 2018). This seems especially problematic given the significant array of empirical work from Children’s Geographies and interdisciplinary childhood/youth studies highlighting the importance of food to young people everyday lives, and the plural, constitutive agencies of young people within geographies of food. In particular, we would highlight five key areas of scholarship which could inform – and perhaps *transform* – nexus-thinking.

First, we suggest that the absence of children and young people from nexus-thinking constitutes an overlooking of the importance of young people’s spatialities of food. A wide range of work in this context has shown how such spatialities matter (Punch et al.,2010), both in affording better understanding of food practices, relationships and interactions, and in constitutive roles of everyday geographies in (re)producing social-political geographies. Thus, for example, recent work has explored children’s everyday geographies in/of the politics of childhood nutrition (Pike, 2008), school lunch reforms (Gibson & Dempsey, 2015), food pedagogies (Pike & Leahy, 2012), power and control (Pike, 2010), and family eating practices (Wills et al.,2008).

Second, work in this context has been important in mapping ways in which food practices often act as enablers of, or barriers to, social relationships. For example, we feel that nexus-thinking could productively engage with work on teenagers’ foodscapes, with its focus on social relations emergent from everyday, habitual eating practices (Wills et al., 2008) and their ‘formal and informal codes and social mores’ (McIntosh et al., 2010, p. 289). Similarly, ethnographic accounts of food socialities – such as Nukaga’s (2008, p. 344) account of young people’s power-laden, food-related acts of ‘gift-giving, sharing and trading’ with peers – offer an empirical basis for rethinking the everyday socialities at the heart of W-E-F nexuses in practice.

Third, we would highlight the potential value of empirical accounts of diverse forms of ‘family’ and ‘home’ in grounding nexus-thinking in lived experiences. A wide range of studies have explored how food is an important nodal point in the maintenance, negotiation and ‘doing’ of family-lives (Jackson, 2009; Punch et al., 2010). Thus, across diverse contexts, there is considerable evidence of ways in which routine food practices are constitutive in senses of familial identities (Wills et al., 2008), care and belonging (Punch et al., 2009; Kohli et al.,2010), gendered domestic labour (Bell & Valentine, 1997), and classed inequalities (Wills et al., 2008; Fairbrother & Ellis, 2016).

Fourth, in relation to this latter concern, we suggest that the extensive literature on the regulation and control of children and young people’s diets provides important insights about the often-unsaid biopolitical governance of W-E-F nexus sites and processes. For example, an important seam of literature has explored the prevalence of normative, panic-laden media/political discourses about children’s obesogenic diets and lifestyles in many European and North American contexts (Fairbrother & Ellis, 2016; James et al.; 2009), and critiqued some of the resulting interventions which target children’s bodies and food practices via dining halls (Pike, 2008), lunchboxes (Metcalfe et al.,2008), mealtime supervisors (Dotson et al., 2015), curricula (Pike & Leahy, 2012), and pedagogies ranging from the punitive-medicalized (Welch et al., 2012) to the critical-progressive (Cairns, 2017). Allied work has also explored the perpetuation of anti-obesity anxieties – and individualized, gendered, classed norms of blame, shame and responsibility (Evans, 2010; Gibson & Dempsey, 2015) – in intimate domestic and family spaces (Fairbrother & Ellis, 2016). Although clearly geographically and historically specific, these examples are significant in revealing the pervasive operation of normative discourses and biopolitical governance which are surely infrastructural in many W-E-F nexus contexts, although this language and mode of analysis seems entirely alien to most existing models of nexus-thinking.

Children and young people’s presence and experiences have typically been absent from formulations of the W-E-F nexus. This has limited the extent to which advocates of nexus-thinking have been able to witness the kinds of everyday spatialities, socialities, politics and discourses (especially of *food*) discussed in this section. In one sense, we suggest that greater engagement with young people’s everyday lives – and with existing scholarship regarding them – would begin to address these key lacunae. In another sense, though, over the following sections we suggest that working with young people in Brazil has exposed us to some profoundly affecting narratives of food which require a rethinking of nexus-thinking. We have come to think of this as a demand for a *transfigured* nexus-thinking, to recognize how the ‘W-E-F nexus’ looks and feels so substantially different in the light of young people’s accounts of how food is embedded in, and constitutive of mobilities, rhythms, affects and spaces: from the bus, the highway, the commute, to the carry-on lunch, the homely food, and the *marmita*.

**Research context and methods**

The following sections draw on a large-scale, interdisciplinary research project investigating young people’s experiences of, participation in, and learning about the W-E-F nexus in Brazil. The project was based in Brazil’s Metropolitan Region of Paraiba do Sul River Basin and São Paulo State North Shore (MRPSRBSSNS). With a population of 2.5million, the region is located between the metropolitan areas São Paulo and Rio de Janeiro. It is economically significant (producing 82.7% of the São Paulo State GDP and 27.7% of Brazilian GDP (Emplasa, 2015) and socially/geographically diverse, comprising large urban centres, traditional rural, coastal and mountain communities, seasonally-popular tourist destinations, and several national parks and conservation areas. This case study was selected on the basis of its strategic position between the extensively-studied metropoles of São Paulo and Rio de Janeiro; this project allowed an analysis of the wider region – and W-E-F interdependencies – interconnecting the two cities.

Over 30 months, the project team completed a range of qualitative and quantitative research activities[[1]](#footnote-1), engaging with more than 4,000 young people aged 10-24 from the case study region as well as key professionals in both public and private sectors dealing with water, energy, food and education. The focus on young Brazilians was pivotal. Firstly, it provided important insight and empirical evidence on W-E-F nexus experiences in a country where 42% of the population is under the age of 24 and food, water and energy are strategic development goals in national policy agendas (Emplasa, 2015). Secondly, this age group is rarely involved as informed stakeholders in nexus-thinking education or policymaking. Thirdly, much of the existing research on food and childhood focuses empirically on case studies from the Minority Global North, reproducing Western assumptions about what food is, how/where eating happens, and the normative policy focus on obesity. Fourthly, the research complements – and challenges – predominantly Minority Global North definitions of the nexus with ‘bottom-up’ perspectives on, and practices of, the W-E-F nexus drawn from this diverse, often marginalized population group in Brazil.

Here we focus on one major element of the project: a programme of detailed, qualitative research with 48 10-24-year-olds. Participants were recruited from socially-, culturally- and economically-diverse areas within the case study region, from urban to rural, from coastal to mountain, including tourist destinations and environment protection areas. Young people were invited to participate through our network of private and public education institutions, civil defence and natural risk prevention bodies, local environmental associations, grassroots groups, and through personal networks and snowballing. Besides assuring a balanced ratio in terms of age, gender and social background, we selected participants from relatively safe and affluent socio-environmental contexts, and those exposed to nexus vulnerabilities (including participants living in informal settlements and in areas prone to W-E-F hazards like flooding, drought and energy threats). The participants included university, high school and primary school students, but also formal and informal workers, unemployed and part-time student/workers. We adopted an ethnographic approach, building research relationships with informants, gatekeepers and participants over a six-month period of intensive fieldwork. This was followed by a subsequent nine months of combined qualitative and quantitative data collection.

The qualitative component entailed a sustained process whereby participants were invited to partake in a series of research activities. Firstly, they took part in an in-depth interview on ‘My life – food-water-energy’, which typically lasted 1-2hours. Secondly, they were asked to use, for at least two days, a mobile app specifically developed for this research, with the aim of gathering information on their everyday interactions with food, water and energy; the app is designed to collect geo-located photographic and survey data on users’ daily routines, practices and experiences in relation to food-water-energy. Subsequently, data collected through the app were discussed in a follow-up interview, where participants were asked to elaborate on their everyday experiences of connections and disconnections with, and beyond, water-energy-food through a ‘visual web’ exercise. Finally, participants were invited to map their routines and mobilities in relation to water-energy-food in a mapping exercise using Google ‘My Maps’.

Combined, these methods enabled us to collect data on diverse aspects of young people’s nexus experiences. Indeed, resonant with the overarching objective of the research, we adopted a nexus approach to the data collection, with the different methods and activities building one upon the other and enabling us to co-construct with young people in-depth, intersecting data. These datasets offer affecting insights into young people’s lives, using a variety of registers, from the narrative, to the visual, to the creative. Data were co-analysed with participants, thus enabling further contextual information and elaboration so, ultimately, bringing these diverse data together, the visual web exercise produced rich visual and textual artefact conveying a sense of young people’s everyday nexuses. Here participants were invited to reflect on their experiences of connection and disconnection with food, water and energy in their daily life and represent them on a large sheet of paper using diverse expressive means, from drawing, to photos, writing, symbols and post-it notes. In most cases, participants’ app photos were used as prompts to elaborate upon, and draw, their nexus webs, although highlights from the mobility mapping exercise and the first interview were also used. Finally, it is important to clarify how the nexus was presented to participants. In research activities, a loose definition of the nexus as food-water-energy dis/connections was initially proposed. However, participants were free to explore, use, drop or take the term further, especially in the visual web exercise. Hence, by ‘nexus’ here we do not mean a single, given definition of specific resources or components, although of course water-energy-food were specifically discussed with participants given the research focus.

**Food nexuses in young Brazilians’ everyday lives**

The analysis in the rest of this paper is presented in two parts. We start with young people’s articulations of everyday food nexuses (although, as will become evident, their narratives cut across water-energy-food and much else), given its intersections across the nexus at diverse scales. From its prominence in national policy (Chmielewska & Souza, 2011), to its conspicuous role in constituting participants’ everyday social inter-/dis-connections and mobility experiences, food provides a particularly insightful entry point to unpack young people’s nexuses and offers a multiscalar and multi-temporal analysis of socio-material nexus relations in Brazil. We use ‘nexus’ as a working term to designate the plural ways in which food intersected with other resources, issues and activities. Consequently, the analysis then considers food relations *beyond* food to show how multi-scalar everyday nexuses matter in our theorisation of the W-E-F nexus. We use boxed empirical examples, juxtaposing images, pseudonymized quotations and anonymized ethnographic observations to focus attention on the complex geographies and interconnections present within any one participant’s narrative.

***Busyness: routines, mobilities and temporalities of food***

First we draw attention to a prominent theme in our analysis: busyness and its intersection(s) with food. Many of our participants’ lives are characterized by (often draining) fast-paced rhythmic patterns, associated with the demands of study and work. University students in particular reflect on their busy schedules, exam pressures, commuting routines and the mundane chores associated with independent living. However, busyness and pressure for time is a common issue.

The cases of Adriana and Sonia (Figure 1) illustrate the sheer busyness of the spatio-temporal rhythms (Lefebvre, 2004) and movements that constituted many young participant’s lives.

**[Figure 1 about here]**

This insight extends Gibson & Dempsey’s (2015, p. 49) work with children, which ‘develops an understanding of how children’s bodies function as sites of contestation around choice, agency, and the controlling and restriction of such choices’. To this, we can add time and mobility as a key factor in young people’s food choices and consumption. As we highlighted earlier, a discourse of young people making bad and unhealthy food choices is at the heart of debates about obesity, with the blame lying squarely with the individual (Gibson & Dempsey, 2015). However, these accounts of young people’s experiences show how their lives are enveloped in a system of *speed*, forcing them to make certain food choices, at particular times, in particular spaces.

Previous research on young people’s lives and food tends to focus on the space of the institution, whether it be the school, foster or residential care (Punch et al., 2010). Focusing on young people’s lives, in motion, in-between spaces, offers new insights into food related practices, experiences, anxieties and challenges. Whilst not related to young lives, Appadurai (1993) advocates an analysis of food focused on the temporal intricacies of ‘consumption’s role in punctuating or periodising all our lives through repetitive techniques of the body’ (Bell & Valentine, 1997, p. 4). We add a further dimension, and consider how the speeding-up of young people’s lives impacts this periodicity of consumption, and at the same time, how what is eaten, shapes the space-times of consumption practices.

Clara’s insights into young people, mobilities, time and food choices (Figure 2) further complexify the discourse of ‘good and healthy lifestyle choices and behaviour’ (Punch et al., 2010, p. 231). Delving deeper into these intersections between food choice(s) and mobility reveals that access to transportation and infrastructure are important factors in shaping relationships to food.

 **[Figure 2 about here]**

The importance of time in young people’s everyday mobilities is well-represented in Lina’s visual web and associated narrative (Figure 3); a clock sits central to a range of transportation options, which are in turn affected by different weather conditions. The temporalities of food revealed by Lina, and many of our participants, resonate with recent work that identifies ‘[the] processes of escalation (doing more things) and acceleration (doing things within a shorter time)’ (Jackson et al., 2018, p. 10) that are transforming practices of eating, preparing, cooking and shopping for food, whereby time and food are increasingly tied together through ideas of convenience (Jackson et al., 2018). Other research has shown how the timing of food related activities forms an important social practice in processes of family-making (Blake et al., 2009).

**[Figure 3 about here]**

However, we note here that young people’s experiences in our study add further complexity to recent studies of time and food: movement. The entanglement of time, food and *mobility* contributes to an extensive body of research on children and young people’s mobilities (Barker et al., 2009; Bosco et al.,2017; Horton et al., 2014), but importantly it progresses beyond well-rehearsed debates about obesity (Evans, 2010) and obesogenic environments (Pereira et al., 2018) to expose *other* experiences of eating as part of and constituent of foods’ wider nexuses. Moreover, our data also enable an upscaling of analyses, beyond a focus on the micro-spaces of the canteen and home.

Leandro, for example, tellingly frames his nexus experiences around the *Dutra* highway, a critical arterial road, connecting Rio de Janeiro and São Paulo (Figure 4). Highlighting the ways in which the W-E-F nexus weaves together resources, practices and the body, Leandro, as with Adriana, believes that improving the bus service – currently extremely time-consuming – would help to save energy, including that of his own body. As a consequence of the challenges he faces on this journey, Leandro devises his own coping strategies by bringing home-made food along the *Dutra*.

**[Figure 4 about here]**

Evidently, mobilities guide the ‘cultures’ of young Brazilians’ food consumption. Other forms of ‘convenience food’ are also evident. In particular, notions of ‘practicality’ – another mode of coping with hectic schedules – also constitute a common way of consuming food in Brazil: the *marmita* and *marmitex*. Sonia explains that these are pre-prepared meals consumed away from home. A unique kind of ‘fast food’, she clarifies, *marmitex* is prepared by specialized restaurants, typically ordered on call and delivered to work or study places. Some of these restaurants also cater for schools and work canteens. Whilst *marmitex* and *marmita* are mostly used synonymously, Sonia notes that the term *marmita* is sometimes specifically used to distinguish *home-made* packaged lunch carried to work or school. In both cases, the lunchbox typically comprises the classically Brazilian rice, beans and meat-based meal. *Marmitex* provides a practical and cheap option for many young people who want to save time and still have a ‘decent’ meal.

Once again, space and time are connected through food. These connections are material (i.e. the foodstuffs-themselves, the digital devices used for ordering and delivering, the lunchbox packaging) as well as social and affectual. On the latter point, many young people claimed that the home-made *marmita*, usually prepared by a parent or a close relative, tasted better, was healthier, and cooked with more care, enabling them to somehow evoke ‘home’ into their time-pressed study and work regimens. The preparation of a *marmita* resonates with imaginaries that circulate around children and their school lunchboxes – folding an ethic of care, identity and emotion into the box (Metcalfe et al., 2008). Whilst it is tempting to deploy *marmitas* to highlight connections to, and positive associations with, ‘home’, Nukaga’s (2008, p. 344) analysis of food and the ‘gift’ economy reminds us that homemade food is also used to ‘control…relationships with peers as well as to mark, maintain, and mute ethnic boundaries.’

This section has focused on young people’s nexus experiences in relation to time-mobility-food to extend recent debates on convenience food and nutrition in contemporary society (Jackson et al., 2018; Foden et al., 2017; Pereira et al., 2018). We demonstrate the food tactics that young people develop in order to both adapt to and contest the time pressures of their daily lives. Developing our argument for complicating and destabilising nexus-thinking, these diverse practices, strategies and experiences are not redolent of simplistic ‘a’ time-mobilities-food’ nexus. Rather they expose manifold everyday nexuses, articulated around diverse young people. They articulate a series of daily *strategies*, which, in weaving together elements of water, energy, food and far more besides, are developed through, and indeed generate different food-time-energy-transportation-infrastructure nexuses. Herein individual choices are shaped by the material and temporal organisation of urban infrastructures (public transport and *marmitex* systems) and by centralized timings and authoritative time regimes of work and school, which participants felt they had little power to negotiate. Diverse practices, particularly Leandro and Adriana’s modes of snacking-on-the move, subvert the conventional time-space choreographies of Brazilian mealtimes, carving out their own small eating events, and blurring the divide between public and private spaces of eating by having food on the bus, on the street, or in the classroom. As Warde & Yates (2017, p. 22) note, ‘snacks may deinstitutionalize eating patterns’ and destabilize ‘the hegemonic ideal of the proper meal’ (ibid. p. 29) to be consumed in ‘proper’ places. As a coping strategy and a relatively flexible practice, snacking gave young people a degree of control. This extends current literature which tends to emphasize the diverse ways in which adults have power over young people’s food practices (Punch et al.,2010).

***Everyday nexuses: food relations beyond food***

The previous section highlighted how foodstuffs – and differential practices of eating – are entangled with multiple, complex everyday nexuses that destabilized any neater sense of ‘a’ or even ‘the’ water-energy-food nexus (Allouche et al., 2015). In this section, we push our analyses further to exemplify and theorize how such (broadly) food-orientated nexuses are in turn imbricated into and productive of wider relationalities and connections (and, crucially, *dis*-connections). We focus upon two key, inter-related sub-themes: webs of lacks; and, socio-political sensibilities. Critically, and building upon our analyses of mobilities in the previous section, these sub-themes and their interconnectedness enable us to hone our argument about the multi-scalar constitution of everyday nexuses and, thereby, young people’s everyday lives, identities and socio-political sensibilities (Ansell, 2009).

Firstly, we focus on *webs of lacks*. Exemplifying how food can be experienced and framed very differently by young people in different socio-spatial contexts, it is here that Paulo’s experiences contrast with those of Adriana and other better-off young people, and come to the fore. Figure 5 shows an intricate drawing from Paulo’s nexus web. Here we learn that a key distinction in Paulo's experience of food is between the 'necessary food', deemed essential for sustaining the body, and the 'special food' which he and his family can only afford to eat on special occasions.

**[Figure 5 about here]**

This once again complicates the literature on childhood and food (Curtis et al., 2010; Wills et al.,2008), adding further nuance to distinctions between types of foodstuffs eaten by young people and importantly, the implications of *not* eating. Strikingly differently from Adriana and young people like her, Paulo’s everyday food rhythms are paced by presences and absences; of food stuff itself, and of the money, family and social relations that can materialize it, alongside other interdependent factors that he depicts in his wider visual web (Figure 6).

**[Figure 6 about here]**

Existing research highlights the importance of immediate family members in giving care to others, particularly children through the preparation of food (Punch et al., 2009; Punch et al., 2010; Kaplan, 2000). In our research, however, Paulo emphasizes the importance of his *neighbourhood* in temporarily bridging the lacks in his nexus, and other participants recounted similar experiences of complexity and interdependency. Valentina, a seventeen-year-old female, speaks about food affordability and the connections with wider political-economic issues:

The food is not expensive, it’s the tax that is high. Lack of employment is what makes the lack of food and many people suffer from hunger.

Meanwhile, Victor, a fifteen-year old male, tries to make sense of the situation of a school friend living in deprived socio-economic conditions. He effectively expresses the complexity of his friend’s circumstances – similarly articulating the lived experiences of the food-family-money-employment nexus:

It’s a complicated situation…she [single mother] couldn’t find a job, the job she had also did not pay well enough for her to buy food sometimes…his father has abandoned him and has left his mother alone to get the money in the family; I think his mother also has not finished school, or if she had this did not…I think it was also the difficulty of getting a job itself, because she lived very far from the city…she didn’t have a car or anything, she had to go to places on foot…

Absence and ‘lack’ are key to many young people’s narratives. These lacks, however, are expressed and framed differently depending on a young person’s socio-economic position. Adriana’s, Lina’s and Sonia’s accounts are characterized by a lack of *time*; for Leandro’s and others’, it is the lack of efficient connectivity through transportation; in Paulo’s, Valentina’s and Victor’s lives, absences were part of ‘wider’ nexuses of lacks – food relations *beyond* food – that include economic resources, affordability, employment and family circumstances.

Secondly, young people’s experiences of lack are entrained in their wider *socio-political sensibilities* of food. We have shown in diverse ways that everyday nexuses are contingent, both complicating and destabilising any neat sense of ‘the nexus.’ Indeed, young people – especially Paulo – convey a sense in which social, affectual and material webs are continuously interwoven, being constituted through unstable assemblages of foodstuff, care, neglect, parents, friends, neighbours, cars, buses, job, money and drugs. None of these nexus elements are ‘social’ in their own right, but by virtue of their associating in ever-new ways, they give rise to new forms of social relationalities (Latour, 2005).

Broadly speaking, the social has a double value in young people’s nexus experiences. It is expressed in terms of social issues, especially poverty, drug addiction, alcoholism, unemployment, family breakdown, which undermine some young people’s ability to access or fully use resources (including but not limited to food). Whilst we are aware of the danger of framing *any* complex sets of circumstances as a nexus, we build upon young people's explicit perception of the relationality that exists between such social issues and water-energy-food resources in particular. Importantly, with a focus on *lack*, they questioned the rhetoric of interconnectedness that underpins much nexus-thinking (Hoff, 2011; Leck et al., 2015), whilst nevertheless retaining forms of nexus sensibility (not least as these were expressed explicitly in their visual webs).

Thus, redolent of calls to draw out the political implications of nexus-thinking and –policymaking (e.g. Leck et al., 2015; Schwanen, 2018), young people highlight forms of inter- and dis-connection that foreground issue of resource allocation as an intrinsically *social and political* issue. For many young people – like Valentina and Victor – nexus dis-connections materialize as unequal distributions of resources, with some social groups being more exposed to nexus threats than others, whether in terms of gender (e.g. sole mothers), economic situation (e.g. low-income families; unemployment) or social circumstance (e.g. youths involved in crime or substance abuse). They prove to be acutely aware of, and vocal about, the fact that, social inequalities are deeply entrenched in issues of water-energy (and especially) -food, many of them suggesting that for nexus imbalances to be addressed, other, wider inequalities needed to be addressed first. In this sense, the social is very much ‘political’, and indeed young people are highly attuned to the political as a way of tackling responsibilities within the nexus. The State, but also ‘the people’ and communities are seen as key actors in the everyday webs of dis/connections, both as holding responsibility for the deficiencies and as potential agents of change. For Isabelle, an eighteen-year female student, unequal access to food should be tackled mainly at the government level, as she argues:

I can give everybody helps a little bit, will be better. But I think that needs to be a bigger thing like governmental.

Whilst Rubens, an eighteen-year male student, discussing responsibilities for improving water provision in his town, thinks that:

The entire community ends up being involved, right? Also in the matter of asking for improvement. The organ, which is distributing, I think should be aware of the product it is offering. The government mediates this and should also be monitoring. So I guess, overall, it’s everyone.

Although these critiques afford a view of Brazilian youths’ social and Political (with a big ‘P’) sensibilities (Skelton, 2013), young people also articulate forms of social and political (with a small ‘p’) agency that they deem supportive and progressive (Jeffrey, 2012; Kallio & Häkli, 2013). For instance, social networks figure as important resources as well as nexus threats. This is explicated by many in terms of social networks of care and, especially, *sharing* that family, community, neighbours or friends put in place to help each other, especially those going through hardship. As we have highlighted, in Paulo’s nexus drawing, for instance, the vignette that he labels ‘neighbourhood collaboration’ shows a woman handing over a packet of sugar to her neighbour who had run out, or could not afford it. Clara tells us about a rural area very rich in waterfall and spring water where she and her family would go to stock up on water from natural sources. Though located in private lands, these water sources are left open for people to collect and use water freely. She explains that the community in the area was supportive of the idea that anyone should be able to access water from natural sources, and she frames the community as being ‘present’, and receptive to, in her words, the right to ‘natural resources for all’, defining this practice as community ‘solidarity’.

**Conclusion**

This paper opens up important conceptual connections between young people, nexus-thinking, and the spatio-temporalities of food. Extending the three interventions into nexus-thinking with which we began this paper, we argue that our research encounters with young people in Brazil transfigure nexus-thinking in four interconnected ways.

Firstly, our analysis encourages a focus on unpacking the mundane workings of food within the *temporalities* of everyday and individual nexuses. In particular, we have called for and exemplified an empirical, conceptual and political project in which ‘the nexus’ is complicated, destabilized and embodied in ways that resonate with but extend beyond recent arguments for nexus research at the community and household level (Leck et al., 2015). In so doing, the paper complements, challenges and (crucially) connects with discourses of long-term temporality, global projections and distant futures inherent especially to policy and development debates on the nexus (e.g. FAO, 2019), by interrogating how these play out at the time-scale of everyday routines, movements, pace, rhythms. Our participants’ narratives showed how food temporalities entail complex synchronising, clashing and overlapping timings, from bodily to institutional rhythms, from slow to fast paces, from seasonal to economic cycles. Thus, in line with the growing academic interest into the temporalities of food, eating and agricultural processes (Coles, 2016; Jackson et al., 2018; Warde et al., 2007), we call for an approach to understanding food which, without dismissing the macrotemporalities involved in dominant discourses on the nexus, embraces a perspective that reframes food processes, including issues of food security, as engaging simultaneously with multiple temporalities of the environment, the social, the individual and the material body.

Secondly, and related to the above, young people’s experiences and spatial practices highlight *mobility* as a key point of articulation in the spatio-temporalities of food (Jackson et al., 2018; Bosco et al., 2017). Young people’s experiences of food are shaped by movement; food is carried around, consumed in between spaces, chosen, or neglected based on the moving bodies of young people, their access to transport infrastructures, and their adapting to time regimes of work, study and commuting. The food-time-mobilities ‘nexus’ (if we can call it that) revealed by young people offers an important entry point to *rethink nexus-thinking* from bottom-up perspectives. Not only does it reconfigure food through a series of socio-material assemblages of, for instance, vehicles, timetables, lunchboxes and road networks; crucially, it also demonstrates how nexus-thinking might derive greater conceptual force from being able to incorporate ever new-elements – such as mobilities – drawn from lived experiences of resource access and use.

Thirdly, the processes and practices analysed in this paper are intrinsically *multiscalar*. By exploring relationalities of food at multiple, intersecting scales – implicating *marmita*, the street, the bus, the supermarket, the classroom, the factory, the canteen; the home, the neighbourhood, the state and places/spaces beyond Brazil. This research sheds light on the entanglements of food with multiply-scaled spaces, places and materialities that shape and are shaped by young people’s use of, and access to, resources. Crucially, as the examples demonstrated, these have profound implications for issues of sustainability, food security and social inequalities. Thus, an important contribution of this paper has been to reveal the embeddedness of nexus resources and trade-offs in the cultures, politics and social fabric of communities, thus enabling a (re)politicisation and critical transfiguration of nexus-thinking.

Finally, and consequently, this paper makes a key contribution to recognising the workings of social difference with/in nexus-thinking (and, we would hope, nexus politicking). Not only does it represent one of the first attempts to interrogate the W-E-F nexus from a ‘bottom-up’ perspective, or from the perspective of young people, but also, crucially, it demonstrates how the intersectionalities of youth and socio-economic circumstance produce very different experiences of food-in-the-nexus. This move responds to, but, crucially, extends well beyond recent calls for a focus on the ‘domestic nexus’ (Foden et al., 2017) – not least since the experiences and concerns analysed in this paper transcend a range of spaces and practices beyond the (obviously) ‘domestic’ sphere. In turn, as we demonstrated in the final part of the paper, these experiences articulate nexus connections in ways that not only afford insights into differential access to *food*, but into pressing questions of social, political and environmental justice that could – and in our view should – be central to future forms of nexus-thinking.

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1. In addition to the qualitative research reported here, the wider project entailed: i) a large-scale survey involving 3,705 young people; ii) semi-structured interviews with 63 key professionals whose work remit extended fully or partly within the case study region; iii) workshops with schools, community groups and environmental educational providers; iv) a ‘Food-Water-Energy Challenge’ global video competition addressed to young people worldwide. [↑](#footnote-ref-1)