

ALFRED MARSHALL, MATHEMATICS AND STATISTICS

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Marshall the mathematical economist and Marshall the theorist of the use of mathematics in economics should be kept apart. The former was active approximately until the early editions of the *Principles of Economics*, after which mathematics as an euristic tool was renounced and only remained as a *forma mentis* in the background. The latter became more and more prominent as the former faded away, but the theory he elaborated — skilfully condensed in often quoted passages of the correspondence — does not seem to convey the gist of his previous work as a mathematical economist. Rather than the outgrowth of mature reflexion on his own experience, it seems to be moulded in reaction to the biases of his occasional interlocutors, pupils and younger scholars, whom he tried to direct towards an intermediate path between rarefied abstraction and down-to-earth observation of facts. It is not in these pedagogical disquisitions, however valuable, that we can find an explanation of his early enthusiasm turned into late coldness for mathematical economics. In this paper we shall instead look into (i) the peculiarities of Marshall's mathematical formation, which bears the mark of the Cambridge mathematical tripos in the early 1860s; (ii) the conception of economics he gradually built up, with its stress on mechanical agencies embedded in evolutionary processes which continuously transform the conditions under which the former operate; (iii) lastly, the practices he developed in the course of his professional life, particularly his reliance on personal enquiries and direct acquaintance with selected samples of persons and places. The picture that we draw from these combined sources will be seen to have some relevance also for understanding Marshall's attitude towards statistics.