

virtues of scale and competitive flexibility. Only Great Britain seems to have gotten it wrong. Ignoring economics, it has freed British Telecom from government control without providing for effective competition.

The argument against technological determinism is an important one, but the book's historical sections suffer from the lack of archival research. Davies takes his history exclusively from the secondary literature, rarely stopping to consider the credibility of his sources. An important part of his case, for example, rests on his contention that AT&T's competitors failed in the early part of the twentieth century not because a single, unified corporate organization was the best way to run a telecommunications network. They failed because J.P. Morgan shut off their supply of capital. This is a tantalizing thesis, and one that has been suggested by other authors, but evidence for it is thin at best. The book does not rest solely on such arguments. But Davies does not try to explain the many factors that made corporate organization the preferred means of running large technical systems in the United States and regional cooperatives the means for nations like Finland. Geography, law, political structure, historical traditions, and culture are among the relevant variables.

Nor has Davies slain quite so large a dragon as he thinks he has. Technology and markets remain crucial forces, and the degree of organizational variation is quite limited. Even in Finland the result was still monopoly. Chandler's recent emphasis on organizational capabilities and first mover advantages anticipates some of the critique. It is not surprising that AT&T, with its early lead, overshadowed its later rivals, whereas a different mix of private and public organization prevented the same pattern from emerging elsewhere. What remains beyond the Chandler model is the question, to what degree did AT&T's success depend on a vast headstart provided by its patents and to what degree did it hinge on its investments in productive capacity, marketing, and managerial hierarchy?

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Planning the French Canals: Bureaucracy, Politics, and Enterprise Under the Restoration. *By Reed G. Geiger*. Cranbury: University of Delaware Press, 1995. 338 pp. Tables, charts, notes, index, and bibliography. \$43.50. ISBN 0-87413-527-3.

Reviewed by Rick Szostak

In 1818 Francois Becquey, the new general director of the Bureau des ponts et chaussées, unveiled a plan for a 25,718 kilometer network of canals, which he hoped private entrepreneurs would fund. In 1821 and 1822, he

guided two bills through the French legislature which provided for a shrunken network of 2252 kilometers financed by the state. Still, this was the largest public works program in French history to that time, and would cause the French canal network to triple in length over the next three decades. While many previous scholars have viewed the final Becquey bills as providing for public-private cooperation, Geiger shows that in fact the private sector did little more than lend money to the government, which was responsible for constructing the network.

Why did the French government play the predominant role in French canal construction, while in England canals had been privately financed and in the United States there had been a mix of public and private investment? Geiger notes that the answer to this question can shed much light on major debates in French historiography. Was the French government "statist" and thus naturally predisposed to a larger government role? Alternatively, was the French economy so backward relative to England and the United States that there simply was not the necessary abundance of private capital?

Geiger carefully reviews the course of historical debate on these two questions. He finds that neither explanation appears to fit the experience of French canal building. The French government tried earnestly to find private investors and only turned to government finance as a last resort. Yet Geiger asserts that it was not the backwardness of the French economy (except to the extent this affected population density) but the difficulty of French terrain which prevented private capital from coming forth.

Certainly, Geiger makes a powerful case that French canals were not an attractive investment. Yet his own analysis causes doubt as to whether French terrain deserves the blame for this fact. He correctly argues that the debate about French backwardness is best focused sectorally. At this level it is clear that the French transport sector was very backward in the eighteenth and early nineteenth centuries (though, as Geiger notes, scholars who do not recognize the importance of pre-railway transport developments tend to overlook this fact). One common complaint against the French canal network was that it joined together rivers which were imperfectly navigable themselves, whereas in England a century of river improvements had doubled the length of navigable waterways before the canal era. Geiger recognizes the veracity of the critique but suggests that French rivers, dropping from greater heights, were inherently more difficult to render navigable. While likely true on average, this hardly holds for all French waterways (Geiger and I agree that more research on individual rivers, as has occurred in England, is highly desirable). Especially in the northeast, the inferiority of road and water transport relative to England can not simply be blamed on geography. Geiger notes that the *Ancien Regime* lavished money on a handful of canals while leaving primitive flashlocks on rivers. Moreover, while both the revolutionary and Napoleonic governments were full of plans for transport improvements, the period saw only the decline of existing waterways.

One common thread throughout this saga is the hesitancy of French governments of whatever form to take on local vested interests. Yet the costs of canals, river improvements, and roads can rise astronomically without the

right to expropriate land. In England, private transport companies had routinely been granted this right (and the right to levy tolls) by Parliament for centuries.

All sides in the legislative debate recognized a key role for transport improvements in economic development (indeed, non-economic motives were not even mentioned). They were guided in this by the English example, which was explicitly cited several times. While Geiger at times tends to understate the role of transport in economic development, he does recognize that the deficiencies in road and water transport likely meant that the railway had a greater impact on the French economy than was the case in either England or America.

While I would blame geography less, and praise the role of transport improvement more than Geiger, this is a well researched and cogently argued work which carefully places the subject at hand within the wider literature. Among the many observations brought out by Geiger's analysis are that "liberal" economic attitudes were dominant among the French political elite, that the elite shared a desire to catch up to England economically, that the financial arrangements negotiated by the government (with Becquey largely in the role of middleman) were not so disadvantageous as has often been suggested at the time and since, that the bickering between government and private investors served to weaken the possibility of cooperation between the two over the next decades, and that the cost of French canals per kilometer was only slightly higher in France than in England or the United States (and thus if difficult terrain more than compensated for lower French wages, charges of government incompetence seem misplaced). More contentiously, Geiger argues (correctly, I believe) that if not for the arrival of railways the Becquey canals would have proven a good public investment. It is a pity that previous French governments had not been as successful.

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Trade and Traders in Muslim Spain: The Commercial Realignment of The Iberian Peninsula, 900–1500. *By Olivia Remie Constantine*. New York: Cambridge University Press, 1994. xxiv + 320 pp. Illustrations, maps, index, and bibliography. \$59.95. ISBN 0-521-43075-5.

Reviewed by David S. H. Abulafia

Hitherto, there has simply not existed an adequate account of the trade of Muslim Spain to set aside the many studies of trade in other parts of the