

Abstract

This article adopts a phenomenological perspective to illustrate how gardens become important spaces where children informally encounter, produce, consume and learn about food. We extend the theoretical concept of the 'foodscape' by applying it to both childhood production and consumption and, drawing on qualitative insights from two UK school gardening clubs, show why bodily and sensory phenomena are central to unlocking the potential for foodscapes as learning environments. We highlight how sensory engagement with 'mess' and 'dirt' normally dissociated from food retail and service enhances the agentic capacity of children as growers and consumers. Our central contribution to the sociology of food is to advance the argument that sensory learning is vital if children are to successfully negotiate between abstract and experiential awareness of the taste and source of myriad consumables, something which currently exacerbates the culture of anxiety and mistrust in contemporary food consumption.

Introduction

Food is central to bodily nourishment, growth and survival but also meets needs that are socially rather than biologically driven (Charles and Kerr, 1988; Harbers et al, 2002). Spaces of food production and preparation are 'integrated into a division of labour, organizational ecology, political economy and even the world system' (Fine, 1996:219) which is evident in contexts including lunchboxes (Harman and Cappellini, 2015), domestic kitchens (Christie, 2008; Cappellini and Parsons, 2012), restaurants (Fine, 1996) and even bins and 'dumpsters' (Barnard, 2016). Such is the significance of food to both biological and social well-being (Morgan, 2010) that its consumption is also the source of anxiety (Jackson, 2010). This is

particularly the case for children who are collectively perceived to be vulnerable and in need of direction when it comes to eating (Cairns, 2017).

The economic attractiveness of the children's food market has meant products are reconstructed, reconstituted then heavily branded to appeal to young consumers resulting in 'virtual foods' (Coakley, 2003) like chicken nuggets which bear little resemblance to their original ingredients. Such products dislocate consumables from processes of production and children appear increasingly unaware of the origins of their food leading to an environment that Keller et al describe as 'toxic' (2012:379). While schools teach healthy eating (Burke, 2002; Cook-Cottone et al, 2013; Hurley and Riley, 2004) a gap persists between cognitive awareness of nutrition and the consumption choices made by children and their carers in everyday practice (Burke,2002; Food Standards Agency,2003a and 2003b; Galst, 1980; Stead et al, 2007). Moreover, selecting food along nutritional lines is seen as part of the adult agenda that dominates in schools, rather than reflecting the perspective and priorities of the child (Daniel and Gustafsson, 2010) and while schools routinely challenge children to think about nutrition, neither the curriculum nor the closely supervised school lunch provide broad sensory experience of food, or what Shilling usefully refers to as 'body pedagogics' (2016).

We take a sociological-phenomenological approach to extend the theoretical concept of a foodscape (Brembeck et al, 2013) - a discursive and embodied space where human-food relationships are brokered - and use this as a framework to show how young children can better navigate the contested terrain of food consumption. We draw on our empirical case to provide new insights into the way gardening provides opportunities to connect production with consumption through playful and sensory engagement with 'mess' and materials usually

screened from the sanitised retail, marketing and service of food. The article proceeds with a review of the literature on contemporary food anxiety, the theoretical framing of foodscapes and the phenomenology of gardening as a lived childhood experience. Our empirical case, two projects in UK primary schools, is then discussed along with our methodology before presenting our findings. We conclude by arguing that embodied engagements with food and other matter encountered in the school garden fosters new possibilities for the school foodscape and highlights a means of addressing the contemporary anxieties that surround food consumption.

Understanding food and anxiety

For most consumers, food is retailed and served in highly sanitised forms; de-contextualised and disconnected from the physical environment in which it is produced. Jackson (2010) argues that consumers are complicit in this 'distancing', which is understandable given the complex and occasionally unpalatable production processes involved. At the same time, trust in food companies has been destabilised because of recent food scares which highlight the complexity of the supply chain such that the 'modern consumer may experience a lack of confidence in food' (Osowski et al,2012:58) and 'anxiety' (Jackson,2010) about food selection. There are contradictory messages about desirable food choices and the effect on personal and public health, in addition to pressure to be vigilant regarding wastage (Evans,2014; Love Food Hate Waste,2015) which aligns the aesthetics of good taste with the values of good citizenship (Heuts and Mol, 2013; Paddock, 2015). James (1990) describes this confusing situation as a 'new moral panic' that requires 'we approach our food intake cautiously, with an increased awareness to its effects' (p.667).

For many children, the obfuscation between the production and consumption of many foods is consistent with what Louv (2010) describes as 'nature deficit syndrome'; the state that arises when youngsters spend long periods of time in highly regulated indoor or urban settings (Mabie and Baker,1996; Skelly and Zajicek,1998) orientated around screen-based pursuits. To bridge the gap between eating and producing for what Malone (2007) describes as the 'bubble wrap generation', many schools have encouraged food-growing and gardening and international research projects (for example, Blair,2009; Christian,2014; Cutter-Mackenzie,2009) have highlighted the manifold social, psychological and educational as well as nutritional benefits of reconnecting 'children to food and food to place' (Morris et al, 2001; Thorp,2006: 6). In this context, school gardens have become a focus to rediscover both childhood and nature, and we argue, provide the necessary terrain to enhance food experience, awareness and choice (Christian, 2014).

Of course, ideas about childhood are socially (and historically) constructed and vary within and between cultures. In developing countries, the involvement of children in agriculture is far more commonplace than in Western cultures and school gardens are a means of addressing malnutrition (Erismann,2016) rather than learning. In UK policy and in popular culture, however, the dominant view of children is that they are passive consumers of food whose health and wellbeing requires careful management (Cairns,2017) which restricts both their choices and their agential capacity as cultivators, buyers and eaters. In schools, for example, the central food event of the day is the school lunch: although a contested space (Pike, 2008), it is highly regulated with little opportunity for children to exercise their agency and, thus, resembles a 'children's service' rather than a 'children's space' (Daniel and

Gustafsson, 2010). While in practical terms, most school gardens are spaces where adult agendas dominate (Cairns, 2017), they also facilitate relatively unregulated sensory exploration for children; the opportunity to touch, smell and taste. It is vitally important for researchers to place 'greater importance on the activities of children within these garden spaces' (Wake, 2008:431) to understand this form of learning better.

School foodscapes

We use the concept of the foodscape to highlight the importance of school gardens and show how 'sensory vigilance' (Canniford and Shankar, 2012) developed there encourages new ways for children to think about the origins and taste of food. Appadurai (1996) uses the term 'scape' to highlight how various phenomena connect and play out across space and time and - in the process - generate meaning. Examples include 'mediascapes', 'financescapes' and 'foodscapes'. For us, the latter helps explore how food, places and children interact and the meanings and associations that emerge (Osowski et al, 2012) as they develop as consumers (Brembeck et al, 2013). The foodscape concept has been used in a variety of ways within health, nutrition and food studies to describe and analyse environments and their impact on consumption choices (Mikkelsen,2011; Sobal and Wansink,2007) but here we follow Brembeck et al (2013) who see it as a dynamic space of food and eating where, despite a degree of regularity and predictability, discovery and learning is made possible through social interaction and new experiences.

The view of the foodscape that we advance is one in which connections, relations and effects of food are shifting in that they emerge from geographical, temporal, discursive, material or

intellectual interactions and meetings. Yet within the literature on school foodscapes, formal discourses surrounding nutrition and table manners continue to dominate (Daniel and Gustafson,2010; Pike,2008; Ludvigsen and Scott,2009) and surprisingly little emphasis is placed on experiential or sensual encounters. This, we suggest, reinforces a dichotomy between cognitive and embodied experience of consumption thus neglecting vital corporeal elements of food knowledge that emerge in the 'intersections of place, bodies, identities and everyday geographies' (Parr and Butler,1999: 1). While there has been consideration of the ways in which domestic and school foodscapes overlap (Ekström,2007; Harman and Cappellini,2015) and how formal dining complements nutritional education (Mikkelsen,2011) scant literature relates to childhood *production* and to our knowledge, none brings together cultivation and consumption which is our main focus.

We extend the theory of foodscapes by adopting a phenomenological lens to explore the school garden as a space in which edibles are cultivated and children enjoy sensory encounters with the *phenomena* of plants, dirt and other substances of production. We highlight the actions, materials and experiential processes (Brembeck et al, 2013) in the school garden that (re)connect consumption with production and disrupt the mind/body dualism which dominates traditional children's food 'services' (Daniel and Gustafsson,2010) and which perpetuates a view of children as passive consumers, rendering them less able to become resilient to 'food anxiety' (Jackson,2010).

We are influenced by Merleau-Ponty's work on the primacy of perception (1962;1964) which provides an important theoretical base for aiming to understand what Freund (2001:699) refers to as the 'problem of people's embodied relationship to physical artefacts and

environments' which are 'active in constituting bodies, and always leave [their] trace on the subject's corporeality' (Grosz,1992:250-251). It is surprising that although a phenomenological lens has been applied to diverse childhood experiences including disability (Allen,2004), obesity (Eßer,2017) and music education (Randles,2012) it has not been applied to foodscapes except in *adult* contexts such as agriculture (Kings and Ilberry,2015), dieting and health (Welsh,2014). Drawing on Merleau-Ponty (1962), we challenge the concept that the 'body simply acts out the script that it is given by the higher authority of the mind' (Allen,2004), something upon which formal school teaching on food and nutrition implicitly rests.

Moreover, we suggest that the child's mind does not simply 'map itself onto the body and is not the medium through which the body can be understood' (Allen,2004). It is the body that inhabits spaces and knows them through experiences, senses and perceptions on a corporeal level before the cognitive mind can grasp them (Shilling,2016). In fact, then, it is play, exploring 'mess' and interacting with creatures and natural substances that links perception, knowledge of food and bodily activities (such as digging, touching, tasting). This multi-layered experience, we argue, is central for challenging the lack of confidence (Osowski et al 2012) which buttresses consumer anxiety. We progress to illustrate this empirically but first elaborate on our methods.

The Methods and Methodology

We aimed to prioritise children's voices and experiences by using a qualitative and participatory approach across our two settings. The objective was to explore and understand

children's experiences of gardening/food and focus on what their words and actions revealed about their reflections as growers and consumers. We worked with the children as they gardened and gathered our data over two phases. The first focused on a gardening project in a primary school in a town in North West England during 2013-2015 (anonymised as Town School). The demographic profile of this school reflected a majority of white British children. The second phase (2015) examined gardening projects in a rural school (Village school) located 3 miles from the first site where the overwhelming majority were white British. Here 1 in 10 pupils were of Irish Traveller origin (although none were participants). In both sites, there was an even gender split and ages ranged from 5 to 9. While we are mindful of the importance of demographic factors in data analysis and that food practices can reflect both class and racial differences, a reflection on such matters does not form a key component of our findings because they did not appear to have a major bearing on the way that children expressed their experiences of gardening.

Our selection of sites was determined by access. Both of us had children in these schools and hence access negotiations with governors and headteachers were more straightforward. A condition of access was that our methods were limited to fieldnotes and anonymised photographs. Photographs were helpful because, in taking a phenomenologically-inspired approach, we wanted to show and 'describe, not just explain, the participant's lived experiences' (Field et al, 2016) as well as our own (Mikkelsen, 2011). Photographs focused on activities (e.g digging), the evidence of having done something (e.g 'dirty' hands) or material objects and, interestingly, were often initiated by children who wanted us to look at something, be it the state of their hands and clothes or their 'finds'.

At Town School, the data collection took place over two stages; the first in the summer term during school time (2013-14) and a second follow-up stage of data collection (2014-15), during the spring and summer terms the following year. Research at Village School took place during spring, summer and autumn terms of 2015. Both groups of children met weekly for an hour and a quarter after school. In total we conducted just under 50 hours of participant observation across the two sites and semi-structured interviews with five adult club organisers, four teachers (including headteachers) and 15 children; a total of 24 short interviews. Interviews with children were semi-structured, limited to ten minutes and conducted when children were gardening so as not to seem invasive. We were influenced by Merleau-Ponty's argument that a child's own logic is best understood by observing how children interpret phenomena rather than by interview (Welsh,2013). Adult participants encouraged us to record their interviews but in keeping with access terms we did not record children's voices. There were myriad other short interactions that suggested important contextual points which were recorded in fieldnotes. We analysed the fieldnotes, pictures and interview data by considering the meaning, rather than the frequency, of recurring or important details (Van Maanen,1988).

The Case Studies: Town School and Village School

Gardening was introduced into Town school by the headteacher who had both space and gardening equipment but nobody who was willing or able to garden with the children. He was keen to address the problem of 'nature deficit syndrome' (Louv,2010) within his school and appealed for parent volunteers who were given free rein over activities although the headteacher oversaw arrangements (including safeguarding measures). At Village School,

interview data with teachers revealed a similar educational rationale for gardening club and the headteacher had been influenced by the UK government's 'Every Child Matters' agenda (2003). The five core pillars of this policy: Being healthy; staying safe, enjoying and achieving, making a positive contribution and economic wellbeing were reinforced in a number of the school's clubs with gardening club identified by the headteacher as something of 'particular importance'.

Given the breadth of experiences we documented it was hard to separate them thematically and - in keeping with our theoretical lens - we wanted to stress, rather than disaggregate, the overlaps and entanglements between cognitive and bodily learning, so we divided our findings into two broad sections: first, playful, sensory and 'messy' experiences of producing food and, second, experiences which related more closely to eating, tasting and reflection upon the production process.

Production within the playful, 'messy' and sensory foodscape

The clubs incorporated a range of immersive, playful and physical processes and unlike many adult allotment activities, were not oriented narrowly around the 'hard work' of taming nature's chaos into order (Wake, 2008). Supporting Merleau-Ponty's (2003) argument that the human body is ultimately 'an animal of movements and perceptions' and that access to physical experiences of the natural world is a basic need, growing food was not seen as the sole aim of gardening by the children. Indeed, they enjoyed digging and touching substances like mud, stones and small creatures as a process in its own right, not merely as a task to facilitate the sowing or harvesting of produce.

[Figure 1: Digging at Village School.]

[Figure 2: Planting at Town School.]

At both sites, children were enthusiastic about the ‘messy’ aspects of gardening (Morris et al,2001; Skelly and Zajicek,1998) and were particularly excited about the physical processes involved, including contact with soil:

The children loved digging and even when they had got the weeds out, they just kept on digging because they were enjoying it. They loved getting muddy and kept telling us that they did. (fieldnotes, Town School)

Indeed, in subsequent weeks when there was little digging to be done, there was a prevalent feeling of disappointment and dissatisfaction which stemmed from the lack of physical activity and opportunity to engage with the earth. Usually, in both schools, the children got their hands, clothes and faces muddy and their comments reveal their enjoyment. One child exclaimed ‘Yeah, the muddy bit!’ (fieldnotes, Town School) while another said ‘I just like the feel of mud’ (interview, Girl, 9, Town School) and that ‘[gardening] is just like a way you can

get your hands muddy by doing a great job of making something' (interview, Girl, 7, Village School). Such comments were corroborated by adult supervisors:

Volunteer, Village School: It is just marvellous to see the children rushing over to the garden at the end of the school day, ready to get into the allotment and start working. But you can't always be digging, especially if the weather is against you and that means that sometimes when I say we are just going to be maintaining the area it can get a bit difficult to cope with.

The schools provided the familiar tools of gardening: trowels, spades, gloves etc but the children were quick to discard these in favour of direct bodily contact with the earth.

The school had special child size tools which we gave the children to use, but when one boy saw me using my hands he copied and loved it, showing everyone his dirty hands (fieldnotes, Town School).

Soil wasn't the only thing children were able to touch. There were, for example, worms and other creatures, water, plants, roots and ants' eggs. Even when reacting in a squeamish manner to touching something, and amid shrieks, squeals and lots of giggling, the activity appeared enjoyable. Children revealed surprise and excitement in their encounters and our fieldnotes suggested that such interactions were not part of their everyday experience: '(they) were also a bit giggly about things that were wet so there were a lot of 'errrhhs' going on' (fieldnotes, Town School). Interestingly, in both cases even when children explicitly stated that they didn't like touching certain substances, they appeared tempted to continue to do

so: 'One girl didn't like touching the roots around the plant when we were planting them out 'eeerrhhh' but yet she kept coming back for more' (fieldnotes, Village School). One volunteer at Village School stated: 'They'll sometimes squeal and howl when they touch some mud...or they pick up the spade and there's a slug on it or whatever...but they really love it'.

The simultaneous attraction and repulsion of the tactile experience was also observed when the children made other unplanned discoveries in the garden, for example, a bird skull at Village School. Children competed to hold and look at it. As a group, they speculated about what had happened to the rest of the bird and one child suggested that 'it must have died and turned to mush' which caused further commotion (fieldnotes, Village School).

[Figure 3: A bird's skull found in the herb patch at Village School]

Likewise, uncovering a 'family' of frogs near the pond took over an entire session which had originally been organised around the planting of new seedling vegetable and salad plants at Village School. The handling, sharing, showing and eventual release of these tiny creatures was a source of amazement and shouts, shrieks and gasps of delight. Such unplanned diversions from the gardening planned for the session revealed the sensory pleasure that children derived from engagement with the materials of the garden as well as the potential for spontaneous learning.

[Figure 4: Froglets being examined by children at Village School]

If childhood is increasingly becoming an indoor phenomenon as Malone (2007) suggests, the opportunity for children to interact with 'natural materials and 'dirt' (water, stones, bones etc) is reduced and the chance to get 'dirty' is effectively removed from children's lives (Merleau Ponty, 2003). Gardening clubs were a means to counter this in both sites, whether in purposeful food production or just being with natural objects and creatures outside.

While the discourse extolling the benefits of 'the outdoors' was evident at both schools, restrictions were placed upon outdoor exuberance. At Town School, for example, the grass from the reception play area was replaced with imitation turf precisely because the children were getting too muddy and the school (and parents) wanted to stop this. In both cases, although playing outside was considered beneficial, getting 'dirty' was perceived as a problem by most staff and parents. When gardening many children regarded contact with outdoor substances as an opportunity to violate the usual school or parental order and many of them returned home with mud all over their body and clothes, if not deliberately then mindful of the potential reactions.

Importantly, the growth of food was regarded as a mitigating factor that overpowered the potential criticism of 'being dirty'. One 9-year-old at Village School stated: 'I don't think my mum will mind that my trousers are covered in soil when I tell her that I have been planting vegetables. I think she might be pleased actually. I hope she will' (interview). Another child stated that her 'mum would be furious' when discovering that her uniform was covered in soil and beef dripping [solid fat] from the process of making bird feeders. In this case, the child in question seemed ambivalent about the stains on her uniform but did state that it would be

‘better if the gardeners could be provided with overalls for outside’ for the benefit of parents (interview, Village School).

Mary Douglas (1966) argues that ‘dirty’ things are those that transgress established borders, confound order and disrupt dominant belief systems. Many forms of ‘dirt’ or ‘mess’ encountered in the garden would clearly be matter out of place in both a classroom and in a mainstream foodscape such as a household kitchen, supermarket, restaurant table or school canteen. Here, however, the presence of ‘dirt’ and the fact that it appeared ‘out of place’ was a key part of the children’s enjoyment of gardening and food-growth was seen as a way to get grubby, to engage with matter out of place and yet avoid reprimand. The children in our study relished touching natural substances which qualitatively altered the foodscape by relying upon sensory engagement for pleasure, not merely food growth for utilitarian ends. Children apparently valued ‘the muddy bit’ as a pleasurable experience in its own right. If, as Merleau-Ponty (2003) suggests, nature deficit is a modern problem, and that the civilising processes of formal education and parenting reduces access to and sensory immersion within natural spaces, gardening club was a means to counter this.

[Figure 5: Children proudly demonstrating their ‘dirty’ hands at Town School]

During the course of the project, as the children worked on the beds and transformed both their content and their appearance, their playful immersion developed into proud proprietorship. It was common for both of us to find groups of children gathered around the beds looking at and talking about them. Not all children gathered around were club members

but invariably one of the gardeners was at the centre of the group proudly explaining to others what they had done or what was growing. One girl reported using her drinking bottle to feed a particular seedling that she had planted and thus saw as 'hers': 'I take my water bottle outside and give it a little squirt' (Girl, 8). This sense of proprietorship was evident in other interviews too. At Town School, children explained that they checked on the plants: 'because we don't want them to get rusty like the other plants {...} because they all got rusty and horrible and the caterpillars kept dying' (fieldnotes, Town School). Hence, gardening inverted usual adult-child relationships to enhance their agency as custodians of the school grounds. Gardening club did not foster 'disorder' in the sense of chaos, but a reversal of the normative relationships that positions the school foodscape as one devised by and populated by adult choices and tastes. Such conscious violation of adult conventions is an important element of the life-world of the child (James,1990). By taking proprietorial command, children displayed pride in their achievement with little apparent connection to aesthetics – abundant floral displays or orderly rows of planting, for example – and saw the garden as their own space (Daniel and Gustafsson,2010).

Inevitably, however, there were times at both sites when children interfered with what had been planted, digging up plants and crops too early or damaging them in some other way. While we are unaware of what lies behind this behaviour, it is interesting that we observed other children stepping in to reprimand such acts. At Village School, for example, one of the gardening club members emptied the (much valued) water-butt by filling buckets and then throwing the water at other children (fieldnotes). Such occasions usually involved a degree of adult intervention but included children who perceived this to be 'bad for the vegetables' (interview, Village School) hence were ready to hold each other to account. The contrast

between regular school activity and gardening club added to the sense of disruption to the usual school order: a 9-year-old at Village School claimed 'Coming outside to look at our plants isn't lessons. It's school but no teachers are here so we just learn if we want to. Sometimes I just run around and sometimes I dig.'

Despite the seemingly haphazard, playful and 'messy' way the children participated in the gardening clubs, food was grown successfully in each garden and the harvesting of this produce presented a further range of experiences which altered the quality and depth of the foodscape. In the next section, we reflect on this aspect of the process in more detail.

Touch and taste: Consumption in the foodscape

Brembeck and Johansson (2010:809) argue that 'learning about food is a tactile, oral and gustatory experience for the small child' and our findings support this when observing children's pleasure in trying new produce. For some it was the point at which they became much more interested in the activity:

Finished off by picking some red lettuce leaves. J who had not really been interested in the gardening tasted it and said, 'it's lovely'. The children took some back to show their class and as soon as he walked in, J insisted Mrs P (teacher) 'try it'. (Fieldnotes, Town School)

The children at each site tried a variety of produce including chives, parsley, coriander and nasturtium flowers. Sometimes they enjoyed the produce and came back for more. In growing broad beans, for example: 'I picked one and got the girls to try it. I then couldn't stop them; they kept picking more and more, tearing open the pods and devouring them'

(fieldnotes). On other occasions they would spit the food straight out again as happened when tasting the peppery flesh of a radish. Yet even experiences like these presented a different sensory engagement with food. Radishes, for example, grew quickly and when they got big, the children treated them as 'trophies' such that on one occasion a group of club members carried some radishes back into the classroom held aloft. The audience for these trophies was not always within school but included parents and other family members. Upon pulling up a huge radish one girl exclaimed 'wow, I'm going to get my mum to eat this one' (fieldnotes).

The excitement and joy associated with finding and claiming these trophies is summed up in the observation of potato harvest at Town School:

It was like they were possessed [...] they were manically tearing at the soil with their hands, the forks with which they had begun the operation soon discarded. They were literally screaming as they did this, with additional yelps of delight each time they came across more treasure. Such was the noise and excitement that teachers heading home for the evening and those attending the after-school football club all came to see what was going on. (Fieldnotes, Town School)

The children became very competitive, each seeking to fill their bag with the most potatoes, with one child declaring, 'Me and my mum will be eating potatoes forever'. By the end of this session the children had mud all over their knees, face and hands and their school uniform was grubby but they were excitedly asking, 'What can we pick next?' As the sessions progressed it was common for the children to greet the volunteers with the words 'what can

we try today?’ and there were few incidences of peer pressure to avoid certain foods (Ludvigsen and Scott,2009). In fact, the opposite appeared to be the case: children encouraged each other to experience new tastes and as the project progressed the children confidently extended these invitations to adults too. For example, one of the children said to the Caretaker whilst proffering him a chive flower ‘Would you like to try this little delicacy?’

During conversations and interviews, children hinted at their own foodscape evolving through emergent connections. One child explained ‘The reason I like grapes is because I think they’re a bit extraordinary, but sometimes I wonder, do they grow on trees, do they grow in the ground or are they just from somewhere else?’ (Interview, Girl, 9). Another child, reflecting on the connection between colour and taste claimed, ‘I hate cauliflower, I don’t think it tastes of anything and it’s white, I hate the colour white. It’s just plain.’ Another child commented, ‘We used to grow peas in a pod and I ate one once but I didn’t quite like it but when my nanny cooked them I really enjoyed them but I don’t like tinned peas anymore, I prefer fresh ones’. Another stated, ‘I would like to plant a pumpkin because I’ve never seen one grow before’. Such comments indicated reflection on food production, taste and interactions and the formation of connections that were altering their own eating activities and understandings.

The garden foodscape influenced the wider and more formalised school foodscape as the projects continued (Mikkelsen, 2011). At Town School the caretaker revealed that the cook regularly came to pick mint to put in boiled potatoes and this was also noted by the children: ‘I saw the cook picking something out of the beds, it looked like grass (it was chives)’ (Boy, 5). By engaging with the emergent and dynamic foodscape of the garden, the growing of food provided an element of interest, reflection and occasionally wonder that was different from

everyday encounters with food as fuel or nutrition, for example in the school dining room or the formal curriculum. If, as Wake (2008:425) suggests 'children's gardens reflect and perpetuate children's agendas' then the agenda here was learning about food through their own 'messy' engagements and presented a means to challenge the conventional wisdom that they had learned in other ways (often from adults):

My granddad doesn't like gardening [...] and I said to him, maybe, well if you don't like gardening why do you like broccoli? Why do you have potatoes because they are all made from gardening? (Interview, Girl, 5)

This disconnection between the provenance and consumption of food is a puzzle that has resonance in the age of food anxiety (Jackson,2010). For this child, the growing and eating of food cannot be disentangled since gardening is part and parcel of the production process which reinforces Merleau-Ponty's argument that the body (in our case the eating/gardening body) is not a passive medium but an active balance of playful spontaneity and purposeful constraint that feels and senses as much as it knows through rational/formal learning. For Merleau-Ponty, this inseparability between sensing and knowing is described as the chiasm that connects the fleshy materials of living things to that of the world they dwell within. For us, the school garden foodscape provides the space in which the material-consumer connection is possible.

Discussion and conclusion

The cultivation of food is a process that has occupied humans for millennia yet the distancing (Jackson,2010) between its production and consumption means such basic activities are

beyond the daily experience of many Western children whose lives are heavily indoor-focused and oriented around technology and 'clean' activities (Malone,2007). Moreover, school foodscapes are usually spaces where children learn to become consumers through regimented adult regimes (such as table manners) and formal education about nutrition. It is normative that the experience is passive with adults making decisions and seeking to enforce them through spatially and temporally structured eating sessions. This is a problem for children across the globe with concerns identified by policy-makers in the United States, Australia and across Europe where the average daily intake of fruit and vegetables for children remain below recommended levels (Christian et al., 2014).

The school garden, by contrast, brings an element of sensory and bodily phenomena – including 'mess' - into the foodscape and in so doing, enhances the agentic capacities of children to make their own choices and experiences of food. Our case adds further empirical evidence that such spaces have the potential to encourage young gardeners' willingness to try different fruit and vegetables. As to how this works practically, Kraftl highlights that 'mess' or the interplay between mess and order or 'dis/order' (2013:137) is often seen as a desirable feature of alternative education and this was evident in both school gardens we studied, not simply in the mud and 'dirt' that children looked forward to but also the opportunity to subvert or play with the normal ordering of objects, structure and authority. Unlike the rest of their school grounds, the garden encouraged self-direction and autonomy so that children were not only able to (and indeed encouraged to) touch, feel and manipulate matter that would normally be deemed out of place but to regard food in school as part of a children's food space rather than a children's food service (Daniel and Gustafsson,2010). This is why the embodied process of gardening makes food growth and consumption novel and exciting;

presenting a richer sensory alternative to the ordered and rational efficiency of the school dining room and the nutrition/health focus of the taught curriculum.

We have extended Brembeck and Johansson's (2010:815) argument that 'Eaters do not observe from a distance but are mixed up with their surroundings' and that 'Eating is a physical activity. Eaters get to know the world by tasting it, chewing on it, even partially absorbing it.' Through our empirical observations we have demonstrated that it is not just tasting that is important: digging, touching and playing with materials are deeply significant as sensory experiences to secure understandings of methods of production and the incremental stages between germination and consumption. It is this important sensory learning which helps children to challenge dominant forms of rational decision-making about food (by adults). The unmediated sensory experience of *being-with-food* in the garden compliments Ludvigsen and Scott's (2009) finding that the impulsive experiences of childhood and the rational selection of nutritious, balanced foods are often in tension or completely opposed. As Osowski et al (2012) observe, children do not necessarily relate teaching in school to the embodied process of choosing and eating food. The active physical engagement with the outdoors disrupts the passivity of 'civilized' consumption by creating space for children to learn informally through playful experience with a variety of materials and thus, increase their awareness (James,1990:667) of food, countering the problem of learned, cultural separation between nature and humanity (Merleau-Ponty, 1964).

Merleau-Ponty highlights an apposite metaphor for understanding this, 'When through the water's thickness I see the tiled bottom of the pool, I do not see it despite the water and the

reflections; I see it through them and because of them.’ (Merleau-Ponty, 1964:22) Likewise, at gardening club the children do not see the soil, ‘mess’ and disorderly play as an obstacle to clean production, rather the vegetables, herbs and plants are intimately bonded to the material means of cultivation. Digging, playing with and searching in the soil, for example, is just as important as tasting new foods (such as radishes, chives and beans) and speculating about plant biology (such as pods and roots) fosters reflection on produce not grown in the garden (such as grapes and pumpkins). As well as engendering pride in their productive capabilities, the garden stimulates joyful curiosity and pleasure independent of the formal but largely passive school foodscape. Hence, gardening for food does not represent a combination of rational purpose plus physical effort – a mechanistic treatment of the body – instead it relates to what Merleau-Ponty calls ‘another corporeity’ (1964:208) resting on a primitive and embodied grasp of the milieu in which objects such as beans and chives manifest in the world and are put into use both at mealtimes and at play. In the school garden foodscape, then, we see a situated interpretation of natural phenomena from the child’s point of view: the understanding and perception of the garden from an embodied and sensory experience of place in relation to its products and bi-products.

Children are not presented here as food learners, therefore, but as ‘natural creatures’ whose selves, tastes and entire experiential worlds are imbued with meaning and feelings which are difficult to boil down to formal or planned learning outcomes, or indeed to broader social structures and patterns that influence their expectations and life-worlds. As Merleau-Ponty argues, children are *natural phenomenologists* and organize their perceptions according to their own logic: it is not a question of attributing to the child a rational conception of food (or indeed the materials/processes of growth) but rather a question of acknowledging that the

child's senses and experiences are able to work within their own forms of logic (Welsh,2013) regardless of adult intentions. We were able to appreciate this when children challenged the logic and perceptions of their adult carers who claimed to dislike food cultivation but consumed vegetables that were 'made from gardening'.

Our research suggests that enabling children to experience rather than know about food within their own 'messy' registers of behaviour is important in an age of food anxiety (Jackson, 2010) because embodied contact with matter otherwise excluded from the school foodscape changes children's experience and understanding of eating. It equips them with a practical means for building resilience to concerns about the quality, taste and source of certain products. Educators could design further 'forms and styles of engagement that are not always found in a more developed sense in the adult' (Welsh,2013); in other words, playful 'childish' and dis/orderly methods (Kraftl, 2013) which rest upon sensory experiences and 'body pedagogics' (Shilling, 2016) rather than cognitive methods of teaching. By extension, we believe that the school foodscape needs to be theorised differently. Food learning is not simply about connecting formal education to practical action; it is dynamic and should reflect the informal sensory and perceptive world beyond classrooms and dining rooms. Re-thinking the nature of school foodscapes is crucial both theoretically and practically if we are to empathise with, relate to and nurture a generation of independent and robust consumers who are prepared for the confusion and worry that results from a lack of confidence and trust in food.

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Figures



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5