



HAL
open science

JOURNEY THROUGH THE PAST: A CONTINUITY OF ECOLOGICAL CHALLENGES

Paché Gilles

► **To cite this version:**

Paché Gilles. JOURNEY THROUGH THE PAST: A CONTINUITY OF ECOLOGICAL CHALLENGES. *Management of Sustainable Development*, 2023, 15 (1), 10.54989/msd-2023-0005. hal-04153447

HAL Id: hal-04153447

<https://hal.science/hal-04153447>

Submitted on 6 Jul 2023

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

JOURNEY THROUGH THE PAST: A CONTINUITY OF ECOLOGICAL CHALLENGES

PACHÉ Gilles¹

¹CERGAM, Aix-Marseille University, France; gilles.pache@univ-amu.fr; ORCID 0000-0002-9316-0251

ABSTRACT: While ecological challenges are more and more systematically placed at the heart of the news, with the multiplication of activist groups carrying out sometimes violent actions of protest, it is usual to consider that environmental degradation is relatively recent. It is true that the first alarmist reports date from the early 1970s. However, numerous historical studies underline that ecological challenges were extremely significant as early as the Middle Ages in Europe, which forced political authorities to intervene to successfully limit environmental degradation in cities. A review of history sheds light on current issues, highlighting the importance of political interventionism to meet ecological challenges.

KEY WORDS: City, Ecology, History, Middle Ages, Political interventionism

1. INTRODUCTION

For more than twenty years, the IPCC reports have been announcing the imminence of a major ecological catastrophe that threatens the survival of humanity. Even earlier, at the beginning of the 1970s, the Club of Rome report written by Meadows *et al.* (1972) warned of the dramatic environmental situation towards which the planet was heading; the current climate disruption confirms the gloomy predictions. However, we should not imagine that the ecological challenges we are facing are recent. It is true that the nature of these challenges is now global and no longer local: they concern the spaceship Earth, to use Boulding's (1966) famous image, and not just a limited geographical region, as in the work carried out by Diamond (2005) on the ecological collapse of Easter Island in the 17th century. However, the major risk is to think that the intensity of the current ecological challenges is unique, and without comparison with what the history of humanity has known.

This is undoubtedly a mistaken perspective if one looks closely at the state of cities in the Middle Ages. The concept of urban pollution, even if its use did not appear until the 20th century, is undoubtedly relevant to understanding the functioning of medieval societies in Europe. During the medieval period, the increase in the population of cities in Europe, at the same time as it favored trade (Fraser, 2011), paved the way for the spread of bacteria and diseases, such as cholera and typhoid fever. If the *Yersinia Pestis* bacteria, carried by rats and spread by fleas, triggers the famous black plague that spreads rapidly, the reason is to be found in unsanitary conditions caused by the accumulation of human and animal waste and excrement, as well as the presence of garbage that the political authorities have the greatest difficulty in managing the disposal outside the city.

The names given to certain streets, alleys and other passages bear witness to a reality that is far removed from the sanitized image sometimes conveyed of the medieval city where idle princes and princesses meet in silky clothes. Thus, in France, the *Rue Sale* (Dirty Street) in Angoulême or the *Passages Merdeux* (Messy Crossings) in Chartres and Niort do not leave any ambiguity on the intensity of the urban pollution which rages, whereas the Greco-Roman civilization left an important heritage: paved and curved ways facilitating the water flow. The

laxity of the medieval political authorities, but also the indifference of the populations to their environment, will lead to a progressive disintegration of the urban space over the decades, with actions finally being taken to “clean up the city.” Step by step, local political authorities in the Middle Ages became aware of the ecological challenges and acted to solve the problem.

The objective of this short communication is to highlight that political interventionism has ancient roots in history, and that it is essential for management researchers to identify them to better understand current issues. Indeed, in the face of ecological challenges, many European cities have built an “environmental agenda” which may seem original, but which can be traced back to the Middle Ages in other forms. From this point of view, it is important to associate researchers in history and management to examine the nature of political interventionism in the Middle Ages in terms of more sustainable cities, and to evaluate their effects. The crossing of perspectives should allow us to improve our knowledge of contemporary ecological challenges, and of the most relevant modes of action to meet them.

2. REALITY OF THE POLLUTED MEDIEVAL CITY

Beyond a journey through the past, it is interesting to indicate how many invariants exist seven centuries apart to build a history of ecology understood as a reflection of a societal reality (Segura Grañó, 2009). Indeed, as in medieval times, it must be recognized that many voices are raised today to complain about a city soiled by multiple economic activities. It is true that industry has deserted the cities of Europe, but the retail activity is still present, especially with Internet sales and convenience stores, two forms of commerce that require the implementation of an impressive urban logistics system, the negative external effects of which are well known: road congestion, recurrent traffic jams, accidents, air and noise pollution, etc. (Morel and Paché, 2021).

Since the 1990s, Rosen and Tarr (1994) have been advocating a historical reading of the relationship between the city and the environment from a long-term perspective. For these authors, one of the main objectives is to better understand the societal response to the ecological degradation of the living environment of city inhabitants, by putting the originality of contemporary developments into perspective. From this point of view, it is

necessary to question the medieval ecological history by identifying both the pollution suffered by city inhabitants and the actions taken to eliminate it. Table 1 shows the main sources of pollution in the medieval city. This explains that for too many years, the dominant idea has been that all medieval cities resembled veritable “open-air pigpens,” and this stereotype remains common in European popular culture (Magnusson, 2013), and in the representations of the painters (see Picture 1).

Some historians have questioned this one-dimensional characterization of the medieval city (Hoffmann, 2014), notably based on the results of archaeological excavations in various urban spaces. They show that actions were taken as early as the 14th century to better manage waste disposal (Agresta, 2020). It is therefore important to look at these works to see how they have the capacity to shed light on current practices and situate them in a real trajectory, rather than evoking a profound break with the past. This is the conclusion of Te Brake (1975) on the roots of urban pollution in London: the capacity of humans to manipulate and exploit the environment has been proven since medieval times, with proportionally more serious ecological disturbances as the process of “metropolization” gains ground.

Table 1. Origins and main sources of urban pollution in the Middle Ages

| <i>Origins</i> | <i>Main sources of urban pollution</i> |
|--------------------|---|
| Domestic origins | First, buckets of feces and urine are thrown out of a window, along with animal entrails, and second, the livestock raised in the city leads to the presence of manure and garbage that is plowed into the streets. |
| Commercial origins | Butchery is a primary source of supply for the medieval urban population, and butchers are the source of blood, offal and animal waste spilled on the streets, in ditches or streams. |
| Industrial origins | Production of clothes and leather tanning is the main source of soiling, releasing harmful ammonia gases, while chemicals substances and animal by-products are discharged into streams and rivers. |

Source: Adapted from Paché (2023).



Picture 1. An artistic representation of the European medieval city
Source: <https://www.sangavinomonreale.net/> (Accessed March 11, 2023).

3. EXAMPLES OF INTERVENTIONISM

However, an overly pessimistic view should not prevail insofar as, in the Middle Ages, considerations of recycling and reuse began to appear and then to spread in the economic and social fabric. Indeed, real waste management networks were formed, based on the use by certain professions of by-products from other professions. For example, medieval butchers supplied more than twenty different manufacturers: animal hides and skins were destined for local tanners and skiners, who then supplied shoemakers and saddlers. As for the tallow, it was bought by candle and soap manufacturers (Paché, 2023).

It is possible here to speak of a circular economy before its time, which Lee (2019) confirms from his analysis of the textile industry in medieval England. Indeed, tufts and waste wool,

removed before spinning, are generated in large quantities, as well as pieces of waste yarn after weaving. This waste is then used for stuffing and quilting cushions and mattresses, and for making caps and hats. For the craftsmen, the waste is thus a significant source of income. While many poor countries face the challenges of resource scarcity and parsimonious use, as is the case in South Africa (Modise *et al.*, 2022), the first traces of circularity identified in the Middle Ages seem to be a positive signal for its widespread application.

Moreover, since ancient times, it has been understood that an imbalance in Nature can create miasmas by triggering a series of lethal diseases. These miasmas, which come from decay, animal corpses and stagnant water, are transmitted by air, soil, water and even by objects. According to the miasmatic theory, by touching an object –or a person– carrying a miasma, the fingers

become receptors of it and then play the role of vector of a fast diffusion of the infection. Since Antiquity, there has never been any doubt that certain diseases are contagious, and the Middle Ages are part of this historical filiation (Goulet and Thouez, 2004). The existence of a link between waste, putrefaction and public health problems thus eventually became apparent and prompted the political authorities to implement sanitation measures to improve water and air quality, which could go as far as eliminating pigsties in the city.

The political authorities are also taking action to limit environmental degradation in the Middle Ages (Paché, 2023). Taxes are collected to fund street sweepers, while latrine cleaners collect human waste at regular intervals. Ordinances require that animal excrement and other waste be taken to landfills, while at the same time large fines are imposed on people who pollute rivers or ditches. The study conducted by Geltner (2019) on 118 cities in northern and central Italy highlights the existence of precise rules stipulating, among other things, who should clean up the streets and squares of a city, or where handicraft by-products and other foul-smelling waste should be kept or dumped.

London is another very interesting example. As the butchers of St. Nicholas Shambles were throwing the butchery waste directly into the Thames (Carr, 2008), the mayor obtained permission from King Edward III in 1368 to move the slaughtering of animals outside the city. At the same time, to prevent the complete blockage of London's ditches, the political authorities issued many ordinances. For example, the dumping of waste directly into the ditches was temporarily reserved for people and institutions whose houses were close to the watercourses, and they had to pay two shillings a year to finance the cleaning (Paché, 2023). When this measure was not enough, or when the inhabitants did not respect the rules, the mayor of London forbade in 1477 the construction of latrines over all the city's ditches and ordered the destruction of the latrines that already existed.

Gradually, a true sustainable city policy is emerging in Europe with regular maintenance of main streets even if they are not without negative consequences: side streets are then intentionally used as open sewers to evacuate wastewater, including faeces (Havlíček *et al.*, 2017). Norway is an interesting case, as traces of an ordinance on cleaning operations in Bergen can be found as early as 1276 (Christophersen, 2023). For example, it stipulates that the public must keep the streets clear and free of goods during the Christmas holidays. The rules are then systematized and imposed on every property facing the street. More broadly, Norway was arguably one of the earliest countries in Europe to become aware of the ecological challenges facing medieval cities (Jørgensen, 2014).

4. CONCLUSIONS

It is up to researchers exploring ecological issues not to forget the historical reality. Throughout the Middle Ages, an awareness of the environmental damage caused by human activity can be identified. It gives rise to a political interventionism that it would be interesting to compare with current political interventionism, for example the implementation of low-emission zones and the management of waste recycling, by analysing the points of convergence and divergence. It is more urgent than ever to take an interest in history and to explore the options chosen, as well as the trajectories and bifurcations to which the past bears witness, and which can shed light on today's decision-makers. As Aberth (2013, p. 8) underlines, "the unprecedented ecological crises of the late Middle Ages forced a radical

rethinking of environmental attitudes, one that anticipates the 'new ecology' of today."

Indeed, one should not believe that the Middle Ages in Europe are so remote that they refer to a bygone world whose only traces are now of an archaeological nature. On the contrary, medieval practices and their consequences deserve sustained attention in order to shed light on contemporary practices in the organization of urban space, particularly in certain developing countries. No one can deny, when driving through the overpopulated cities of Africa, the catastrophic management of human and animal waste and excrement, which is still thrown into waterways. The organic waste attracts insects and flies, which are responsible for the spread of gastroenteritis, hepatitis, cholera and other fecally transmitted diseases.

This short communication emphasizes that political interventionism was responsible for significant improvements in environmental terms throughout the Middle Ages. It is therefore possible to envisage a planned action of political authorities to limit the excesses of urban pollution resulting from the inconsideration of inhabitants and business leaders. By looking at the past, there is no doubt that we have keys to better act on the present, and positively transform the future. With the case of the medieval period in Europe and the actions led by its authorities, it is possible to identify a change of mindset in what should be a sustainable vision of the city. This confirms the importance of a retrospective look to better understand contemporary ecological issues.

ACKNOWLEDGEMENTS

The author sincerely thanks Daniel Boudouin and Christian Morel, from Jonction Consulting, Jacques Colin, from Aix-Marseille University, Bruno Durand, from the University of Paris Nanterre, Gérard Roveillo, from Kedge Business School, and Falk Wagenhausen, from the University of Littoral Côte d'Opale, for multiple discussions related to the stakes and perspectives of evolution of sustainable urban logistics.

REFERENCES

1. Aberth, J. (2013) *An environmental history of the Middle Ages: the crucible of Nature*. London: Routledge.
2. Agresta, A. (2020) From purification to protection: plague response in late medieval Valencia. *Speculum*, 95(2), 371-395.
3. Boulding, K. (1966) The economics of the coming spaceship Earth. In Jarrett, H. (Ed.), *Environmental quality in a growing economy* (pp. 3-14). Baltimore (MD): Johns Hopkins University Press.
4. Carr, D. (2008) Controlling the butchers in late medieval English towns. *The Historian*, 70(3), 450-461.
5. Christophersen, A. (2023) Medieval urban environment: between mental and material practices. *Environmental Archaeology*, 28(1), 12-21.
6. Diamond, J. (2005) *Collapse: how societies choose to fail or survive*. London: Penguin.
7. Fraser, E. (2011) Can economic, land use and climatic stresses lead to famine, disease, warfare and death? Using Europe's calamitous 14th century as a parable for the modern age. *Ecological Economics*, 70(7), 1269-1279.
8. Geltner, G. (2019) *Roads to health: infrastructure and urban wellbeing in later medieval Italy*. Philadelphia (PA): University of Pennsylvania Press.
9. Goulet, D., Thouez, J.-P. (2004) Les modèles explicatifs des maladies infectieuses au Canada au XIX^e siècle. *Gesnerus*, 6(12), 5-23.

10. Havlíček, F., Pokorná, A., Zálešák, J. (2017) Waste management and attitudes towards cleanliness in medieval central Europe. *Journal of Landscape Ecology*, 10(3), 266-287.
11. Hoffmann, R. (2014) *An environmental history of medieval Europe*. Cambridge: Cambridge University Press.
12. Jørgensen, D. (2014) Modernity and medieval muck. *Nature & Culture*, 9(3), 225-237.
13. Lee, J. (2019) Flocks and thrums: recycling and upcycling in the medieval cloth industry. *Proceedings of the 2019 Economic History Society Annual Conference*. Belfast, 251.
14. Magnusson, R. (2013) Medieval urban environmental history. *History Compass*, 11(3), 189-200.
15. Meadows, D., Meadows, D., Randers, J., Behrens III, W. (1972) *The limit to growth*. New York: Universe Books.
16. Modise T.-R., Rankoana, A., Malatji, M.-K. (2022) Local community members of rainfall scarcity and its impact on water and food resources: a case study of Moletjie community in Limpopo province, South Africa. *Management of Sustainable Development Journal*, 14(2), 34-37.
17. Morel, C., Paché, G. (2021) Urban freight operations: exploring the role of regulatory measures in an energy transition context. *IUP Journal of Operations Management*, 20(2), 50-70.
18. Paché, G. (2023) Aux sources de la pollution urbaine: le contexte des villes européennes au second Moyen Age. *European Scientific Journal*, 19(8), 1-24.
19. Rosen, C., Tarr, J. (1994) The importance of an urban perspective in environmental history. *Journal of Urban History*, 20(3), 299-310.
20. Segura Graíño, C. (2009) An ecological history in the Middle Ages? Theoretical bases and sources. *Imago Temporis: Medium Aevum*, 3, 21-43.
21. Te Brake, W. (1975) Air pollution and fuel crises in preindustrial London, 1250-1650. *Technology & Culture*, 16(3), 337-359.