



UNIVERSITY OF
GLOUCESTERSHIRE

This is a peer-reviewed, post-print (final draft post-refereeing) version of the following published document, ©2020 The Editor(s) and The Author(s) and is licensed under All Rights Reserved license:

Keech, Daniel ORCID: 0000-0003-4112-9030 and Reed, Matt ORCID: 0000-0003-1105-9625 (2019) Urban Agriculture as a Field: Governance, communication and collective action. In: Urban Food Democracy and Governance in North and South. International Political Economy Series . Palgrave Macmillan, Basingstoke, pp. 27-44. ISBN 9783030171865

Official URL: <https://www.palgrave.com/gb/book/9783030171865>

DOI: <http://dx.doi.org/10.1007/978-3-030-17187-2>

EPrint URI: <https://eprints.glos.ac.uk/id/eprint/6783>

Disclaimer

The University of Gloucestershire has obtained warranties from all depositors as to their title in the material deposited and as to their right to deposit such material.

The University of Gloucestershire makes no representation or warranties of commercial utility, title, or fitness for a particular purpose or any other warranty, express or implied in respect of any material deposited.

The University of Gloucestershire makes no representation that the use of the materials will not infringe any patent, copyright, trademark or other property or proprietary rights.

The University of Gloucestershire accepts no liability for any infringement of intellectual property rights in any material deposited but will remove such material from public view pending investigation in the event of an allegation of any such infringement.

PLEASE SCROLL DOWN FOR TEXT.

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

Chapter for publication in *Urban Food Democracy and Governance in North and South*. Editor - Alec Thornton UNSW.

Submitted by Daniel Keech and Matt Reed, Countryside and Community Research Institute, University of Gloucestershire, UK.

Chapter title: *Urban Agriculture as a Field: Governance, communication and collective action.*

Abstract:

In this chapter, we argue that Urban Food Networks (UFNs) are a format of collective action that seeks to manage social change within the 'field' of urban agriculture (UA). Our intention here is to argue that a field perspective is helpful when studying UA as a facet of social life in the city. This is because fields highlight the relationships between different actors, institutions, ideas and values, and they frame UA as one way of trying to influence social routines in the city. By the same token, UA can be a reflection of dynamism in social routines in the city. City food production is organisationally complex, culturally symbolic, and politically contested. For some years, research on UFNs has been rich and this is linked partly to the wealth of micro case studies that exist. The field framework offers two distinct potentials for UFN scholarship. Firstly, it presents UFNs as an integral part of the varied picture of city food: cities include UFNs because networks of people join together to collectively respond to perceived opportunities or challenges associated with dominant food actors. Secondly, the field concept connects micro-networks with forces of influence at the macro-level suggesting that, in complex social systems such as cities, food activism is one way in which social life is re-created. Such arguments indicate the adaptability of field theory to UA in general, while an examination of UFN social media communications, reveals the empirical potentials of the concept, strengthening the potential for analytical connections between UA in 'south' and 'north'.

Introduction

Urban agriculture (UA) is an age-old practice (Steel, 2009, Mazoyer and Roudart, 2006), which helps to explain why the post-war binary, which divides the city as a place of culture and commerce from the productive countryside (Antrop, 2004, Halfacree, 1993, Woods, 2009), has not fully taken hold. Food chain industrialisation has generated well-documented social and environmental problems, as well as benefits (Lang, 2010), which are visible in cities, but unlike much UA of the past, contemporary farming and growing in and around cities operates in the shadow of, and is closely connected to, modern provisioning.

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

Scholars and change makers have advocated a 'reconnection' between consumers and producers. This informs the normative goals of reorganising the governance of local supply chains, supporting food production in city spaces, and attempting to secure more equitable distribution of food. The body of literature which captures such developments is rich, drawing on conceptual directions that emerge from areas including niche transformations (drawing on (Gibson-Graham, 1996), for example), urban resilience and food security in the global south (de Zeeuw and Dreschel, 2015) and neo-Marxian perspectives (McClintock, 2013).

Our own recent empirical work focuses on urban and peri-urban food networks in the adjacent cities of Bath and Bristol, in England, and we have worked elsewhere with European colleagues (Grivins et al., 2017, Reed and Keech, 2016, Reed et al., 2016, Curry et al., 2014). Our examinations combine research on the familiar activities of urban food networks (UFNs), such as growing, cooking, distributing, learning, with research on how such groups use contemporary digital forms of communication to further their objectives. This emphasis has led us to consider members of UFNs primarily as actors within social movement structures. Our objective in this chapter is to incrementally contribute to the recent, but as yet only partially successful, attempts to take scholarship about food in cities beyond a collection of vibrant case studies. Our departure is to advocate field theory as a way to recast a discussion about how meso-level institutions unite micro-contexts of ways-of-living in particular cities with the macro-forces that shape cities and their wider relations. We recognise that many recent developments in urban agriculture, as forms of civic activism, contribute to a continuum of social change, through nested and interwoven fields, some emergent, some established and all contested. In doing so, we understand UA as one form of collective action through which people seek to create goods and opportunities, as well as meanings for and about themselves and their peers.

Members of UFNs can be framed conceptually as actors within social movements, which in turn can be understood as collective action endeavours, encompassing cultural experimentation. The exciting achievements of UFNs have resulted in limited impacts on the structure of the food chain, or on the governance of the city in relation to food. This is problematic for those more-or-less utopian groups who see food activism as a route towards political ends and/or structural reform (Crossley, 1999). Far from undermining such efforts, we outline a case for embracing UA as a field that includes UFNs and their allies who attempt to achieve shared meaning through collective action. This seems necessary given that a consolidating and competitive food industry seeks commercial outcomes which are nevertheless associated with major social problems. Obesity and hunger are the most pressing of these. We acknowledge that we are experimenting with the concept, yet raise ideas in the conclusion, about how this approach could inform practice and future research.

Food networks: social movements in the networked society

Kevin Morgan has reviewed the influences of the diverse coalition of UK urban food activists on municipal procurement and planning policies (Morgan, 2015) and feels that 'fragmented localism' (p.10) impedes the development of a unified social movement around food. His assertion resonates strongly,

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

as does his call for iterative and collaborative partnerships to change the way that cities organise food provisioning, opinions which are built on sound qualifications: Morgan was the first chair of the Bristol Food Policy Council, a multi-stakeholder advisory network which has done much to articulate ideas and structure actions for making the food system of a city of over 430,000 inhabitants more sustainable (Carey, 2013). In many cities, UFN analyses have highlighted diversity, social innovation (Kirwan et al., 2013) and dynamic entrepreneurialism (Grivins et al., 2017). Yet how should such studies overcome the difficulty that the outcomes of localised activities remain over-shadowed by the power of the dominant food system, the constraints of municipal government, and the contested governance of city space associated with democratic citizenship? Might new 'power-sharing', multi-stakeholder alliances be needed and how could these benefit cities? By focusing on the intended outcomes of urban food activism and their potential scalability, scholarship has provided insights into context and innovation which can be reproduced as long as case studies emerge.

An alternative is to situate UFNs within larger, mid-scale networks of collective action in the field of UA. While this is not far removed from Morgan's position, we suggest that the food-related outcomes of collective action are only a contributory issue. The wider point is to try and understand how, in complex social systems such as cities, food activism is one way in which social life is recreated. In other words, in cities, activism is part of citizenship and collective action is a modus for achieving social change, alongside and nested within other strategic action fields (cf. Purcell (2013) on Lefevbre's *Right to the City*). Our intention is to consider the nature and the effect of collective action, not directly its utility as a tool for influencing food system operations. In pursuing this, we indicate critiques that suggest the discussion has been diverted by a geographical lexicon, including 'scaling up', and cautioning that the 'naming and following of a particular set of norms and imaginaries about place' (Goodman et al., 2012:12) can allow food to become apolitical and exclusive, or that UFNs follow horizontal replications of best practice (Marsden and Franklin, 2013) as a way to achieve scalar impacts to side-step the need for organisational expansion. Such a lexicon has not, in our view, drawn enough on important socio-spatial or socio-cultural discussions.

Mark Granovetter considers how to interpret people's actions in relation to the field of economics. He discusses the multi-faceted and complex ways in which action needs to be analysed and indicates what Weber calls 'value-rational' actions (Granovetter, 2017:20), where people feel they must act in accordance with values that they are obliged to follow. In our experience, such actions can also be repeatedly observed among people in UFN leadership roles. For example, motivations of UFN leaders are informed by the social relations around action, as well as being influenced by ego-centric concerns, desires and passions for status and material goals. Dropping a simplistic grid of rationalism across complex behaviours is not very revealing, but is common as a way to categorise UFNs as, for example, enterprise innovators or forms of cultural distinctiveness. Many UFNs share motivations with food businesses or municipal policies, which raises questions about how 'alternative' UFN organisations and their methods really are.

We concur with suggestions that many of the actions of UFNs are orientated towards creating and sustaining new identities (Castells, 1997, Melucci, 1996, Fligstein, 2010) and have been drawn by Castell's assertion that:

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

'...reflexive life-planning become[s] impossible, except for the elite inhabiting the timeless space flows of global networks and their ancillary locales. And the building of intimacy on the basis of trust requires a redefinition of identity fully autonomous vis-a-vis the networking logic of dominant institutions and organisations.' (Castells 1997:11)

He suggests that reflexivity is unattainable to most people because only elites have influence in the communication flows of the networked society. Such elites create 'hybrid spaces', which mix physical places and online spaces, played out simultaneously in cyberspace and, through the impacts of their decisions, on city spaces (for example through building development, capital flows and land ownership) (Castells, 2012). Although some UFN participants can be identified as having considerable social agency because of their income, professional or social status (Smith and Jehlička, 2013), these are not the elite to which Castells is referring. In the networked society, both the shaping of cities by those with influence and resistance against such elite interests are played out through the internet (Reed and Keech, 2017a), with UFNs creating their own forms of networked citizenship. This is, in our experience, substantially self-referential and normative (Reed and Keech, 2017b). Similarly, despite the work of multi-actor networks such as food policy fora, it remains difficult to develop the notion of a social subject in the city through attempts to strengthen civil society.

Some of the resources that UFNs have been able to create are discursive materials we have identified as falling within Dryzek's schema as 'Civic Environmentalism' or 'Green Urbanism' (Dryzek, 1997). These concepts have enabled us to attribute and categorise assumptions, agents, values and activities (for example) to different formats of collective action, with the result that we were able to identify blockages and accelerators facing some Bristol UFNs as they pursued their objectives. One key finding from such a framing has been that, in Bristol, while the objectives of UFNs are normative, and in some cases even utopian, UFNs are not necessarily oppositional in the Castellian sense. Reasons for this may include that, in the networked society, local authorities with prescribed roles are ranked *alongside* rather than against relatively powerless activists; or perhaps (returning to Morgan), that among the great diversity of active groups, some situate themselves as being in collaboration with municipal authorities and conventional businesses, while others oppose or avoid them. The creation of UFN resources points to the importance of collective endeavours: while reports, webpages, social media postings, banners, artworks, recipes and menus are all collectively created, it is only in being shared that their influence is realised. This indicates the importance of the meso-level as the scale which connects linked individuals (thereby creating the collective) to macro flows and forces. It leads us to suggest, firstly, that there is scope to expand the use of sociological tools to study the collective actions of UFNs and, secondly, having experimented with such analytical tools to study both urban and rural networks of activists (Reed, 2016, Keech, 2017), we wish to further refine our attempts to situate UFNs within meso-level arenas of collective action which seek change, by raising the question: can urban agriculture be framed more broadly as a field?

UA as a 'field'

Field theory has recently crystallised as a unified concept in the hands of Neil Fligstein and Doug McAdam (Fligstein and McAdam, 2015). The central aspects of their theory most relevant in this chapter are that:

- (i) Strategic 'fields' of action are meso-level social orders and form the basic building blocks of modern organisational life (including commerce, the state and civil society);
- (ii) Because organisational life is inherently unstable (i.e. not fixed, but constantly changing), social actors are concerned with how change can be managed and stability achieved in circumscribed social arenas;
- (iii) Fields are embedded in other, proximate or distal fields, each of which are also organised as distinct fields of social action.
- (iv) Crucially, while material power plays a key role in shaping social change within fields, Fligstein and MacAdam indicate that *existential* considerations drive people's social capacity to manage change through strategic social action. Social action requires a sense of shared meaning because the organisation of change and stability also depends on actors' relations with one another. In other words, people have an essential social capacity - 'social skill', namely inter-subjective thought and action which shapes meaning, interests and identity.

The suggestion that fields are arenas of collective and reciprocal action that try to organise and manage social change, is pertinent to an understanding of UFNs and their functions in city life. UFNs are actors within the field of UA. UA in turn sits within the field of the city. This leads to questions such as how and why does the desire for change emerge? How do new challengers attempt, and then succeed, or fail, to make an impact on the status quo? Which actors and institutions are involved in these dynamics? What happens as new orders become established and, later, superseded? How is stability in the field protected or disrupted? Understanding and describing such dynamics could help to indicate from where particular interventions could come in order to support change through/as a consequence of collective action.

In Bristol, many UFNs have occupied themselves with building social networks and innovative practices which seek to mitigate perceived negative outcomes of the dominant food system. Activities include the redistribution of surplus supermarket food, the production of crops using business models that support the employment and training of vulnerable people, and the organisation of buying groups to take advantage of economies of scale to support regional farmers using alternative currency (the Bristol Pound). While some UFNs have used physical opposition (including land occupation), members of such networks working in different organisational configurations have influenced municipal policy making and made connections with other distant networks of collective action. In the field context, the consideration of a city's food systems shifts from being a study of the binary clash between dominant and emergent food ideologies, to an observation of how social change is organised or impeded in the food arena. The organisation of UFN research within fields reveals that the city has many systems of food provisioning, and that these are relational rather than mutually exclusive. Because the operation of food systems involves the development of reciprocal alliances and shared understandings and

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

assumptions (for example between suppliers, investors, regulators, advertisers, consumers, etc.) social skill is required so that people can collectively imagine the relative position of the others in the field, and where connections with other fields need to be made (for example in the case where one UFN tries to support or learn from a UFN elsewhere).

Social skill is a key component of field activity and constitutes ‘...the ability to take on the role of the other in the service of cooperative behaviour’ (Fligstein and McAdam, 2012:202). The motivation for people to come together within organised networks is, clearly, based on the desire to achieve something through collective action. More fundamentally, Fligstein and MacAdam suggest that ‘the need for meaning is at the basis of people’s efforts to get and sustain collective action’ (2012:46). Within our UFN analyses it is evident that one major way in which cooperation is organised is through social media activity. In the light of these arguments, we suggest, firstly, that the reciprocal/onward communication on which the effectiveness of social media hinges is a form of cooperation. Secondly, we also recognise a high degree of social skill among Bristol’s and (neighbouring) Bath’s UA networks because they have succeeded in developing multi-stakeholder alliances, and in both cities these networks are central in the development of food policies. Thirdly, we suggest that, because the outcomes wanted by food activists are complex, contested (even internally) and normative, the level of social skill within networks helps UFNs to be more, or less, flexible and adaptable about the precise outcome of their cooperative collective action: the general direction of travel is usually more important than the specific results.

Fligstein and MacAdam have outlined a broad roadmap (2012:165) for applying field theoretical perspectives in empirical research. We will not recount these in detail here, other than to emphasise that strategic action fields can be observed in relation to three stages of development, namely (i) emergence, (ii) stability and (iii) crisis. In attempting to trace the strategic engagement of actors with these dynamics, methodological questions arise about where a field boundary lies, who is inside, how the field relates to other fields, what the power structures of the field are and how these are challenged, what forms of collective action are accepted/contested/introduced, and so on.

The case for turning towards field theory is not suggested as an alternative, but as an iterative and complementary addition to accumulated knowledge of UFNs and UA networks. A key advancement, as we see it, is that fields do not exist in isolation but are linked to the macro-environment. Field theory thus has the potential to address some aspects of ‘the problem with empiricism’ (Fligstein and MacAdam 2012:197) towards a more detailed understanding about how UFNs and UA are social interventions within diverse and multi-functional food systems which are themselves embedded in the strategic action field of the city as a (meso-level) whole.

We see it as helpful that Fligstein and McAdam are careful not to attribute spatial scale as a principal consideration of strategic action fields, and instead emphasise the importance of shared understandings and social relations, or the absence of these:

“A strategic action field is a constructed meso-level social order in which actors (who can be individual or collective) are attuned to and interact with one another on the basis of shared (which is not to say consensual) understandings about the purposes of the field, relationships to

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

others in the field (including who has power and why), and the rules of governing legitimate action in the field". (Fligstein and MacAdam 2012:9)

The foundational tasks of some UFNs, such as Food Policy Councils, has been to secure an understanding that the totality of embedded, proximate and distal food fields within the city constitutes a strategic action field, which ought to occupy the municipal state and other actors within each constituent field. With no commercial or legislative imperative to do so, this is no trivial task, and has been organised through practice networks (such as Sustainable Food Cities¹).

Who wields power and agency to co-ordinate these inter-related fields which combine to represent a city's complex food system? In some cases, this is seen as a role for the municipality, civil society networks, businesses or usually combinations of all three. The power of the private and corporate interest, while contested, is nevertheless acknowledged through contractual engagements with (public procurement), or adaptations of (production specialisation or out-sourcing supply chain functions), entrepreneurial practices.

It is also important to recognise that, while UA might generate of its own subfields (individual initiatives including community gardening as well as commercial enterprises), these may appear as self-referential projects. This is the case with food redistribution projects, situated in sub-fields with supermarkets and their corporate distribution networks, as well as institutions linked to poverty relief, state welfare and waste regulators. The social dynamics of UA indicates a much larger social system within the city. UA is a social field in formation, characterised by a dispersed collaborative structure, but in contact and dialogue with a wide range of other fields. Such a perspective requires us to also explain the social skills used by those trying to create and stabilise this field, which we locate in micro- and meso-level interventions. UFNs cannot hope to wrest dominance from the main players in the food system because there is no clear idea or consensus of what an ideal city food system should constitute. For us, this is not the point. Instead, the utility of the field concept is that it suggests a broad and flexible structure to integrate urban agriculture and the job of feeding citizens, within a social process of city life.

Methodological challenges

UFNs can be studied as a form of collective action taking place in the field of urban agriculture in an attempt to articulate shared meaning and organise social change within a city. Fligstein and MacAdam suggest that recognition of a newly emerged field depends the degree to which four elements of structure exist (2012:170) – a common understanding of what is at stake in the field, a set of players with known positions, a common understanding of the rules of the field, and a way for actors to interpret the actors of other field members to frame their own actions. This is clearly useful when observing relatively unified actors, such as those involved in growing and distributing food grown within a community garden, or for businesses involved in developing sustainable supply chains. There are other groups who, as radical innovators, may always identify themselves as underdogs in power hierarchies,

¹ <http://sustainablefoodcities.org/>

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

such as those wishing to eschew market-based transactions or whose work is socially redistributive. In other words, fields can reveal the way power hierarchies generate reactions and challenges to hierarchies between actors (e.g. through competition), yet in some cases food networks actively avoid seeking power and instead seek to influence practice (Keech 2017).

At stake here, is not which model is more effective, innovative or sustainable, in order that horizontal knowledge exchange and experimentation leads to its proliferation. The focus of a field analysis captures the contexts of reciprocal and collaborative responses when new fields of social organisation emerge, try and establish themselves, and are superseded in turn. Succession of social orders is not always achieved on the basis of successful domination of other actors, and we suggest that the efforts of UFNs to shift the 'rules of the game' (Fligstein and MacAdam 2012:170) should be seen, not as a struggle which may succeed with optimal refinement, but as an integral aspect of the social life in the city, through the field of urban agriculture.

Social Media, Co-Operation and Intra-City Collaboration.

In this section, we present a small corpus of Twitter data which, we suggest, indicates the social skills that are being used to build the collaborative and distributed structures of UA.

Twitter

Social Media has arrived at a dizzying pace, facilitated by the smartphone as the world's most widely distributed computer connected to a nearly ubiquitous network. Quasi-private networks such as Facebook present problems of access and ethics, but Twitter is published and in the public domain, as well as being an intentionally public act of communication (York and Brewster, 2013). Quantitative studies have established the parameters of how Twitter can be understood as an indicator of voting intention, as well as purchasing decisions and broader civic engagement (Wilson and Quinton, 2012, Conover et al., 2011). Our purpose for presenting an analysis of a small sample is to illustrate how the micro-level social and cultural work of establishing urban agriculture as a social action field is being conducted.

We have captured two bodies of Twitter data. Using the NCapture facility of Nvivo 11, 262 Tweets were collected by searching for the indexing term (hashtag) of '#urbanag'; the Tweets were published in English between the 31-07-2017 to the 10-08-2017. Those using the indexing term are attempting to communicate with others interested in the same topic and take part in an on-going dialogue. The popularity of the Twitter accounts ranged from @Enrich_Ag, purveyors of a mobile app and associated growing technology, with only two followers, through to @CECHR_UoD the Centre for Environmental Change and Human Resilience at the University of Dundee with 139,661 followers, suggesting a variety of reach for tweets posted. A second body of Twitter data, 298 tweets for the period 31-07-2017 to 28-09-2017, using the hashtags *#urbanag* and *#urbanagriculture* was captured using the IBM Watson Analytics platform.

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

Tweets captured by Nvivo

It is helpful to consider both the geography of those Tweeting and their connection to others. Table 1 shows the locations of those Tweeting as given on the account biographies, which reveals conversations across the US and Canada, and with European input mostly coming from the UK. Frequency counts suggest that Saint Louis is a hotspot of activity, although much of these are Retweets as local people encourage each other to physical gatherings in the city. New York is the most mentioned location, but this is a composite of those in New York promoting events in the City and those outside passing on information. Another category passes on examples from other cities:

Sky Greens is Singapore's Most Innovative Urban Farm #urbanfarming #singapore #urbanag #agtech... <https://t.co/7QMqYIGeXf>

This tweet links to the reader to a short blog post about vertical farming in the city-state and then to the website of the company producing the vertical farming technology. Changes to zoning (planning) regulations are the focus of tweets, as are discussions about rules about domestic poultry keeping in Vancouver and debates in San Francisco about land being used either for housing or urban agriculture. In this way information about the development of UA is made available through the network.

As well as the Tweets, we collected materials linked to in those Tweets. Tweets frequently signpost readers to other content and we collected 25 blog posts/newspaper articles and 7 YouTube videos. The newspaper and blog corpus ranged from traditional news media such as the New York Times through to the blogs such as 'Off the Grid'. Most of the 'news' focused on actions taken by those engaged in UA or which might facilitate it, from city regulations to business practices or new technologies. Several featured educational initiatives involving children and young people who are receiving additional educational opportunities related to UA.

A smaller number of contributors signposted to information that has a greater strategic importance to the future of UA. @iFoodDecisionSc in Seattle directed readers to a report by Bloomberg into the new start-up 'Plenty' which had just attracted \$200 million in venture capital for a system of indoor, vertical horticulture systems that would be located proximate to cities. 'Plenty' links to a series of tweets in the corpus highlighting the work of @BrightAgrotech (Laramie, WY) in establishing indoor growing systems and greenhouses. Other reports focus on the profitability of indoor UA in New York.

The most influential tweet in the corpus, posted by @CECHR_UoD with 139,661 followers and retweeted 34 times in the survey period, concerned a project that brings together the two largest themes in the tweets, emerging agri-tech for indoor production and social inclusion. Farm 360, in Indianapolis, is a hydroponics enterprise using a repurposed warehouse site in an area with high poverty and unemployment rates. Despite the headline of the project being based on renewable energy, the text shows it aspires to run the LED lights it is dependent on from solar sources. At the time of research the project had created 12 jobs. As it is not reliant on seasons the project can supply high value, fragile horticultural crops such as salad leaves and herbs throughout the year to the city. A linked video explaining the project emphasises its sustainability credentials (water efficiency, fewer food miles) but

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

also its social impact in providing local, living wage employment and opportunities to those who might be otherwise excluded from the labour market.

The most frequent words used in the entire corpus, including linked media, revealed the importance of linking to other indexing terms, the names of prominent activists and thinkers, as well as the substantive topic (see Figure 1). A second indexing term #urbanagriculture illustrates how those using Twitter are linking to other debates. Alongside words about farming and growing, the word 'community' was very prominent. This term reflected the continued focus in newspaper and blogs on the role of UA in the community, but also the meetings, discussions and initiatives being taken to foster community cohesion.

You're invited! Come out and celebrate Chicago's urban agriculture community and help grow it.
Get tickets: [URL]#urbanAg Tweet @NetImpactChi

In a blog reflecting on the difficulties of establishing UA in Los Angeles, an activist outlined on the role of community organisations:

Durbin says finding landowners and farmers who are interested in participating is a big part of the battle.

"In many cases, we need a matchmaker like a community organization or church to connect us with someone who is interested in farming," says Durbin who adds that the Los Angeles Food Policy Council is working with the Los Angeles Department of Regional Planning to make those connections.

Two individuals were referenced, one by name and the other by Twitter account. @wrobertsfood is the account of Wayne Roberts the UA food pioneer, author and speaker, who featured in the corpus. His Tweets were Retweeted during this period by @HaLockey in Florida. The presence of these names illustrates the role that key thinkers and actors can play in the networks of Twitter, even when not directly present, Retweets ensure they have a constant presence. The second key thinker was Ande Gregson is the founder of @GreenLabOrg, a London organisation that was offering development space for indoor horticultural innovation, as well as training and consultancy.

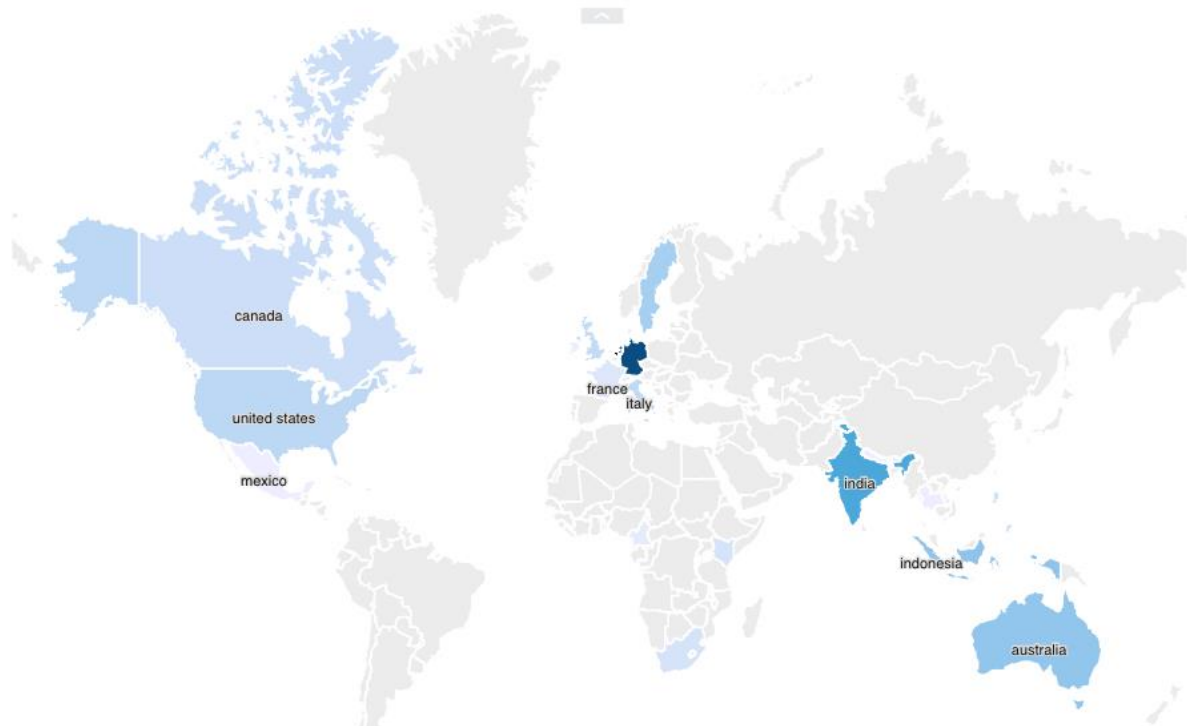
Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
 dkeech@glos.ac.uk

Meriden, CT		
Mexico City		
Milwaukee		
New York		
Newark		
Oakland, CA		
Omaha, NE		
Ottawa		
Peterborough, Canada		
Sacramento, CA		
Saint Louis		
San Diego		
Seattle, WA		
Swindle, MA		
Stuyvesant		
Syracuse, NY		
Tempe, AZ		
Vancouver		
Victoria		
Virginia		

Table 1 shows the cities mentioned in the biographies of those tweeting, with a very clear focus on Canada and the US. Figure 1 show how some cities also featured in the content of the Tweets. During this period of 10 days, those posting tweets were forming a network of cities and locations that would not otherwise be connected, with very different climates and socio-economic conditions. The common indexing term, and thus the collective interest in UA united this network of more or less realised strategic fields in the cities in question. The shared hashtag means events that can be used as information or inspiration in other cities, but also helps weave together the inter-city network.

IBM Watson Platform

The IBM platform retrieved fewer tweets than the Nvivo tool, but the sample followed broadly the same pattern of distribution, although in less detail than described above. The most salient pattern suggested by this enquiry is that of a pattern of Retweeting that illuminates the way in which Twitter is being used in these networks. German cities do not feature in the Nvivo based corpus but it would appear from the IBM platform that Twitter users in Germany were Retweeting, so sharing and amplifying, the Tweets of others. A key part of any social network posting is sharing and this is salient because the Tweets were gathered using a hashtag in English. It is reasonable to expect exchanges in Germany between urban agriculturalists to be conducted in German. In this pattern of Retweeting we may be observing how ideas and examples from one country and language bloc are being shared into another.



Conclusion

In this chapter we have attempted to introduce field theory as a way to frame and analyse UFNs, and to cast UA as a field of collective strategic action geared to managing change in social life in the city. We have also illustrated how intra-field networking via social media reveals the need to move beyond the micro-context to focus on the role of UFN communication plays in co-ordinating social action in UA. This perspective has allowed us to consider UFNs beyond their well-studied contributions towards forms of resilience, opposition and innovation. The concept also re-frames UA beyond being a predominantly normative, outcomes-directed ideology and towards a field of collective action linking global flows to individual lives, with the potential to strengthen analytical connections between 'south' and 'north'.

References

- ANTROP, M. 2004. Landscape change and the urbanization process in Europe. *Landscape and Urban Planning*, 67, 9-26.
- CAREY, J. 2013. Urban and Community Food Strategies. The Case of Bristol. *International Planning Studies*, 18, 111-128.
- CASTELLS, M. 1997. *The Power of Identity*, London, Blackwells.
- CASTELLS, M. 2012. *Networks of Outrage and Hope: Social Movements in the Internet Age*, London, Polity Press.
- CONOVER, M., RATKIEWICZ, J., FRANCISCO, B., GONÇALVES, B., FLAMMINI, A. & MENCZER, F. Political Polarization on Twitter. Proceedings of the Fifth International AAAI Conference on Weblogs and Social Media, 2011.

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

- CROSSLEY, N. 1999. Working Utopias and social movements: an investigation using case study materials from radical mental health movements in Britain. *Sociology*, 33, 809-830.
- CURRY, N., REED, M., KEECH, D., MAYE, D. & KIRWAN, J. 2014. Urban agriculture and the policies of the European Union: the need for renewal. *Spanish Journal of Rural Development*, 1, 91-106.
- DE ZEEUW, H. & DRESCHER, H. (eds.) 2015. *Cities and Agriculture*, London: Earthscan.
- DRYZEK, J. 1997. *The Politics of the Earth*, Oxford, Oxford University Press.
- FLIGSTEIN, N. 2010. *Euro-Clash. The EU, European Identity, and The Future of Europe*, Oxford, Oxford University Press.
- FLIGSTEIN, N. & MCADAM, D. 2012. *A Theory of Fields*, Oxford University Press, USA.
- FLIGSTEIN, N. & MCADAM, D. 2015. *A Theory of Fields*, Oxford, Oxford University Press.
- GIBSON-GRAHAM, J. K. 1996. *The End of Capitalism (As We Knew It) - A Feminist Critique of Political Economy*, Oxford, Blackwell.
- GOODMAN, D., DUPUIS, E. M. & GOODMAN, M. 2012. *Alternative Food Networks - Knowledge, practice and politics*, Abingdon, Routledge.
- GRANOVETTER, M. 2017. *Society and Economy*, Cambridge, Mass., Harvard University Press.
- GRIVINS, M., KEECH, D., KUNDA, I. & TISENKOPFS, T. 2017. Bricolage for Self-Sufficiency: An Analysis of Alternative Food Networks. *Sociologia Ruralis*, 57, 340-356.
- HALFACREE, K. H. 1993. Locality and social representation: Space, discourse and alternative definitions of the rural. *Journal of Rural Studies*, 9, 23-37.
- KEECH, D. 2017. *Social enterprises with environmental objectives: saving traditional orchards in England and Germany*. *Geographical Journal*, 182, 164-174.
- KIRWAN, J., ILBERY, B., MAYE, D. & CAREY, J. 2013. Grassroots social innovations and food localisation: an investigation of the Local Food programme in England. *Global Environmental Change*, 23, 830-837.
- LANG, T. I. M. 2010. Crisis? What Crisis? The Normality of the Current Food Crisis. *Journal of Agrarian Change*, 10, 87-97.
- MARSDEN, T. & FRANKLIN, A. 2013. Replacing neoliberalism: theoretical implications of the rise of local food movements. *Local Environment*, 18, 636-641.
- MAZOYER, M. & ROUDART, L. 2006. *A History of World Agriculture: from the Neolithic to the current crisis*, London, Earthscan.
- MCCLINTOCK, N. 2013. Radical, reformist, and garden-variety neoliberal: coming to terms with urban agriculture's contradictions. *Local Environment*, 19, 147-171.
- MELUCCI, A. 1996. *Challenging Codes*, Cambridge, Cambridge University Press.
- MORGAN, K. 2015. Nourishing the city: The rise of the urban food question in the Global North. *Urban Studies*, 52, 1379-1394.
- PURCELL, M. 2013. Possible Worlds: Henri Lefebvre and the Right to the City. *Journal of Urban Affairs*, 36, 141-154.
- REED, M. 2016. 'This loopy idea' an analysis of UKIP's social media discourse in relation to rurality and climate change. *Space and Polity*, 1-16.
- REED, M. & KEECH, D. 2016. Gardening Cyberspace. Urban Food Activism in Bristol and the uses of Social Media. *Landscape Research*.
- REED, M. & KEECH, D. 2017a. Gardening cyberspace - social media and hybrid spaces in the creation of food citizenship in the Bristol city-region, uk. *Landscape Research*.
- REED, M. & KEECH, D. 2017b. Making the city smart from the grassroots up: The sustainable food networks of Bristol. *City, Culture and Society*.
- REED, M., KEECH, D., MAYE, D. & KIRWAN, J. 2016. Making the city smart from the Grassroots up: the sustainable food networks of Bristol. *Smart Cities - Case studies*. Milan: Fondazione Feltrinelli.

Contact: Daniel Keech, CCRI, University of Gloucestershire, UK.
dkeech@glos.ac.uk

SMITH, J. & JEHLIČKA, P. 2013. Quiet sustainability: Fertile lessons from Europe's productive gardeners. *Journal of Rural Studies*, 32, 148-157.

STEEL, C. 2009. *Hungry City: How Food Shapes Our Lives*, London, Vintage.

WILSON, D. & QUINTON, S. 2012. Let's talk about wine: does Twitter have value? *International Journal of Wine Business Research*, 24, 271-286.

WOODS, M. 2009. Rural geography: blurring boundaries and making connections. *Progress in Human Geography*, 33, 849-858.

YORK, E. & BREWSTER, C. 2013. The representation of Food in the Social Media Forum Twitter. *EFITA-WCCA-CIGR Conference "Sustainable Agriculture through ICT Innovation"*,. Turin, Italy, 24-27 June 2013.