1. From Walras to Pareto. Introduction

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One may have various reasons for a volume of papers devoted to and inspired by Walras and Pareto. Pareto succeeded Walras in 1893 on the chair of Political Economy at the University of Lausanne. The relation between the two was not always without tensions, although Pareto, on the occasion of his 25 years jubilee celebration, at least in part, transferred the honours offered to him to Walras. Indeed, one may say that to a substantial extent important parts of the works of Pareto would not have been possible without the insights of Walras.

Both eminent scientists also have in common that the image of their inheritance professed to the common university trained economic scholars ('cutes') is a highly restricted caricature of the fullness of their essential insights and contributions, whereas students of sociology or politicology may even finish their academic studies without ever having heard the name of Pareto.

What 'cutes' "know" about Walras amounts to the following caricature. Walras developed the general economic equilibrium model, but did not care about uniqueness and stability of an equilibrium. It is a model with exchange and production only and it assumes an auctioneer who announces price vectors to establish the equilibrium. The model presupposes perfect information and is static and certainly not dynamic. Walras had a bias towards free competition and laisser faire and neglected monopoly and taxation.

Pareto is known by the 'cutes' as the founding father of welfare economics. At best one is informed about the notions of Pareto-optimality conditions and the first and second welfare theorems. But welfare economics is in general disappearing from the university research and teaching programs, replaced as it is by consumer and producer surpluses in the nowadays flourishing partial industrial economics programs.

To a certain extent these developments did provoke correcting reactions. One might refer for Walras to the impressive volumes edited by Donald Walker (2002) and to *e.g.* Maks and Van Daal (2007). Regarding Pareto one may mention *e.g.* the works of Tarascio (1968), Samuels (1974), Backhaus (1978), and McLure (2001). The present volume might contribute in this respect but it also shows that even nowadays the heritage of Walras and Pareto inspires to reflec-

tion, to new interpretations and, perhaps, to new caricatures, yet it might also reveal hitherto neglected aspects or applications.

Jan van Daal's essay "Léon Walras's Economics: From Pure to Normative?" discusses certain aspects of the above sketched caricature of Walras. He explains that the guiding principle for the work of Walras was his desire to contribute to the solution of the Social Question, dealing with the fact that so many people are living in misery. He sketches Walras's vision on the social sciences and indicates how economics fits in this vision. Van Daal also reveals Walras's insights on applied monetary economics, *i.e.* how one should attempt to stabilise the cyclical fluctuations of an economy. In this context he emphasises the various steps towards reality Walras made in extending the scope of his equilibrium model with capital, fiat money and commodity based money. He concludes that the quantity theory of money does not hold in this pure extended equilibrium model.

The essence of Walras's pure theory is contained in the five editions of the Éléments and the two Études. Walras aims at analysing a consecutive sequence, not without dynamic elements, of temporary equilibria from period to period. Furthermore, 'intra-period' analysis, concerning the agents' behaviour during a certain period, was dynamic in the first three editions of the Éléments in the sense that Walras was trying to describe how the groping processes to the period's equilibrium take place. The ban on 'out of equilibrium production' is just introduced in the fourth edition probably because Walras became aware of the complexity of the analysis of groping while allowing disequilibrium production.

The normative part of Walras's work, as Van Daal concludes, is mainly to be found in his *Études d'économie sociale* and *Études d'économie politique appliquée*. In these two books he rather dealt with monopoly and other market organizations than free competition and focused also on taxation, public goods and state ownership of land.

The contribution "The General Equilibrium Theory in Japanese Economic Thought: From Walras to Morishima" of Kayoko Misaki is a very informative review of the development of the reception and diffusion of the various schools of economics among the Japanese scientists with a special emphasis on the influence of Walras.

An important Japanese economist in his days was Fukuda (1874-1930). He was a professor at the Tokyo University of Commerce. This university was not aiming, as the 'imperial' University of Tokyo was, at educating future government officials. By consequence there was more scope for heterodox (including Walrasian) economics. Among Fukuda's students were Tezuka and Nakayama. Tezuka translated and published a substantial part of the Éléments as early as 1933 in Japanese, twenty-one years before the famous Jaffé translation into English.

Nakayama was also influenced by Schumpeter, one of the first economists who appreciated Walras in his full non-caricatural extent. Nakayama published a book in 1933 under the title *Pure Economics*. This book became an influential bestseller, probably because it explained the general equilibrium theory in non-mathematical terms.

Although at the University of Tokyo the Walrasian influence was not substantial, it produced one of the most important Japanese Walrasian economists, namely Takuma Yasui. Yasui became well known after the Second World War for his contribution to the stability conditions of the Walrasian model.

Further, of course, Michio Morishima is mentioned, a graduate and former professor of the Kyoto University, the place to be for sociology. Morishima's lifetime task exists of three projects. The study of general equilibrium theory, the synthesis of economics and sociology, and the study of Ricardo, Marx and Walras. Walras was in favour of the nationalisation of land because of his insight that in a progressive economy the wages would remain on rather low levels. Among other things, Morishima reproaches Walras for not having developed the pure economics that would found his social economics.

One of the avenues that might lead to this connection of Walras's pure economics and his social economics is suggested in the essay "Gross Substitutes, Walras's Rareté and the Stability of the Middle Class" by J.A. Hans Maks. He starts with the observation that Walras is very much aware of the uniqueness and stability problem. This is argued with quotations from the Éléments. Nevertheless it is also clear that the assumptions of Walras were not sufficient to guarantee stability of the groping process.

Maks, however, proposes to analyse in what way Walras's theory, retaining the simple cardinal, strongly additive utility concept he uses, should be supplemented to obtain stability. In the end it turns out that the income distribution should not be too unequal. The more middle class agents there are in an economy, the less likely it is that in the aggregate gross substitutability does not hold. Agents with low incomes, close to existence minimum levels, as well agents with very high levels of income, in the neighbourhood of bliss, destabilise the groping process.

One might relate this finding to the value of 'alfa' in Pareto's well-known income distribution function. It might even be possible to indicate a set of values of 'alfa' that generate stability. On the one hand, Maks's result grounds Walras's point of view that land should be nationalised, since nationalisation leads probably to a more equal income distribution. However, it is also obvious that other means to arrange a stability feasible income distribution are also acceptable.

As observed above partial industrial economics is flourishing. If econometrics is applied in the context of the functioning of markets it is in most cases in industrial economics. Up till this moment it proves to be hardly possible to

directly estimate a model for a substantial part of the economy, with all its interrelated details, that resembles closely enough the conditions of free competition. The reason behind this is, among others, the lack of relevant sufficiently detailed market data. Apart from experimental economics, econometrics uses usually statistical data, that are aggregated such that they are hardly suitable to be applied in the context of an intertemporal general (dis)equilibrium model. So it comes not quite as a surprise that in his contribution "What Went Wrong With Walras" Albert Jolink observed that the leading econometricians of the thirties of the last century felt more sympathy for Cournot's analyses. Nobel Prize winner Jan Tinbergen, for instance, was of the opinion that Walras's model of free competition is not acceptable "in every case, which is increasingly important for the economy, as the amount of monopolies and half-monopolies grows due to the increasing concentration". Here one might be inclined to add that Walras would agree with Tinbergen not to apply his pure model of free competition in cases where reality is not close enough to free competition.

Robert Dillmann and Hans Frambach address in their essay the theme of "Economic Equilibria and the Balancing Act between Total and Partial Analysis". This paper is written from a mathematical point of view rather than an economic standpoint. Sometimes the authors seem to be a little amazed about what they found when reading Walras's *Éléments* and related works. Some bold, but not always new, assertions can therefore be found in their paper. Agreeing with Walras, Pareto, and Schumpeter, the authors signal the shortcomings and dangers of partial analyses as advocated by Cournot and Marshall. They describe the stages of development of Walras's pure theory of free competition, but emphasise his opinion that equilibrium is an ideal and not a real state, a state towards which things tend under a régime of free competition. A state that will never be reached because everything that is assumed constant in the beginning of the equilibrating process will change and the process will start all over again.

Dillmann and Frambach mention that the mathematical theory of fixed points has solved Walras's problems concerning the existence of equilibrium. Further they deal with stability and uniqueness problems. They agree with Walras that for simplicity reasons it is better to use constant technical coefficients in his pure theory, but at the same time they reproach him that he only developed a theory of economic progress and did not rigorously deal with technological progress, as Schumpeter did. This leads the authors to the conclusion that Walras's theory on free competition might be less suitable for competition policy; this conclusion which could have been a little more subtle if they had examined other writings by Walras than his *Éléments* only. All in all, however, it was a fruitful idea to invite trained mathematicians to read Walras and to give their comments. These comments rather grint towards Pareto's approach.

The contribution by Yukihiro Ikeda focuses on "Léon Walras and the English Classical School: Walras's Production Theory Revisited." He emphasises received opinions regarding the diametrically opposing views of the Classical and Marginal Schools. Adam Smith as 'the' icon of the Classical School was one of the first scholars to detect the movement of market prices towards their natural level under sufficiently competitive conditions. Natural levels means in this context prices covering total average costs. Ikeda brings in Walras's assertions in the Éléments that in equilibrium entrepreneurs do not make profits or losses. Hence, he rightfully concludes that in this respect insights of Smith as classical icon and those of Walras as neo-classical 'champion' coincide.

Ikeda moreover focuses also upon the constancy of the technical coefficients Walras assumes within a period. Of course, he is also aware of the fact that Walras defends himself for using this assumption for simplicity reasons. He acknowledges nevertheless this simplification as a striking similarity of Neoclassical and Classical analysis. One might add here that even u-shaped average cost curves or their shift does not necessarily prevent equilibrium prices covering total average costs under suitable conditions.

The essays on Pareto have in common that they take the distinction Pareto introduces between logical and non-logical action of the agents under consideration as their starting point. Pareto, as many of the great economists addressing the philosophy of social sciences issue,[1] relates his definition of the homo agens *c.q.* homo oeconomicus with his philosophy of the social science.[2] Pareto wrestles with what one might nowadays call the distinction between objective rationality, a concept according to which the agent strives after an economic goal and also knows the means to achieve it, and subjective or bounded rationality according to which the action goals may be of whatever nature and the acting agent may not precisely 'objectively' know the means to achieve his ends. To make a similar distinction Pareto introduced logical versus non-logical action.

Logical or rational behaviour may be directed at objective or subjective ends but the means *c.q.* actions are effective. And this is true for the agent also after the action: no regrets and no reflective expectations that another action would have been better. In this context one may distinguish between a homo oeconomicus, a homo ethicus, a homo religious etc, as long as they are effective in whatever end they strive after. And to be more precise: the homo oeconomicus may go for maximum wealth (an objective goal) or for maximum (ordinal) utility (a subjective goal).

Non-logical (or subjective or bounded rational) behaviour is aiming at objective or subjective goals but the aimed action is not per se effective in the sense that the agent is fully informed about the consequences of his action. He may be disappointed afterwards, caused by changes in his preferences or

by unforeseen external changes. The latter may in its turn induce changes in preferences. According to Pareto both types of action need dedicated explanation in the positive social sciences, as long as the efficacy of the means is verifiable.

The theories of non-logical actions should explain the forces behind preferences and, hence, the changes or even the instability in those preferences. Economics should study not only logical behaviour but also non-logical conduct. Moreover economics should be part of a multidisciplinary social science that combines all the information we have on ethics, economics, politics etc.[3]

In the essay "Vilfredo Pareto and Public Choice" Helge Peukert elaborates on Pareto's non-logical conduct analysis. Pareto distinguishes as forces behind tastes and preferences residues (or sentiments), pseudo-logical justifications build upon these sentiments, denoted as derivations, and interests. Interests are the analysed forces of received public economics.

Peukert sketches the six classes of residues Pareto distinguishes. Changes in residues may in their turn be influenced by the logical factor: logical actions and interests. Logical and non-logical-actions are hence equally important for Pareto. Peukert concludes that many of Pareto's residues may be not so functional today, but we should not forget to see his theory of residues as tentative and further research may "enlarge or reduce Pareto's classification".

In "Two Views on Pareto's Current Relevance: Warren Samuel's Foreword to Pareto, Economics and Society" Michael McLure reacts on Samuel's foreword to his book. The main issue between the two is the question whether Pareto's general political sociology tends to an equilibrium in society or not. The reconciliation between the two vision proposed by McLure is based upon the distinction between equilibrium within a period and the uncoordinated, not foreseen sequence of period equilibria or the path of social change as it might be caused by non-logical actions.

Acceptation of this solution may open opportunities to integrate political sociology with economics. However, one cannot help to be inclined to agree with McLure as being not overoptimistic in this respect. "Orthodox" economics still does not fully appreciate the essence of Walras's pure theory in aiming at a usually uncoordinated time path of period equilibria. It remains to a too large extent within the realms of full objective rational behaviour. To this one may add that a similar attitude often holds for political sociologists in their lack of willingness to appreciate the potentials of economic analyses based upon tendencies towards equilibria, even if they are confined to movements towards an equilibrium in a period.

NOTES

1. Like John Stuart Mill in his *"Essays on Some Unsettled Questions of Political Economy"* (1874), Menger in his *"Untersuchungen über die Methode der Sozialwissenschaften und der politischen Ökonomie insbesondere"* (1883), Robbins in his *"An Essay on the Nature and Significance of Economic Science"* (1934) and von Mises in his *"The Ultimate Foundation of Economic Science"* (1958).
2. For a review of the philosophies of social sciences of Mill, Menger, Robbins and Von Mises see Maks in Backhaus (ed.) (2005), 209-222.
3. See Pareto (1980), 166-167.

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