

## The Heritage of Neo-Hippocratism in Environmental Thought (Sixteenth-Nineteenth Century)

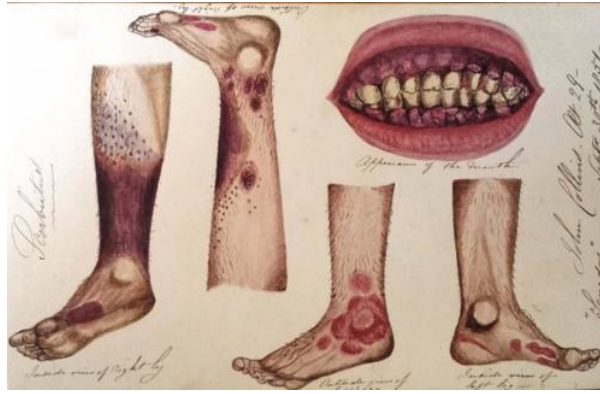
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### ABSTRACT

Neo-hippocratism, defined as the study of the influence that “places” and “climate” have on health, was a major scientific paradigm of the early modern period. It was already influential during the Renaissance, and was the subject of numerous forms of theorization between the late seventeenth and mid-nineteenth century. Here we will analyze the influence of neo-hippocratism on the understanding that Europeans had of the links between diseases and environment in different contexts.



The Duke of Orléans visiting the sick at the Hôtel-Dieu hospital, during the cholera outbreak, in 1832. Painting by Alfred Johannot, 1832. Source : [Musée Carnavalet](#).



Watercolor of scurvy, Institute of Naval Medicine, 1851. Source : [Clinical Medicine Journal](#)



Cholera vaccination of the Third Gurkhas in India, during the 1893 epidemic. Source : [Wellcome Collection](#).



A young woman of Vienna who died of cholera, depicted when healthy and four hours before death. Engraving, without date. Source : [Wellcome Collection](#).

The medical principles originating from the Hippocratic corpus, which was forged primarily between the fifth and fourth century BCE, were revived during the early modern period from the Renaissance to the Enlightenment, before being reinterpreted during the development of clinical medicine in the nineteenth century. While historians do not agree on the precise outlines of neo-hippocratism—a neologism that was coined from the wealth of Hippocratic treatises, notably *On Airs, Waters and Places*—here it will be defined as the conviction that “places”

and “climate” have an impact on health.

## **From the Constitutional Method to Medical Geography**

In Western Europe, the link between health and environment was expressed through the genre of medical constitutions, whose beginnings can be found in Guillaume de Baillou's *Epidemics and Ephemeries*, which were written between 1570 and 1581, but published only in 1640. Using the method from the *Epidemics* of Hippocrates, Baillou connected medical phenomena with climate and “six non-natural things,” or external factors according to the terminology of Galenic and Arabic medicine. In the late seventeenth century, constitutions were revitalized by the publications of Sydenham in England (*Observationes medicinae*, 1676) and Ramazzini, a professor from Padua who studied the epidemics of the Duchy of Modena between 1690 and 1694. The great many eighteenth-century analyses on medical climatology came from England and its colonies, and were henceforth based on both observations and measurements. In 1723, James Jurin outlined before the Royal Society a comparative research program for territories under British domination, and was followed, with more or less precision, by Francis Clifton, John Huxham, and Roger Pickering in the second quarter of the eighteenth century, while John Arbuthnot published *An Essay Concerning the Effects of Air on Human Bodies* in 1733.

This pioneering work led to the creation of new scientific networks managed by universities and academic organizations coordinating multiple surveys. In France, l'Académie royale des sciences published the work of the doctor Paul-Jacques Malouin on the climate and diseases of Paris between 1746 and 1754. The *Journal de médecine, chirurgie, pharmacie, etc.* (1754-1793) also helped encourage a whole range of research connecting epidemics, climate, environment, and living conditions. The epidemic commission created by Turgot in 1776 became the Société royale de médecine in 1778, with Félix Vicq d'Azyr as secretary, and systematized the medico-climate project until 1793. In the Germanic space, *physici* responded to public hygiene surveys coordinated by medical schools and universities. Johann Peter Frank, a professor of medicine and an advisor to institutions and sovereigns during a career that took him to Göttingen, Pavia, Vilnius, Saint Petersburg, and Vienna, provided the sanitary police with a major theoretical text, which reflected the preoccupations of European states at the turn of the eighteenth and nineteenth century (*System einer vollständigen medicinischen Polizey*, 1779-1829). The creation of a genuine medical geography was the work of his contemporary Leonhard Ludwig Finke, a military doctor trained in Halle, who had a detailed understanding of urban and rural health issues through his field practice, and who published *Versuch einer allgemeinen medicinisch-praktischen Geographie* between 1792 and 1795. This personal synthesis on an unprecedented scale paradoxically achieved the collective theoretical ambition of the defunct Société royale de médecine in France.

## **The Birth of Hygienism**

During the same period, the birth of hygienism reflected the increasingly complex models proposed: the quality of soil and water became as important as that of air, even though it was not entirely absent from earlier analyses. Medical topographies, which were based on the consideration of all environmental parameters, appeared in Europe during the second half of the eighteenth century. At the same time, the methods of modern chemistry—after the key advances of Lavoisier and Priestley—facilitated research on mephitism through the analysis of gases with their dreaded reek, thereby providing hope for the revitalization of etiology. Jean-Noël Hallé, one of the creators of a systematic teaching of hygiene, played a major role in the transition between the studies of the Société royale de médecine and those of l'Académie de médecine, which was founded in Paris in 1820. Constitutional principles and clinical medicine coexisted without difficulty.

The cholera epidemic that struck the European continent in 1830, spreading from Russia to the rest of Europe, was the occasion of numerous scientific debates on the role of contagion and infection. The connection between central and local institutions (Académie de médecine and commissions sanitaires in France, Central Board of Health and

Local Boards in England) allowed for measures that considered the impact of both insalubrity and contagion, in keeping with the pragmatic heritage of earlier struggles against the plague. During the nineteenth century, the reports on epidemics commissioned in France by l'Académie de médecine aimed to support public health policies based on hygienist recommendations. The public hygiene and salubrity boards that had been extended to all arrondissements by the decree of December 18, 1848 (at least twelve major cities had created similar institutions between 1802 and 1832) pursued traditional sanitary preoccupations, such as the salubrity of particular sites, the quality of food and drink, and the struggle against epizootics and zoonoses. In England, the work of the social reformer Edwin Chadwick was steeped in a social hygienism that was partly dependent on analyses conducted in France, especially by Villermé and Parent-Duchâtelet. It led to major laws that considered the need to improve urban salubrity and housing conditions. The Public Health Act of 1848, and the creation of a General Board of Health and Local Boards of Health, brought dynamism to sanitization efforts.

## **The Role of Naval and Colonial Medicine**

The experience of distant voyages beginning with the Renaissance emphasized the difficulties encountered by European populations in adapting to the sanitary and environmental particularities of the territories that they explored, conquered, and colonized. This led to the creation of specific naval health services. In France, the Rochefort school was established in 1722, and the Service de santé des colonies was created in 1798. In Great Britain, the Sick and Hurt Board founded in 1692 provided sanitary monitoring for the Royal Navy until 1806. Between 1832 and 1845, a restructuring of the sanitary organization in ports and aboard ships was controlled by the Admiralty under the authority of William Burnett, the Physician-General of the Royal Navy. The very high mortality of colonists and merchants in North and West Africa, Central America, and Southeast Asia—in addition to the episodes of yellow fever that dramatically struck certain European ports—prompted studies such as the one conducted by the English navy doctor Alexander Bryson (*The Climate and Principal Diseases of the African Station*, 1847), which used data gathered by the Admiralty's services.

Beginning in the mid-nineteenth century, the neo-hippocratic paradigm increasingly merged into the dual orientation of triumphant hygienism, which gradually turned toward bacteriology, and tropical medicine, which became a branch of medical knowledge in its own right. While it declined in the twentieth century with the rise of new technical and scientific challenges, the emergence of climate change and air, water, and soil pollution have given it renewed impact today, one that has been revitalized by the contribution of new knowledge.

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