Chapter 4

Issues and dilemmas in cognitive economics

Bernard PAULRE
University Paris 1 Panthéon Sorbonne I.S.Y.S. – MATISSE UMR Paris 1 – C.N.R.S. 8595

Abstract: The cognitive economics, which first made its appearance in the 1960s, now focuses a great deal of economic research resources. It is legitimate to raise questions about the contents and/or timing of the proposal of a cognitive economics research program. In this article, we underline some of the issues at stake in this sort of clarification, focusing specifically on problems pertaining to the speeds at which knowledge or real interactions actually adjust, and to the relevancy of the axioms of the epistemic logic. The dilemmas that we have emphasized here all provide us with an opportunity to highlight a certain number of significant alternatives. Specifically: (i) issues relating to the respective roles of the knowledge economy and of cognitive economics stricto sensu; (ii) the difference between the computable orientation that is involved in standard approaches to economic behaviours, and the connectionist orientation that we illustrate, for example, by the evolutionary conception of the firm; (iii) the problem of the relationship between a cognitive economics research program and one that relates to cognitive sciences. We present an outline of the potential foundations for a cognitive economics research program. This kind of program would manifest itself through potentially divergent schools of thought whose disparities should all be seen as factors of dynamism that could be used to drive research in this area.

Key words: Cognitive economics, cognitivism, connectionism, information economics, knowledge economics, cognitive sciences.

INTRODUCTION

There are two reasons why the present emergence and rapid development of what has come to be called the field of cognitive economics might be considered a surprise. First of all, information and knowledge concepts seem consubstantial
with economics - yet asides from the debate on planning and the market economy (Taylor 1929; Hayek 1935; Lange 1935)\(^1\), amazingly enough it was not until the 1960s that the first articles dealing directly with the information economy were published. Secondly, with the development of cybernetics and theory of communication during the 1940s and ‘50s, it would have been no surprise had a lot of economists become the prophets of these new sciences during the 1950s and ‘60s, given the major effects they were having on other disciplines - but this did not happen. Cybernetics did have some impact via the Keynesian models that a few engineers developed using language derived from the theory of control (Tustin 1958), and O. Lange did offer us a most remarkable (albeit isolated) contribution when, in 1964, he wrote a book devoted to a cybernetic approach to economics. However, for the most part, and as we will see below, we can generally say that it was primarily in the 1970s that information and knowledge became a major focus in economics.

Even so, this preoccupation was usually deemed to be part of a mainstream inspired study of markets with imperfect information and, as a result, little attention was paid to the conditions underlying agents’ acquisition of information, whether at a cognitive or a psychological level. The main focus of study was the impact of insufficient information, with observers usually basing their analyses on the rational expectations hypothesis instead of highlighting the conditions that enable agents, through learning or in some other way, to increase the information at their disposal. In the end, it was in the 1980s that we finally saw the advent of approaches reserving a lot of space for learning, knowledge and beliefs, and portraying these factors as forms that were less trivial in kind (and probably not as readily compatible with a Walrasian corpus of literature).

The goal of this article is to come up with a few elements to help us reflect upon the ideas that cognitive economics convey, and the project that it offers. Given the level of development which this discipline has reached by now, we are probably ready to take a closer look at the meaning and the impact of those changes that have already taken place. Should we be even be talking about a sub-discipline called “cognitive economics” ? Should we go as far as to suggest a new research program, following in the steps of what some people were calling cognitive sciences during the 1970s and accepting directions that B. Walliser (2000) laid out for us ? This may seem a reasonable point of view, but if so what are the main axes and principles that will unite those who support this kind of project ? These are the issues with which we will be dealing.

Our approach will be as follows. First of all, we will review the progressive emergence of economic approaches on information and knowledge in order to identify the themes around which the field of cognitive economics historically seems to have been either partially or entirely structured (section 1). This will enable us to explain some of the theoretical issues at stake in a future cognitive economics research program. We will then distinguish between two types of