

# Summaries of Lectures

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## Resisting Transformation: Technology, Reproduction and the Making of History

### *Abstract*

In popular understanding the term technology implies radical innovations that transform the world and the human condition. But many key technologies (think car-springs, brewing or insulation) embody another complementary dimension of material control. They absorb shocks and damp oscillations, thus facilitating the reproduction of societies and cultures and enhancing their resistance. This reproductive dimension of technological practice is equally significant for understanding history but has attracted less attention. As mainstream history of technology shifts its focus from innovation and the teleologies of modernity to everyday experience, maintenance and meaning, Francesca Bray discusses the attractive theoretical and methodological possibilities opened by an anthropological perspective that focuses on technologies as tools for reproducing specific material worlds, social relations and regimes of value that can successfully adapt to or absorb pressures for change or disintegration. As an illustration, she takes the case of communications technologies and their place in maintaining family cohesion, comparing socio-technological systems of intimacy in 17<sup>th</sup>-century China and in late 20<sup>th</sup>-century California.

## Michel Cotte

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## Railway of Saint-Etienne to Lyon, a Brother of the Liverpool - Manchester (1826-1833): Adaptation and Innovation during the Industrial Revolution

### *Abstract*

The railway line from Saint-Etienne to the Rhone Valley was initially conceived for opening up the coalmines of Rive-de-Gier and Saint-Etienne, later called 'Loire Collieries'. During the year 1826, it comes into sight for a set of reasons: the first French pioneer line under construction between Saint-Etienne and the Loire River (Andrézieux) powered by gravity and animals, the urgent call for modern, quantitative and cheaper coal transportation by local mine owners and coal merchants, and some echoes about British projects, especially the Stockton-Darlington line. Seguin's brothers were attentive to such information and organised a fact-finding trip to England. In parallel, French concession bid for the railway was organised by government and a joint-stock company was launched under the initiative of Seguin family.

The technical project was very delicate to design because the mountainous context of the line and the associated question of train powering. A new fact-finding trip to England was organised and led to a contract with George Stephenson, Newcastle, for two steam locomotives and a visit of the site of the Liverpool-Manchester line which had been started its construction by him (1827). Nevertheless, the reception followed by first tests of the British steam engine was disappointing by manifest weakness of boiler capacities. Marc Seguin decided to replace it by one boiler of its own design within tubular system; it had been successfully tested in context of its Rhone steamboats Co., and the first locomotive with tubular boilers ran successfully at Lyon Perrache (1828).

At that time, the exchange of information and circulation of technical ideas were very active on a large scale. It took place by the way of fact-finding trips and commercial relationships by private and local Co., a model of development frequently underestimated in French context. We will discuss the two main ways operating at that time in a France supporting the industrial take-off: the official one under the rule of French State engineers, frequently underlined, and the second by the private initiative of individual contractors directly in contact with British engineers and firms, frequently underestimated in a country like France.

The lecture will also examine the construction of the line, the civil engineering challenge of mountainous context and consequences of the steam engine choice. We also look at its first commercial transportation (1830), full technical achievement of the line, and launching of goods and passengers' transportation (1833). To conclude, we will pay specific attention to Seguin as first builder of a locomotive out of England, as first designer of mountain railway line and also to the economic results of the initial period of line management in comparison with other railway lines of the time, especially the Liverpool-Manchester.

In methodological terms, the lecture will show the importance of multidisciplinary approach of the history of technology, paying attention to macroeconomic and microeconomic contexts, political and cultural contexts of innovation and also to its social acceptance. It is clearly a case study with answers and hypothesis to the summer school main question: "Does Technology drive History?", bearing simultaneously key issues at factual and theoretical level, especially for ANT and SCOT point of views, but also about the dilemma for national trends and models versus international culture and influences.

## **David Edgerton**

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## **What is 'technological determinism' and why is it so disliked by historians of technology?**

### ***Abstract***

One would have thought that technological determinism would be the central idea for historians of technology. Yet, it is opposition to it, which is taken by many as an indicator of historiographical seriousness in the field. In this talk I will discuss the changing meanings of technological determinism, and in particular its status as a badly specified straw person in the discourse around what the history of technology could be. I then suggest that what is usually wrong with such technologically determinist arguments – and they are in reality few – is not the method as such, but, more fundamentally, the choice of technology, the analysis of society, and the specific nature of the connections. Understanding what is really wrong with most technological determinism is much more useful than denouncing it as methodological poison.