

8. *The history of the idea*

Now that the analysis of all the elements has been carried out, we can sum up. According to Stigler, Smith – “that great manufacturer of traditions” – created also in the area of monopoly the traditions “that were faithfully followed in English economics for almost 100 years” (1982: 1). However, as far as natural monopoly is concerned, we can say that Smith gave nothing more than suggestions. In actual fact, the earliest economist to mention here is Senior (1836), who was the first to establish a certain relation between scale economies and monopoly. Then we owe to Cournot (1838) not only the elaboration of the mathematical apparatus, but also the analysis of the decreasing marginal cost function, and the statement of its incompatibility with competition. As we can see from the above overview (section 7), J.S. Mill (1848) is present in all the columns (with the exception of *The diagram*); this shows that he had all the elements to identify situations of natural monopoly, and he actually did it properly, even using the expression, but without any analytical tools. The same can be said with respect to Walras (1875): compared with that of J.S. Mill, his analysis was much more focused on the issue, as his essay was specifically devoted to the railways, but he also did not use mathematics in dealing with it. A very important place is taken by the American economists: for Schumpeter Hadley’s theories are realistic, “embedded in a forceful presentation of the institutional framework” ([1954] 1986: 866); O’Driscoll (1982), despite a critical tone, stresses the importance of the legacy of Ely, and Hazlett (1985) does the same with H.C. Adams. The link between network effects and monopoly we certainly owe to De Viti de Marco, while the consideration of market demand, which is essential to qualify a natural monopoly, comes from Barone.

But the pivotal figure for the definition of the concept of natural monopoly is Edgeworth. We have mentioned him mainly as the one who drew the diagram, but we have to add that he did this in a context in which the various elements that make up that concept were all present – except the expression. In fact, the articles in which the diagram is included are specifically devoted to constructing an abstract theory of railways economics, and Edgeworth specifies that railways are there “considered as the leading type of a wider class, ... public works, characterized by monopoly of such a kind as to justify the intervention of the State” (1911: 346). Therefore we find there the analysis of a typical situation of natural monopoly, a deep understanding of increasing returns, and the study of “the monopolistic power of discrimination” (1912: 216). And although he didn’t

write the promised final section on the issue of Government regulation, the work does contain a brief discussion of the topic. These articles are striking: Edgeworth mentions a huge amount of literature from many countries, and deals with a much greater number of subjects than those mentioned here.

Conclusions

The research carried out so far highlights some interesting aspects.

1. We have seen that Senior, Cournot, J.S. Mill, Walras, the American marginalists, the Italian ones, and Edgeworth, all identified natural monopoly. They realized that some firms became monopolies just because in those industries competition couldn't work. The idea that monopoly implies the absence of competition is linked to a specific notion of competition, that of *perfect* competition. The history of the theory of competition has been widely studied in the literature⁴⁶. It is often stated that the notion of perfect competition emerged slowly, and that only in the 1920s did it start to be generally employed. If we compare the historical reconstructions of the notion of perfect competition with our history of the concept of natural monopoly, we can see that there is a remarkable overlapping between the economists who elaborated that notion, and those who played a role in identifying natural monopolies. This suggests that the traditional notion of natural monopoly emerged gradually as the classical notion of competition was substituted by the neoclassical one. The link between the notion of competition and that of natural monopoly is also confirmed if we consider the criticisms to the traditional notion of natural monopoly occurring after the 1970s, and the related different notions of competition. On the one hand, the Austrian theory of competition as a process leads to consider market power as an expression of competitive rivalry, so the Austrians do not find anything wrong in monopolies, which they consider temporary by definition⁴⁷. On the other hand, the Baumol group replaced the notion of perfect competition with that of contestability: their fundamental idea is that the multiproduct monopolist would be compelled by the threat of new entry to behave according to the principles of the perfect competitive model. In opposition to these approaches, the most recent developments of microeconomics

⁴⁶ In addition to the references cited in Blaug (1997), see DiLorenzo and High (1988), Groenewegen (1999), Machovec (1995), Morgan (1993).

⁴⁷ A paper on *The Austrian theory of "unnatural" monopoly* was presented at the 1st ESHET-JSHET meeting in Nice (France) in December 2006.