RE-SEMANTIZING SUSTAINABILITY THROUGH CREATIVE AGRICULTURAL PRACTICES IN THE URBAN MILIEU

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Abstract: In the course of the last half century, the most vital of all human activities, food production, has become a highly de-humanized and mechanized process, carried on away from the everyday experience of most people, in degraded natural environments and often-unhealthy work conditions. This major transformation, which has been termed 'the modern agricultural dilemma' (Wright, 2005), has produced a profound alienation of the majority of the world's population, especially in urban areas, from the natural world as a place where to search for both material and spiritual nourishment. At the same time, however, many people around the world, in the most diverse contexts, have started to challenge this alienation by engaging in the highly creative and socially innovative activity of urban (and periurban) farming. After briefly delineating key aspects of the current agricultural crisis, the article offers an overview of contemporary experiences in small--scale sustainable agriculture and a tentative picture of the variety of forms, spaces, and social actors involved. Viewing urban farming as a form of 'popular art/craft', two main avenues are explored – the rise of agricultural gardens in urban areas and the neo-rural transition movement – with some reflections on the rise of urban farming in the urban imaginary and the frequent involvement of artists and designers in urban gardening initiatives. The article closes with critical observations on the state of research on urban agricultural practices.

Resumo: Durante o último meio século, a mais vital de todas as atividades humanas, a produção alimentar, tornou-se um processo altamente desumanizado e mecanizado, afastado da experiência quotidiana da maioria das pessoas, em ambientes naturais degradados e, em muitos casos, em condições de trabalho pouco saudáveis. Esta grande transformação, que foi chamada "o moderno dilema agrícola" (Wright, 2005), produziu uma alienação profunda da maioria da população mundial, especialmente nas zonas urbanas, em relação ao mundo natural como lugar onde se procura alimento material e espiritual. Ao mesmo tempo, porém, muitas pessoas de vários países do mundo, nos contextos mais diversos, começaram a desafiar esta alienação ao envolver-se na atividade fortemente criativa e socialmente inovadora da agricultura urbana (e periurbana). Depois de delinear brevemente alguns aspetos essenciais da atual crise agrícola, o artigo oferece

uma visão geral sobre as experiências contemporâneas de agricultura sustentável em pequena escala e um quadro aproximado da variedade de formas, espaços e agentes sociais envolvidos. Vendo a agricultura urbana como uma forma de "arte popular/artesanato", duas grandes vias são exploradas – a ascensão das hortas em zonas urbanas e o movimento de transição neo-rural –, juntamente com algumas reflexões sobre o desenvolvimento da agricultura urbana no imaginário urbano e o envolvimento frequente de artistas e designers em iniciativas de agricultura urbana. O artigo encerra com algumas observações críticas acerca da situação da investigação sobre as práticas agrícolas urbanas.

Introduction: The macro-context

Since its early inception in human history, agriculture has been the most basic and vital human activity, on which much of social life has been based. For millennia, food production through domestication of plants and animals has been an everyday affair for the majority of the world's population, who lived in rural areas, either on farms or in small villages tightly connected to the land. In the course of the last few decades, however, agriculture has been profoundly transformed, becoming a highly industrialized process of crop production through a generalized use of chemical inputs and petroleum, and conducted in large-scale monocultures that have replaced pre-existing diversified agro-ecosystems (Ponting, 1991; McNeill, 2001; Wright, 2005). In the first decade of the new millennium, the crisis of agriculture manifested itself as probably the most serious consequence of economic globalization: the two massive food crises which struck many poor countries in 2008 and 2011 were only the epitome of a general degeneration of food production and distribution systems worldwide, testified by alarming data about the steady increase in consumer prices, hunger, malnutrition, and chronic diseases such as obesity and diabetes – which, in turn, reflect the profound inequalities afflicting people's access to food on the global scale (Dapice, 2011). Most of the above problems originated during the twentieth century with the industrialization of agriculture and especially with the so-called 'green revolution' of the 1960s, by which monocultures with high levels of chemical and water inputs came to be considered (paradoxically) the most efficient and economically sound form of food production. On the contrary, industrialized agriculture caused a number of ecological shortfalls, such as a huge increase in soil erosion, an unprecedented reduction of biodiversity, and simplification of ecosystems, with a consequent reduction of their resilience to natural disasters. Industrial agriculture also brought about new risks for human health and

loss of autonomy on the part of farmers, while exacerbating the problem of decreasing yields (McNeill, 2001; Altieri, Ponti, and Nicholls, 2005).

Industrial agriculture came to be superimposed over pre-existing forms of food production through a series of international trade agreements that took place after World War II, and especially in the last two decades. These agreements had the effect of imposing foodstuff of the global North on the internal markets of poor countries, while annihilating their food reserves and food sovereignty, and causing the impoverishment of local farmers with consequent land abandonment (Stiglitz, 2007). This process ended up with the contemporary emergence of 'land grabbing', that is, the appropriation of huge tracts of land on the part of corporations and states – with the support of the World Bank – as a form of speculation on future market values or to create monocultures of bio-fuels, soy and other cash crops (Food First, 2011; Liberti, 2011). Finally, climate changes of the last decade have also aggravated the contemporary agricultural crises, causing the continuous rise of food prices due to loss of yields resulting from natural disasters (IFPRI, 2013).

Since the end of the twentieth century, a number of NGOs and local social movements worldwide have started to speak up in the defense of traditional agriculture, advocating for food security, food safety, and food sovereignty for poor countries and rural, as well as urban, low income populations. Taken together, their policy recommendations can be summarized in three fundamental measures: (1) keep land in the hands of local farmers' communities; (2) support agro-ecological farming methods based on participatory research programs; and (3) shift market policies towards the goal of local food autonomy and self-sufficiency (La Via Campesina, 2010; Food First, 2011; Grain, 2011).

While these three strategies might require long-term and large-scale transformations in the political-economy scenario, they need to be supported by new cultural visions that can re-semantize and enrich thinking about and enacting agricultural practices. A number of minor transformations are already taking place in the way people relate to agriculture in different places and contexts around the world. Can these small practices taking place at the local level – at the same time in many different contexts around the planet – contribute to constructing new meanings and visions of agriculture as a central cultural component of human activities?

Uncovering the historical roots of urban gardening

Many words are used to refer to practices that aim to reintroduce agriculture in city spaces. While terms such as *allotment gardens*, *community gardens*, or *pedagogic gardens* refer to specific forms of reintroducing cultivation in urban space (in close relation with those who run them or their specific goals), more general terms as *urban or periurban agriculture* try to depict a larger series of phenomena which dialogue with cultivation/farming activities in both central and more peripheral urban spaces.

Such phenomena have a very long history – growing food in or around the city has been a common practice prior to industrialization and during the urban growth of the last two centuries. The story of urban or periurban agriculture is tightly linked to nineteenth-century urban development, which, on one hand, incorporated some agricultural land into the cities' landscapes and, on the other hand, often featured some empty plots devoted to agricultural activities to allow recently urbanized workers to maintain a relation with family-scale production of fruit and vegetables for self-consumption and some income. The important (but still not vast) literature on the history of gardening in urban and periurban spaces usually focuses on the different degrees of need (and socio--political strategies) that motivated such practices in some important specific world conjunctures (Lawson, 2004). Attention has also been given to the role of actors such as unions or Christian churches in promoting – or strongly criticizing – projects of allotment gardens in relation to struggles for workers' rights (especially in the framework of the second industrial revolution, during the last quarter of the nineteenth century). Other studies address issues related to food sovereignty and self-sufficiency during, and in the aftermaths of, World War II, or – more recently – the role of urban agriculture in countries affected by international trade embargos, such as the interesting case of Cuba after the crash of the Soviet Bloc in 1989.

Urban struggles in favour of an increase of urban gardening spaces – such as those conducted in several countries by the so-called Green Guerrillas, a movement that originated in the early 1970s in New York City[1] but today is also active in other countries – have recently popped up and expanded in many different contexts. Such organized phenomena, whose aim is enrooting in solid community networks – seem to have been able to enter in dialogue with individual-based informal practices which have proliferated in the latest three decades (especially in many peripheral or semi-peripheral countries), conquering empty urban plots, edges of street or railway lines, and other

marginal *terrain vagues* to establish precarious agricultural activities which have proven useful not only to add income or to reduce family expenditures for food, but also to strengthen feelings of ownership and belonging to the city on the part of marginalized urban inhabitants.

An interesting aspect of such practices is that despite their informal nature, often violating rules contained in the respective national legal frameworks or local bylaws, they were able to attract the attention of local institutions thanks to their capacity of 'problem-solving' – especially important in a moment of growing cuts to public welfare, which require creative solutions to citizens' problems. As it become clear in some cases, such as in the Lisbon Metropolitan Area (Martins, 2012), the capacity of local decision-makers to observe and valorize self-help practices experimented by citizens can contribute to renewed public policies and open a 'virtuous circle' whose goal is to learn from grassroots practices while also contributing to gradually regularize them. Such progressive regularization aims to reduce the precariousness of such practices and their difficulties in attracting investments due to their informality.

The last three decades of the twentieth century also featured important but controversial public policies to promote urban gardening in large cities, exemplified by the experiences of special agencies created in Los Angeles and New York (where the famous Green Thumb project was established in 1978). These agencies provided strong support to urban agriculture projects until the end of the 1980s, when they were confronted with the pressure of land speculation and the dynamics of city growth and metropolitan sprawl, which forced them to partially abandon their original tasks (Lawson, 2005).

In the last decade, we can observe the remarkable experiences of nations such as Brazil, Colombia, or Bolivia where urban agriculture has come to be recognized as a valuable contribution to several areas of public intervention (from social inclusion to food sovereignty to the fight against poverty) and has been linked to reshaping urban contexts and changing welfare patterns and development policies. These achievements are complemented by a vast and growing production of handbooks and toolkits published in recent years – often on the basis of extensive case study analysis (e.g., experiences in Lima, Peru; Seville, Spain; Rosario, Argentina; or Belo Horizonte, Brazil) – by a large series of international institutions which work in the domain of development and pro-poor strategies (i.e., the World Bank, FAO, UNICEF, or UNDP) and their social partners (such as the RUAF Foundation, based in Holland).

These latter efforts seem to be fuelled mainly by the pressure of global economic-financial crises, which urge new solutions to the negative effects taking place in the face of shrinking household incomes, reductions in food quality, and the social exclusion of vulnerable groups such as immigrants, precarious workers, and the elderly. Holistic approaches addressing these issues (with special attention to urbanization processes in the countries of the Global South) have been able to highlight a wide range of positive contributions and 'collateral effects' that the promotion of urban and periurban agricultural practices can address in the domains of social inclusion, community-building, and the creation of sustainable visions for urban space transformation. In part, this explains the recent growth of investments in promoting (peri)urban agriculture practices, not only on the part of public decision-makers (e.g., local authorities or administrations of museums, schools, or prisons) but also by grassroots organizations, social movements, and even non-organized urban dwellers and families.

Within this panorama, it is worth underlining that practices that in the past appeared to be merely conservative (e.g., individually-managed allotment gardens) can evolve and acquire a capacity to address progressive goals through interaction with public policies based on dialogue with networks of actors interested in valuing community links and discussing common goods and sustainability goals. These discussions and resulting (peri)urban agriculture policies and programs give importance to the social, cultural and economic dimensions of inclusion, and not merely to environmental implications.

Urban gardening as a popular art/craft?

Beyond its social and political relevance and a growing scientific literature on its nutritional and ecological benefits (Hodgson, Campbell, and Bailkey, 2011), some of the more impressive aspects of urban agriculture have not been sufficiently well documented and analyzed. This is particularly true when it relates to practices that are not primarily productive, such as those involving recreational, pedagogical, and therapeutic motivations and strategies (e.g., 'school farms' or therapeutic gardens such as in the Portuguese rehabilitation unit Comunidade Terapêutica do Meilão).

Today, urban gardening can be seen as a growing mode of social engagement into creative and productive use of public space worldwide. As noted, people continue to practice urban farming in a variety of forms, as a means of subsistence, social and generational cohesion, and local/sustainable food

production. But urban farming can also be viewed, more generally, as a form of 'popular art/craft', that is, a non-industrial activity based on personal, often vernacular, crafting skills. In this respect, it is a creative way of using nature as raw material and as a source of inspiration. Designing horticulture, beehives, and small-scale irrigation systems; remodelling abandoned urban plots; turning waste into cultivated green areas – all are forms of creative engagement with and/or reinvention of public space. Moreover, people often engage with these activities in 'bottom-up' ways, as forms of individual and collective re-connection with nature, while also re-inventing social connection at the community level.

A wide family of practices aims to reinterpret the role of small-scale agriculture in tight relation with an anthropocentric vision of human economic activities, and to promote the rediscovery of non-profit-based exchange relations that can contribute to creating new social bonds and re-signify the concept of everyday-life quality. This large family of practices includes two movements that (from different starting points) converge into a common goal: to demystify and dematerialize the borders of traditional dichotomies such as urban-versus-rural. This challenge is confronted through practices that work to reintroduce a daily dialogue with nature and agricultural production within the urban milieu as well as practices that engage with the idea of farming as a social movement, aiming at building holistic visions and wider political awareness of the interdependence of urban–rural linkages in communities located in extra-urban space.

A changing public urban imaginary

As research on the 'shift' in political culture in regard to urban and periurban agriculture seems to increase, a dark corner remains underexplored: the changes in the public urban imaginary which may have been facilitating the emergence of a central role for urban agriculture in the discourse on urban transformations. Undoubtedly, in recent years, a series of alarm bells have underlined the risks of a growing detachment of young urban inhabitants from an understanding of agriculture and its interdependent relation with daily-life commodities and urban quality. For example, research conducted by the European Council of Young Farmers (CEJA) in 2009 in the basic schools of several EU countries, within the project Tellus Mission[2], demonstrated a high incapacity of young Europeans to relate farming products to the form they assume when sold in the markets, illuminating a frightening average ignorance about agriculture and farming life as well as an impoverished imaginary on nature.[3]

In light of this situation, several concurrent elements have converged in raising awareness on the importance of agricultural practices in the quality of life of the urban environment, especially among younger generations. For example, soon after the CEJA survey, a massive diffusion of real-time farming simulation videogames appeared, including the Harvest Moon series developed by Marvelous Interactive Inc., the social network game FarmVille developed by Zynga in 2009[4], and also Happy Farm[5], Green Farm, Farm Town, SimFarm, and the Brazilian 'Turma do Chico Bento'.[6] Could these games partially contribute, somehow, to raising the interest (and knowledge) of young urban dwellers in real agriculture practices?

This explosion of game releases coincided with a wave of creation of "didactic farms" (Allegretti and Frascaroli, 2006), which began to be important reference points in pedagogic experiences about natural resources in the urban milieu, especially for schools and families with young children. This movement occurred in a moment in which the international imaginary of the relation between food production and city spaces has also been stimulated by important voices advocating for investing in practices of family-level urban agriculture, such as that of U.S. First Lady Michelle Obama, who established a family garden at the White House and attracted much media attention to this issue.

Other 'convergent elements' of the urban imaginary have also been changing in recent years in the direction of more sustainable uses of public space and a greener aesthetics for the built environment. This includes the creation and international circulation of images of a series of global 'urban icons' such as the revival of the Naerum Allotment Gardens by Carl Theodor Sorensen, built in Denmark in 1948-52, with oval plots fenced by evergreen bushes laid out on a rolling lawn, in a fluid progression (Barbey, 1952; Andersson and Høyer, 1993); and new green vertical gardens created by biologist Patrick Blanc in famous buildings like the Quai Branly Museum in Paris (by architect Jean Nouvel), the Caixa Forum in Madrid (by Herzog and de Meuron starchitects), and the "Rainforest Rhapsody" in Capitaland, Singapore. Such examples, shortly after their construction, were emulated by less renowned planners, soon becoming a common feature in the new urban landscape, as occurred in Florence, Italy, with the development of a vertical garden of Mediterranean spices that renewed one of the walls of the Le Murate ex-prison. Other prominent architecture examples that used green (and often edible plants and fruit trees) as an important component[7] also contributed to increasing attention to a different

way of interrelating the green and the built environment, and adding weight and sensitivity to the major issue of revitalizing urban spaces through practices of green-care.

Of special note is the High Line public park in New York City, built on a 1.45-mile-long elevated rail structure. In 1999, the non-profit organization Friends of the High Line saved this industrial icon from clearance and transformed it into one of the most successful tourist spots of the city, consequently emulated in several other places.[8] The High Line, forged around a self-seeded landscape rich with wild plantings that grew on the unused High Line (161 out of the 210 plant species are native to the area), has been an important worldwide example to reflect on cost reduction in garden management and on locally based sustainability practices.

Such award-winning experiments have been accompanied by a growing number of mass-market products and innovative technological solutions designed in order to allow different target groups of urban inhabitants to celebrate small rituals of a 'return to nature' in their own private or semi-public spaces, often linking green design with small food-production facilities. For example, items such as rigid and soft planters (such as removable bags made of recycled polypropylene), amphorae, movable beehives, chicken coops and other livestock facilities, bio-top rooftop containers, solar bubble and vertically integrated greenhouses, living walls, permeable paving, and tomato plant stands have been put on the market to facilitate micro-hydroponic private experiments at the individual dwelling level and to construct roof-gardens or small 'temporary gardens' for food production – encouraging and enabling individuals to shape 'edible landscapes' in the built environment.[9]

Art and agricultural practices in the urban milieu: A natural convergence?

Parallel to the expansion of market solutions, which undoubtedly has fuelled the enrooting of urban and peri-urban agriculture practices in the collective imaginary of urban inhabitants, many public institutions have also devoted energy, time, and space to expand public knowledge and critical reflection about such practices beyond 'mere fashion'. Organizations such as the Garden Museum in London, the Deutsches Kleingärtnermuseum in Leipzig, and the Museu do Traje in Lisbon have been important in shaping (peri)urban agriculture experiments and leaving visible traces and memories of them.

One of the most important directories to compile and spread successful examples of experiments which try to match architectural renovation and

design techniques, on one side, with food production in high-density urban environments on the other, is *Carrot City*, a research initiative that originated from a 2008 symposium, conceived by students and faculty members at the Department of Architectural Science of Ryerson University in Canada. Following an exhibit held in early 2009 at the Design Exchange in Toronto and a book written by Mark Gorgolewski, June Komisar, and Joe Nasr in September of 2011, the initiative has expanded into a traveling exhibit that has been shown at a number of venues around North America, Europe, and Africa. Carrot City's main aim is to spread around experiments and solutions that can "empower designers to develop exciting and imaginative new proposals" to contribute to shaping the horizons of a future 'Productive City' (Carrot City website).

Through this initiative, many interesting examples of food production in the urban landscape have been made known and emulated. Notable among them are: the Rooftop Gardens of the Fairmont Hotel chain in Toronto, Montréal, Vancouver, Bermuda, and Washington – an experience started in 1998 with the active partnership of the hotels' kitchen chefs and staff – and the Roofgarden of the Congress Palace of Montréal. The latter is an energy-efficient certified structure that in 2010 embarked on a pilot project, soon transformed into the *Culti-Vert* permanent habitat with the help of the caterer Capital Traiteur and the collaboration of the Montréal Urban Ecology Centre.[10] In both the experiences, while the initial motivating reason for the initiative was to render the rooftops aesthetically more attractive through planting permanent vegetation, including climbing plants, and to respond to criticisms from customers and managers of surrounding taller buildings, this goal was soon transformed into the creation of showcase vegetable gardens that grow quality vegetables, fruit, and fine herbs (and sometimes include beehives, composting, and other features) for the restaurants in the area, also contributing to the well-being of the local community and the idea of a '0 kilometre' food provision chain.

Notably, in several of these examples, which "demonstrate how the production of food can lead to visually striking and artistically interesting solutions that create community and provide residents with immediate access to fresh, healthful ingredients" (Carrot City website), we find the central role often played by visual artists, architects, and designers in the development of showcase experiences which aim to consolidate strategies for reintroducing urban agriculture to cities.

We think the explanation for this cannot be reduced to merely recognizing that these socio-cultural categories have a major 'sensitivity' for aesthetics

or for problems related to sustainability and creative approaches to the transformation of urban space. We propose an added explanation to help explain this 'convergence' between the artists' role in promoting urban innovation and diversified (peri)urban agriculture activities that aim to make space for food production in the urban milieu, ranging from ambitious urban plans to simple measures for growing food at home, and even in cemeteries[11], which is linked to the 'temporary status' of urban agriculture. In fact, it seems that urban agriculture largely consists of rediscovering practices that challenge the borders between monadic activities and between formal and informal uses of the territory, proposing new readings of the *sustainability* concept. From this perspective, sustainability is reinterpreted not as a permanent sequence of activities located in the same place but as centred in the idea of *resilience*, that is, a capacity to adapt to transformations of external conditions in the urban panorama, which can be fast-moving and are often shaped by strong actors whose goals are pursued despite circumstances and external implications. Somehow, the state of 'precariousness' that marks (peri)urban agriculture activities and submits them to the approval and constant verification of other, more lucrative activities to be conducted in the same area (such as the real estate market for new tertiary or residential buildings)[12] is perfectly in line with the precariousness and intermittence that generally characterizes the work of urban art.

A second possible convergence between urban agricultural activities and artists' ambition to contribute to new territorial aesthetics in the development of (peri)urban agriculture projects could be related to an idea of *landscape* similar to that contained in the European Landscape Convention (approved in Florence in 2000), wherein aesthetic values can be interpreted as the ordered fruit of productive and organized work on spaces – primarily aimed at food production – rather than as the result of merely the aesthetic will of an author. From this perspective, a clear affinity can be traced between urban agricultural activities and the field of land art, where the pivotal role of the 'context' in the signification of the main artistic artefacts seems more visible than in other forms of art, where the presence of the author's touch seems to have a more visible preeminence.

Given these perspectives, it is not difficult to understand why urban artists and art projects often play a catalyzing role in promoting or accompanying[13] the recent and impetuous wave of institutional programs and grassroots practices interested in reintroducing food production and greenery into dense

city blocks, and shaping community spaces and productive green surfaces that can be tended and harvested by residents and school students alike. This 'convergence' explains why experiments in the construction of edible urban landscapes go together with the production of new urban narratives which seem to contribute to the creation of a 'virtuous circle' which – through discourse and the circulation of images and artistic projects – undoubtedly enriches the possibilities of such practices to be supported by public investments, to influence other contexts, and to contribute to gradually modifying the urban landscaping culture.

Farming as a social movement: Transition as an example

In addition to urban (and peri-urban) farming, other actions also represent the urban ecological transition at the present time: sustainable agriculture, personal behaviour changes in relation to nature, and community engagement in a common project to lessen petroleum expenses and influence in climate change. Planetary turmoil, uncertainty about future life quality, distrust in authorities and government policies, and the economic crisis collectively confront people with a feeling of despair, fear, and disbelief. Our rational minds and technological skills aren't solving the problems as quickly as is desirable. People are beginning to think about how they can, individually or in small groups, contribute to a new scenario in their place of living or where they could move to develop a new life project to change the situation. Thus, a new paradigm emerges where citizens are the promoters of diverse initiatives to promote a more sustainable way of living on the earth. Ecovillages, sustainable communities, transition initiatives, gardens, farms, orchards, and woodlots are different expressions of this kind of initiative.

The foundation of ecovillages began in 1987 with the formalization of the Gaia Trust organization and the dynamization of the Global Ecovillage Network (GEN). In the GEN website, there are more than 1,500 ecovillages registered (GEN, 2012). GEN promotes information, support, tools, and leadership to the development of sustainable projects. Ecovillages are defined as ways of value transformation, supported by four pillars:

– Distinguishing life quality and happiness from growth;–
– Reconnecting people to their local place of living;
– Recovering ancestral values and practices; and
– Working and experimenting an ethics of holistic education (Dawson, 2010).

The transition movement emerged in mid-2000 with the aim to build a new post-carbon society (Holmgren, 2002) by reducing oil dependence and reducing the ecological impact of local and regional economies and people's needs for food, energy, and other goods and services, and providing these goods locally and regionally. The first transition town initiative was set up in Kinsale, County Cork, Ireland (Ryan-Collins et al., 2010). Totnes was the England's first transition town, which has a long history of green activism (Hopkins, 2010). In 2006, the Transition Network was founded with the goal to inspire, connect and support the different community initiatives following the transition initiatives model. Hopkins (2008, 2010) provides data about the expansion of the transition initiatives: in September 2011, there were 382 registered and 482 new ones beginning, in 24 countries. In August 2013, there were 471 initiatives registered (TN, 2013).

Through the transition town initiatives, a new paradigm emerges with the aim of changing today's focus on wealth-related values, economic capital, and domination of nature, to a focus on increasing the relevance of health, environment, biodiversity conservation, and communities' and people's happiness (Yunus, 2010). The main contribution of these initiatives to a paradigm change is the transformation of people's role as consumers into a role as artists, seeking life quality instead of goods quantity (Kumar, 2010).

Different from environmental activism that mainly intends to change the economic and political paradigm, these initiatives link people, institutions, time, values, and ideas to find a better way of living (Algarvio, 2010). The means used also differ. Taking the transition movement as an example, we can say they use the arts and local actions based in a holistic practice, *permaculture*, to feed their hope in a better future. The environmental movement tends to have a sectoral approach to forests, soil, and so forth and acts mainly through protests, campaigns, and lobbying to reach and influence public opinion. Fear and blame are the main discourses used to change the system. The green economy is a means acceptable for most environmentalists. For the transition movement, the reinforcement of local economy, not economic growth, is the most relevant dimension for prosperity to take place (Hopkins, 2008).

Some of the projects are situated in rural areas where unused and less expensive land exists. Agriculture and energy are the central elements of these projects, with an emphasis on sustainable agriculture (i.e., organic, biodynamic, permaculture, and agroforestry) and renewable energies (see Figures 1 and 2). Urban citizens can be project promoters, moving to rural areas or spending

Figure 1. Permaculture garden in Tamera ecovillage, Alentejo, Portugal, September 2011. Photo: L. Fernandes.

Figure 2. Solar energy in in Tamera ecovillage, Alentejo, Portugal, September 2011. Photo: L. Fernandes.

their weekends there. The projects' development can be a way of employment and earning money or only a leisure time activity. They can be communitarian initiatives or individual/family activities. They can promote community ideals by providing people with opportunities to build connections and friendships with others. There is a relevance of the *local*, with a belonging and an ingrained meaning in symbolic, historic, and cultural terms (Escobar, 1993).

The rural space is, in this way, transformed by the urbans, with the original rural inhabitants' participation or not. Urban inhabitants who have moved to rural areas are commonly called *neo-rurals*: "a widespread assumption, namely that all of them share some characteristics that make a clear opposition to those of local population.... differences they have when compared to local population: higher level of education, lower involvement in agricultural activity, higher rates of women in paid work, etc." (Escribano and Mormont, 2006: 35). In the North American context, they are called "back to the landers" or "the new returnees to rural," defined as: "people who have given up mainstream contemporary American culture for a return to a way of life variously imagined as simpler, more natural, more rooted in community" (Ivanko and Kivirist, 2004: xv).

A glance to research trajectories

Undoubtedly, the richness of perspectives on these new activities and interpretations related to the cultural transformations of the urban agricultural imaginary are only asymmetrically reflected in the present state of research on the array of grassroots gardening/agricultural projects, especially if we take into account the context of macro-issues outlined in the introduction of this paper. The international literature in this field to date has highlighted a number of issues, relevant from a socio-environmental perspective. They can be summarized into three macro-groups, with three distinct views of (peri)urban agriculture as a macro-area of interest:

1. *(Peri)urban agriculture imagined as a strategy for community food security and food safety*. Relevant topics from this perspective are: the aim to community self--reliance and autonomy from the global food market, especially in contexts of economic crisis or chronic poverty; access to nutritious and healthy food; the preservation of cultural and biological diversity (e.g., vernacular agricultural knowledge and seeds); and the capacity of urban agriculture to provide reliable and sufficient quantities of food (i.e., productivity) (van Veenhuizen, 2006; Mougeot, 2006; Bakker et al., 2000).

2. *(Peri)urban agriculture imagined as a form of social inclusion/social cohesion, challenging land-use and urban-planning practices.* Relevant topics from this perspective are: the social function of property (e.g., regeneration of abandoned or waste land parcels, common property institutions); forms and opportunities of access to resources (e.g., water, seeds, knowledge, infrastructures); and informal economies (Biel and Cabannes, 2009; Woelfle-Erskine et al., 2003).
3. *(Peri)urban agriculture imagined as a social movement aiming at building sustainable agricultural practices through social networking and other forms of agri/cultural action* (e.g., permaculture and transition networks, land squatting, ecovillages, and voluntary farmwork and international exchanges). Relevant topics from this perspective are: opportunities for reconnection with nature (i.e., anti-alienation), social identity, and community building; creative entrepreneurship and solidarity forms of economy (Truninger, 2010); and the dialectic between activism and individual escape (Dawson, 2010; Biel and Cabannes, 2009).

Considering the state of research investigating these practices and avenues, we acknowledge the growing multidisciplinary field that is emerging but also observe important limitations. The first relates to the still underdeveloped area of research on the evolution of the green/edible urban imaginaries and their interrelation with urban-art actions. The second seems more related to a limitation of vision: literature on urban and periurban agriculture is rarely comparative, and is still usually limited to case studies and mono-issue investigations. In fact, research on recent experiences of cities and/or countries that have engaged in innovative public policies on (peri)urban agriculture has rarely gone beyond a storiographic perspective, barely approaching the topic within the larger framework of public policies and urban governance.

In addition, new interpretive and methodological instruments are needed in order to further investigate various aspects of the (peri)urban agriculture phenomenon in a *sustainability* perspective. From this perspective, a visible shortfall of existing research literature has to do with its disciplinary confinement – pre-eminently within sociology, landscape architecture, or agrarian sciences – without extended attempts at better integrating the various perspectives. Such an approach is not grounded enough – literally speaking – to be able to fully grasp the complexity of the social and ecological dynamics which take place in (peri)urban agriculture practices. Another blind-spot of

the current research literature in (peri)urban agriculture concerns the internal dynamics between different strands of the urban farming reality. While most of the studies so far have analyzed (peri)urban agriculture communities in their dynamic interrelation with the external context (local governments, national agricultural policies, the global food crisis, etc.), the community dimension has tended to be uncritically assumed as a homogeneous social reality, a positive and undisputed term of reference in the processes at play. However, social differentiations related to class, gender, age, ethnicity, and territory (just to name the most relevant) can have important repercussions on the how and the why of urban farming practices, and influence in critical ways its outcomes from a sustainability perspective. A critical analysis of such differentiations of the socio-spatial scale is needed in order to better understand how sustainable urban agriculture is as a social practice and how it can contribute to socio--spatial justice from the perspective of 'the right to the city' (Soja, 2010; Lefebvre, 1981). Another issue in need of further understanding is the dynamic between individual/family strategies and collective action/networking strategies (Cattani et al., 2009), which could cast a new light on experiences that are able to go beyond merely individual-based productive activities, and re-imagine part of the productive market system through networking initiatives inspired by a different horizon of exchanges. A very delicate and crucial point here is to understand how far and with what limitations (peri)urban farming is part of a collective project toward building more sustainable social and ecological practices; and whether such a common good perspective can be successfully added to existing practices in a consensual and bottom-up way, without becoming a techno/bureaucratic imposition.

An open conclusion

In this small reflective essay, we have tried to point out how – in the last half century – food production has been subjected to a deep process of de-humanization, which has produced a profound alienation of the majority of the world's population, especially in urban areas, from the natural world as a place to search for both material and spiritual nourishment. However, at the same time and in the most diverse contexts, bottom-up practices capable of challenging this alienation have popped up, engaging people in highly creative and socially innovative activities related to urban (and peri-urban) farming and the progressive creation of edible city landscapes. We have painted a brief overview of some contemporary experiences in small-scale agriculture in order to suggest possible

contributions they can offer to a more holistic reading of an ongoing transformation of our cultural imaginary. From this perspective, we offered a tentative picture of the variety of forms, spaces, aims, and social actors involved in activities of (peri)urban farming, without forgetting that it can be read not only as a series of activities that transform the way of producing and consuming in a fast-transforming urban landscape, but also as a space of networking between social and institutional actors, and as a form of 'popular art/craft' – a non--industrial activity based on personal crafting skills and a creative way of using nature as raw material and as a source of inspiration. Through several examples, we have tried to suggest how 'convergent trends' in modern society seem to have contributed to a gradual reframing of our urban imaginary toward a capacity to better value the interrelation between the intertwined social, economic, cultural, and environmental dimensions of sustainability.

Our reflection closed with critical observations on the asymmetric state of research on urban agricultural practices, pointing out some research voids to be addressed as well as the lack of a comparative analysis of urban agriculture initiatives. Such limitations need to be counterbalanced if we want to better understand how long-term and large-scale political-economic transformations can be challenged, completed, and even reversed by new cultural visions brought about by small but wide-spread initiatives that seem to have a potential – although there is still not enough strength and awareness behind them – to help re-semantize and enrich thinking about and enacting agricultural practices.

Notes

1. In the early 1970s, under the leadership of Liz Christy, Green Guerillas threw "seed green-aids" over the fences of vacant lots, planted sunflower seeds in the meridians of busy New York City streets and put flowerboxes on the window ledges of abandoned buildings. In a few years' time, dozens of community gardens (more than 600 are still alive) bloomed throughout New York City, and neighbours formed vital grassroots groups. Their configuration changed along time, and today these groups are organized into a non-profit resource center, helping community gardeners cultivate. See Brooks and Marten (2005) and www.greenguerillas.org.
2. For information about the Tellus Mission project, see: www.comminit.com/polio/node/121075.
3. Some examples of the inquiry's results: for 40% of the responders, a chicken has 4 legs; 80% ignore where cotton comes from, with 20% saying it's produced by sheep's skin; 90% enter in contact with agriculture production only on the markets' tables; and for 20% of respondents, oranges, olives, and bananas grow in the U.K.

4. See http://company.zynga.com/games/farmville, and "Zynga's FarmVille ...," (2009).
5. See Kohler (2009).
6. See www.turmadochicobento.com.br.
7. For example, the Agro-Housing, a multi-storey apartment block planned for the Chinese city of Wuhan in 2007 by the Israeli architect Knafo Klimor for the Living Steel International Design Competition, with the goal to integrate food production as a means to increase urban resilience; the Harmonia 57 building by French-Brazilian architects Triptyque and Peter Webb in São Paulo, Brazil (2008); and Stefano Boeri's 'Vertical Wood', a project of urban reforestation corresponding to 10,000 m^2 of trees in a two-tower unique residential complex in Milan's Expo area.
8. The High Line gardens, designed between 2004 and 2006 by a team composed of the landscape architecture firm James Corner Field Operations, the architecture firm Diller Scofidio + Renfro, and planting designer Piet Oudolf, opened in June 2009 (section 1) and June 2011 (section 2). The city of Paris converted a similar rail viaduct into an elevated park called the *Promenade Plantée*, and similar projects have started in St. Louis, Philadelphia, Jersey City, Chicago, and Rotterdam. For more information, see: www.thehighline.org.
9. Green technologies such as 'HOH! Hang Oasi Home' (by Ortisgreen), the hydroponic solution Greendea, and 'Floating Gardens' (created by the architects Marta Carraro, Laura Grillo, and Francesca Crovetto) have even been applied to the creation of aromatic micro-gardens for yachts and sporting boats, as exposed in a recent edition of the Yacht and Garden exhibition in Genoa, Italy, thus trying to expand urban agriculture practices to another environment.
10. See http://rooftopgardens.ca.
11. See the film documentary, *Inside the City of the Dead*, by Barbara Urbano.
12. In some rare cases, this 'minority status' of urban agriculture – always subjected to the primacy of other urban land uses – is even made explicit in some of the projects and policies aimed to stimulate (peri)urban agriculture practices. For example, the *Banco de Tierras* (Land Bank) created by the Galician Regional Government in Spain aims to provide spaces for cultivation in urban and periurban areas, and through the agency spaces can be exchanged and rotate according to other developments and uses of urban land.
13. For example, imagining 'temporary previews' of how a space could look if it was devoted to urban gardening activities.

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