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Urbanising nature. Why the Grounded Cities of the middle ages matter for the modern environmental history of the city

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1. Introduction

There is no historical precedent. At the start of the “Decade of Climate Action”, announced by Antonio Guterres, secretary-general of the United Nations, in early February 2020, the World Meteorological Organisation issued a statement once again summarizing the unprecedented character of global climate change. The statement asserted that 2019 was the hottest and driest year on record, 2010-2019 was the warmest decade on record, CO₂ concentrations reached a new high in 2020, the ocean heat in 2019 was the highest on record, and the world is facing a whole range of climate-related calamities of an unseen intensity and frequency, with the Australian bushfires and the East-African locust outbreaks as the most spectacular examples.¹ And yet, these “unprecedented” events are already fading in collective memory as they are eclipsed by the 2020 fires in the Arctic and along the west coast of the United States and, of course, by the global COVID-19 pandemic, which provides further evidence of how humanity’s relationship with nature is entering an uncharted – and highly dystopian – territory. At first sight, this is discouraging news for environmental historians, especially for those looking at the longer term: More than ever, the past turns out to be a foreign country. Already by 2030, 60% of the world’s population is projected to be living in cities, with almost half of them concentrated in cities with more than one million inhabitants.² The world of the 21st century is profoundly different from the 1900s, when even in Europe industrial activities and environmental change remained small-scale compared to what is happening today. No wonder then, that an increasing number of books and manifestos are being published defending the relevance of history.³

¹ Cf. <https://public.wmo.int/en/media/news/climate-action-priority-and-driver-of-world-affairs-un-chief> (01.11.2020).

² Cf. 2018 Revision of world urbanization prospects, <https://population.un.org/wup/> (01.11.2020).

³ Cf. Jo Guldi/David Armitage, *The history manifesto*, Cambridge 2014; Chris Jones/Conor Kostick/Klaus Oschema (Eds.), *Making the medieval relevant. How medieval studies contribute to improving our understanding of the present*, Berlin/Boston 2019. Of course,

If technology will offer the solution to our environmental crisis, as the so-called “ecomodernists” propose, the contribution of historians in general, and environmental historians in particular will always remain limited. Time and again, historians showed how technological fixes ended up in environmental and social disaster. For those of us who believe that changes in human organisation and behaviour will be vital, history has a more important role to play. When asked in 2016 about his vision of the future of urbanisation in Europe, Dieter Schott, who has spent much of his career investigating the rise of centralized, networked infrastructures in modern European cities, answered: “My hope is [...] that cities will be organised in a more decentralised way, city districts will have their own water supply, their own sewage system, their own energy supply. And these services will no longer be only large bureaucratised and centralised networks but will incorporate local and decentralised elements such as home solar panels, block stations producing power and heat, water cisterns, etc. This necessitates more involvement and more participation on the part of citizens, who will no longer be simple taxpayers, consumers of municipal services and voters every four years, but will be more engaged and more prepared to be engaged in the running of the city on an everyday basis”.⁴ This importance of decentralised infrastructures and citizen control might be the reason why Dieter Schott, in some of his recent publications, has consistently stressed the need to enlarge the scope of analysis to the longer term, including contexts in which such configurations were still predominant, and to consider the history of European urbanisation from the perspective of the past millennium. In other words, we have to bridge the gap between modern urban history and pre-modern urban history.⁵

The *Informationen zur Modernen Stadtgeschichte* and its successor, *Moderne Stadtgeschichte*, has always conceived “modern” as a chronological delimitation (the city in the 19th and 20th century), a conceptual one (the metropolitan or industrial city modelled on the British example⁶), and a methodological one (the application of modern tools and methods to study urbanity). “Modern” is an umbrella term, indicating a new type of urbanisation that spread in Continental Europe from the 1840s onwards, characterised by a new metropolitan scale of urbanisation that abandons old juridical boundaries

such books in defence of the historical discipline remind us of the 1940s and Marc Bloch, *Apologie pour l'histoire ou metier d'historien*, Paris 1949.

⁴ Dieter Schott/Christoph Mauch, Are cities sustainable? A discussion of urban metabolism in Europe, past and future, in: *Global Environment* 9, 2016, S. p. 255.

⁵ Cf. Most notably in Dieter Schott, *Europäische Urbanisierung (1000-2000). Eine umwelthistorische Einführung*, Köln/Weimar/Wien 2014.

⁶ Cf. Peter Clark, *Die Britische Industriestadt*, in: *IMS* 1/1994, p. 9-13.

between town and countryside, the industrial base of its economy, and the hegemony of a bourgeois and later mass culture.⁷

On repeated occasions, this specificity of the “Modern City” compared to its medieval or early modern predecessors, has been explicitly questioned.⁸ Throughout its 50-year history, longer-term approaches to urbanity, covering both the “Stadt der Moderne” and the “vormoderne Stadt”, have only rarely been developed, in particular when dealing with the environmental challenges of city life.⁹ A more frequent inclusion of the pre-1800 city in the analysis would not only allow to reveal long-term continuities and path-dependencies¹⁰, but also to discover alternative paths and developments, which might be particularly inspiring for the post-industrial future of the city.

In this contribution we focus on the potential of medieval European cities to understand the problems of today and possible solutions for tomorrow. Medieval European cities present us – despite all their pluriformity and variation – with a distinctive social and socio-environmental model, which, in the West, has often been depicted as instrumental for the culture of growth and the rise of exploitative relationships with nature. However, recent research on the environmental history of medieval cities in general, and on the history of urban food provisioning in particular, suggests that medieval European cities were not geared towards accumulation and growth, but more commonly conformed to the model of the Grounded City: Cities that, because of their intimate relationship with the land, privileged a direct and local access to food and vital resources. This article offers a first exploration of the idea of Grounded Medieval Cities, discussing its scope and significance as well as its legacy in later periods. Special attention is paid to the social inclusiveness of these Grounded cities and to the conditions in which Grounded cities gave way to more exploitative relationships with natural resources.

⁷ Cf. Clemens Zimmermann, *Stadtgeschichte und Urbanistik*, in: Friedrich Jaeger/Wölfgang Knöbl/Ute Schneider (Eds.), *Handbuch Moderneforschung*, Stuttgart 2015, p. 9-10.

⁸ Cf. Horst Matzerath, “Moderne Stadtgeschichte”? Bruch oder Kontinuität in der Stadtentwicklung, in: *IMS 2/1989*, p. 2-7; Heinrich Joh. Schwippe, *Moderne Stadtgeschichte in Deutschland – ein Literaturrückblick*, in: *IMS 1/1996*, p. 10-18.

⁹ Cf. For instance *IMS 2/2009* on urban animals; or Dieter Schott, *Die Rolle von Katastrophen in der (Stadt-)Geschichte*, in: *IMS 1/2003*, p. 39-50; Dieter Schott/Michael Toyka-Seid, *Stadt und Nachhaltigkeit*, in: *IMS 2/2010*, p. 7-21.

¹⁰ Cf. Clemens Zimmerman, *Antwerpen 1550-1600. Abbruch oder Verengung eines Entwicklungspfadcs?*, in: *MSG 2/2018*, p. 31-43.

2. Bridging the gap

No environmental transition was ever self-evident, universal or unavoidable.¹¹ Even the most spectacular environmental transitions in the past, such as the transition to fossil fuel or the spread of networked technologies, were far from linear, abrupt or universal, but rather layered and complex, with ample space for continuities and simultaneities of practices, technologies and narratives, and even examples of straightforward reversal or regression. Moreover, transitions never happened automatically, but they were crafted by very real historical actors operating in a highly path-dependent context. The same is true for the divide between the modern city and the pre-modern (or pre-industrial or medieval) city in urban environmental history: On closer look, the divide is less impressive than it seems. Waste recycling by urban households, the flagship of the “closed” metabolism of the pre-industrial city, might have been replaced by the collection and dumping of waste in municipal landfills, but on these sanitary landfills communities of scavengers made a living from searching and sorting waste in a very “premodern” way, at least until the 1960s in Europe and still today in many other parts of the world.¹² Centralized and networked infrastructures sometimes popped up long before the industrial revolution, while decentralized infrastructures sometimes co-existed with more centralized infrastructures for decades or centuries. Systems of piped water existed since antiquity and from the 13th century onwards new systems were installed in many European cities, from Siena to Bruges. Such hydraulic networks first supplied municipal or monastic fountains and wells, but in the later middle ages they increasingly serviced private households as well. Moreover, part of the ideas and social practices connected to older infrastructures no longer in existence could be perfectly transferred to new ones, resisting new technological paradigms.¹³

In many cases, the full complexity of continuity and change only becomes visible when looking beneath the surface of the entire city, at individual actors or groups and networks in the city. Environmental transitions are not about the city that is changing, but rather about a myriad of processes, actors and actants working together to produce change, while other processes, actors and

¹¹ Cf. Tim Soens et al. (Eds.), *Urbanizing nature, Actors and agency (dis)connecting cities and nature since 1500*, New York 2019.

¹² Cf. Heike Weber, *Twentieth-Century wastescapes. Cities, consumers, and their dumping grounds*, in: Soens et al. (Eds.), *Urbanizing nature*, p. 261-289.

¹³ Cf. Ric Janssens/Tim Soens, *Urbanizing water. Looking beyond the transition to water modernity in the cities of the Southern Low Countries, thirteenth to nineteenth centuries*, in: Soens et al. (Eds.), *Urbanizing nature*, p. 89-111.

actants are working towards continuity. “The” city did not change nature because “the” city did not and does not exist. What exists are specific – historical – urban contexts, with time- and place-specific configurations of human actors and a non-human environment. When looking in detail, the variation between cities is considerable, even within the relative coherent space of Western and Central Europe. Each city – especially in a context of long-term spatial continuity of cities – has a specific, century-long tradition of interacting with nature, which impacts on how problems are dealt with, from the distant past to the Anthropocene present. When unravelling the processes and actions that cause environmental change in a particular urban setting, the gap between the pre-modern and the modern period suddenly becomes much less impressive.¹⁴

There are good reasons to start with the analyses of urban environmental history in the middle ages. First of all, there are obvious material and immaterial path-dependencies – “Die Strahlkraft von Geschichte”¹⁵, as Dieter Schott labels it – generated in this formative period of European urbanisation. Both the hardware (the morphology, infrastructure and landscape) as well as the software (the institutional, but also social and cultural organisation of urban life) of most European cities are clearly rooted in the centuries after 1000 CE. Moreover, cities in Europe not only originated in the middle ages, but medieval European cities also displayed some specific features which had a tremendous impact on the social interaction with nature. Here, Schott refers to Max Weber and the autocephaly – the self-government and the autonomy in relation to territorial or state authorities – as a unique feature of European cities. Furthermore, the persistence of collective rule and a strong civic – or bourgeois – culture were connected to a decentralized economic model of household production – the guild system – and a strong focus on the long-term subsistence of the family, despite periodic surges of a more capitalist logic.¹⁶

3. *The Grounded City*

In what follows, these observations on the importance of the *longue durée* to understand the urbanisation of nature will be taken as a starting point to investigate the importance of a specific socio-environmental configuration that can

¹⁴ Cf. Tim Soens et al., Did cities change nature? A long-term perspective, in: Soens et al. (Eds.), *Urbanizing nature*, p. 3-25.

¹⁵ Schott, *Europäische Urbanisierung*, p. 15: “Diese Strahlkraft von Geschichte in unsere Gegenwart verweist darauf, dass wir die Strukturen, mit denen es heutige Stadtentwicklung und Umweltpolitik zu tun hat, nur angemessen verstehen können, wenn wir sie in ihren langfristigen Genese analysieren und erklären”.

¹⁶ Cf. Schott/Mauch, *Are cities sustainable*, p. 241 and 248.

be conceived as the Grounded City model. In my opinion, this model might have been more important in European history than often assumed, although it was never hegemonic and could co-exist with alternative models of organising land and resources, most notably the market. While the Grounded City model was very prominent in some contexts, it is actively silenced in others, only to be reinvented centuries later. The Grounded City hence connects the environmental logic of the guild-based city of the middle ages to the municipal socialism of service provision in the 19th century and might offer inspiration for the 21st century. As such, it is a prime example of the non-linear nature of environmental transitions.

The financial geographer Ewald Engelen recently proposed the Grounded City as an alternative perspective on cities and their relationship to land. Cities are often presented as abstract, detached machines, generating ever expanding flows of income and output as a result of their density, with urban land reduced to an object of financial speculation, a value accelerator that multiplies the flow of primary revenue derived from external resources. Land, Engelen and his colleagues argue, is too valuable for the city to leave it to the market. Only by conceiving the city as Grounded City, we do justice to A) the intimate bonds of dependency and co-development between cities and their hinterland, B) the role of urban land value as the major accelerator of urban development, and C) the long-underestimated importance of the foundational economy of the city: The localized economy which caters for the everyday needs of the citizens (food, energy, building, transport etc.).¹⁷ Whether cities and urban inhabitants consider land as a privatised commodity from which to extract wealth, rather than as a vector of subsistence and a pre-requisite for well-being and social stability, is in the end a political choice.¹⁸

The Grounded City model draws inspiration from historical scholarship and most notably the work of Fernand Braudel and Charles Tilly. Braudel argued that a city could be at once a hub in the capitalist world economy, connected to a network of other cities and hinterlands all over the world, and a Christaller-type central place, catering for its own supplies from a more limited hinterland, in relations which remained more direct and personal.¹⁹ Tilly stressed that urban expansion over hinterlands is always a political choice and hence

¹⁷ Cf. Ewald Engelen et al., The Grounded City. From competitiveness to the foundational economy, in: *Cambridge Journal of Regions, Economy and Society* 10:3, 2017, p. 407-423.

¹⁸ Cf. Matthew Thompson et al., Re-grounding the city with Polanyi. From urban entrepreneurialism to entrepreneurial municipalism, in: *Environment and Planning A: Economy and Space*, 2020.

¹⁹ Cf. Fernand Braudel, *Civilisation and capitalism*, vol 3.: The perspective of the world, London 1984.

“politically precarious and reversible”, and never happens “as a logical result of urban density”.²⁰

Searching for historical precedents for his Grounded City model, Engelen mainly drew inspiration from the heydays of so-called municipal socialism in European and North-American cities in the latter half of the 19th century, which aimed at guaranteeing “citizen entitlement to everything from free public education to cheap tap water and sanitation”.²¹ For the advocates of strong municipal involvement in service provisioning, the vital needs of the city were too important to leave to the market. In what follows we will see that this argument can be pushed further back in time, all the way to the medieval period. At the same time, however, two important historical caveats should be added: First of all, not every city can be considered a Grounded City, neither in the middle ages nor in the 19th century. Secondly, not the city as a whole, but only some parts of the urban population were grounded. Urban society was layered and unequal. The Grounded City model seldom applies to the entire urban population, but rather to a variable part of the inhabitants.

4. The revolt of the medievalists

Over the past decades, urban-environmental history has witnessed a sort of revolt of the medievalists. Medieval cities had an undeserved reputation for filth and disease – the verdict being a legacy of the 18th century Enlightenment and the Victorian Age, preparing the ground for technological modernisation. In recent years, authors such as Carole Rawcliffe, Dolly Jørgensen and Claire Weeda have substantially revisited this paradigm, starting from the strong moral and ideological concerns about environmental health, identifiable in the regulations and policies of medieval cities.²² According to Rawcliffe, environmental policies were urged by different interconnected concerns: Clean and salubrious cities were a source of communal pride and success; environmental health was directly connected to the moral health of the community and its members, made visible, for instance, through lavishly decorated fountains; and, especially from the 15th century onwards, from a motive of personal commemoration, leading wealthy testators to legate funds for the amelioration of

²⁰ Charles Tilly, *European states, AD 990-1990*, Cambridge/Oxford 1990.

²¹ Engelen et al., *The Grounded City*, p. 408-409.

²² Cf. Carole Rawcliffe, *Urban bodies. Communal health in late medieval English towns and cities*, Woodbridge 2013; Carole Rawcliffe/Claire Weeda (Eds.), *Policing the urban environment in premodern Europe*, Amsterdam 2019; Dolly Jørgensen, “All good rule of the Citee”. Sanitation and civic government in England, 1400-1600, in: *Journal of Urban History* 36:3, 2010, p. 300-315.

the wellbeing of their fellow citizens.²³ The link between environmental and moral health is symbolized, for example, by the task of the “beedles”, who had to patrol the streets of late medieval London at night, to remove rubbish and keep an eye on the moral conduct of the inhabitants.²⁴

All too often, explanations of medieval environmental policies stick to the field of cultural history – and the reception of ideas about environment and health from antiquity. I think it is at least as important to look at the social and economic history of medieval towns, which allows us to see that the environmental legislation of the later middle ages is pervaded by a highly middle-class oriented corporative ideology: While the guilds collectively represented the urban body politic, the individual guild members, as heads of households, made up the body of the guild. The virtue and the trustworthiness of the guild members guaranteed the quality of their products.²⁵ The tasks of these heads of households to clean and pave roads, gutters and canals were part and parcel of the same complex linking individual morality and virtue with environmental health and economic quality. This kind of corporative model of the urban environment should not be seen as universal. It could perfectly coexist with other logics, including more commercialised and commodified ones. Once again, the history of urban water supplies can illustrate this: While in London urban water supply already became the realm of private companies in the 16th century, in many other cities urban water provisioning remained anchored in traditions of charity, memory and devotion deployed by the urban elite.²⁶

Urban environmental historians of the middle ages as well as those of the modern age were relatively late to discover the central importance of food provisioning for understanding the environmental logic of the medieval city. Food was for a long time the realm of economic historians, but is now increasingly seen as a vital issue in any debate on climate change and the urban environment: “Never have the opportunities offered by food been so many or so great – to restore the planet and its climate, to end the Sixth Extinction, to bring peace and plenty to all lands and societies, and to give rise to novel technologies and rewarding and useful employment and self-employment in megacities, on farms, in the oceans and in the world’s rewilded lands”, the Australian science author Julian Cribbs argues in his thought-provoking “Food Or War” on the history and future of food supplies and violence.²⁷ If the Grounded City ever

²³ Cf. Rawcliffe, *Urban bodies*, p. 3-7.

²⁴ Cf. Rawcliffe/Weeda, *Policing*, p. 24.

²⁵ Cf. Bert De Munck, *Guilds, labour and the urban body politic. Fabricating community in the southern Netherlands, 1300-1800*, New York 2018.

²⁶ Cf. Jansens/Soens, *Urbanizing water*.

²⁷ Julian Cribb, *Food or war*, Cambridge 2019, p. 277-278.

existed in European history, we should look for it in the history of food supplies.

5. *The Grounded Cities of the middle ages*²⁸

Medieval towns seldom originated as “islands” of trade and industry in a “sea” of feudal lands, as the Belgian medievalist Henri Pirenne still thought. Early towns were grounded in every sense of the word. They mostly grew out of rural settlements and were directly connected to the estate economy. In town charters of the 12th and 13th centuries, common rights of access to forests, pasture lands and water resources were important issues that were considered vital to attract tenants from the countryside.²⁹ The crucial importance of providing the inhabitants of new towns with independent means of subsistence can be seen in the case of Scandinavia in the 17th and 18th centuries. Each new town founded by the Swedish Crown was bequeathed with a sufficient amount of land to ensure the subsistence of its inhabitants. Around 1700, Uppsala, counting about 2500 inhabitants at the time, continued to be more of an exporter rather than an importer of grain.³⁰ Of course, one can argue that this is essentially a typical history of small towns: They were *Ackerbürgerstädte* or agrotowns, which by definition were semi-agrarian and wholly or partly self-sufficient. In such a small town like Colchester in England, two thirds of all taxpayers in 1301 were involved in some form of food production.³¹ It should be added that a combination of small towns with medium-sized towns, counting less than 5,000 or 10,000 inhabitants, was the backbone of European urbanisation in the middle ages as well as in later periods. And even though the size of cities grew in the 19th and 20th century, many regions of Europe remain characterized by a decentralised urban network rather than strictly metropolitan configurations.

For a long time it has been presumed that in case of sustained urban growth, the pressure of the land market would automatically clear the city from food production, first of arable land, later of pasture land, and in the end

²⁸ This paragraph and the following are primarily based on our on-going research on urban food supplies in the later middle ages, cf. Tim Soens, Urban agriculture and urban food provisioning in pre-1850 Europe. Towards a research agenda, in: *Jahrbuch für Geschichte des ländlichen Raumes* 16, 2019, p. 13-23.

²⁹ Cf. Richard Goddard, Small boroughs and the manorial economy. Enterprise zones or urban failures?, in: *Past and Present* 210, 2011, p. 3-31.

³⁰ Cf. Annika Björklund, Historical urban agriculture. Food production and access to land in Swedish towns before 1900, Stockholm 2010.

³¹ Cf. Richard H. Britnell, *Growth and decline in Colchester, 1300-1525*, Cambridge 1986, p. 16-17.

also of horticulture. As population densities increased, urban land would have become too expensive to produce food. Interestingly, this was indeed the case in some contexts but not in others, and no simple correlation with urban population densities can be observed. In medieval contexts, land as a source of food, energy and prestige was too important to be left entirely to the market. Landed property was the basis for political participation and, in the case of artisans, economic activity, and the family house was the anchor point of family identity. Only in very specific contexts was urban immovable property primarily seen as a financial asset.³² What most studies of the urban real estate market ignore, however, is that land – within and beyond the city – was also the source of food, resources and energy, and its social and political significance was often closely intertwined with its role as a provider of these services to the urban households.

6. Urban land

No city above 5,000 inhabitants was ever self-sufficient. We should keep in mind that a city of 10,000 inhabitants in 1600 needed about 90 square kilometres or 9,000 hectares to produce the grain it needed for bread.³³ A strictly localised food provisioning was thus out of the question for any city beyond 5,000 inhabitants. Nevertheless, in a city like Rennes in the 1450s – the capital of the independent duchy of Brittany and a medium-sized city of 12,000 inhabitants – 17 percent of the houses in the densely built-up Roman town centre and 43 to 59 percent of the houses in the medieval parts still had a vegetable garden or *potager*.³⁴ If we look at city maps of the 16th century, we are immediately struck by the amount of open space within the city walls and, of course, beyond these walls.³⁵ Even in the few very large cities of Northwestern Europe, gardening and farming were sometimes surprisingly resilient: A recent study by Clément Gurvil, for example, demonstrated how the *Couture du Temple*, the open field of the Temple in Paris, persisted as a cereal field in the 15th century and a gardening space in the 16th century, only assuming a residential function in the 17th century.³⁶ Of course, the access to open space would have been

³² Cf. Martha Howell, *Commerce before capitalism in Europe, 1300-1600*, Cambridge 2010.

³³ Cf. E.A. Wrigley, *Urban growth in early modern England. Food, fuel and transport*, in: *Past and Present* 225:1, 2014, p. 98-99.

³⁴ Cf. Jean-Pierre Leguay, *Terres Urbaines. Places, jardins et terres incultes dans la ville au Moyen Âge*, Rennes 2009, p. 119.

³⁵ Cf. Wolfgang Behringer/Bernd Roeck (Eds.), *Das Bild der Stadt in der Neuzeit. 1400-1800*, München 1999.

³⁶ Cf. Clément Gurvil, *Les paysans de Paris du milieu du XVe au début du XVIIe siècle*, Paris 2010, p. 103-104 and p. 464.

highly unequal: In both the 16th and in the 19th centuries, some neighbourhoods in a city like Paris were extremely crowded, while others had plenty of open space. Moreover, those with access to land were not necessarily interested in producing food on that land. Spatial inequalities, mixed with social inequalities, shaped the access to land and the potential entitlement to food through urban farming.

The problem is that in reflecting on urban food provisioning we by and large ignore the productivity of urban gardens. The importance of fruit and vegetable production and consumption is dramatically underestimated in historical sources. Household accounts only inform us about purchases, not about cashless backyard cultivation. And medieval culinary treatises were mostly concerned with meat, fish and herbs, not with the kind of pottage, stew and pies which formed the common staple diet for many people. Archeobotanics – cesspit research notably – reveal a completely different world. In an ongoing survey of early modern cesspit research in the Netherlands, Merit Hondelink found 97 taxa of edible plants, 34 fruits and fruit producing shrubs, 25 vegetables, 27 herbs and spices and 8 pseudo-cereals. But not everything is well preserved for the archeological record. Lettuce, for instance, hardly leaves any traces, neither as macro remains nor as pollen.³⁷ It remains to be seen whether the variety of edible plants in the middle ages was larger or smaller than in the early modern period or the 19th century. On the one hand, the rise of horticulture, as well as the intensification of global exchanges after 1500 considerably increased the variety of vegetables and fruits. On the other hand, the growth of horticulture as a specialised profession in the early modern period might have constrained the range of plants that were considered useful for human consumption.³⁸ We have to keep in mind that in Australia no fewer than 6100 edible native plants were used by Aboriginal people. Today, only five of them are still present in the regular – Western – diet of the people of Australia.³⁹ The produce of urban gardens is all the more important as this kind of extremely diversified, small-scale and labour intensive production might have been very productive in terms of the amount of food produced per acre of land.⁴⁰ However, the most resilient product of urban farming was not vegetables, it was

³⁷ Cf. Merit Hondelink/Mans Schepers, The common and the rare. A review of Early Modern Dutch plant food consumption based on archaeobotanical urban cesspit data, in: *Vegetation History and Archaeobotany* 29, 2020, p. 1-13.

³⁸ Cf. Joan Thirsk, *Alternative agriculture. A history from the Black Death to the present day*, Oxford 1997.

³⁹ Cf. Cribbs, *Food or war*, p. 276.

⁴⁰ Cf. in comparative perspective on India: Amartya Sen, An aspect of Indian agriculture, in: *The Economic Weekly* 2, 1962, p. 243-246.

milk. Milk was one of the most difficult food products to transport over long distances. As a consequence, even in mid-19th century London, at that time the largest city in Europe, 80 percent of its milk consumption was still produced in the immediate vicinity of the city.⁴¹

Nowhere is the connection between urban corporative ideology and urban access to land more clear than in the history of the urban commons. As Chris Liddy has argued in a recent overview of urban enclosure riots in 15th century England, “the notion of citizenship was grounded, quite literally, in the soil”.⁴² In late medieval England, the common not only indicated the land collectively owned or used by the burghers, but also the community of the honest householders, as opposed to the urban elite (and to those at the margins of urban society). In 14th century Cambridge, the “preservation of the common” was part of the oath new aldermen had to pledge. The triumph of urban oligarchy from the 1480s onwards was paralleled by new initiatives to enclose and privatise town commons. This, however, met with fierce resistance. The preservation of the commons became a platform for political mobilisation of an urban middle class of butchers, shoemakers, plumbers, clothmakers, millers, weavers, glovers, shearmen, barbers, cappers, tanners and glaziers. The town commons persisted in most provincial towns of England until well into the 18th or 19th centuries. Both the size of the urban town commons and the allocation of the entitlements varied greatly – in the late 18th century, 2,524 of Nottingham’s 14,000 inhabitants enjoyed common use rights to 1,100 acres or 440 hectares of land. In other towns, common access rights were accumulated with landed property by a smaller elite of landowners. As Henry French concludes, the urban commons were never meant to feed the urban poor.⁴³ However, they might have been an incentive for the urban middling groups to continue keeping cows, hence providing them a direct access to food.

In woodland regions, towns acquired extensive town forests, which, in contrast to marshlands, were often not included in the original town charter, but were acquired at a later stage, when the town grew bigger. Apart from energy, the town forests also provided food and allowed the persistence of urban pig cultivation. The Eckerrecht of Koblenz in 1469, for instance, stipulated that each burgher was allowed to drive 25 pigs into the communal forest in late Au-

⁴¹ Cf. P. J. Atkins, London’s intra-urban milk supply, circa 1790-1914, in: *Transactions of the Institute of British Geographers* 23:2/3, 1977, p. 383-399.

⁴² Christian Liddy, Urban enclosure riots. Risings of the commons in English towns, 1480-1525, in: *Past and Present* 226:1, 2014, p. 52.

⁴³ Henry French, “... a great hurt to many, and of advantage to very few”. Urban common lands, civic government, and the problem of resource management in English towns, 1500-1840, in: *Jahrbuch für Geschichte des ländlichen Raumes* 16, 2019, p. 74.

gust or the beginning of September, with an additional quota for the *ambtmann* (50) and aldermen (25 extra).⁴⁴

7. City and hinterland

The idea of a Grounded City in the middle ages is not just about urban agriculture – food production within or close to the city. It is also about the relationship between the city and its hinterland. Broadly speaking, the urban hinterland can be defined as the “extra-urban spatial precipitate of all flows of matter, energy and information, generated, organized or re-directed within an urban metabolism”.⁴⁵ In the globalized economy of today, the hinterland is largely invisible and volatile: It moves from place to place in response to market conditions. In a Grounded City, the link between city and extra-urban land is visible and tangible. In his study of medieval Toulouse, which numbered 20,000 to 30,000 residents, Philipp Wolff noted that only a few urban households were not self-sufficient in both grain and wine – although their fields and vineyards were not necessarily situated in the immediate vicinity of the town.⁴⁶ Like many Iberian towns, Valencia had an important irrigated zone of intensive agriculture and horticulture in its immediate neighbourhood: The *hortas* or *huertas*, which built on elaborate irrigation structures pre-dating the Christian conquest.⁴⁷ In the later middle ages, agriculture in the *hortas* was based on intensive smallholding farms, which increasingly incorporated commercial cash crops like sugarcane and mulberry trees.⁴⁸ Even though part of the *hortas* lay outside direct urban jurisdiction, they were profoundly urban in terms of how it was regulated (the *guardia de l'horta*), in terms of landownership (part of it belonged to the city-based nobility), and in terms of its labourers who were recruited among city-dwellers.

⁴⁴ Cf. Klaus Flink, Feld- und Waldwirtschaft im spätmittelalterlichen Alltag rheinischer Städte, in: Kurt-Ulrich Jäschke/Christhard Schrenk (Eds.), *Ackerbürgertum und Stadtwirtschaft. Zu Regionen und Perioden landwirtschaftlich bestimmten Städtewesens im Mittelalter*, Heilbronn 2002, p. 174-176.

⁴⁵ Martin Knoll/Sabine Barles, Long-term transitions, urban imprint and the construction of hinterlands, in: Soens et al. (Eds.), *Urbanizing nature*, p. 32.

⁴⁶ Cf. Philippe Wolff, *Commerces et marchands de Toulouse (vers 1350-vers 1450)*, Paris 1954, p. 175 and p. 192.

⁴⁷ Cf. Thomas F. Glick, *Irrigation and society in medieval Valencia*, Cambridge 1970.

⁴⁸ Cf. Antoni Furió/Ferran Garcia-Oliver, Household, peasant holding and labour relations in a mediterranean rural society. The Valencian country in the late middle ages, in: Erich Landsteiner/Ernst Langthaler (Eds.), *Agrosystems and labour relations in European rural societies (middle ages-20th century)*, Turnhout 2010, p. 31-56.

Even in the largest European city of the later middle ages – Venice, way beyond 100.000 people – which was known for its reliance on long-distance food supplies, Fabien Faugeron estimated that 8 to 10 percent of the food consumed by the Venetian population derived from rents-in-kind from land in the immediate vicinity of the towns. In addition, an even higher amount of food was brought by cultivators to the Venetian Laguna and sold directly to urban middlemen or consumers.⁴⁹ So even in the most serene republic, a short food chain between producer and consumer co-existed with purely capitalist developments in the food trade. If we look for early examples of food commodification, it will be hard to match the business of Mateo Valier, a 15th century Venetian merchant studied by Faugeron, who shipped large quantities of Sicilian grain all over the Mediterranean, based on a continuous assesment of the market situation from the Barbay Coast in North Africa, over Egypt and the Syrian Middle East to Flanders.⁵⁰

In their quest for social ascent, urban elites from the middle ages to the 20th century almost automatically invested in land, and in many contexts not only derived rent but also food from this land. More interesting, however, is the acquisition of rural land by the urban middle class. 14th century Ghent offers an interesting example of such a dynamic: In the post-Black Death context, when food became cheap, and the price of land plummeted, the middle class of the city of Ghent became grounded by either buying land or by clinging onto land inherited from family members in the countryside. To what extent these middle groups of tanners, bakers, butchers, weavers, and ironmongers also derived food from this land is not clear. However, in times of food scarcity, when the price of basic food stuffs on the urban market were skyrocketing, the rural connection might have offered them an extra claim to food to buffer the price spikes on the market.⁵¹

8. *Regulating food provisioning*

Accepting that medieval cities were grounded does not mean that urban population was not involved in the market for their supplies. A lot of food was invariably traded through the market, and even the food derived from land

⁴⁹ Cf. Fabien Faugeron, *Nourrir la ville. Ravitaillement, marchés et métiers de l'alimentation à Venise dans les derniers siècles du Moyen Âge*, Rome 2014, p. 770.

⁵⁰ Cf. *Ibid.*, p. 458.

⁵¹ Cf. Stef Espeel/Sam Geens, *Feeding inequalities. The role of economic inequalities and the urban market in late medieval food security. The case of fourteenth-century Ghent*, in Fransesco Ammanati (Ed.), *Economic inequality in pre-industrial societies. Causes and effects*, Florence forthcoming.

owned by urban citizens was indirectly shaped by markets, the land market most notably. However, the urban food market in the middle ages was seldom an unregulated, anonymous free market, but often one which was a) strongly regulated and b) one in which buyers and sellers were acquainted with each other, and bound into a longer term personal relationship.

Even in the Italian hubs of nascent merchant capitalism – and perhaps even there in the first place – the importance of food for the social stability of the city was recognized at an early stage. Initially, Italian cities like Florence or Venice, intervened on the food markets. Florentine *consuls* were buying grain “pro annona publica” in 1139, and in Venice, the first *Lex Annonaria* was issued in 1173 by the Doge Sebastiano Ziani. *Calmiere* – the maximum prices imposed to calm down the market – and grain purchases were the principal instruments of market regulation by the municipality. By 1349 – in the context of the Black Death – the control of the food market was institutionalised in the *Collegium Bladi*⁵², and regulation was increasingly extended not only to commerce but also to the production of food, hence to land.⁵³ In the 16th century, this urban provisioning system was extended to the energy sector as well, as the preservation of forest resources in Venice’s mainland territory became a crucial political issue from the 16th century onwards.⁵⁴

Late medieval regulations of the food market, for instance, were especially focused on the avoidance of monopolies. They tried to prevent price-fixing and cornering the market in vital foodstuffs by forestalling: The buying up of basic foodstuffs before they reached the market in order to manipulate the price.⁵⁵ Because of the recurrence of price spikes and food shortages in the medieval and early modern period, most economic historians are rather pessimistic as regards the efficiency of medieval price regulations. But they were part and parcel of a political economy – a moral economy using the term coined by E.P. Thompson – which had as its primary goal guaranteeing a fair food supply to the honest members of the urban community at a just price.⁵⁶

⁵² Faugeron, *Nourrir la Ville*, p. 19-23 and p. 63.

⁵³ Cf. *Ibid.*, p. 173.

⁵⁴ Cf. Karl Appuhn, *A forest on the sea. Environmental expertise in renaissance Venice*, Baltimore 2009.

⁵⁵ Cf. Rawcliffe, *Urban bodies*, p. 277.

⁵⁶ Cf. James Davis, *Medieval market morality. Life, law and ethics in the English market place, 1200-1500*, Cambridge 2012.

9. *Un-grounded cities*

From what precedes, it has become clear that town dwellers did not always lose their direct access to food once a city grew beyond a certain threshold. Even in cities of 10,000 or 50,000 inhabitants, a substantial amount of food could be acquired outside the market or through personal links with providers (either producers or retailers). Only in some specific economic and political conditions, this grounded model gave way to a dependence on an anonymous market and, implicitly, to different, anonymous, and more exploitative relationships with nature. Food as a vital component of urban life then turned into a simple commodity. This un-grounding of the city should not be seen as a linear process happening somewhere between the middle ages and today. While we argued for the existence of Grounded Cities in the European middle ages, there also were many urban configurations in 1300, 1500 or 1800 which did definitely not (or no longer) correspond to the model of the Grounded City. And vice versa, some cities that did not correspond to this model, could increasingly conform to it at specific moments in their history.

London around 1300 offers an interesting example in this regard. Since the publication of a “Medieval Capital and its Grain Supply” by Bruce Campbell and his colleagues in 1993, the London grain market before the Black Death has been conceived as “a highly commercialized market, with many competitive buyers and sellers, no monopolies at all, and integrated price movements at different markets”.⁵⁷ Moreover, London in the 14th century had a large proletarianized lower class whose houses had no cooking equipment, making them dependent on fast foods – pies on street kitchens – in the words of Martha Carlin.⁵⁸ So the large majority of households in early 14th century London were definitely not grounded.

In Ghent, with more than 60,000 inhabitants one of the largest cities of Northwestern Europe in the later middle ages, urban food production was still present in the 13th century, as witnessed by payments in kind on urban lands and conflicts about tithes. After the Black Death, this kind of activity within the city walls seems to have diminished despite a lower population. However, as we have seen, the city remained grounded, as there was a surge of urban landownership of rural land, and food deliveries by rural tenants to urban landowners. In a recent study of famine policies in the late medieval Low Coun-

⁵⁷ Bruce Campbell/James Galloway/Derek Keene, *A medieval capital and its grain supply*, London 1993, p. 87-90.

⁵⁸ Cf. Martha Carlin, *Fast food and urban living standards in medieval England*, in: Martha Carlin/Joel Rosenthal (Eds.), *Food and eating in medieval Europe*, London/Rio Grande-Hambledon 1998, p. 27-52.

tries, Nicolas Barla showed how the provisioning policies of the urban municipalities were shaped by the interests of the urban middle class: In times of food shortage, the municipalities bought large quantities of cereals at nearby and distant markets, not to distribute to the poor, but to stabilize the market while at the same time issuing maximum prices. Interestingly, during the 1477-82 food crisis, the municipality of Mons changed its policy: Instead of influencing the market through price limits and grain purchases, it ended restrictions on the grain market, hoping to attract foreign grain. Such controversial measures clearly show how a food crisis could trigger changes in the urban relationship with food, in this case abandoning the Grounded City with its highly regulated and very personal food supplies and replacing it with anonymous, market-mediated “food from nowhere”.⁵⁹ And sometimes changes in the regulatory framework of the food market helped to destroy the direct relationship with food of a part of the population, while providing another part with a more direct and privileged access to food. According to Faugeron, this was the case in 15th century Venice, where the *calmiere* price limits saved the financial interests of the merchants and the social peace in the city, but at the expense of the fine-grained network of local provisioners and retailers: The foundational economy of the city – as Engelen called it – was sacrificed in order to save the financial interests of the grain merchants and to calm the populace.⁶⁰

9. *The Grounded City. History and future*

In debates on the sustainability of cities, the future of our food system is a crucial issue. Efforts to replace the anonymous “food from nowhere” provided by the globalized and anonymous agro-food market with a more decentralized, sustainable and transparent food provisioning system will easily find inspiration in the Grounded Cities of the past. Rediscovering the urban agricultural heritage in all its diversity might be as important as the development of high-tech vertical farming. However, the challenge for environmental historians is to show that neither the sustainability of such Grounded Cities nor their demise were automatic or universal. They were closely connected to specific social configurations. In European history, the idea of Grounded Cities is intimately connected to bourgeois, middle class, ideals about the organisation and provisioning of the city. Both the municipal socialism of the 19th century and

⁵⁹ Nicolas Barla, “Pour la nécessité du povre peuple”. La gestion des crises alimentaires dans les Pays-Bas Méridionaux en période d’affirmation des pouvoirs urbains et princiers (XIe-XVe siècle). Chronologie des crises, analyse historiographique, étude de cas (Lille et Mons au XVe siècle), Unpublished PhD Université Libre de Bruxelles 2019.

⁶⁰ Cf. Faugeron, *Nourrir la Ville*, p. 768-769.

the Grounded Cities of the middle ages were reluctant to leave basic provisioning services to the market. The hegemony of the market in the provisioning of life-sustaining services was the exception, not the rule. A direct access to land as a source of food for urban households might have become less frequent in the course of the 19th and 20th centuries, but the idea resurfaced time and again. The continued success of horticulture and market gardening as well as dairy farming in the urban fringe guaranteed that food production remained visible in many cities before and after 1800. The Garden City became a prominent model of urbanism in the later 19th century, and in the same period allotment farming was encouraged and institutionalised in European as well as American cities. Both World Wars saw a return to the land, to food growing within the cities, and the implementation of policies aimed at increasing self-sufficiency in urban food provisioning. And while the agro-food industry became increasingly globalized in the post-war period, efforts to reconnect urban citizens to the land have become more frequent over the last decades.⁶¹

Only long-term analysis that bridges the gap between the pre-modern and the modern world can reveal such continuities. However, before advancing the Grounded City as a model for the 21st century, we should add that large parts of urban society were never grounded. Through most of its history, the social inclusiveness of the Grounded City was limited. Only in some contexts, the Grounded City was inclusive enough to encompass the majority of urban households. Perhaps environmental history has embraced systemic models of ecology too much, which made historians forget the social inequalities involved. These inequalities risk to be black-boxed when applying concepts like the Grounded City on the city as a whole, without revealing the underlying mechanisms allocating the costs and benefits of urban land among different stakeholders both within the city and beyond. Urban-environmental history will always require a coherent social perspective.

⁶¹ Cf. Yves Segers/Leen Van Molle, Worker's gardens and urban agriculture. The Belgian allotment movement within a global perspective (from the 19th to the 21st century), in: *Zeitschrift für Agrargeschichte und Agrarsoziologie* 62:2, 2014, p. 80-94.