

## Material Modernity(ies): Europe in Expansion

[Mathieu FLONNEAU](#)

### ABSTRACT

The plurality of material modernity(ies) requires determining the contours of European power as it was constructed during the early modern and modern eras. The global domination of the most advanced European countries followed the establishment of a capitalism in full expansion, whose goal was the integration of markets. From their manufacture to their circulation and consumption, it made of objects and goods one of the most obvious characteristic traits of European civilization.

Firmly associated with the notion of progress, the positivity of these innovative modernities—an exhaustive list of which is illusory so real was its democratization—was on the one hand replaced by an astounding knowledge economy, and on the other associated with the formulation of new social and moral values perceived as being liberating.

At present, a problematic form of historical irony is leading to a depreciation of these material modernity(ies) broadly diffused and invented by Europe, in order to question their contributions and even their very legitimacy.



Antwerp, view of the freight station and warehouses

Europe's capacity to invent "new New Worlds" (Georges Balandier) was discernible at the end of the Middle Ages, and especially during the modern era after the beginnings of the "Industrial Revolution." Applied to material modernity, this capacity for engendering new products firmly established certain European characteristics, open to the influence of the wider world.

The qualitative and quantitative leap achieved by European societies, in the process of industrialization, testifies during the nineteenth century to the establishment of new ecosystems of convergent articulations, both complex and proliferating, for which capitalism was the driver. A subject of such scope would call for support at every stage of its analysis by monographs and case studies. To take just one example, greater support for reflections on the evolving worlds of work, social economy and production methods would make it possible to question and recontextualize, for the twentieth century, the supposed "Americanization" that is traditionally evoked in the process of mass production. The transatlantic imports of Taylorism and Fordism prospered in syncretic breeding grounds sometimes largely predisposed to the assimilation and improvement of these methods. However, the persistence of their use suggests a great stability of representations, to the detriment of more recent and nuanced historiographical contributions concerning innovative devices.

The same would apply to reflections on the infrastructure (railroads, canals, roads and motorways) or packaging (including, among a thousand other containers, wrapping, envelopes, bottles\* or freight containers) that enabled the flow of material and immaterial goods, and that strongly suggest multiple and sustained hybridisation. Additionally, consideration of events (such as the birth of aviation during the interwar period), as well as the periodization and more accurate localisation of innovations, leads to a consideration of the diversity of analytical factors. The incessant back-and-forth and mutual influence of the circulations and flows linked to these material modernities are abundantly rich, and impossible to set out in the context of a synthetic text.

The very notion of "modernity" deserves preliminary discussion, for it is undeniably equivocal, so much so that prudence imposes use of its plural form from the outset. With regard to this topic, the contributions of Braudelian analysis also require a modesty in analysis and perspective that is familiar today in global studies. In his *Civilization and Capitalism*, Fernand Braudel on the one hand considered awareness of the plurality of "world-economies" as already being established. On the other hand, in using the term modernity, he took it to be relatively evident, to the point of seeing in it a meaning of history that emerged from the "successive experiences of Europe." It is this very notion that today seems to be called into question by casting doubt on the soundness of technoscience. To "explain growth," Braudel alluded to a "synchronized play of sectors," entirely encompassed within society, in which technology was "a necessary but probably insufficient condition."

David Landes has shown in his work the extent to which control of time—whose mechanical and practical measurement was truly constructed by Europeans—structured this phase of modernization. What we could qualify as the technical time-setting of Europe, and beyond that of the entire planet, was discernible through the prescriptive and performative invention of the measurement of time. The American Lewis Mumford noted it in his *Technics and Civilization* (1934):

the clock is not merely a means of keeping track of the hours, but of synchronizing the actions of men....The clock, not the steam-engine, is the key-machine of the modern industrial age....In its relationship to determinable quantities of energy, to standardization, to automatic action, and finally to its own special product, accurate timing, the clock has been the foremost machine in modern technics: and at each period it has remained in the lead: it marks a perfection toward which other machines aspire.

## **New Mobilities and the Meaning of Material and Immaterial Flows**

In his attempt at explaining the new modernity of global material civilization, Braudel also noted the decisive roles played by the "active circulation of goods within the economy" and the acceleration of communications, which were indispensable to Great Britain's business world, the first to experience the revolution of transportation infrastructure. The revolution brought about by railroads was surely more spectacular than that of roads, which was nevertheless just as innovative, with the inventions of John Loudon Macadam in connection with haulage after 1815. The Scottish engineer, who lived from 1756 to 1836, can be associated with the "Scottish Enlightenment," which with David Hume in philosophy, Adam Smith in political economy, and Thomas Telford (1757-1834)—another contemporary Scottish civil engineer who was a major builder of roads, bridges and canals—contributed to the industrial rise of the United Kingdom.

The establishment of a correlation between growth and ease of trade is also demonstrated by (r)evolutions in postal traffic, initially in England, and later on the continent. On the subject of these increased flows and unprecedented mobilities, Braudel fundamentally set out the complementarity between international and external

commerce on the one hand, and intrastate commerce on the other, estimating the latter's value to be two or three times greater than the former.

If clear continuities exist between the early modern and modern eras, obvious breaks are also notable. How to understand the power of major Dutch ports (such as Rotterdam), without recourse to the history of the Dutch golden age, or the consolidated positions of major Nordic shipping companies in contemporary globalization (such as the Danish multinational Maersk), without inevitably going as far back as the period of Hanseatic prosperity? The optimization of circulations by way of water, whether it involved maritime routes or canals, was indeed simultaneous with the growing impetus of railroads. These polarizations of territories that consisted of networks, in which urban societies played an increasing role as laboratory, were linked to gaps between geographic situations in terms of the modes of access to these modernities. It is therefore evident that material modernities did not function everywhere at the same pace.

On the other hand, a phenomenon connected to representations proved to be remarkably encompassing on the European scale: the elaborate construction of a positive discourse on modernity indeed represented a major revolution in thought. The golden age, held thus far to be elsewhere or in a definitively elapsed past, could henceforth be conceived of as an attainable future, under the impact of industrialization, and the transformations made possible to the *ecumene*.

### **Positivist Utopias With Political Aims Beyond Material Hegemony**

"This is really what we find germinating in a base issue of transportation and shortened distances."

What Constantin Pecqueur—the pioneering theorist of the socialist organization of the uses of public goods—as well as certain followers of Saint-Simon observed, can confirm a coherent political vision for European material modernities as they blossomed during the first century of industrialization. Aside from certain dreams of mobility and infrastructure, concurrent with the assertion of modern science, this materialist revolution was supposed to lead to a general harmony of Eurocentric origin. Free trade and dreams of pacification were conceived side by side with designs associated with the major infrastructure projects that were the Suez and Panama canals.

Although Pecqueur preserved this national intention in the concluding sentence of his work, "to make of France the happiest, most powerful and freest of nations," the fact remains that material modernities had international ambitions with a European bent. His fundamental book—which claimed to be a "manual for citizens and industry" and can ultimately be read as a hymn to triumphant materialism—aimed to "teach and...to popularize in France clear and healthy notions on economy, the mechanisms of production, circulation, and the distribution of human utility."

Calling for perfecting the division of labour, and praising machines (Chapter IX): "One of the most effective methods of improvement in the material sphere is the invention and successive application of economic mechanisms that can better create, produce, and transport—in larger quantities, less time, and at better prices—than the arms of men or the beast of burden." ...and exalting the means of communication and the recent railroads (Chapter XX): "If our framework allowed doing so, we would show how these powerful vehicles, through their imminent influence, and to the extent that they will be spread and increased in the two worlds, will in varying degrees, for better or for worse, modify most of the constitutive elements of societies; and how their impact on the social economy will unfailingly reverberate with the ideas, customs, beliefs, and feelings of peoples; how they will very strongly affect all of their liberties, transform civil life and social conditions over the long term, perhaps even radically, and call into question the existence, power and balance between empires..." (Constantin Pecqueur, *Des améliorations matérielles dans leurs rapports avec la liberté*, 1843.)

This ultimately political aim was also present with other modernizers, who were more liberal in inspiration (such as the engineer Michel Chevalier of the *École des Mines*), but just as positivist and inclined to draw political consequences from these material facts: "Improving communications is thus working toward liberty, both positive and practical; it allows all members of the human family to take part in the ability to travel across and make use of the globe that was given to them as inheritance; it is broadening the right to vote to as many people as possible according to election laws. I will go further, it is making equality out of democracy." (Michel Chevalier, *Lettres sur l'Amérique du Nord*, Paris, Charles Gosselin et Cie, 1837. Letter XXI: "The Steamboats of the West").

His visionary character led him to formulate objectives that of course had global resonance, but that were advantageous for the prosperity of European nations, such as the opening of the Suez and Panama canals, and the digging of a tunnel under the Channel. More than anybody else, he embodied the faith in public works and the simultaneous and peaceful engagement of peoples through commerce and the exchange of goods.

## **The Emergence of Markets: Consumption as Liberation or Modern Alienation**

The positivity of modernity was invented and constructed by collective representations. Yet it is evident that material modernities led European societies into a spiral of growth. It should also be noted that the extension of positivity was also moral, as it was held in high spiritual regard, by Auguste Comte for instance. Flattering rhetoric was used to describe the spirit of the encyclopaedic and progressive Enlightenment on display, most especially on the occasion of Universal Expositions.

These Universal Expositions, which incorporated national labour and industry exhibitions, initiated a cycle of emulation among major European nations beginning with the one held in London in 1851, which offered the Crystal Palace as a symbolic monument. It returned to London in 1862. The flame passed to Paris on five occasions in 1855, 1867, 1878, 1889 and 1900, before the major changes of the twentieth century.

This entry of the world of urban masses, especially during the industrial age, was made through the optimistic spread of objects soon to be produced in series, which opened a new era in material consumption. The appropriation of social uses of novelties, sometimes delayed in time, contributed to the spread and democratization of consumption, which soon overtook the sole circles of the elite. The process of opening up product ranges signalled the end of exclusive material luxury, and the start of the age of spreading comforts. The general economic rise hence owes much to the “associated environments” of initial promoters and consumers, who supplied fertile chains of interactions for a dawning capitalism. Technical and technological novelties were joined by financial developments, coupled with the unprecedented creation and consolidation of capital, and driven by the development of intensified and vastly increased trade through the revolution of transportation. For instance, a company specializing in retail chocolate sales, such as Menier, was able to use transoceanic connections to the great benefit of a nascent global agribusiness market. A general initiation of activity resulted, followed by self-sustained growth through the reciprocal force of production, distribution methods, and markets.

In these “virtuous” circles, spectacularly dramatized inventions (such as the automobile or aviation)—once in the innovation phase after their social acceptance, and promoted by advertising and/or industrial design—supported a global take-off driven by the increase of people’s purchasing power. It therefore clearly seems that with unprecedented material cultures spread by regular economic growth, Europe invented a “relation to happiness” (Patrick Verley) of which advances in lifestyle were the primary asset. The circulation of products of mass consumption wholly resulted from this dynamic of markets, supported by the spread of financial flows and money, and structured by infrastructure.

In this general framework, the “gendered” dimension of this supposed emancipation deserves a supplementary analysis, along with the mention, among others, of the ambiguities linked to home economics: for women, certain “liberations” were in no way an emancipation, instead creating new alienations. The housewife’s increasingly automated interior did not free her from domestic constraints, but rather invented others. These new constraints, magnified by industrial design and the renewed attraction of advertising, inscribed individuals who had supposedly been liberated from “material tasks” into new dependencies.

Against this backdrop, we must also take into account the plurality of degrees of integration and periodizations, which could differ by product or by branch. The “plurality of industrial worlds,” as Gérard Gayot revealed in his thesis devoted to the manufacture of Sedan sheets (*De la pluralité des mondes industriels. La manufacture de draps de Sedan (1646-1870)*, 1993), corresponds to a diversity of markets and outlets. For textiles, in this instance luxury sheets—the royal manufacture of Sedan had been distinguished in the *Encyclopédie*—different paths were taken at Louviers or Abbeville, Yorkshire in Great Britain, Verviers in the Netherlands, or Aachen in Germany. Hence the conclusion drawn by Gérard Gayot: different European countries demonstrated capacities for innovation likely to “bring into question the canonical model of an English industrial revolution, one that was striking, unitary, and homogenous.”

## **Decenterings Subsequently Required: Contemporary Dimensions, Limits and Exhaustions of the Eurocentric Heritage**

A tempting and long-dominant civilizational reading aimed to install European material cultures as the touchstone for European domination on a global scale, a domination with difficult to establish contours, but that was easily identified by those who were dominated. These performative European “performances” tend to therefore be relativized, if only by new attention given to the violence brought about for other civilizations. The classic analysis is thus brought into question by the new view focusing on this type of modernity, whose negative collateral effects are underlined today. Traditional critiques of the capitalist division of labour are now joined by the radical critique

focusing on pillage and damage to environmental wealth. Finally, now with a service-based society being dominant, it seems correct to consider the very concept of material modernity as outdated and archaic. Worthy of May 1968 France, the slogan “Wealth is elsewhere”—which raised generally similar expectations in each European society, including beyond the iron curtain—has certainly never been so true.

A last unclear element is that the voluntarism of European elites—which was on display up to the most recent attempts at integration of a European union that has peacefully been envisioned since the 1950s—seems somewhat shaken in its certitude. The concentration and centralization of expertise and scientific knowledge, passing from an artisanal world to a rationalization of learning, have modified the trajectories of innovation by demanding a convergence of the mediums of information and communication technologies. Education in information technology and management will henceforth equalise access to innovation and expertise, which François Caron noted regarding the new order of industrialization underway in this period. In this new order that is “reflexive” and “open to risk,” and which no longer necessarily cultivates consensus, the role of companies and private actors is now to confrontationally rediscuss with state and institutional modes of governance, which are in full transformation. The establishment of norms and regulations must henceforth come to terms with the strategies of actors redeployed according to the new relations established between the final consumer, and different modes of production. The disappearance of the internal dynamic of knowledge, and the social networks that naturally bore them (François Caron), requires new institutional logic, and therefore policies that are able to govern materiality.

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