

**The Difficult Jump  
from Walrasian to  
Schumpeterian Analysis**

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**The Difficult Jump From Walrasian to Schumpeterian Analysis**  
**or**  
**Characterising Schumpeter's Analysis:**  
**Dynamics, Development or Economic Evolution?**

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This paper<sup>1</sup> tries to suggest ways of dealing convincingly with the Schumpeter—Walras relationship. Section 1 presents different strategies to escape the confusion around many of Schumpeter's central ideas. The most important task appears to be the clarification of the basic concepts of the Schumpeterian scheme of analysis and in this connection an exploration of the Schumpeter—Walras relationship is important. Some see Schumpeter as a Walrasian, others see him as an anti-Walrasian but section 2 points out that both viewpoints as well as the intermediate views may reflect aspects of the relationship. The reason is that Schumpeter applied Walras in relation to general economics, to contrast with his own core research and as a source of inspiration for his central conceptual novelties. Section 3 presents Schumpeter's attempts to show the limitations of marginalist economics (primarily Statics) and the need for developing a complementary analysis. To de-emphasise the difference Schumpeter initially called his own analysis Dynamics but later he turned to Economic Development and finally to Economic Evolution. These shifts point to conceptual difficulties which have hindered the development of Schumpeterian analysis. Section 4 demonstrates how Schumpeter had direct inspiration from Walras when he developed his individual concepts (circular flow, new production function, entrepreneur, etc.) as well as his overall analytical scheme. The final section emphasises the importance of conceptual clarification in relation to theoretically relevant studies of industrial and economic history.

### **1. Coping with the Schumpeterian Heritage**

Schumpeter is probably one of the scholars of the twentieth century who is most seriously hit by the relativity of interpretation and evaluation. Of course, we always read the work of a great scholar with our own problems, methods and results in mind and this context to a large degree determines the process of interpretation and evaluation; a re-reading in another context a few years later may create the feeling that we face the work of another writer. But normally this relativity is hidden by the fact that the study takes place within the relatively stable context of a single research tradition. In the case of Schumpeter the problem is that many of his arguments relate to a wide variety of areas of social science while his core concerns are at the fringe of all established scientific traditions. The

corresponding interpretation and judgement of his work are scattered and arbitrary. Many of the individual papers on aspects of Schumpeter's work have the character of expanded footnotes and the overall impression is unstructured and even chaotic as is revealed by a recent collection of 108 papers (Wood 1991).

The shifting contexts in which Schumpeter is studied have led to oscillations between two main judgements of his contribution: either he is seen as an unsuccessful theorist, 'a theorist *manqué*' (Samuelson 1981: 3), or he is seen as the 'other great economist' (Ursprung 1984/1991: 100) of the first half of the twentieth century (the primary genius being Keynes). Apparently Schumpeter has low scores with respect to intellectual consistency but high scores with respect to the citation index: 'at the time of his death, a citation index shows that Joseph Schumpeter was the scholar most often cited in the whole field of economics.' (Samuelson 1981: 1) While, e.g., Keynes's main arguments were theoretically interpreted, developed and applied to a degree where no further reference to the *General Theory* was necessary, Schumpeter got a place in the footnotes. He became 'placed in the category "footnote economist", i.e., an economist whose works are mentioned in footnotes but are seldom reported and applied more directly in a theoretical interpretation or further development.' (Jensen 1988: 97, my transl.)

The lack of cumulativeness of the critical assessments of Schumpeter's works implies that straightforward critiques<sup>2</sup> are hanging in the air side by side with the many fulsome praises<sup>3</sup>. Just after Schumpeter's death an attempt was made by Clemence and Doody (1950/1966: 5 f) to discipline the debate in a situation where 'a set of "standard criticisms" has grown up that not only discourages investigation of the [Schumpeterian] model but threatens to become a part of the folklore of economics. ... Indeed, it is said that there are serious flaws in all parts of the engine, and that it can never be made to operate.' The research agenda of Clemence and Doody (1950/1966: part 3) has not succeeded in defining trajectories of research which have given us definitive conclusions. However, the recent upsurge in interest in Schumpeter's work has made it much easier than before to see whether it is possible to overcome some of the confusion which is surrounding his work; for example, we have biographies like Swedberg (1991), bibliographies like Augello (1990) and collections of papers like Wood (1991). The question is now whether we are seeing the emergence of a new relationship to Schumpeter or whether 'a brief flurry ensues, after which things go on about as before.' (Clemence and Doody 1950/1966: 5 f) In this situation we may consider strategies of escaping the confusion without abandoning Schumpeter's work. I shall shortly discuss four such strategies:

The first strategy is to go for specific topics and problems. It suggests to classify the literature on Schumpeter according to major topics (e.g., biography, methodology, development, money, cycles, sociology, politics, history)<sup>4</sup> and to delineate concrete areas of discussion like, e.g., the zero

interest rate in Schumpeter's circular flow (Samuelson 1981), the innovativeness of small and large firms (Kamien and Schwarz 1982), the importance of supply- and demand-side factors in innovation (Mowery and Rosenberg 1979/1982). The idea is presumably to influence future research practice in a way which results in more cross-referencing within the individual topics and, perhaps, concerted actions to evaluate some of the 'standard criticisms' which emerged during Schumpeter's life-time and later. But implicitly we are assuming that we have many 'Schumpeters' who can be treated individually just like Schumpeter suggested that we should do with the different 'Marxes' (S<sup>5</sup> 1942/1987: part I; S 1954: 383 f). Since Schumpeter may be considered as a 'Jack-of-all-trades', this exercise may lead to a list that 'is only countably finite' (Samuelson 1981: 1). Furthermore, the delimitation of the different topics is to some degree arbitrary and some overall issues tends to be left out.

The second strategy is to link up Schumpeter with a single present-day research tradition which can be considered as the natural heir of his work and as its privileged interpreter. Such claims come especially from the economics of technical change and from the related area of evolutionary economics. In this context Schumpeter is considered as 'the most influential single writer' (Elster 1983: 112) and even 'the undisputed godfather' (Dasgupta 1985: 519). Some of the researchers in the area suppose that their work will in the end provide 'a well-articulated theoretical structure to guide and connect research' and thus, e.g., to overcome the fact that 'the intellectual coherence and power of thinking about Schumpeterian competition have been quite low' (Nelson and Winter 1982: 29). However, even the broadest 'evolutionary' studies are still quite limited and this means, according to Rosenberg (1986: 197 f), that this kind of 'Schumpeterian renaissance ... has, so far, been an excessively partial one. That is, it has confined itself to a rather restricted portion of a much larger body of thought. ... [M]any of Schumpeter's contributions to economic and social thought remain neglected—even by people who would not shrink from the label "Neo-Schumpeterians".' Thus, it is the further development of evolutionary economics which will show whether the self-selected relationship between the modern studies and Schumpeter is going to succeed or whether Hodgson (forthcoming) is correct that 'the invocation of Schumpeter's name by the new wave of evolutionary theorists in the 1980s and 1990s is both misleading and mistaken.'

The third strategy is to relate Schumpeter to other classic writers. The centenary celebrations in 1983 gave plenty of room for this approach since it happened to coincide with the centenaries of the birth of Keynes and the death of Marx. The many attempts to study Schumpeter in relation to Keynes and Marx (cf. Bös and Stolper 1984; Seidl 1984; Helburn and Bramhall 1986; Wagener and Drukker 1986; Bharadwaj and Kaviraj 1989; further references in Augello 1990: 264 ff) emphasised the

need for a broad approach to Schumpeter's work and suggested an extended agenda of research questions. However, relatively little has been done to take Schumpeter (S 1937/1951: 159) seriously when he emphasises that 'in my beginnings I studied the Walrasian conception and the Walrasian technique ... [and] I owe more to it than to any other influence'. In this perspective it is a pity that Walras did not join the 'astrological group' of 1883 (Goodwin 1986: 14) which might have created a concerted action from the memorialists. Instead we have to argue explicitly for the need of a study of the Schumpeter—Walras relationship.

The fourth strategy is to clarify Schumpeter's conceptual framework. The underlying assumption is that a certain conceptual sloppiness is at the bottom of much of the confusion around Schumpeter's work and that the multiform contexts in which Schumpeter has been interpreted have discouraged the process of clarification. In their present state Schumpeter's notions of innovative entrepreneurs and their new productive combinations as well as of innovative finance, creative destruction, etc. are inspiring in the start-up phases of research projects but frustrating and counter-productive in the end. A greater knowledge about and a development of the conceptual framework and its basic relationship to other conceptual structures as well as to empirical facts is much needed. The strategy may start with a study of individual concepts such as 'entrepreneur' and 'innovation', then turn to conceptual pairs like 'entrepreneurs' *versus* 'mere managers' and 'innovation' *versus* 'routine-following', and end with the specification of the full conceptual framework developed in order to study the 'capitalist engine'. In the literature on Schumpeter we find a preference for the first and partly the second step but Schumpeter clearly wants us to note the 'fundamental structure' (S 1982: 1055) of which the individual concepts and theories are but applications or modifications.

This fourth strategy is the one which will be applied in the present paper and which is underlying other research by its author (Andersen forthcoming). Even if the different strategies to overcome the confusion around Schumpeter's work are not exclusive, we need at the moment to give high priorities to conceptual clarification and to understand the forms of explanation found in Schumpeter's work. This aim may even serve as a way of imputing priorities to the different options included in the other strategies: First, it points to certain topics and problems within *pure* Schumpeterian theory. Second, it suggests that evolutionary economics should try to use its basic conceptual structures (variety-creation, transmission and selection of routines, segregation of economic 'species') to reconsider Schumpeter's conceptual framework. Third, it suggests that the emphasis on the comparison between Schumpeter, Keynes and Marx may lead to a rather elastic use of their concepts since their conceptual structures are so incommensurable and yet so entangled; a comparison between Schumpeter and Walras will serve conceptual

clarification better since their concepts are clearly related and yet diametrically opposed. In the present paper I shall primarily deal with some of the ways in which the Schumpeter—Walras relationship may be used for conceptual clarification. However, a few suggestions relating to the Schumpeter—evolutionary economics relationship will show up as the outcome of the discussion.

## **2. Decomposing the Schumpeter—Walras Relationship**

Among Schumpeter's many paradoxes his paradoxical relationship to Walras has probably been the most difficult to cope with by later researchers. To the extent they have not simply abandoned the issue, they have tried to escape the paradox in ways which have created views of Schumpeter from a 'Walrasian Austrian' (Schefold 1986) to an eclectic whose approach involved 'brilliant mixture, if not always an internally consistent' blend of 'Marxism, Walrasian equilibrium analysis, and German historical scholarship' (Rosenberg 1986: 209). We see the contours of antagonistic groups like in the dated controversies about the Marx—Ricardo relationship: some considered Marx as a minor Ricardian, others saw him as a non-Ricardian who was still bound to some of the master's analytical tools and still others saw him as an anti-Ricardian who had made a radical shift in scientific paradigm and developed something quite different from classical economics. Today, similar views appear to be developing on the Schumpeter—Walras relationship. Morishima and Catephores (1988: 42) may represent the idea of a Walrasian Schumpeter: while it is 'generally believed that Schumpeter's hallmarks were the terms "entrepreneurs," "innovation," and "new productive combination", the concepts and the underlying ideas is actually 'a direct extension of Walrasian concerns.' Freeman (1990: 28) suggests that Schumpeter was a non-Walrasian but bound to Walrasian tools of analysis: 'it was Schumpeter's misfortune that he attempted to marry it [the Walrasian equilibrium theory] with his own theory of dynamic destabilizing entrepreneurship'. The idea of Schumpeter as an anti-Walrasian belongs to the folklore of evolutionary economics rather than to conference papers. It is less a result of the study of Schumpeter than a by-product of modern controversies: to have an interest in Schumpeter is today nearly synonymous to sharply attacking the Walrasian core of neoclassicism (cf., e.g., Dosi *et al.* 1988). The 'Schumpeterian approach' (Dosi 1990) is thus apparently forced either to search for an anti-Walrasian core in Schumpeter's work or to admit that Hodgson's above quoted critique is correct.

Whatever the final judgement of Schumpeter will be, it is clear that he would have disagreed emphatically with modern observers who see Walras as the architect of a 'beautiful but unusable building' (Rechtenwald, in Jaffé *et al.* 1988: 19, my transl.). We find at least three reasons for his emphasis on the fertility of Walrasian analysis: First, we

see that Walras provided ‘exact’ economics with its constitutional document, its *Magna Carta* (S 1954: 968; S 1939: 41). In modern terms we may say that Walras more than anybody else provided a paradigm (Kuhn 1962/1970) or research programme (Lakatos 1970) for studying the logic of economic decision-making which has helped to organise the work of some of the best mathematically minded economists. Second, Walras helped the emergence of the study of economic evolution because his rigorous analysis clearly pointed out that the subject cannot be covered within his own framework and thus implicitly defines an area of research for Schumpeter and others. Third, Walras suggested a set of economic agents and processes which, after simple but fundamental modifications, may give a first theoretical definition of what economic evolution is about. It did so for Schumpeter who came in great intellectual debts to Walras even if their views in many ways were diametrically opposed (as emphasised in S 1937/1951).

There are important differences between the three reasons for Schumpeter’s belief in the fertility of the Walrasian framework. Especially, they relate differently to Walras as well as to Schumpeter: In the first case the inspiration from Walras is related to the imperatives of the Walrasian research programme. We see that this reason is mainly related to Schumpeter the Teacher since it shows important areas of research for mathematically minded PhD students and provides a standard for the refinement of less rigorous economic subdisciplines. The second case is more controversial even if Schumpeter’s first book (S 1908) may be seen as one long argument about what is covered *and not covered* by the Walrasian or, broader, the marginalist research programme. This reason is related to what may be considered as Schumpeter the (unsuccessful) Discipline Builder<sup>6</sup> who tries to delimit a relatively autonomous area of non-Walrasian or evolutionary research. Later he gave up any aspirations as a Discipline Builder, probably because he got no support whatsoever in his endeavours from the leading economists of his time and because he was not able to delimit clearly the area to be studied (see below). In the third case the inspiration does not follow logically from the Walrasian system but is the result of Schumpeter’s use (or misuse) of it for purposes which are foreign to Walras himself (cf. S 1937/1951: 159 f). Through this kind of inspiration, e.g., the Walrasian ‘entrepreneur’ is interpreted as a ‘mere manager’ while the innovative Schumpeterian entrepreneur emerges as an ‘endogenous’ cause of change in what to managers appear to be the parameters of choice. This reason for the fertility of Walras is, mainly implicitly, put forward by Schumpeter the Evolutionary Analyst, the man who was bound to a personal vision of capitalist evolution and who was at the same time ‘a born analyst, a man who felt impelled to do analytic work’ (S 1954: 387<sup>7</sup>). When reading Walras’s *Elements of Pure Economics* (1874-77/1954) with the Schumpeterian vision and analytic drive in mind, it is not difficult to understand this reason.

The decomposition of the Schumpeter—Walras relationship can be further developed by defining more ‘Schumpeters’ but a major conclusion is already visible: all the above mentioned views are correct but one-sided. Morishima and Catephores (1988: 37) are correctly pointing out that ‘it is not unreasonable to think that Schumpeter’s view of the development of the capitalist economy might have been suggested by Walras’s descriptions’ but they underestimate the radicality of the ‘quantum jump’ (Stolper 1988: 20) needed to implement this suggestion. Freeman (1990: 19) rightly emphasises that Schumpeter’s ‘commitment to Walrasian general equilibrium theory was not simply a mode of expression or a way of making his ideas more palatable to his colleagues ... but remained a central part of his theoretical apparatus throughout his life despite its apparent inconsistency with his theories of innovation and development.’ However, Freeman fails to point out that Schumpeter’s concepts and theories of innovation and development (evolution) are in heavy debts to the Walrasian conceptual and theoretical framework. Hanusch (1988: 1) may be right that Schumpeter as an evolutionary analyst ‘is not at all interested in optimization and pure equilibrium economics’ but Schumpeter the Teacher was or would have been fascinated by such topics and Schumpeter the Discipline Builder might have used the limitations of such approaches to show something characteristic about his area of interest.

### **3. ‘Statics’, ‘Dynamics’ and the Unfinished Delimitation of Schumpeterian Analysis**

It is important to follow the traces of Schumpeter as an unsuccessful discipline builder since this endeavour influenced him all his life and since it is still able to create much confusion. This task brings us to his sequence of attempts to name his own area of research by ‘Dynamics’ (S 1908), ‘Development’ (S 1912/1934) and ‘Evolution’ (S 1939) as well as to his final attempts of conceptual clarification (S 1954). The ambition is not to develop the related area of economic semantics (cf. Machlup 1959/1963) but to understand Schumpeter’s problematic and shifting relationship to Walras. First, we see that Schumpeter in the very beginning of his core studies (S 1908) suggested that Walrasian and other marginalist analysis had clear limitations and should not try to conquer the realm of evolutionary studies (Dynamics). Such a behaviour could only revive the German Battle of Methods which Schumpeter tried to avoid by poposing a more regular, professional and specialised form of scientific development<sup>8</sup> which he must have hoped would include his own novel area. Second, we see that Schumpeter’s construction of his theory of Economic Dynamics or Development (S 1912) made it necessary to make a novel interpretation of ‘Statics’ which emphasised routinised behaviour and thus transgressed into the area which he at first saw as basically explored by Walras. Third, we meet (in S 1954) Schumpeter’s

recognition that he his original version of ‘Statics’ and ‘Dynamics’ had created confusion by mixing the (‘static’ and ‘dynamic’) analytical methods with the phenomena to be studied. The most important task was now to understand the major classes of phenomena in terms of the ‘stationary state’, ‘simple evolution’ and ‘evolution in the narrow sence’. The latter represented the subject area which Schumpeter had tried to delimit all his life.

Schumpeter’s initial viewpoints are especially reflected in the overall structure and double purpose of his first book on *The Essence and Principal Contents of Economic Theory*.<sup>9</sup> Here he tried to show that there was one legitimate marginalist economics.<sup>10</sup> At the same time he pointed out that there might be another and relatively autonomous area (Dynamics, later denoted as Development or Evolution) which might become a subject for analytically oriented model building. This ‘land of the future’ (S 1908: 183) became the area in which he concentrated the part of his life’s work for which he would claim originality but at the same time he tried to define the area in a way which could persuade others to cooperate (or at least to appreciate the work to be done). In this way he can be considered as a discipline builder even if he did much to emphasise that the new discipline was suggested (implicitly) by most of the great economists and not primarily by himself.

This may be one of the reasons why he preferred to apply the same words (‘statics and ‘dynamics’) as other economists even if he radically changed the meaning of the words which he ‘retains for convenience although they really, in my [Schumpeter’s] opinion, are unfortunate.’ (S 1908: 182, my transl.). However, the result was not sympathy for his project but doubts about his analytical abilities and confusion about the character of his endeavours. Both contemporary and later economists failed to recognise that Schumpeter’s Statics involved no long-term assumptions of the behavioural parameters of the economic system: the consumption and production functions are bound to a particular moment of time and they may only be assumed to be more or less the same in ‘the next moment of time’ (S 1908: 142 f). If we want to talk about the time-path of the system during longer periods we have no *a priori* knowledge and no simple ‘sequence analysis’ (S 1908: 177 ff).<sup>11</sup> Instead, Schumpeter visualises something like a sequence of equilibrated ‘snapshots’ which composes into the changes of the moving picture because of exogenous parameter change. This process is covered by Statics while Dynamics to him presupposes an endogenisation of the change of production and consumption functions (as implied by the Schumpeterian theory of the innovative entrepreneur<sup>12</sup>). On the background of such a conception, it is not difficult to understand that the young Schumpeter tried to demonstrate the quite limited area within which (his conception of) the marginalist programme may appropriately be used. According to him Statics covered the analysis of, e.g., wages and rent. But there is a residual set of economists’s problems (innovation-based profit and related

phenomena of interest and of business cycles) which cannot be covered appropriately by the marginalist programme. He first book provides us with a verbal (and verbose) sketch of a proof of this statement which must be considered as a suggestion of an ‘impossibility theorem’.

Schumpeter’s argument was formulated at a time when many of the marginalist economists felt that ‘static’ analysis was well-established so that they considered the possibility to ‘cross the Rubicon’ (S 1954: 1160), i.e. commit themselves irrevocably to a new realm of problems. However, they had very different conceptions about the new realm and whether it could be approached gradually or by a great leap.<sup>13</sup> In this context Schumpeter’s proposition created more heat than light. First of all, it is (as mentioned above) never popular to suggest self-limitations to an expansionist research programme. Second, ‘there were those in whose hands the whole discussion degenerated into a quarrel about words’ (S 1954: 967). Third, Schumpeter was not able to define clearly and consistently the assumptions underlying his Dynamics or evolutionary analysis.

All these circumstances help to explain why Schumpeter hoped to promote his preferred area of research by his concrete analytical studies rather than in the form of programmatic or methodological statements. Furthermore, the emphasis on concrete results rather than metatheoretical discussions is reflecting his general viewpoint: ‘Not the first, but the last chapter of a [scientific] system should deal with methodology.’ (S 1908: xi, my transl.) Yet, as Machlup (1951/1991: 232 f) has emphasised, ‘his very first article as well as his first book were on the methodology of economics; and indeed almost everything he ever wrote contained general methodological discussions or comments.’ This interest was partly the result of his attempts to reconcile the Battle of Methods by means of methodological tolerance but his long-term interest rather, in my opinion, is reflecting the needs for delimiting his own area of research.<sup>14</sup> One problem was clearly how to develop statements like: ‘Statics and Dynamics are totally different areas, dealing not only with different problems but also with different methods and different materials. They are not two chapters in one and the same theoretical building but two totally autonomous edifices. Only Statics has yet been worked on tolerably ... Dynamics is still in its beginnings, it is a “land of the future”.’ (S 1908: 182 f, my transl.) This programmatic statement was repeated in a modified terminology (S 1912/1934: 82 f) but it rises a whole complex of questions which were never fully explored.

One of the reasons for the unfinished character of many of Schumpeter’s statements is that he had entered a terminological quagmire (cf. Machlup 1959/1963). However, during the last year(s) of his life (S 1954: 1188, 1196, 1199) he wrote in his *History of Economic Analysis* something like research notes on the issue (S 1954: 963-967, 892 ff, 563, 416). The result<sup>15</sup> was a differentiation of the concepts which he had been

using at different stages of his analytical work. With slight developments, the result may be presented in the following scheme (table 1).

**Table 1:** A classification of methods and phenomena

		Stationary state	'Evolutionary' state in the broad sense	
			Simple	Mutative
Static analysis		(1)	(2)	(3)
Dynamics	Analytic	(4)	(5)	(6)
	Historic	(7)	(8)	(9)

The result of Schumpeter's reflections (and communication with especially Frisch) was that one should talk of static and dynamic analysis depending on the omission or application in an essential way of time subscripts of the variables (S 1954: 963). In the latter case the variables may relate to an abstract time scale or to 'a unique process in historic time' (S 1954: 12). Defined in this simple way the different methods can be applied to a variety of phenomena. Thus, a real or constructed object of analysis may be in a 'stationary state' or in an 'evolutionary state' where 'evolutionary' is just denoting that the variables under study are changing; this may also be called evolution in the wider sense (S 1954: 964). One part of this is simple evolution 'that may be described in terms of continuous variations of rates within an unchanging framework of institutions, tastes, or technological horizons' (*ibid.*). The residual is 'evolution in the narrower sense' (I prefer to call it 'mutative evolution' or 'evolution proper') which in Schumpeter's opinion covers discontinuous change of the framework of the economy created by 'endogenous' forces. This is to Schumpeter the real evolution and his early work implied (like Cassel) an extension of the concept of stationarity to the cases of balanced progress and minor changes in methods or production and conditions of trade; this 'separated out neatly the phenomena of evolution in the narrow sense of the term ... [b]ut with all the leaders of the period this meant setting these phenomena aside rather than constructing a comprehensive theory of them.' (S 1954: 966)<sup>16</sup>

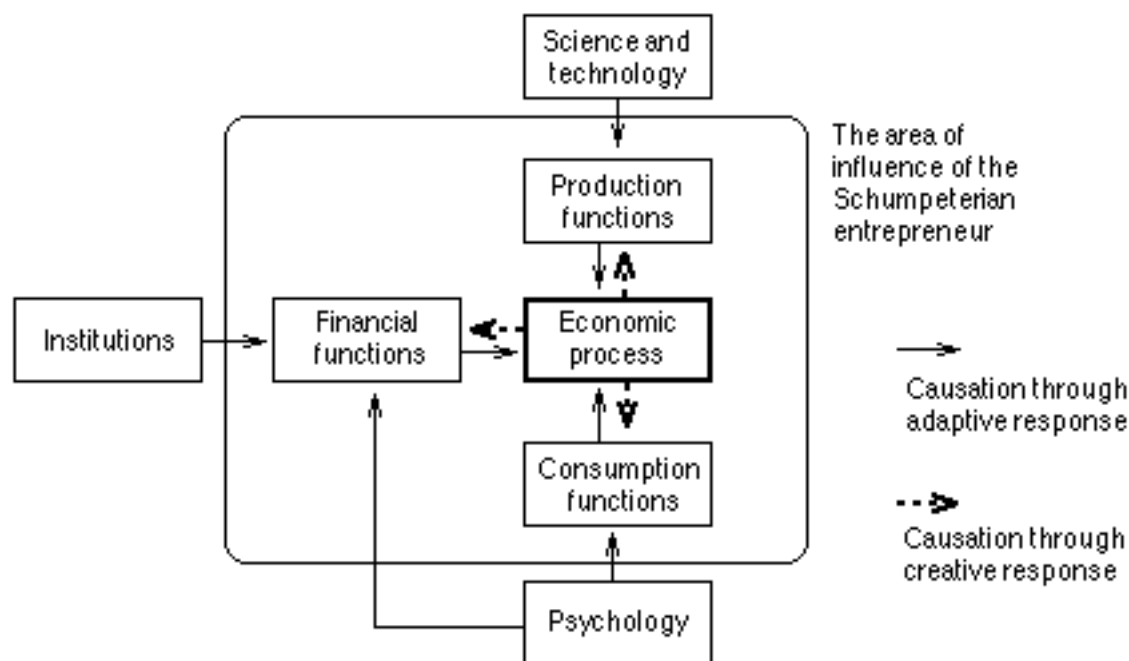
Through these reflections Schumpeter was finally approaching a suitable definition of his life's project in a book where he had excluded a treatment of his own work! Unfortunately, the manuscript 'breaks off at this point, obviously unfinished' (S 1954: 967, editorial remark) but we have already seen that in Schumpeter's opinion the phenomena to be studied have a logical priority over the methods used for studying them. Thus, mutative evolution can be studied by means of all the methods (case 3, 6 and 9 in table 1) but Schumpeter's central endeavour is clearly related to a dynamic analysis of mutative evolution in an economic system. On the other hand, Walras emphasised the stationary phenomena in the broad sense: 'A stationary process, however, is a process which

*actually* does not change of its own initiative ... Walras would have admitted this. He would have said (and, as a matter of fact, he did say so to me the only time that I had the opportunity to converse with him) that of course economic life is essentially passive ... so that the theory of a stationary process constitutes really the whole of theoretical economics' (S 1937/1951: 159). On this background, Walras could concentrate on relatively simple cases (case 1 but also 2, 4, 5 of table 1).

Schumpeter 'felt very strongly that this was wrong, and that there was a source of energy within the economic system which would of itself disrupt any equilibrium that might be attained.' (S 1937/1951: 159) Yet, this is not simply a question of confrontation or delimiting different areas of economic analysis. It appears to be Walras's passively adapting economic agents which suggest to Schumpeter that there is another type of agent who can probably only be thought out on the background of a great deal of passivity and equilibrating tendencies. This brings us to a deeper level of the Schumpeter—Walras relationship.

#### **4. Walras's Work as a Springboard for the Development of Schumpeter's Entrepreneur**

Schumpeter's definition of, e.g., his innovative entrepreneur is critically dependent upon the framework within which the entrepreneurial function is supposed to be situated. To create such a suitable framework Schumpeter had to change major parts of the Walrasian system rather than just the definition of the entrepreneur. For example, he had to define what he meant by a new combination of the factors of production and to secure that profit could be obtained he had to assume that the other economic agents were unable to adapt immediately. However, Schumpeter's commitment to a division of labour *vis-à-vis* Walrasian analysis (which we explored in section 3) functioned as a brake on a deep-going reconstruction which became increasingly important during the formulation of his *Theory of Economic Development* (S 1912).<sup>17</sup> Thus, he left many revisions and clarifications to posterity. Within the limits of the present paper we can only deal with a few of the results and problems created by the Walrasian background of Schumpeter's ideas about, e. g., the functioning of managers and entrepreneurs in the evolutionary process of a simplified economic system. Figure 1 may help to depict some differences between the two types of agents and thus some similarities and differences between Walrasian and Schumpeterian analysis.



**Figure 1:** Selected parts of Walrasian and Schumpeterian causation of economic change.

Walrasian analysis presupposes one basic type of economic decision-maker whose parameters of choice fully determine his behaviour. The behaviour of the economic system as a whole is also supposed to be fully determined by this framework.<sup>18</sup> In this context ‘progress’ seen from the viewpoint of given utility functions is either determined by changes in production functions ‘brought about by science’ or by increasing capital intensity ‘resulting from saving’ (Walras 1874-77/1954: 386). Schumpeterian analysis tries to operate with two different types of economic behaviour (adaptive and creative response, S 1947/1951) and the latter makes it necessary to redefine the borderline of the economic system. Thus, we have in the Schumpeterian set-up one type of agents to whom the ‘parameters’ of the Walrasian system are really variables. This includes first and foremost the production functions but to implement new production functions it is necessary that ‘savings’ adjust to innovative investment by means of a flexible banking system. When major shifts in the quality or quantity of commodities take place, the consumption functions also have to change. However, Schumpeter has also another type of agents who behave in an ‘essentially passive’ way and accept as their parameters of choice what to creative agents are variables.

The functioning of Walras’s system is in one place depicted as a *tableau économique* with a reproducing general equilibrium. Walras suggests to ‘suppose the basic data of the economic problem ... to remain fixed, so as to give us something in economics analogous to what is called a *stable system* in mechanics. Moreover, we shall assume not only that the preliminary phase of groping has been completed with equilibrium established *in principle*, but also that the phase of static equilibrium has

actually commenced, so that equilibrium is established *in fact*.' (Walras 1874-77/1954: 378) This picture forms, in my opinion, the starting point of Schumpeter's development of his idea of the circular flow of economic life which constitutes what may be called the manager's paradise. Here the routine-bound behaviour can come to its full blossoming since time has not come to a stop but everything repeats itself. In such a case there is clearly no need to 'attribute omniscience to our firms and households, or any theoretical understanding of the processes in which they play a part, but simply that amount of information and understanding which they actually possess and which varies greatly between different groups.' (S 1939: 53) The reason for this proposition is that in 'the case of an undisturbed stationary process' everyone have 'been taught by experience to follow the beacon lights which are relevant to him and the meaning of which he does not need to explore. Since every decision refers to the future, this implies foresight; and since the fruits of every effort mature in the future, it also implies caring for the future—forethought.' (S 1939: 53) But all this is not very demanding since the managers just have to stick to the principle: same procedure as last year.

However, Walras is quick in making another step where this picture is transformed from 'the static to the dynamic state ... [which] change from instant to instant along with the basic data of the problem.' (Walras 1874-77/1954: 380) He clearly thought that if these exogenous disturbances were ever to come to a long-term halt, then the equilibrating forces would in the end bring the system into equilibrium; but parameter change does not stop. 'Such is the continuous market, which is perpetually tending towards equilibrium without ever actually attaining it, because the market has no other way of approaching equilibrium except by groping, and, before the goal is reached, it has to renew its efforts and start over again, all the basic data of the problem, e.g. the initial quantities possessed, the utilities of goods and services, the technical coefficients, the excess of income over consumption, the working capital requirements, etc. having changed in the meantime.' (Walras 1874-77/1954: 380)

With these formulations Walras is facing a whole set of difficult questions, especially if we agree with Schumpeter's opinion of Walras and Pareto that we should not 'charge them with the absurdity of assuming omniscience ... The assumption really made is that people react to existing prices only, and it is from this that trouble arises as soon as we start analysis from a state of disequilibrium or investigate the effects of any disturbance that is more than an isolated interruption of the ordinary picture. It is then that expectation or anticipation enters the picture, to threaten the existence of our equilibrium tendency.' (S 1939: 53) However, the young Schumpeter did not pay much attention to possible doubts about the stability properties of the equilibrium of the Walrasian system. Instead he must have asked why the parameters were always changing. Walras's explanation (external factors) is only one of the possible explanations. Even if these external factors were to come to a

halt, one could still imagine the possibility of a Schumpeterian entrepreneur who embarked upon an innovative project which would create disturbance of the system. Schumpeter thought that his entrepreneur was an important and probably the most important reason why the system did not settle down. This behavioural type also made Schumpeter sceptical towards Walras's analogy between the disequilibrated economy and the waves of a lake. The wind is an exogenous disturbing factor while there is an endogenous element of the Schumpeterian economic system which is able to create disequilibrium. This internal element must have seemed especially relevant to Schumpeter to explain why 'under some circumstances a selling price will remain for long periods of time above cost of production and continue to rise in spite of increases in output, while under other circumstances ... the market is sometimes thrown into violent confusion by *crises*, which are sudden and general disturbances of equilibrium.' (Walras 1874-77/1954: 380 f)

These lines of Walras provided an appropriate testing ground for Schumpeter's idea of an 'internal', 'creative' and 'energetic' factor or operator of the economic system. Is it possible to explain the relatively long-term surpluses and the sudden intrusion of losses (and liquidations) by means of the innovative entrepreneur? This was one of the major questions for young Schumpeter which led him from the individual agents to the behaviour of the system as a whole. Similarly, we may say that he shifted from a micro-oriented operator (which introduces an individual new combination) to a system-oriented operator which is capable of changing the state of the system from (a loosely defined) equilibrium state to a disequilibrium state characterised by evolutionary processes. Sometimes Schumpeter calls both an 'entrepreneur', sometimes the latter is phrased in terms of a 'swarm of entrepreneurs'. A major help which the Walrasian system gives to young Schumpeter is to make possible the coupling between innovative micro-behaviour and system behaviour. But this micro-to-macro bridge is made under quite strict assumptions which Schumpeter himself helps to undermine. His problem is, therefore, how the act of a minority, and sometimes even of 'a minority of one', becomes relevant to the system as a whole.

We have to leave these problems which Schumpeter met in the middle of the Walrasian system (if they have any solution it is not to be found in this system). Instead we will turn to the basic concepts used in Schumpeter's attempts to develop a 'purely economic theory of economic change which does not merely rely on external factors' in order to clarify 'the struggles and vicissitudes of the capitalist world ... more satisfactory than it is possible to explain them by means of either the Walrasian or the Marshallian apparatus.' (S 1937/1951: 160) Here the starting point is the Walrasian 'entrepreneur' whose role it is 'to lease land from the landowner, hire personal faculties from the labourer, and borrow capital from the capitalist, in order to combine the three productive services in agriculture, industry or trade.' (Walras 1874-77/1954: 222) The thought-

provoking problem is that this apparently central role player of the Walrasian drama disappears soon after he has entered the stage of the economic process since any profits are competed away. Schumpeter must have proceeded: If an equilibrium situation (somehow obtained) were to exist forever, there would still exist ‘mere managers’ who get their wages for a simple administration of the productive apparatus. If a limited exogenous shock removes the economic system from equilibrium, then profits and losses must occur but not due to any action from within the system. Furthermore, the forces which drive the system back towards equilibrium may really be considered as routine actions of the Walrasian ‘entrepreneurs’ who even in this situation behave like automatic calculators or administrators. Even the kind of ‘progress’ suggested by Walras (population change, savings and gradual technological development) is easily taken care of by this routine-like behaviour. All these complex processes must have seemed quite simple to young Schumpeter; at least they did not constitute suitable tasks for agents with an ‘energetic’ behaviour.

Schumpeter’s conclusion was that the central role of the ‘entrepreneur’ of Walras’s economic drama was only apparent. In reality Walras described a rather boring person or organisation, the manager or the firm, who is administering a given and perhaps gradually changing enterprise. Or, in the words of the old Schumpeter, even if Walras ‘did introduce into his mechanism an entrepreneur who was not merely a capitalist, he reduced him, as we saw, to a purely formal role of buyer of productive services and seller of consumer’s goods without any initiative—or income—of his own. In order to emphasise this we shall replace the term “entrepreneur” by the impersonal term “firm”’ (S 1954: 1011) Instead the word is reserved for the Schumpeterian ‘entrepreneur’ who exploits the near-infinite number of new productive combinations which are always available even if they are not visible within the ‘technological horizons’ of the managers. The goal and the result of his action are ‘entrepreneurs’ gains ... [which are based on] something that, for the moment at least, competitors cannot parallel for, if they did, no surplus over costs (including entrepreneurial “wages”) could emerge. The successful introduction of a new commodity or brand is perhaps the best illustration of this.’ (S 1954: 897) In other words: ‘If everyone in the trade had promptly listened to them [entrepreneurs and reformers], there would have been no profit and no crowding out or competing down.’ (S 1939: 375, emphasis removed)

Thus, we may distinguish Walrasian and Schumpeterian analysis by their different conceptions of the promptness of responses to disequilibrium. According to Streissler’s sharpened formulation (1973, emphasis removed) ‘Walras’s *tâtonnement* takes a minute; Menger’s *tâtonnement* takes a century!’ In this respect Schumpeter is close to Menger as emphasised by the fact that a full exploitation of a ‘cluster of innovations’ may, according to Schumpeter’s *Business Cycles*, demand a

Kondratiev wave of fifty years. Schumpeter's analysis is, however, not primarily dealing an extended but simple *tâtonnement* process performed by adaptive 'entrepreneurs' as in the case of neo-Austrians like Kirzner (1973). Instead he is looking for a role for his non-adaptive or innovative entrepreneur.

We may exemplify some of the related issues by Schumpeter's 'standard example' (S 1939: 37) of 'railroadization'. The early railroad promoters had nearly all the characteristics of the Walrasian 'entrepreneurs': they owned nothing but made a living out of combining inputs into transport systems and services; they tried to transfer risks to the capitalists; they knew about the well-established cost and price conditions in, e.g., mail coach transportation. However, they were also able to imagine how to make a 'new combination' (a railroad) out of the available productive services and they had the determination to get it financed and implemented in order to make a profit. If we are dealing with an early railroad project, the established price of mail coach tickets was one of the most important information. However, the railroad promoter needed a full *ex ante* production function which includes knowledge about, e.g., the number of labour hours, acres of land, tracks and locomotives necessary to allow to supply a given quantity and quality of transport services. This question could not be answered in 1820 but in 1850 there was a fair amount of knowledge related to the production function and in 1890 the technical coefficients of the production function were known with great accuracy. Thus, somewhere between 1820 and 1850 a new combination or production function was inserted into the system of economic decision-making, or, in other words, an innovation took place. However, the production function was not left unchanged between, e.g., 1850 and 1890. Formally, this means that we have a set of different production functions in the period. However, to cope with the difficulties related to a radically new combination one meets problems which are quite different from the problems related to attempts of continuously changing a well-specified production function.

Schumpeter's attempts to de-emphasise the differences with Walras are confusing. For example, he wants to transform smoothly the standard definition that 'the entrepreneur's function is to combine the productive factors, to bring them together.' (S 1912/1934: 76) into his own definition where he only accepts as an entrepreneurial act the *first* implementation of a specific combination. He tries to persuade us that this is quite natural and widely accepted: 'Since this [the act of productive combination] is a performance of a special kind only when the factors are combined for the first time—while it is merely routine work if done in the course of running a business—this definition coincides with ours.' (S 1912/1934: 76) By de-emphasising the novelty of his idea, Schumpeter makes it more difficult to understand it, including its foundation in an evolutionary and elitist perspective.

Schumpeter's special type of theory is made obvious by the temporary character of the Schumpeterian entrepreneur: 'everyone is an entrepreneur only when he actually "carries out new combinations," and loses that character as soon as he has built up his business, when he settles down to running it as other people run their business' (S 1912/1934: 78) If successful, the entrepreneurial project leads to an on-going concern, a firm, which has to operate according to managerial routines while facing an increasing degree of Schumpeterian competition, i.e. a swarm of imitating competitors as well as symbiotic cooperators. Thus we have a kind of absorbing chain which goes from a potential entrepreneur via an actual entrepreneur to a mere manager (or rentier, etc.). The elusive character of the Schumpeterian entrepreneur is closely connected to his temporary function. Therefore, it is quite natural that several attempts have been made to make entrepreneurship a more permanent endeavour which can be made subject to standard economic analysis. (cf. Casson 1982) Schumpeter was himself aware of this possibility and explored it in *Capitalism, Socialism and Democracy* (S 1942/1987) and at several other occasions. The idea here was that innovation and entrepreneurship became an integrated function in large corporations which gave to them a special ability to change. This so-called Mark II model of Schumpeter (Phillips 1971) was never fully developed and appeared to contradict much of his evolutionary framework in an essential way. Furthermore, it represents what may appear to be a final break with Walras. However, it gives an important bridge to much of the modern theory of innovation and evolution.

## **5. Schumpeter's 'Final Thesis'**

The development of the Schumpeter—Walras relationship should not be seen as a full exploration of Schumpeter's basic conceptual structure. This is clearly emphasised by himself in a letter where he pointed out that he had a 'theory of evolution into which personal observation, historical studies, and theoretical work enter in proportions which it is difficult to define ... it is all seen, and in this sense there is nothing in my structures that has not a living piece of reality behind it. This is not an advantage in every respect. It makes, for instance, my theories so refractory to mathematical formulations.'. (S 1991: 229 f) In this perspective he was not only developing a theoretical framework in contradistinction to Walras but also in relation to a vision of capitalist evolution. Near the end of his life he had been working extremely hard to present Walras's work in his *History of Economic Analysis* (S 1954: 998-1069) but this task left little room for his original vision and his contacts with the Research Center in Entrepreneurial Studies had suggested new developments of his ideas (Swedberg 1991: 171 ff). In this context the most urgent problem seems to have been a revitalisation of his theoretical scheme through the interaction with theoretically relevant studies in industrial history. In

Schumpeter's words the problem is that 'in order to construct a scheme that will describe the modus operandi of these changes [in production and consumption functions], it is necessary to refer to industrial history which, when the analytical work is done, will again provide verifications, checks, amplifications, qualifications, and also tell us where we might expect oscillatory movements to play a role. Theoretical and statistical analysis is in this task as necessary as is historical work. In fact they are inseparable because there is an incessant give and take between them.' (S 1949/1951: 315).

If we take these words seriously, it is clear that Schumpeter is proposing a new start concerning his theoretical framework, a reworking in close relationship to the development of historical analysis. Actually, this new start was already suggested in *Business Cycles* which represents a building which 'is certainly not a finished and furnished one—there are too many glaring lacunae and too many unfulfilled desiderata. ... The younger generation of economists should look upon this book merely as something to shoot at and to start from—as a motivated program for further research.' (S 1939: v) However, the younger generation mainly chose not to shoot at all, partly because many felt that any shooting would be damaging. But Schumpeter wanted the shooting and shortly before his death he shocked not only young colleagues like Samuelson and Goodwin (Swedberg 1991: 176) but also broader groups of active researchers in economics and econometrics.

The disturbing event took place less than two months before his death at the Conference on Business Cycles arranged in collaboration between university researchers and the National Bureau of Economic Research (U-NBER 1951). Schumpeter's point of attack was implicit but clear to all participants: econometrics and mathematics as the all-dominant tools for the march of modern economics and thus model building and the relationship to Walras. At this conference which gathered a good deal of the most talented young theorists and model builders of the US, Schumpeter chose to advocate a special kind of 'historical approach to the analysis of business cycles': 'To let the murder out and to start my final thesis, what is really required is a large collection of industrial and locational monographs all drawn up according to the same plan and giving proper attention on the one hand to the incessant historical change in production and consumption functions and on the other hand to the quality and behavior of the leading personnel.' (S 1949/1951: 314)

This conclusion of his paper was radically out of touch with 'the logic of the modern scientific situation' (p. 308) even if Schumpeter emphasised that nothing was farther from his mind than to start a new Battle of Methods like the one that had earlier raged between marginalist economists and the historical and institutional schools of economics. However, Schumpeter was once more asking the winners to share scarce research resources with others and, furthermore, to put emphasis on aspects of economic life which would seriously question the prevailing

modes of formalised analysis. For example, he emphasised ‘that the most serious shortcoming of modern business-cycle studies is that nobody seems to understand or even to care precisely how industries and individual firms rise and fall and how their rise and fall affects the aggregates and what we call loosely “general business conditions.”’ (S 1949/1951: 315)

Even if Schumpeter was known to like to provoke, this was an ‘uncharacteristic performance’ (Samuelson 1951: 30) which must have appeared close to intellectual *hara-kiri*. In terms of written comments the reaction was next to silence.<sup>19</sup> Schumpeter’s ideas must have appeared hopelessly old-fashioned not least because they were unsuited for mathematical and econometric treatment but also because of romantic-idealistic anachronisms like his emphasis on the role of individual leadership. These and other ‘standard criticisms’ (Lange 1941: 192, Clemence and Doody 1950/1966: 5) had developed in the decade after the publication of Schumpeter’s *Business Cycles* (S 1939) but at the same time Schumpeter had been an famous and respected teacher and research supervisor who had given ‘an inordinate amount of his time to the study of mathematics and to the encouragement of its study by others. ... One of the many ironies in his life is that his ardent support of mathematics in economics drove his students away from the fields of intellectual endeavor that made his own work so significant, and produced many results that he considered sterile.’ (Smithies 1951: 14)

The emphasis on the Schumpeter—Walras relationship may easily have the same effect and drive modern students away from rather than towards an understanding and further development of Schumpeter’s analytical framework. However, it is rather one-sided interpretations of the relationship which lead to such results. At least I think that by recognising the full complexity of the relationship we are able to see many fascinating problems and possibilities of Schumpeterian analysis. At the same time the study brings us close to Schumpeter’s own concerns and thus it may help us to develop his unfinished research programme ‘from within’ instead of attacking or modifying it as foreigners. In this perspective we see that Schumpeter would probably never have produced his work without contrasting himself with Walras as well as becoming inspired by the individual Walrasian concepts (cf. sections 3 and 4). However, this contrasting and inspiration may also, to a certain degree, explain how Schumpeter became entangled in a net of apparently contradictory statements which have to be resolved if Schumpeterian analysis in the narrow or real sense of the word is to evolve and develop. In this way we see how it may be right to emphasise Schumpeter’s Walrasian inspiration as well as to suggest that Schumpeter’s marriage to Walrasian analysis became unhappy in several ways. Today, Schumpeter-inspired economics ‘is a big omnibus which contains many passengers of incommensurable interests and abilities’ (S 1954: 827). Some have to treat the conceptual structure in a highly abstract way while others are able to contribute to its

clarification and development by combining theoretical and historical interests. However, I think that all the passengers in the Schumpeterian omnibus have something to learn from the Schumpeter—Walras relationship.

## Notes

- <sup>1</sup> The paper is a by-product of the work on a book on *Schumpeter and the Elements of Evolutionary Economics* (Andersen forthcoming).
- <sup>2</sup> Recent critiques by, e.g., Oakley (1990) and Hodgson (forthcoming) should be related to older examples of Schumpeter criticism: Wieser (1911/1929: 33 f, my transl.): ‘one feels that the author [Schumpeter] has not yet come to his equilibrium and still must learn to delimit himself’; Böhm-Bawerk (1913: 12, my transl.): ‘Wherever one touches his theoretical edifice, it cracks and totters’; Oppenheimer (1916: 211, 222, my transl.) on *Theory of Economic Development*: ‘Hardly more than an economic novel ... much more a heroic poem than prosaic science!’; Kuznets (1940/1953: 116) on *Business Cycles*: ‘One cannot escape the impression that Professor Schumpeter’s theoretical model in its present state cannot be linked directly and clearly with statistically observed realities’; Robbins in an informal communication on *Capitalism, Socialism and Democracy*: ‘supremely intelligent after-dinner talk’. (cf. Elster 1983: 112).
- <sup>3</sup> The Schumpeter centenary in 1983 implied his ‘belated admittance to the pantheon’ of economics (Boehm 1990: 206) and even ideas about the fourth quarter of this century as ‘the age of Schumpeter’ (Giersch 1984). The bibliography by Augello (1990: 264 ff) makes it easy to find many other examples of very positive evaluations of Schumpeter’s work.
- <sup>4</sup> This is done in as is in Augello’s bibliography (1990).
- <sup>5</sup> In the citations ‘Schumpeter’ is abbreviated by ‘S’.
- <sup>6</sup> As shown below we have to relate him to this role even if he explicitly rejected formulations close to it (S 1932/1952: 600, my transl.): ‘I have never tried to bring about something like a Schumpeter school. There is none and it ought not to exist’. However, what he rejects is probably to be compared with the situation of German economics which included ‘half dozen people who regard themselves as heads of such schools, who feel as fighters for absolute light against absolute darkness.’ (p. 603)
- <sup>7</sup> Schumpeter is here characterising Marx but at the same time he is, as usual when he characterises other writers, giving a glimpse of himself.
- <sup>8</sup> He emphasised the clear distinction between the two types of scientific development in a small book on *Past and Future of the Social Sciences* (S 1915). What may today be called the Kuhnian type of development (Kuhn 1962/1970) was dealt with extensively (S 1915: 93-108) but in the conclusion the cooperative and cumulative type of development was emphasised as sufficient for modern scientific evolution (S 1915: ch. 5).
- <sup>9</sup> It is not correct when Swedberg (1991: 30) says that this subject is dealt with shortly.
- <sup>10</sup> In relation to his Austrian fellow economists the point was the there was only one area of pure or marginalist economics and not several separate schools founded by Jevons, Menger, Walras, Marshall and Clark; the work of Walras most clearly demonstrated this point. In relation to the German historical school (who covered a good deal of the German economics profession at that time) he demonstrated that the work of the marginalist economists was perfectly legitimate, not only as ‘ideal types’ (to use the notion of Weber, 1904/1968: ) but also as empirically relevant for certain (narrow) areas of study.

- 11 Thus, he had little real appreciation of the first versions of the modern analysis of growth and cycles.
- 12 Which is only present in rudimentary form in S 1908: 177 but is fully developed in S 1912.
- 13 Walras was just at that time giving up his attempts of developing even the most simple analogies to mechanical dynamics and he had earlier dropped his realistic analysis of the groping towards equilibrium (Mirowski and Cook 1990; Daal and Jolink 1990; Walker 1987); Marshall had great problems in developing his biologically flavoured dynamics (Moos 1990; Whitaker 1990; Thomas 1991); Clark published his volume on economic change ('dynamics') which was in many respects a disappointment compared with the suggestions in his 'statically' oriented work (Clark 1907/1927; Clark 1899/1902).
- 14 A fact which Machlup fails to emphasise even if he (1951/1991: 237 f) shortly mentions the methodological issues around Economic Dynamics.
- 15 Which could draw in the conceptual clarification proposed in several papers, e.g., Frisch 1929, 1933/1967, Samuelson 1943/1966, 1947/1983: 311-317. A review of 39 different varieties of definitions of 'statics' and 'dynamics' is found in Machlup 1959/1963.
- 16 This separation was already attempted in Schumpeter's first book but here he had to emphasise that to there is an area which is covered by Statics as well as Dynamics where a proper study 'calls for tact and judgement, I might nearly say "instinct"' (S 1908: 177: 185).
- 17 His first book was conceived as the first volume of a work and contained, e.g., an introduction ('prolegomena') to his interest theory which had to be explored in the second volume of Economic Dynamics (S 1908: 414-430). The preface to the *Theory of Economic Development* pointed out that 'the mode of treatment of the material is essentially different so I have not denoted it as a second volume or as continuation' (S 1912: vii) but he rejects any suggestions that he 'in some way disavow' his earlier work. However, the changes included an emphasis on routine behaviour and the breaking of routines which clearly emphasised that Schumpeter had drifted further away from Walras even if he chose to present the theory about economic routine behaviour without emphasising that it meant an increasing gap.
- 18 However, later research has emphasised that things are not that easy, cf. Ménard 1990.
- 19 While the other ten papers got on average three written comments, Schumpeter got only one and it was made by Kuznets who was relatively near to some of Schumpeter's ideas and who also wanted to express 'an honest uneasiness over the current emphasis in business-cycle research' (U-NBER 1951: 162).

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