

Rosenband, L. (1985). Productivity and Labor Discipline in the Montgolfier Paper Mill, 1780-1805. *The Journal of Economic History*, 45(2). The tasks of Economic History (June, 1985). Retrieved on March 18, 2007 from <http://links.jstor.org/sici?sici=0022-0507%28198506%2945%3A2%3C435%3APALDIT%3E2.0.CO%3B2-G>

Summary of the Historical Study

The Montgolfier family, owners of one of the largest paper mills in 18th century France, and many other early industrial entrepreneurs left numerous complaints about the bad working habits of their work force. In his article, Rosenband argues that these accounts gave the wrong impression of the protoindustrial workers as exceptionally lazy and undisciplined, and that the early factory production was not as irregular as historians were lead to believe. Using the Montgolfier Paper Mill production output registers, he argues that the mill had a pattern of regular and stable productivity, even though the production process did not use advanced machinery or steam power. Detailed statistical analysis of the numbers for the period between 1799 and 1805 shows that the mill's papermaking teams worked on average 13 hours days, six day a week, 20 or so days a month or about 300 days in a year. Most of the time teams fulfilled their expected quota of 20 posts of paper a day and, although there are seasonal variations, the mill's production output and work attendance vary very little during the observed period. Rosenband attributes that

work discipline to the good management instincts of the Montgolfiers. Through flexible disciplinary and bonus systems, hiring policies, a competitive promotion system combined with the paternalistic customs of the papermaking craft, they provided the environment that ensured steady and predictable production output.

Historical Study Critique

Leonard Rosenband is excellent story teller and historian, but this article is an example of two deadly sins in historical research – to suggest a general theory based on one isolated and unique example, and to analyze data out of the historical context.

The article “Productivity and Labor Discipline in the Montgolfier Paper Mill, 1780-1805” was published in a thematic issue of *The Journal of Economic History* that explored the tasks of economic history. Rosenband’s article was preceded by articles about the woolen trade in Gloucestershire and the cotton industry in Lancashire, Great Britain, which both explored issues of early industrialization and the introduction of steam power in the production process. In his piece, Rosenband tries to connect dynamic of English industrialization to his own research in the archives of the Montgolfier Paper Mill and argues that “regular output [was] more common in papermaking—and perhaps in other industries as well—than the testimony of the early manufacturers would lead us to expect” [p. 436]. However the study provides only one data point for this argument, and a very idiosyncratic one at that.

Using quantitative analysis of the documents from the Montgolfiers Paper Mills, Rosenband tries to prove that papermaking production, although it did not employ any machinery or steam power, still generated a steady output of the product. However, as Rosenband points out himself, papermaking production depended heavily on availability of the water throughout the year and many other paper mills in the same region had quite irregular or strictly seasonal production. They halted their production because of water shortages, or inundations, or lack of raw materials (cotton and linen rags), averaging only five months of production through the year. However, water management and the supply of raw materials, was the responsibility of paper mill owners and had nothing to do with the working habits of the workforce. The review of the Montgolfiers documents proves mostly that the mills were exceptionally well managed. Any conjectures about the working habits of the papermakers are quite hypothetical and hardly universal.

However, the real problem with the Rosenband's article is that he omits to explain the historical context and events in the Montgolfier Paper Mill that preceded the examined period (1799-1805).

In the year 2000 Rosenband published the book "Papermaking in Eighteenth-Century France: Management, Labor, and Revolution at the Montgolfier Mill 1761-1805" (in a footnote to the article he mentions the book as forthcoming), which is an exceptionally well written historical case study [Rosenband 2000].

In the first part, the book describes traditional European papermaking, shop floor routine, “mores” (customs) of the papermakers’ class and the history of the trade. The peculiar status of papermakers in the general structure of early industrial European society is clearly defined:

- (1) Almost from the beginning of the trade in the 12th century, papermakers worked as journeymen for paper mill owners. Like printers, they possessed the skills but not the tools of their trade.
- (2) Papermaking trade was never a part of the old guild system. Papermakers passed the skill of the trade from father to son, but the trade never had an established organization like a guild.

However, the key event of the book is the labor dispute between the master papermakers and the Montgolfier family. As the answer to the work stoppage in 1781, family successfully locked out the old guard papermakers and eventually replaced them with new workers. In this struggle they had the financial support of the French government which at that particular time had enough economic wisdom to support local industry against competition from the Dutch, whose new papermaking methods threatened to render all French papermaking obsolete.

The Rosenband’s article in *The Journal of Economic History* analyses production sheets for the period between 1799-1805, a good decade after the 1781 work stoppage and lockout. During that period the Montgolfiers were able to pick and choose their labor

force and dictate the terms of the employment favorable for them. As Michael Huberman observed in a review of Rosenband's book:

“the Montgolfiers worked at many margins of the employment package, adjusting in the case of apprentices their conditions of work, years of service, and bonus and final payments. Although Rosenband recognizes the partial nature of many of the strategies invoked, what is impressive is the degree of sophistication and understanding shown by the Montgolfiers in implementing the new contractual arrangements...” [Huberman 2001].

The competition of the Dutch papermaking industry and their invention of “Hollander beater” forced the Montgolfiers to behave entrepreneurially and with the help of the French government, they did. Therefore, it does not come as a surprise that their work force was well disciplined and the production output stable.

The Montgolfiers and their paper mill are probably a beautiful example of an early industrial entrepreneurship at its best, but hardly an argument for the thesis that “complaints [of early entrepreneurs] have led historians to expect irregular work in mills that were not tuned to the rhythm of the power loom or the pulse of the steam engine“ [p. 443]. Undeniably the output in the Montgolfiers Paper Mills was regular, but people working in their mills were hardly the representatives of the traditional artisans' class or workers in an average manufacturing enterprise of that time.

References

Huberman, M. (2001). Review of Papermaking in Eighteenth-Century France: Management, Labor, and Revolution at the Montgolfier Mill, 1761-1805. *EH.NET*. Retrieved on March 20, 2007 from http://www.ialhi.org/news/i0107_6.php

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