UrbanScope Vol.9 (2018) 30-34

UrbanScope
e-Journal of the Urban-Culture Research Center, OCU

Environmental History and Spatiality

Ayuka KASUGA*

Keywords: Environmental History, Spatiality,Network

Abstract

One of the key ideas behind the international seminar 'Collective Inhabited Areas in Environmental History/Environmental Writings' was the need to focus on spatiality when the relationships between and among societies and the environment are considered. This paper briefly explores some of the key texts in the literature of environmental history that developed the theme of spatiality and tries to present elementary ideas about the possibilities of research into it. It focuses in particular on two strands: the material and economic chains, and the networks of scientists, experts, and policy makers. Issues concerning material and economic chains include interactive or two-way changes and the inclusion of non-human agency. Although harmony is sometimes emphasised in relation to material and economic chains, researchers argue that material and economic chains can cause problems, such as social justice and environmental deterioration. This paper also provides a small case study on material and economic chains around the brickmaking business in London. It may be comparable to the material cycle of excrement in Edo-era Japan.

Issues concerning the networks of scientists, experts, and policy makers include the nature of networks and access. These spatiality issues can be explored in different scales, from local and regional to imperial, transnational, and global. Although these frameworks are interesting in themselves, what is more interesting is how these frameworks are useful for understanding issues of inequality, conflict, and the emergence of environmental problems, as well as how these problems have been solved.

I. Introduction

One of the key ideas behind the international seminar 'Collective Inhabited Areas in Environmental History/ Environmental Writings' was the need to focus on spatiality when the relationships between and among societies and the environment are considered. Indeed, environmental history itself is a subfield that has foregrounded not only time but also space. Therefore, this paper briefly explores some of the key texts in the literature of environmental history that developed the theme of spatiality, and tries to present elementary ideas about the possibilities of research into it. This short paper mainly deals with American and British modern history. Other centres of environmental history, including Germany, are also important but are not included in this paper.

In the seminar, I read a paper entitled 'Polluters' struggles and the smoke abatement discourse in early nineteenth-century England'. I decided not to include it in this special issue, but to write this short paper. However, I would like to explore the seminar paper briefly, and to locate it in the broad research on the relationships between and among societies and the environment.

II. Spatiality in Environmental History

Environmental historians appear to have explored two different aspects of spatiality. One is material and economic chains, and the other is networks of people, especially focusing on knowledge. The first section briefly examines examples of literature on material and economic chains. The second section provides a case study on

* Ph.D., Associate Professor at Graduate School of Integrated Arts and Sciences, Hiroshima University, 1-7-1 Kagamiyama, Higashi-Hiroshima City, Hiroshima, 739-8521, Japan
E-mail: akasuga@hiroshima-u.ac.jp

multiple chains of materials. The final section explores networks of people.

1. Material and Economic Chains

One way to explore spatiality in environmental history is to focus on material and economic chains. William Cronon's well-known monograph *Nature's Metropolis* (1992) explored how Chicago developed in tandem with the expansion of its hinterland. The integrated story about the development of Chicago and its hinterland challenged the dichotomy between urban and rural, and between artificial and natural. He utilised the concepts of first and second nature to argue that Chicago grew by extracting first nature's accumulated fruits, including timber and agricultural products, while its hinterland expanded by converting first nature into agricultural fields, or second nature, with the help of railroads and Chicago's market. Cronon's emphasis on interactive or two-way changes could be utilised at other scales, including transnational and international chains (Saunier 2013: 88). It is also important that Cronon's work provided a spatial understanding of urban development, that resembles an organism. Similarly, Strasser (1999: 69-109) revealed how recycling materials were collected before the rise of mass consumption society in New England. Along with farm products, including fruit, flax, woollen yarn, beeswax, butter, and eggs, peddlers collected old brass, lead and other metals, and rags. By exchanging these, people obtained a wide range of products, such as pins, needles, and cloth. Tin, rags, rubber, and bones were especially important as raw materials for manufacturers. Paper was made from rags, while buttons, gelatine, and fertilizer were produced from bones. Thus, a city and its hinterland are useful spatial ranges for exploring material and economic chains. Similarly, a river basin can provide interesting insights. Richard White's *The Organic Machine* (1995) focused on the Columbia River basin and examined the cycles of energy along the river.

The idea of material and economic chains and/or cycles is very fruitful, but it is important to keep in mind that the idea sometimes emphasises harmony and undervalues problems. The above-mentioned literature did explore this inharmonious aspect. For example, Cronon examined how extensive woods were cut because of the material and economic chain of timber. Strasser described changes from pre-industrial society to the mass consumption society, and White dealt with a 'bomb factory' for the Manhattan Project. Similarly, the environmental justice issue was comprehensively presented in *Environmental and Social Justice in the City*, edited by Massard-Guilbaud and Rodger (2011). For example, Richard Oram showed that the change in fuel from peat to coal in Scottish towns between 1750 and 1850 severely affected poor people, partly because of the loss of common rights to access wood and peat near towns. The book also dealt with inequality in the effects of natural disasters, water supply, and access to sewage systems. It should be emphasised that material and economic chains can cause problems, such as social justice and environmental deterioration.

Another issue concerning material and economic chains is how to incorporate non-human agents. This issue is often explored in relation to Actor Network Theory (ANT).[1] For example, Wright (2017) argued that the idea of the Anthropocene that as an epoch when human impact on Earth is significant should be understood not only in terms of human actions but also 'the forces of new industrial technologies, capitalist economic relations, or the nonhuman power of material things like coal and oil' (p. 687). Although Wright did not use the term ANT, he acknowledged the similarity between his argument and ANT. ANT may be useful in understanding how non-human agency forms material and economic chains.

2. Multiple Spaces

In addition to exploring certain spatial scales, it is also important to examine overlapping spatial chains. *Nature's Metropolis* showed that there were several economic and material chains around Chicago, including a timber supply chain from forests, grain and meat supply chains from farms and ranges, and a chain that accumulated capital from frontier towns. This illustrates the overlapping chains of different kinds that developed Chicago.

Similarly, multiple spaces can be explored in material and economic chains in an urban area. This section examines these chains around the brickmaking business in London in the first half of the nineteenth century (Kasuga

1. With regard to ANT, see Law and Hassard (1999).

2013, 2014).[2] It provides a comparison with economic and material cycles in Japan from around the Edo era, in which excretions were collected in urban areas and brought into farms as manure, and vegetables that grew there were sold in urban areas (Kito 2002: 95-129; Mitsumata 2008; Negishi 2008: 173-176; Tanaka 2010).

Brickmaking in London was different from brickmaking in other regions of England, where kilns were used to bake bricks. Around London, a 'clamp' – a pile of not-yet-burnt bricks covered by burnt bricks – was used. Raw bricks were burnt, not baked, by mixing fuel, or 'soil', into brick earth. This soil was collected by sifting ashes that originated in domestic homes. Unsifted ashes, or 'breeze', were also sandwiched between raw bricks, making it possible to burn bricks in clamps (Dobson 1850: 4). Thus, ashes and cinders were collected from London houses and used for brickmaking. In the first half of the nineteenth century, they were collected by dustmen and brought into dust yards,[3] which sometimes developed into huge dust heaps. Dust yards were often located in suburbs, where labourers sifted and sorted dust into useful materials, including soil. Soil was used for manure as well as brickmaking (Mayhew 1861: 166-179). Brickmaking business was also located in the suburbs, for several reasons, including the availability of space, the smoke nuisance it caused, and the availability of brick earth.

The price of ashes fluctuated according to the demand from brickmakers; in other words, it fluctuated according to the demand for buildings. When the demand was low, parishes might have to pay dustmen to collect the ashes, but parishes could receive money from the dustmen when the demand increased.[4] A material chain can be traced from domestic houses that produced the ashes and dust to the dust yards and the brickmaking business. In addition, coals that mainly came from Newcastle were distributed to houses in London and transformed into ashes by the power of combustion.

The brickmaking business sometimes experienced conflicts with other suburban businesses that involved plants, such as nurseries. London gardens were supplied from suburban nurseries because shaded gardens with poor soil and polluted air caused by coal combustion were not suitable places to grow plants. In addition, people living in houses without spacious gardens satisfied themselves with potted plants, which were supplied by suburban nurseries (Longstaffe-Gowan 2001). This material chain can be traced from the suburban nurseries to London houses. It is interesting that sulphurous and nitrogenous emissions caused by coal combustion partly contributed to the development of the suburban nurseries. Because they were located in similar areas, the brickmaking business could damage the plants in the nurseries.

This brief examination of the London brickmaking business and nurseries shows that metropolitan life involved multiple material chains. Similarly, different scales of chains, including urban, regional, national, and possibly international, and transnational, could be explored.

3. Networks of experts, businesses, and policy makers

Another way to introduce spatiality into environmental history is to focus on networks among scientists, intellectuals, and policy makers. *Green Imperialism*, by Richard Grove (1995), argued that oceanic island colonies' experiences of ecological deterioration and the fight against the problem was a forerunner of other European colonies' experiences. Intellectual networks in the era of colonial expansion contributed to the emergence of environmental sensibilities. Similarly, Frioux (2015) described sanitary engineers' transnational networks centred on French cities.[5] In terms of intellectual and expert networks, the scales beyond nation-states have tended to attract the attention of scholars.

Similarly, networks within a country have been explored by historians, although these works rarely emphasise their spatial aspect. For example, in the context of American national history, Markowitz and Rosner (2002) and Ross and Amter (2010) have explored how knowledge about toxic chemicals was accumulated by networks of scien-

2. This topic was explored in detail in my unpublished PhD thesis written in English and a short article written in Japanese (Kasuga 2013, 2014).

3. Maidment (2007) argues that the trade slowly disentangled itself from other groups of street cleaners in the early nineteenth century, and was transformed from a small-scale independent trade to a large-scale one or to parish employees in the 1840s. Local authorities began to expect dust contractors to conduct both street cleaning and dust collection around the 1840s (pp. 29, 30, 35, 44).

4. For example, see Feltham (1818: 315) and *The Literary Gazette* (1832: 425).

5. As for transnational networks, also see Saunier (2013).

tists and public health leaders, and how some industries counterattacked the accusations levelled at them through the use of networks of managers, scientists, and officials of industrial associations. These works explored how polluters utilised scientific, intellectual and policy makers' networks to cover up the health problems and pollution caused by industry. They revealed the typical nature of polluters' networks, but it could also be fruitful to explore networks from different points of view. Indeed, Christine Rosen and Christopher Sellers (1999) argued that business interests were diverse in their attitude toward pollution control, and they called for detailed research into the variety of behaviours among different business interests and in companies' decision making processes. My paper, 'Polluters' struggles and the smoke abatement discourse in early nineteenth-century England', presented in the seminar 'Collective Inhabited Areas in Environmental History/Environmental Writings', focused on manufacturers' efforts and problems they faced, describing how manufacturers' discourse and campaigners' discourse were respectively constructed through networks. Of course, it cannot be denied that polluters' networks tend to cover up the pollution they caused, but further research is needed to identify conditions in which polluters' attitudes toward pollution differed.

Another issue that arguments about networks might raise is the question of access. De Bont (2017) argues that a transnational network of naturalists, diplomats, and royals resulted in the establishment of the Albert National Park in the Belgian Congo. However, it is also emphasised that by restricting access to the park by local people and tourists, its primitive character was thought to be preserved. While it was happy to be included in the global network for biologists, it excluded people who were thought to be unsuitable.

III. Conclusion

There seem to be two focal points of spatiality examination within environmental history: material and economic chains, and networks of experts, businesses, and policy makers. These aspects can be explored at different scales, from the local and regional to the imperial, transnational, and global. Although these frameworks are interesting in themselves, of greater interest is how these frameworks are useful in understanding issues of inequality, conflict, and the emergence of environmental problems, as well as in understanding how these problems were solved.

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