

Introduction

This book contains evolutionary economics. Not only in the sense that most of the contributors more or less consider themselves as members of this scientific community, the sample of chapters presented indeed is a good example of the evolutionary process of theory development as envisaged by evolutionary economics. In an evolutionary perspective theory advances by a continuous reshuffling of a variety of research approaches: new elements, i.e. innovative research papers, are continuously added while old ones are shifted in the background, either due to their increasing irrelevance for pressing research questions or due to new research results that prove them to be misleading special cases. As a matter of fact the recent renaissance of evolutionary economics owes much to the unifying force of the common goal to show that neoclassical economic theory has committed both crimes – it is useless with respect to policy advice and its assumptions make it an inadequate special case that therefore only produces inadequate theorems. Since the early eighties more and more evolutionary economists thus have put the bugaboo of neoclassical economic theory to a test and proved that it failed – even if it always was hard to identify what the core of neoclassical thought really was. But to weed out bad theory of the variety of proposed theories is just one part of the evolutionary research process; the other part consists of adding new elements, of proposing more promising routes of research. And it is this new agenda that became more prominent in the most recent decade of research in evolutionary economics – and as a consequence in this book.

As Herbert Simon once compellingly coined it, the evolutionary process in principle consists of two elements¹: a generator of variety sometimes called *mutation*, and a process of *testing*. Since received neoclassical economics does not pass the test evolutionary economists are now left with the difficult task to develop a new variety by mutations. With respect to the mysterious concept of mutation no direct import from biology, where randomness plays the central role for this concept, is advisable². What seems to be clear is that the process of mutation needs two parts: a set of old, inherited structures, and some kind of original new glue that binds them to a newly emerging quality, a novelty. By the interaction of these two elements random mutation is transformed into directed mutation³. As noted above, after showing that the dominating competing theory, neoclassical economics, failed the test to provide adequate insight for understanding the political economy, evolutionary economics now is turning to produce a new theory - a new directed mutation - out of given theory fragments and original intuition.

¹ 'The simplest scheme of evolution is one that depends on two processes; a generator and a test. The task of the generator is to produce variety, new forms that have not existed previously, whereas the task of the test is to cull out the newly generated forms so that only those that are well fitted to the environment will survive. In modern biological Darwinism genetic mutation is the generator, natural selection the test.' [Simon, 1969, p. 52].

² Stephen Jay Gould in his monumental book on evolutionary theory advises an adverse move for biology '... to reset the balance of structure and function, or constraint and selection, in evolutionary theory – so that structure and constraint, the formerly disfavored and neglected first terms of each pairing, can achieve the same attention and respect that we properly accord to the proven potency of Darwinian forces represented by the second term in each pairing.' [Gould, 2002, p. 1155]. The interdependence of testing environments and variety generating vital forces thus always should be kept in mind.

³ In [Hanappi, 1994, pp. 7-21] the stepwise advancement of directed mutation has been used to distinguish different stages of evolution.

Several routes to guide the quest for this new approach can be identified. Four of them are particularly important, and the papers in this volume provide an impressive account of how successfully they can be followed.

Route 1 would work on the concept of *theory-guiding visions*. This idea has been emphasized by Joseph Schumpeter and in essence holds that to understand as well as to develop an approach a general vision of how the object of investigation seems to work is mandatory⁴. Chapter 1 by **Ulrich Witt** thus provides an interesting framework of visions held by evolutionary economists and even tries to give some empirical quantitative estimation how important they currently are. Another, somewhat competing contribution to this route can be found in chapter 2, written by **Jan Willem Stoelhorst**, who – following Geoff Hodgson – proposes Universal Darwinism as a guiding vision.

Route 2 also puts visions in its focus, but instead of working on contemporary held visions it tries to *rediscover and to resurrect grand theories* produced by past scholars. This route earns special attention since it explicitly considers theoretical knowledge as historically changing stock variable. Parts are added, parts are discarded, and parts are forgotten due to circumstances that not necessarily should have devalued them. As the history of thought shows in many cases it proved easier to rediscover things than to reinvent them. In chapter 4 of this volume **Sebastian Berger** and **Wolfram Elsner** revive two concepts – the ‘Open Systems Approach’ and the ‘Cumulative Circular Causation’ – closely linked to such eminent theorists as Veblen, Kaldor, Kapp, Myrdal and Georgescu-Roegen. Another important contribution in this vein comes from the famous **Paul Davidson** in chapter 8. He presents his view on a resurrected Keynes, with a strong emphasis on the methodological innovation to be found there – but also sharing Keynes own emphasis on pressing questions of economic policy, an aspect too often missing in evolutionary approaches. A third, extremely appealing chapter along these lines is provided by Stavros Ioannides in chapter 10. The arguments of this chapter center on the treatment of the concept of knowledge during important debates in the history of economic thought. Ioannidis covers a wide range – from Mises and Hayek via Stigler and Arrow to Grossman and Helpman – to present an illuminating survey.

Route 3 for the emergence of the new theory proposes to turn attention to *empirical findings*. To follow this route has produced the tremendous success of the natural sciences and certainly is an indispensable ingredient for every scientific project. **Guido Buenstorf** in chapter 3 concentrates on industry evolution, in particular on the case of the U.S. farm tractor industry, to show how empirical findings can inform a general theory of economic evolution. The second example of a bottom-up development of an evolutionary perspective comes from **Carl Henning Reschke** and **Sascha Kraus** in chapter 9. They start with the empirically observed needs of strategic management to give management science an evolutionary twist. Both chapters not only make clear how important a scrutinizing look at the processes that actually take place is, they also should convince economists that there still is an enormous territory not yet explored.

Finally **route 4** towards innovative theory paves its way by the use of *methodological innovation*. Three chapters in this volume are particularly concerned with this topic. In chapter 5 **Martin Binder** and **Uta-Maria Niederle** present their view on the interdependence between institutions and

⁴ ‘Obviously, in order to be able to posit ourselves any problems at all, we should first have to visualize a distinct set of coherent phenomena as a worth-while object of our analytic efforts. In other words, analytic effort is of necessity preceded by a preanalytic cognitive act that supplies the raw material for the analytic effort. ... , this preanalytic cognitive act will be called Vision.’ [Schumpeter, 1954, p. 41].

preference change. Indeed they are representative for a large group of evolutionary economists, which launches new concepts as being central to economic theory – hence the label methodological innovation. While preference structures of individuals in mainstream theory usually are assumed to be exogenously fixed, the authors consider their change in relation to institutions, a phenomenon not even explicitly modeled in most standard models though omnipresent in real economic life. *Institutions*, understood as temporary solutions to social contradictions⁵, certainly play an overwhelming role for the understanding of contemporary economics. And it is not surprising that the heated scientific debate on the nature and essence of these meso-economic phenomena is one of the major innovative sources of evolutionary economics. In chapter 6 *John Davis* proposes *agent based modeling* to model what he calls ‘complex individuals’, i.e. individuals based on a relational conception. He critically discusses recent approaches to this problem, e.g. Jason Potts’ work, and poses them in an epistemological context. A very original methodological innovation then comes from *Oliver Kessler* in chapter 7, who emphasizes the importance of *ignorance* for the development of knowledge. He proves how useful it is to start with standard Bayesian concepts to arrive in the end at rather unconventional conclusions.

As the little tour de force covering received theory – from Frank Ramsey via Leonard Savage to Ludwig Wittgenstein – of Oliver Kessler’s contribution shows, the chapters always contain a certain amount of overlapping areas with respect to the proposed four routes. Paul Davidson covers institutions important for international finance; Sebastian Berger and Wolfram Elsner underline methodological innovations initiated by Erwin Schrödinger, and so on. It is exactly this cross-fertilization that seems to be one of the more important characteristics of evolutionary economics. Coming back to the argument in the beginning of this introduction, all these efforts to provide theory for further theory evolution contained in this book are to be seen as elements for a future evolutionary economics – a new combination in status nascendi.

The work presented in this volume owes a lot to the scientific community of evolutionary economists, and in particular to the European Association for Evolutionary Political Economy (EAEPE). Since more than 20 years the vivid intellectual exchange within this community, e.g. at the EAEPE conference in Bremen where first versions of the chapters of this book have been presented, has stimulated research and has generated a continuous flow of new ideas. Our special thanks of course go to the contributing authors – it is their work, which we edit. Manuel Wäckerle’s pivotal organizational and editorial help in the production process has to be emphasized as well as the extremely good cooperation with the publishing team of Edward Elgar, in particular with Matthew Pitman. Cooperation has been a pleasure – and we hope that reading it will be a pleasure too.

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⁵ Compare [Hanappi and Egger, 1995] for a summary of the productive role of contradictions and [Hanappi, 2002] for an approach to model emergence and vanishing of institutions.

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