

5 Mimetic interactions

Population dynamics is one of the most studied subjects in evolutionary economics. We have already seen many examples in the preceding chapters. It concerns analysis of the ways in which a large number of interacting individuals evolve. The particularity that distinguishes this type of analysis from the standard Walrasian approach is the fact that it integrates direct interactions between the agents. The classical theory of Walrasian competition, on the contrary, assumes that individuals have no direct relation with each other; they are only connected indirectly through the intermediary of the prices set by the auctioneer, as chapter 2 has already explained. Furthermore, this theory postulates exogenous preferences such that the end objectives of each agent are in no way influenced by what the rest of the group decides. Thus, each individual is isolated. This is the classic conception of individual independence in relation with the group. The fact, for example, that a certain number of individuals decide to buy the good k has no direct effect on the behaviour of a given individual A . It in no way increases his desire to purchase the same good k . The only effect is indirect, through the price variations it causes: the initial purchases provoke a price rise which, in general, will lead the individual A to reduce his purchases of good k . A vast range of possible interactions breaking with the Walrasian framework is presented in chapter 3, together with the formal tools enabling them to be analysed. Among these interactions, one plays a particularly important role: imitation. Chapter 3 provides a first analysis of it. We propose to go further in the present chapter, by studying its properties in more detail. Focusing particular attention on imitation can be justified by the tremendously important role it plays in all the social sciences.

5.1 Background and problems

In economics, the role of imitation was only recognised relatively recently, although some heterodox works in financial economics highlighted very early on the primordial importance of imitative behavior for anyone seeking to understand the dynamics of speculation (Aglietta and Orléan, 1980; Kindleberger, 1978). The central obstacle to the acceptance of imitation

derived from the too-exclusive identification of the rational individual with the Walrasian individual, – an individual isolated from the others, perfectly independent and who has no need to observe other people to decide what he wants. From this point of view, strong links with the group – such as the imitation and collective manias which are its strongest form of expression, – appear to belong to the domain of sheer irrationality. Imitative man has been equated with the man of the masses, perceived as being the absolute opposite of *homo oeconomicus*: blinded by collective passion, he abandons his own interests to follow unquestioningly the group movement. In economic analysis, the propensity to imitate was thus considered an archaic remainder, an anachronism that no longer had its place in the individualistic world of interest, markets and rational calculation. It was seen as a phenomenon of which the study was best left to sociologists, social psychologists or even anthropologists, – but certainly not to economists.

However, as our understanding of economic dynamics has deepened, the oversimplified nature of this view has become more apparent. For example, in the field of finance, it would be inconceivable to continue as if herd behavior or contagious processes play no role, when they are constantly appearing in the works of analysts and historians studying stock markets or currency markets (Kindleberger, 1978). Furthermore, advances in the microeconomic analysis of interactions have, little by little, demonstrated that imitation is not incompatible with rationality, – far from it – although it may lead, globally, to sub-optimal configurations. Three rational motives for imitation have been demonstrated (Orléan, 2001). We shall now examine them in one after another.

5.1.1 Informational imitation

When two individuals are confronted with the same problem, individual *A* may decide rationally to imitate individual *B* because he believes that *B* possesses information or knowledge that he himself does not have, so that he interprets *B*'s action as being more efficient. Take, for example, the situation where *A* and *B* are in a room with two doors. Only one of these doors leads outside, and *A* does not know which it is. We then assume that a fire breaks out. If *A* sees *B* get up and run towards a certain door, it is rational for *A* to follow him. Either *B* knows no more than *A*, and following him is simply a way for *A* to make a random choice between the two doors, or *B* does know something more, in which case it is advantageous for *A* to follow him. This is an example of informational imitation: one person copies another because of the information the latter is assumed to