

1. From Walras to Pareto.

Introduction

Jürgen Backhaus and Hans Maks

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 Neo-classical 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.

REFERENCES

- Backhaus, J. (1978). “Pareto on Public Choice”, *Public Choice*, Vol. 33, No. 1, 5-17, reproduced in John Wood and Michael McLure (eds), *Vilfredo Pareto: Critical Assessments*, 1999, vol. 4, London: Routledge, 395-407.
- Fukuoka, M. and Koyama, A. (1959). “Reexamination of the General Equilibrium Theory à la Cassel”. (In Japanese) *Kikan Riron Keizaigaku*, 9(1/2).
- Maks, J.A.H. and van Daal, J. (2007). “Léon Walras: What Cutes Know and What They Should Know”. In Backhaus, J. (ed.), *Founders of Modern Economics*, Cheltenham: Edward Elgar.
- Maks, J.A.H. (2005). “Neo-Austrian, Industrial and Ordo-Austrian Competition Policy”. In Backhaus, J.G. (ed.), *Modern Applications of Austrian Thought*, London: Routledge, 209-222.
- McLure, M. (2001). *Pareto Economics and Society: The Mechanical Analogy*, London: Routledge.
- Menger, C. (1883). *Untersuchungen über die Methode der Sozialwissenschaften und der Politischen Ökonomie insbesondere*, Leipzig: Duncker & Humblot.
- Mill, J.S. (1974) [1874]. *Essays on some Unsettled Questions of Political Economy*, 2nd edition, reprinted, Clifton, NJ: Kelley.
- Nakayama, I. (1933). *Junsuikizaigaku* (Pure Economics), Tokyo: Iwanamishoten.
- Pareto, V. (1980) [1916]. *Compendium of General Sociology*, Abridged with approval of the author by Giulio Farina from Pareto’s *Trattato di Sociologia Generale*, Elisabeth Abbott (ed.), Minneapolis: University of Minnesota Press.
- Pareto, V. (1990) [1896]. *Études d’économie sociale* (Théorie de la répartition de la richesse sociale), edited by Pierre Dockès, under the auspices of the Centre Auguste et Léon Walras, Lyon, Vol. IX of Auguste et Léon Walras: *Œuvres économiques complètes*, Paris: Économica.
- Pareto, V. (1992) [1898]. *Études d’économie politique appliquée* (Théorie de la production de la richesse sociale), edited by Jean-Pierre Potier, under the auspices of the Centre Auguste et Léon Walras, Lyon, Vol. X of Auguste et Léon Walras: *Œuvres économiques complètes*, Paris: Économica.
- Robbins, L. (1948). *An Essay on the Nature and Significance of Economic Science*, 2nd ed., revised and extended, London: Macmillan.
- Samuels, W.J. (1974). *Pareto on Policy*, Amsterdam: Elsevier Scientific Publishing Company.
- Tarascio, V.J. (1968). *Pareto’s Methodological Approach to Economics*, Chapel Hill: University of North Carolina Press.

- Walker, D.A. (ed.) (2002). *The Legacy of Léon Walras*, Cheltenham (UK): Edward Elgar Publishing Ltd.
- Von Mises, L. (1962). *The Ultimate Foundation of Economic Science: An Essay on Method*. Princeton, NJ: Nostrand.

2. The General Equilibrium Theory in Japanese Economic Thought: From Walras to Morishima

Kayoko Misaki

Shiga University, Japan

Abstract

The aim of this paper is to show how Japanese economists understood the political and ideological implications of Walras's general equilibrium theory in its diffusion process. It was in the 1930s that Japanese economists began to work on the general equilibrium theory. Although close surveys of their theoretical contributions have already been made, little attention has been given to its political and ideological aspects. In this paper, therefore, I would like to focus attention on these arguments that have been ignored and try to show the possibilities of general equilibrium theory as social science.

Keywords:

General Equilibrium Theory, Walras, Japanese Economic Thought

JEL classification:

A12, B13

1. ESTABLISHMENT OF 'MODERN ECONOMICS' IN JAPAN

Let us begin by focusing attention on the definition of 'Kindai Keizaigaku' (modern economics) in Japan, as it goes to the very heart of the problem. In Japan, the term 'modern economics' has been generally used to indicate non-Marxian economics after the marginal revolution. The emphasis is always put on non-Marxian. It also excludes the historical school and institutional economics. Thus the term 'modern' is not necessarily used in relation to periodization.¹

This is probably a good illustration of how modern economics was established in Japan in the 1930s in opposition to other economics, especially to Marxian economics. At that time, it was Walras's general equilibrium theory that came to the mainstream of modern economics, although other marginalist theories such as those of Marshall and Jevons had already been introduced.

In the process of its modernization after the Meiji Restoration of 1867, Japan first introduced British classical economics as a propaganda of liberalism. They believed that it would serve to eliminate feudalistic ideas of the Tokugawa Period (1600-1867) and to diffuse such modern notions as freedom and independence.²

In 1889, the Constitution of the Empire of Japan, which was based on the German model, was established. The Japanese government decided to formulate basic policies of industrialization, following the example of Germany's vigorous progress of those days. The government diffused the German social policy school, which soon dominated the mainstream instead of the British classical school.

Marxian Economics was introduced at the beginning of the 1900s and diffused as anti-propaganda to the militaristic policy (the Sino-Japanese War of 1894-95 and the Russo-Japanese War of 1904-05) of the government and to the reactionary elements of the Japanese social policy school. The influence of Marxism became so strong especially after the Russian Revolution as to attract most of the liberal intellectuals and the economists who were concerned with the recession and impoverishment of rural communities in those days.

The predominance of Marxian economics, however, did not last. It was forbidden by a state law when the Mukden Incident broke out in 1931. During the war, Japan had to seek an alternative economic theory, as the social policy school had already broken up because of internal divisions.

In those days, under the influence of the extreme right, 'Seiji Keizaigaku' (political economy) that was based on the German economics of F. v. Gottl-Ottlilienfeld was prevailing to justify the controlled economy. On the other hand, a few economists came to pay attention to the international development of general equilibrium theory. The London School established the Econometric Society in 1930 and *Econometrica* in 1933. The Austrian School strengthened its tendency towards general equilibrium theory, starting the *Zeitschrift für Nationalökonomie*, where English-speaking economists also began to contribute.

In Japan, on the contrary, '*modern economics was like a small floating island in the sea of Marxism*' (Yasui, 1980, p. 250) although marginal economic theory had already been fragmentally introduced. Those Japanese economists that were establishing 'modern economics' were the minority and were confronted with the invisible dominance of Marxian economics and with the popularization of rightist economics that served Japanese militarism in the 1930s.

It was in this situation that Juro Tedzuka (1896-1943) published the first Japanese translation of Walras's *Eléments*.³ In 1933, he published its first volume that contains only the theories of exchange and production. He failed to publish a second one because of the war although he had already completed it. It was after his death in 1954 that both volumes were published.

In the first volume, Tedzuka introduced Walras's life briefly but did not mention his socialist thinking or his idea of nationalization of land. In the preface, Tedzuka referred to G. Sensini's remark in *La teoria della rendita* (1912): "Unfortunately Walras abandoned his study of pure economics and proceeded to that of utopian applied economics moved by his nature as social reformer."

Tedzuka maintained that Walras's true contribution should be found in his recognition of the interdependency of economic phenomena whether he had been conscious of it or not. Pareto developed Walras's general equilibrium theory by discarding the concept of cardinal number that had remained in his marginal utility theory. Tedzuka says:

Today, there exists neither subjective theory of value nor labor theory of value, for the disinterested economists. The only theory that exists is general equilibrium theory. Those who aim at a disinterested inquiry of the economic phenomenon must begin with Walras and with Pareto.

What we notice here is that Tedzuka emphasized the disinterested character of general equilibrium theory. However it does not necessarily follow that he was not interested in ideological arguments. On the contrary, it is obvious that he had a great detailed knowledge of the history of ideas in France. The 6624 books on French economics, philosophy and socialism of which he made a collection during his stay in France (1920-1926) is well known as the Tedzuka Library of Otaru University of Commerce. His real intention was to present a more universal point of view against the contemporary economists who were insisting on the particularity of the Japanese economy.

On the other hand, during the war, the school of political economy countered him on the pretense that pure economics could pursue nothing concrete, nothing Japanese but something universal. Tedzuka replied that such was the characteristic of pure economics, as it aimed to be a positive science. Thus modern economics in Japan was given a neutral and non-ideological characteristic at its beginning.

2. TOKUZO FUKUDA (1874-1930) AND HIS DISCIPLES: THE GOLDEN AGE OF HITOTSUBASHI

In the 1930s, those who diffused Walras's general equilibrium theory in Japan were not in the mainstream.

In this section, we will look more carefully into their academic background. An important point to note is that most of them were under the influence of Tokuzo Fukuda (1874-1930). He was not only a great economist but also a great educator who trained many pioneers of modern economics in Japan.

Fukuda had an opportunity to study economics in Germany from 1898 to 1901. He was influenced by Lujo Brentano and received a doctorate at the University of Munich.⁴ After returning to Japan, he took an active part in the diffusion of the social policy school that was dominating the main stream of Japanese economics in those days. However, he was not satisfied with orthodox economics, and his interest shifted to Marshall, Marx and Pigou. In the end, he was strongly opposed to Marxian economics and advocated welfare economics of the Cambridge school.

Fukuda set his disciples the task of translating the literature on marginal theory into Japanese. Under his encouragement, Shinzo Koizumi published the translation of Jevons (1913),⁵ Juro Tedzuka published the translations of Gossen (1920) and of Walras (1933), Kinnosuke Otsuka translated Marshall (1924-25) and Ichiro Nakayama published the translation of Cournot (1936). Though Fukuda himself was not good at mathematics, he realized the importance of mathematical economics and particularly of Walras's economics.

He taught these disciples except for Koizumi at Hitotsubashi University. It is noteworthy that Hitotsubashi produced many pioneers of modern economics and played an important role in the diffusion process of Walrasian economics in Japan. The time when Fukuda taught these disciples is called 'the Golden Age of Hitotsubashi'.

Let us look briefly at the history of the education of economics in Japan after the Meiji Restoration of 1867. The government established the Imperial University of Tokyo (the predecessor of the present University of Tokyo) in 1877 and then Imperial University of Kyoto (the predecessor of the present University of Kyoto) in 1897. At first, in both of them, economics was taught at the faculty of Law. It was in 1919 that they created a faculty of economics. At the Imperial University of Tokyo, the first dean of the faculty of economics was Noburu Kanai (1865-1933). He was the introducer of the German policy and historical school in Japan and was the president of the Japanese Association for the Study of Social Policy, which was the only economic association in Japan at that time.

When Fukuda was appointed to a professorship at Hitotsubashi, his alma mater in 1919, it was called the Tokyo Higher Commercial School. It was raised to University status in 1920 as the Tokyo University of Commerce. While the faculties of economics at imperial universities were established generally for the purpose of producing government officials, Hitotsubashi was intended for educating businessmen. Its atmosphere has been anti-government, anti-University of Tokyo, independent and liberal. This is also reflected in its education. At Hitotsubashi, not only the orthodox economics but also the other heterodoxies were taught. Its neighboring sciences such as philosophy, mathematics and sociology were also regarded as important. In this sense, Hitotsubashi could play an important role in the education of modern economics.

At Hitotsubashi in 1927, two different types of ‘principles of economics’ were lectured on. One was on modern economics by Fukuda. The other was on Marxian economics by his disciple Otsuka.

2.1. Kinnosuke Otsuka (1892-1977): From Mathematical Economics to Marxism

Otsuka joined Fukuda’s seminar in 1914. At first his major was mathematical economics. In 1919, he went to Columbia University to study it under the direction of Moore. In 1920, after attending some lectures by Webb at LSE, he moved to the University of Berlin. He visited Lausanne in 1922 for about one month to collect documents of Walras and began a correspondence with his daughter Aline Walras. Although he intended to introduce Walras’s economics into Japan at first,⁶ his interest shifted to Marxism and socialism. When he returned to Japan in 1924 after hearing about the Great Earthquake of 1923, he was a real Marxist.

The documents that he collected in Lausanne are preserved in the library of Hitotsubashi University.

They contain *Le Travail*, which Walras published with Léon Say from 1866-1868 in their association movements. Otsuka also was very involved when Hitotsubashi University bought the Menger Library in 1923.⁷

2.2. Ichiro Nakayama (1898-1980): The Diffusion of Walras’s Pure Economics

Among Fukuda’s disciples at Hitotsubashi, Ichiro Nakayama contributed most to the diffusion of Walras’s pure economics in the 1930s. It is due to his efforts that general equilibrium theory came to be considered as the main stream of modern economics in Japan although the other marginal theories had already been introduced.

Nakayama entered Hitotsubashi University in 1920 and joined Fukuda’s seminar in 1921. Though Nakayama was at first interested in Menger’s theory of value, Fukuda advised him to begin with Cournot and gave him the task of summarizing Cournot’s idea without mathematics. His first paper was published in 1923 with the title ‘Surikeizaigaku niokeru futatunokeiko to sonosogono kokoromi tonioite (On the two tendencies in mathematical economics and the attempts to synthesize them)’. In this paper, he dealt with Cournot’s quantitative approach to the economic phenomena and Gossen’s individualistic and psychological approach to their fundamental cause. He considered Walras’s theory as their synthesis and rated it highly. This was one of the earliest papers on Walras in Japan and it didn’t receive much attention.

In 1927, Nakayama went to the University of Bonn and studied under the direction of Schumpeter. According to Nakayama, he learned two things from

Schumpeter. One was how to develop Walras's general equilibrium theory without mathematics. He had had no opportunity to read *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie* (1908) or *Theorie der wirtschaftlichen Entwicklung* (1912) until he went to Germany. The other was the attitude towards Marxism. Although Nakayama had intended to study Marx, Fukuda prohibited him from reading books on Marxism and encouraged him to study mathematical economics. Nakayama attended Schumpeter's lectures on the history of economic thought where he criticized Marx directly and indirectly. For Nakayama, it was his first time to study Marx. Under the influence of Schumpeter, Nakayama learned how to oppose modern economics to Marxism.

It is obvious that Nakayama was also affected by Schumpeter's attitude towards Walras's applied and social economics. Nakayama ignored them and devoted himself to Walras's pure economics.

Nakayama returned to Japan in 1929 and published a book on Walras with the title *Junsuikizaigaku* (Pure economics) in 1933, which became a best-selling book in the field of economic theory. In this book, he maintains that there generally exists interdependency of all the economic phenomena and that general equilibrium theory is a means of grasping it. The aim of pure economics is to understand economic phenomena by applying general equilibrium theory to them.

Nakayama explains that he wrote it under the influence of Schumpeter's *Wesen*. He deals with mathematics only in 14 pages of appendix in his book of 255 pages. It contributed to the diffusion of Walras's equilibrium theory without mathematics in Japan. Nakayama believed that it was due to Schumpeter.

Nakayama took a critical attitude toward the contemporary rightist economists because he couldn't expect any development or progress in its theory. He believed that economic theory should be able to tackle and solve concrete problems in the context of the historical situation of the national economy. This belief is much influenced not only by Schumpeter but also by Fukuda.

Fukuda's other disciple Sugimoto also maintained this belief all his life from the opposite point of view.

2.3. Eiichi Sugimoto (1901-1952): The Critic of the Lausanne School

Fukuda always warned his disciples not to overestimate the validity of pure economic theory while he encouraged them to study mathematical economics. This attitude influenced Sugimoto, one of his disciples, who continued to criticize general equilibrium theory all through his life.

Sugimoto read Marx's *Das Kapital* in Fukuda's seminar in 1922, and studied Marxian crisis theory at first. Fukuda rated Sugimoto's work and personality highly although he was anti-Marxist himself. Fukuda made all possible

efforts so that Sugimoto could become an associate professor of Hitotsubashi University in 1929 and that he could go abroad on a scholarship of the Ministry of Education.

From 1929 to 1932, Sugimoto had opportunities to study in Berlin, Kiel, Frankfurt and New York. At the University of Berlin he learned about the business cycle theory from Ernst Wageman and materialism and Marxism from Karl Korsch. He also associated with Leontief there. Under their influences, Sugimoto came to think highly of Econometrics as a means of grasping empirical laws of the economy. In the turmoil of the 1930s, he believed that Econometrics could be a science that could be free from ideology. Sugimoto is known as one of the pioneers of Econometrics in Japan, who derived the demand curve of rice in 1935. However more noteworthy is his critical comment on the Lausanne school. He asserted that general equilibrium theory could not analyze the real economy or the wartime economy of those days and that consequently it permitted the rightist economics to gain power.

In the preface of his *Rironkeizaigaku no Kihonmondai* (The fundamental problems of economic theory) (1939), he claims:

The economics of the Lausanne school, which recently came to the mainstream of modern economics, considered the economic world basically as general equilibrium of the quantities of all the economic factors and grasped the objective aspect of the economy as self-contained. As the subjective aspect of all the process of economic development has been separated and isolated from the objective one, there will no possibility to unite theory and policy. Perhaps this is the first reason why economic policy is pursued instead of economic theory and why the reconstruction of political economy is being demanded against pure economics. (Sugimoto 1939, pp. 1-2)

On the other hand, Sugimoto criticized the school of ‘political economy’, which overemphasized the subjective aspect of the economy. He continues:

However the economic control cannot be done if we ignore the objective situation of economic progress. Indeed, it is possible for us to modify the economic structure, but we should have certain criteria that should be approved from the scientific point of view in order to accomplish this modification. These criteria can be decided and recognized through the analysis of the objective situations. Nevertheless some recent advocates of political economy often jump to the conclusion that they succeeded in making economic theory into policy only by insisting on the predominance of politics over economy or by showing the structure of policies in general. They never take the trouble to show the logic for the objective analysis of the situation. This attitude transforms the principles of economics into a simple politics. It also prevents us from uniting economic theory and policy and brings about the conclusion that doesn't meet the needs of the times in a different sense from that of the Lausanne School. (Ibid., p. 2)

After the Second World War, Sugimoto continued to criticize the Lausanne School and emphasized the validity of Marshall's partial equilibrium theory.

He also insisted on the friendly rivalry between modern economics and Marxian economics,⁸ which was not accepted in Japan at that time.

In his *Kindaikeizai gaku no Kaimei* (The explication of modern economics) (1950), which is widely read even now, he gave his own definition of modern economics. It includes all of the economics that were established after the 1860s. Against its usual definition, Marxian economics was also included. He says:

To exclude Marxian economics from modern economics seems to have certain implications that are related not to science but to party spirit of the united front against the Marxian school. This is just the same as the attitude of Marxian imitators to presume all the non-Marxian economics to be bourgeois economics. Especially in Japan, I am sometimes surprised that the school of pure economics has party spirits although it asserts that science should be free from scientists' vision of the world and rejects Marxian economics as religion. (Sugimoto 1950, Vol. 1, pp. 57-58)

While the contemporary modern economists believed that general equilibrium theory could be free from ideology, Sugimoto pointed out its ideological implications. He explains why many economists support general equilibrium theory although they know that it is irrelevant to the analysis of the real economy. Sugimoto says:

I think that this is related to the social vision that they have at the bottom of their heart. It is based their economic view that the real economic life will end to equilibrium even today. We cannot help saying that this view comes from the belief that capitalism is a permanent system. . . . (Sugimoto 1950, Vol. 1, p. 208)

Sugimoto also attributes the cause of prosperity of pure economics to the backwardness of Japan. According to him, Japanese economists had no idea how to apply economic theory that was imported from a mature capitalistic economy to a Japanese society that still remained feudal in many respects. That is why they tended to consider economic theory as abstract logic rather than as a key to solve real problems of the Japanese economy.

3. TAKUMA YASUI (1909-1995): THE DEVELOPMENT OF GENERAL EQUILIBRIUM THEORY AND ITS METHODOLOGICAL FOUNDATIONS

While modern economics gained force at Hitotsubashi, the University of Tokyo got behind because of the factional dispute between Marxian economists and the others since the foundation of the faculty of economics in 1919. However it produced one of the greatest Walrasian economists in Japan, Takuma Yasui. To quote the phrase (1972) of Takashi Negishi, a former professor of the University of Tokyo, the academic career of Professor Yasui is the history of the development of general equilibrium theory in Japan.

Yasui entered the University of Tokyo in 1928. Before entering the faculty of economics, Yasui was interested in Shakespeare. He read many of his books in the original, which improved his English. It was partly due to his English ability that he could get well acquainted with the stream of economic theory in the world without being influenced by contemporary Japanese economists.

At the University of Tokyo, he first joined the seminar of Eijiro Kawai (1891-1944). Kawai was a liberalistic thinker. The year of 1928 was the turning point for Japanese economists. A mass of communists were arrested and the leading Marxian economists left the University of Tokyo. It caused a bloody affair between students of the left wing and those of the right wing. Kawai criticized both sides. In those days, many of the Japanese liberalists were on the side of Marxists. On the contrary, Kawai was an anti-Marxist though he pursued a study of Marx. In 1939, Kawai was suspended from his job for the censorship of ideas.

Yasui read *On Liberty* by J.S. Mill in Kawai's seminar. Then he worked on Kant and Marx under the influence of Kawai. It was in 1929 that Yasui first became interested in general equilibrium theory. He attended a lecture on Cassel's economic theory by Alfred Amonn who was a visiting professor at the University of Tokyo at that time. Yasui soon found out that the origin of Cassel was Walras. In 1931, he also attended Schumpeter's lecture at the University of Tokyo and was influenced by his advice, "Begin with Walras".

In 1933, he began to publish five articles on Walras successively in *the Bulletin of University of Tokyo*.⁹ These five articles were epoch-making in the sense that they were almost on the same level as the international studies of general equilibrium theory of those days.

After publishing them in the 1930s, Yasui devoted himself to a study of Hicks and then to that of Slutsky. He never gave up pursuing his pure economics even under the pressure of the rightist economists during the war. In 1944, Yasui left the University of Tokyo because of the deterioration of research conditions and move to Tohoku University in the northern part of Japan.

After the Second World War, his name became known to the world especially for his contribution to a study of the stability conditions of Walrasian model. As Negishi points out (1972), "his economics was brought up in Japan, and it is a Japanese Economics in a true meaning". Yasui could play an active part in the world although he was never educated or trained abroad.

For Yasui, the aim to study Walras was "to reconsider Walras in the light of development of modern economics, and in another sense, to reconstruct its development on the basis of Walras" (1943). Yasui emphasizes that he had no interest in a study of Walras's economic thought because it didn't mean anything

to him. However, contrary to his words, Yasui contributed much to the introduction of Walras's economic thought into Japan. In his essay 'Walras' (1937), he described the details of Walras's life based mostly on his *Autobiographia* (1900), which Maffeo Pantaleoni published in *Giornale degli Econimisti* in 1908. Yasui mentioned the existence of the more detailed autobiography in Lausanne, which Walras wrote on H.L. Moore's advice.

In the 1930s, Yasui came to be influenced by the school of logical positivism and contributed to its diffusion in Japan. He believed that the method of modern economics should be based on the idea of logical positivism. He denied Marxian economics from this point of view:

We can disprove its theory of labor value if we consider it as an empirical statement... As long as Marxian economists consider the labor theory of value as an almighty mallet of luck and worship it as an irrefutable proposition, we cannot regard it as empirical science. (Yasui, 1980, p. 256)

In 1952, Yasui was involved in a controversy with Sugimoto on the friendly rivalry between modern economics and Marxian economics. Yasui was pessimistic about it. This controversy ended unexpectedly with the sudden death of Sugimoto in the same year. During this controversy, however, Yasui suggested that modern economists could learn many things from Marxian economics if they were to develop modern economics from a sociological point of view:

The fact that modern economic theory is not based on the institutional specification of capitalist society does not prevent it from being constructed objectively based on this specification. However, to become well aware of it will be the first step to put theory into effect and in this point, we can adopt many things from Marxian economics. (Yasui, 1979, p. 10)

In 1970, looking back over his academic life, Yasui mentions what modern economics lacks:

At the beginning of the 1930s, we tackled the problems of tools rather than those of values. We were interested only in finding good tools. After the Second World War, modern economics made such rapid progress that many young economists surpassed us. Modern economics made remarkable progress in tools, but is it all that we need?

When we studied economics, there existed some ideas behind it. In my head, modern economics were, though not clearly, related to my view of science, my thought and my vision of the world. After the war, economics as tools were constructed rapidly. As there was no longer resistance against mathematics, it advanced remarkably at a full speed. Consequently all that could be done was to develop the tools, while the fundamental fact that the character of economics as science is to criticize the society was forgotten. (Ibid., pp. 102-103)

4. MICHIO MORISHIMA (1923-2004): TOWARD A SYNTHESIS OF MODERN ECONOMICS AND OF SOCIOLOGY

In the formation process of modern economics in Japan, Kyoto University played also an important role. Michio Morishima is a graduate and a former professor of the faculty of economics. According to his latest autobiography, *Owariyokereba Subeteyoshi* (All's Well That Ends Well) (2001), he chose Kyoto University in order to learn sociology under Yasuma Takata (1883-1972). Interestingly enough, Morishima first intended to be a sociologist rather than an economist.

Takata was one of the greatest sociologists in Japan. He was also known as one of the greatest modern economists and taught economics at Kyoto University. Before entering the faculty of economics, Morishima had read Takata's *Shakaigakugenri* (The Principle of Sociology) (1919) and *Shakai to Kokka* (Society and State) (1922).

In 1942, Morishima attended Takata's lectures on the principles of economics and on economic philosophy. Takata took over the lecture on economic philosophy by Kozo Ishikawa, who had been arrested because of his ultra nationalistic criticism of the Japanese army in his lectures.

Morishima observes that it was only Takata and his disciple Hideo Aoyama that were teaching authentic economic theory there in those days. The faculty was dominated by the power of the rightists during the war. All the other professors' lectures were prejudiced in favor of the Japanese army. In his lecture on the principles of economics in 1942, Takata read Keynes's *General Theory* (1936), and Hicks's *Capital and Value* (1939). In his lecture on economic philosophy, he taught Weber.

Influenced by those lectures, Morishima started to study Hicks under the direction of Aoyama. Aoyama was not only an economist but also a specialist on Weber. Takata advised Morishima not to study sociology but to devote himself to mathematical economics while he was still young because '*it is the core of social sciences*'.

Morishima says:

In those days, I had no ability to tell whether his advice was right or wrong. Now I would agree with him. For science should be a rule. To think based on a rule is the minimum requirements for studying. Mathematical economics shows this fact most clearly of all the social sciences. . . . I was not an adherent of mathematical economics at first. I may say that I have sought for a chance to get out of mathematical economics after mastering it. (Morishima, 2001, pp. 285-286)

According to Morishima, his lifetime project falls into three parts. The first was a study of general equilibrium theory. The second was a synthesis of economics and of sociology. The third was studies of Ricardo, of Marx and of

Walras. With the intention of connecting the first and the third to the second, he published a book with the title *Sisoutositeno Kindaikeizaigaku* (Modern economics as thought) (1994). As the title shows, this book argues the relationships between modern economics and its thought (vision, values, intention and wish).

The book falls into three parts. In the first part ‘Vision and Theory’, he deals with Ricardo, Walras, Schumpeter, Hicks, Takata and Wicksell in order to indicate that the flaws in neoclassical price theory. In the second part ‘Development of Visions’, he argues syntheses of modern economics and of sociology by Marx, Weber, Schumpeter and Pareto. He claims that those syntheses will be the greatest issue among economists in the 21st century. In the third part ‘Paradigm change’, he criticized von Mises and reconsidered Keynes.

4.1. Was Walras an Evolutionist?

Morishima’s purpose to reconsider Walras in this book was to show that Walras could never be an evolutionist although he had a dynamic theory.

In the beginning of the chapter on Walras, Morishima looks back over his argument with Jaffé.¹⁰ Morishima insists that Walras’s pure economic theory is supposed to ‘observe, describe and explain’ an economic society just as the natural sciences and that economist’s values have no role in it while social justice is the main issue in social economics.¹¹ Although Walras supported the nationalization of land, he never argued it in the area of his pure economics. He dealt with it in his social economics.

Morishima quotes the laws of price variations in a progressive economy in Part 7 of *Eléments*.

Dans une société progressive, le prix du travail, ou le salaire, ne variant pas sensiblement, le prix de la rente, ou le fermage, s’élève sensiblement, et le prix du profit, ou intérêt, s’abaisse sensiblement. (Walras, 1988, p. 597)

Walras intended to present these laws to justify his assertion of nationalization of land. Morishima points out that he conceived them long before he started to write his *Eléments*. As Walras regarded pure economics as a means of studying the social reform, he should have developed a new pure theory that would be suitable for the new economic order. That is to say, there should be interdependence between pure economics and social economics. Pure economics should evolve according to the development of economy. However, Morishima concludes, Walras had no intention of being evolutionist in this sense.

Morishima explains that Walras adopted Say’s law like all the other neoclassical economists and that his intention was to save the laws of price variations in a progressive economy.

In the price theory of durable goods, if we consider the equality of all the profit rates to the interest rate, we cannot solve the equations. Under the uniformity of profit rates,¹² if the interest rate is given, the prices of durable goods will be determined in their rental markets. However this price cannot always adjust their demand and supply in general. So Walras adopted the assumption that savings is always equal to investment. In other words, all capital goods can be in demand, no matter how much they may be produced, which Morishima means by Say's law in the sense of microeconomics.¹³

Morishima concludes that Walras failed to evolve his pure theory so that it could fit in with a durable goods economy. Unlike Keynes, he didn't pay attention to its disequilibria. Morishima warns that as it dominates the real economy, the market system will not work. Economists will need to synthesize modern economics and sociology. From this standpoint, Morishima had a high opinion of Pareto and of Schumpeter. He also reevaluates Yasuma Takata's attempt to synthesize general equilibrium theory and sociology.

4.2. Yasuma Takata's Power Theory of Economics

Takata published his five volumes' work *Keizaigaku Shinko* (New Lectures on Economics) from 1929 to 1932, which are known as the first systematic study of general equilibrium theory in Japan. It was also a great success as an advanced textbook in Japan, perhaps comparable to Marshall's *Principles* in the English-speaking world (Sugihara and Tanaka, p. 99). Takata, who was as influenced by Schumpeter as Nakayama was, was always an advocate of general equilibrium theory. However we must not forget that he was a sociologist who pursued his power theory at the same time. He struggled to synthesize general equilibrium theory and his power theory. However he never thought of substituting the latter for the former.

In the preface of Volume 2 of *Keizaigaku Shinko*, he declares that the originality of his book lies not in general equilibrium theory but in the power theory of price. He assumes that a human being is motivated not only by his self-interest but also by his will for power. The latter is remarkable particularly in the market of factors of production. He calls 'power economy' the case where the power of suppliers affects the determination of supply price, while he calls 'pure economy' the case where the price is determined regardless of the social power. He observes that the latter is far from the reality and can be only an assumption. According to Takata, in order to analyze the real economy, we should take the former into consideration.

For example, to Takata, Keynes's explication of involuntary unemployment was insufficient. The downward rigidity of wages should be explained by the social power of working class, and it could happen even under the condition of Say's law. He insists that Walras's general equilibrium is the equilibrium that contains the disequilibrium of labor market.

Morishima points out that Takata's argument in the 1930s is very similar to Hicks's in his *Theory of Economic History* (1969) in the sense that he regarded the labor market as depending on social conditions.

Born in the same year as Keynes and as Schumpeter, Takata wrote more than 100 books and more than 500 articles in his life. Unfortunately so far the study of his theory has been superficial. As Morishima points out, we should explore a further possibility of his theory.¹⁴

5. CONCLUSION

Walras's general equilibrium theory came to the mainstream of modern economics in the 1930s in Japan. The economists that contributed to its diffusion were the minority, who could escape the strong impact of Marxian economics of the 1920s for some reason or other.

Disregarding Walras's socialist thinking, they insisted that Walras's pure economics was free from the ideology. Their intention was to overcome the invisible predominance of Marxian economics and criticize the right-wing economics that was prevailing in the wartime economy. On the other hand, Sugimoto criticized those modern economists by pointing out the existence of the ideology in general equilibrium theory and related their inclination for generalities to the backwardness of the Japanese economy.

We cannot deny that the intention of Japanese economists for generalities contributed much to the development of Walrasian economic theory. However they have not considered the potentiality of general equilibrium theory as social science.

Morishima gives a warning on this tendency. He concludes that Walras himself failed to build an evolutionary theory of society and reconsiders the attempts of the other economists to synthesize general equilibrium theory and sociology. Especially it's noteworthy that Takata had already tackled this issue in the 1930s in Japan. We should explore a further possibility of Takata's theory as well as throw new light on Walras's economic thought.

NOTES

1. Interestingly enough, this definition of the term was established after the Second World War when Marxian economists were released from jail and returned to the academic world.
2. See Sugihara and Tanaka (1998) for a full account of the relationships between Japanese modernization and economic thought.
3. Strictly speaking, it was not the first introduction of Walras in Japanese. In 1931, Miyoshi Hayakawa (1895-1962) published the book with the title *Léon Walras Junsuikizaigaku Nyumon* (Introduction to Pure Economics of Léon Walras) that contains the Japanese translation of his *Théorie mathématique de la richesse sociale* (1883). However this translation is

considered as based on its German version (1881). Born to a wealthy family of a landowner in Hokkaido, Hayakawa had opportunities to study under Dietzel in Bonn and Schumpeter in Vienna from 1921-1925. While many scholars who came from wealthy families turned to socialists at that time, he was interested in mathematical economics. Prior to publications of Tedzuka's translation, he published a detailed biography and bibliography on Walras, which was highly praised by Tedzuka. Hayakawa's article, 'The Application of Pareto's Law of Income to Japanese Data' is known as the first article by a Japanese economist in *Econometrica* (Vol. 19, No. 2, 1951, April). (Matsuda, 1976)

4. His thesis was *Die gesellschaftliche und wirtschaftliche Entwicklung in Japan*. This was published in Stuttgart in 1900 and read widely in the German-speaking world as an excellent introduction to the economic history of Japan. (Sugihara and Tanaka, 1998, p. 60)
5. This is considered as the first introduction of marginal revolution in Japan.
6. For further details, see Nakakubo (2000).
7. On the purchase of the Menger Library by Hitotsubashi University, see Campagnolo (2001).
8. This attitude is also reflected in his good company with Nakayama. From 1937, they taught the two different types of 'principles of economics' in parallel at Hitotsubashi.
9. The first is 'Junsuikizaigaku to Kakakunoriron – Walras wo chuusintosite (Pure economics and price theory – especially of Walras)' (1933) which is a reconsideration of Walras's marginal productivity theory. The second is 'Kizokuriron to Genkaiseisanryokuriron – Junsuikizaigaku no nimondai (Theories of imputed value and of marginal productivity – the two problems of pure economics)' (1934). It deals with marginal productivity theory accepting the contemporary idea of cost theory. In the third article 'Jikanyouse to Shihonriron – Walras ni okeru Shizenrishi no gainen (Time elements and capital interest – Walras on natural interest)' (1936), he tries to develop Walras's capital formation theory borrowing the ideas from Boem-Bawerk, Wicksell etc. The fourth (1938) is 'Kahei to Keizaitekikinkou – Walras Kaheiriron no kenkyu (Money and the economic equilibrium – A study of Walras's theory of money). The fifth (1940) is 'Kinkou bunseki to Katei bunseki – Walras Mosakuriron no ichikenkyu (Equilibrium analysis and process analysis – A study of Walras's tatonnement)'. He argued it by borrowing the stable condition from Hicks's *Value and Capital* (1939).
10. Morishima granted that Walras's economics was influenced to some degree by his own quality as social reformer. However, he insists on the other factors that inspired Walras more. One is his poverty and the other was his liking for natural science. According to Morishima, Walras gave up advocating the nationalization of land directly and separated socialism (sociale economics) from science (pure economics) for fear of losing his job that he finally got at the University of Lausanne.
11. Morishima maintains that Walras' method is in this sense the same as Weber's. According to him, Walras adopted perfect competition as the model of pure economics not because he admired laissez-faire, but because he thought it to be the most convenient to analyze the French economy of his time.
12. Hicks didn't assume this in *Value and Capital* (1939).
13. It also means that entrepreneurs are always obedient to the capitalists. See Morishima (1977).
14. On this subject, see also the preface by Morishima in Takata (1995) and Schumpeter and Takata (1998).

REFERENCES

- Campagnolo, G. (2001). "The Removal of Carl Menger's Library to Japan in the Aftermath of the First World War and its Impact on Writing the History of his Thought." A paper presented at the Annual Conference of ESHET 22-25, 2001, in Darmstadt.
- Hayakawa, M. (1931). *Léon Walras Junsuikizaigakunyumon* (Introduction to Pure Economics of Léon Walras), Tokyo: Nihonhyoronsha.
- Ikeo, A. (1996). "The Advent of Marginalism in Japan." In *Research in the History of Economic Thought and Methodology*, 14, 219-247.
- Jaffé, L. (1954). *Léon Walras, Elements of Pure Economics of the Theory of Social Wealth*, London: George Allen & Unwin Ltd.
- Matsuda, Y. (1976). "Introduction Professor Hayakawa and Hayakawa Library." In *Catalogue of Hayakawa Library*, Otaru University of Commerce Library, ix-xi.
- Morishima, M. (1977). *Walras's Economics: A Pure Theory of Capital and Money*, Cambridge University Press.
- Morishima, M. (1994). *Shisoutoshiteno Kindaikeizaigaku* (Modern economics as Thought), Tokyo: Iwanamishoten.
- Morishima, M. (2001). *Owariyokereba Subteyoshi* (All's Well That Ends Well), Tokyo: Asahishinbunsha.
- Nakakubo, K. (2000). "A Brief Story to Introduce Walras to Japanese." A paper presented at 2ème colloque de l'Association Internationale Walras, le 22 septembre, 2000, Dijon.
- Nakayama, I. (1933). *Junsuikizaigaku* (Pure Economics), Tokyo: Iwanamishoten.
- Negishi, T. (1972). "Yasui Takuma kyoju to Ippankinkouriron no Hatten (Professor Takuma Yasui and the development of general equilibrium theory)." In *Kikan Rironkeizaigaku XXIII*, No. 1, 19-27.
- Schumpeter, J.A. and Takata, Y. (1998). *Power or Pure Economics*, Hampshire and London: Macmillan.
- Sugihara, T. and Tanaka, T. (ed.) (1998). *Economic Thought and Modernization in Japan*, Cheltenham/Northampton: Edward Edgar.
- Sugimoto, E. (1939). *Rironkeizaigaku no Kihonmondai* (The Fundamental Problems of Economic Theory), Tokyo: Nihonhyoronsha.
- Sugimoto, E. (1950). *Kindaikeizaigaku no Kaimei* (The Explication of Modern Economics), Tokyo: Iwanamishoten.
- Sugiyama, C. and Mizuta, H. (ed.) (1988). *Enlightenment and Beyond, Political Economy Comes to Japan*, University of Tokyo Press.
- Takata, Y. (1995). *Power Theory of Economics*, translated by D.A. Anthony, Hampshire: Macmillan.
- Tedzuka, J. (1933). *Léon Walras Junsuikizaigakuyouron* (Léon Walras, Eléments d'économie politique pure), Tokyo: Iwanamishoten.
- Yasui, T. (1979). *Keizaigaku to Sonoshuhen* (Economics and its adjacency), Tokyo: Bokutakusha.
- Yasui, T. (1980). *Kindaikeizaigaku to Watashi* (Modern Economics and I), Tokyo: Bokutakusha.
- Walras, L. (1988). *Elément d'économie politique pure, ou théorie de la richesse sociale, Auguste et Léon Walras, œuvres économiques complètes*, ed. Pierre Dockès et al., Tome VIII, Paris: Economica.