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THE CHALLENGE TO MARSHALLIAN ORTHODOXY

—The Case of J.A. Schumpeter—

By Masahiro NEI*

Introduction

British economics in the early twentieth century was characterized by the overwhelming dominance of Alfred Marshall's *Principles of Economics* (1890, 8th edition, 1920). T.W. Hutchison once said that 'in fact, for some time, theoretical economics in England consisted very largely of the discussion and interpretation, often textual, of Marshall's *Principles*, as a glance through the *Economic Journal* of the 1920's will confirm'¹⁾.

However, the Marshallian economics was not theoretically perfect like all intellectual achievements. In this paper, I will show how J.A. Schumpeter attempted to challenge the Marshallian economics as clearly as possible.

I The Challenge to *natura non facit saltum*

Marshall, as is well known, adopted the word *natura non facit saltum* as the motto of his *Principles*. He held the view that economic development was a continuous and gradual process, so the motto seemed to be adopted to describe briefly his vision of the capitalist economy. He said in the preface to the eighth edition of his *Principles*:

Economic evolution is gradual. Its progress is sometimes arrested or reversed by political catastrophes: but its forward movements are never sudden; for even in the Western world and in Japan it is based on habit, partly conscious, partly unconscious. And though an inventor, or an organizer, or a financier of genius may seem to have modified the economic structure of a people almost at a stroke; yet that part of his influence, which has not been merely superficial and transitory, is found on inquiry to have done little more than bring to a head a broad constructive movement which had long been in preparation. Those manifestations of nature which occur most frequently, and are so orderly that they can be closely watched and narrowly studied, are the basis of economic as of most other scientific work; while those which are spasmodic, infrequent, and difficult of observation, are commonly reserved for special examination at a later stage: and the

* Associate Professor, Faculty of Economics, Kyoto University.

1) T.W. Hutchison, *A Review of Economic Doctrines: 1870-1929*, Oxford University Press, 1953, p. 62.

motto *Natura non facit saltum* is specially appropriate to a volume on Economic Foundations.²⁾

It is to be remembered here that the ideas of Sir Isaac Newton and Charles Darwin exerted a rather deep influence on the mind of young Marshall. From Newton he learned the idea of static equilibrium based on "mechanical" analogy, and from Darwin the idea of dynamical evolution based on "biological" analogy. However, he was also convinced that the former was an introduction to the latter, so that the latter must be the model for economics. The motto *Natura non facit saltum* must have been adopted to express this conviction more plainly.

However, there emerged an economist who made his original economic thought by challenging the motto. This economist was J.A. Schumpeter. He said in his first work *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie* (1908):

Natura non facit saltum—diesen Satz hat Marshall als Motto seinem Werke vorangestellt, und in der Tat drückt er treffend den Charakter desselben aus. Aber ich möchte ihm entgegenhalten, da die Entwicklung der menschlichen Kultur wenigstens, und namentlich die des Wissens, gerade sprungweise vor sich geht. Gewaltige Anläufe und Perioden der Stagnation, überschwängliche Hoffnungen und bittere Enttäuschungen wechseln sich ab und mag das Neue auf dem Alten fußen, so ist der Fortschritt doch kein stetiger. Unsere Wissenschaft weiß davon zu berichten.³⁾

The young Schumpeter was an ardent admirer of Léon Walras's general equilibrium theory. He often said to his pupils that 'as far as pure theory is concerned, Walras is in my opinion the greatest of all economists'⁴⁾. However, it is to be noted at the same time that he was never satisfied with being a mere Walrasian.

The central theme of his first work was static equilibrium theory. However, he gradually came to realize that he must get over the limitations of the Walrasian static theory and construct a dynamic theory (theory of economic development). And it is my interpretation that Schumpeter was very conscious of Marshall when he tried to build his own theory of economic development.⁵⁾

In 1910 Schumpeter published a paper entitled "Über das Wesen der Wirtschaftskrisen", in which he criticized Marshall's biological analogy or the idea of organic growth:

Die wirtschaftliche Entwicklung in unserem Sinne gleicht nicht ohneweiters

2) Alfred Marshall, *Principles of Economics*, 1920, preface to the eighth edition.

3) J.A. Schumpeter, *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie*, 1908, S. 8.

4) J.A. Schumpeter, *History of Economic Analysis*, Oxford University Press, 1954, p. 827.

5) Masahiro Nei, "On the Importance of Marshall in the Making of Schumpeter's Ideas", *Keizai-Ronso* (The Economic Review) Vol. 138, No. 1-2 (July-August 1986), pp. 82-99. (in Japanese)

organischem Wachstume. Sie erfolgt nicht nach einem Gesetze, sondern sie zerfällt in Teile, welche allein ihr einheitliches Gesetz haben. Sie erfolgt gleichsam rückweise und trägt verschiedene Merkmale in diesen verschiedenen Aufschwungperioden. Jeder solche Aufschwung stirbt gleichsam hinweg, um einem neuen Platz zu machen.⁶⁾

As I said elsewhere⁷⁾, Marshall's organic growth was not very clear that the only way left for us was to try to get at a rough idea of it from what he wrote here and there. For instance:

Consider, for instance, the balancing of demand and supply. The words "balance" and "equilibrium" belong originally to the older science, physics; whence they have been taken over by biology. In the earlier stages of economics, we think of demand and supply as crude forces pressing against one another, and tending towards a mechanical equilibrium; but in the later stages, the balance or equilibrium is conceived not as between crude mechanical forces, but between the organic forces of life and decay. The healthy boy grows stronger every year; but with early manhood there is some loss of agility; the zenith of his power is reached perhaps at twenty-five for such a game as racquets. For other corporeal activities the zenith comes at thirty or later. For some kinds of mental work it comes rather late; for statesmanship, for instance, it comes very late. In each case the forces of life preponderate at first; then those of crystallisation and decay attain to equal terms, and there is balance or equilibrium; afterwards decay predominates.

Again, with every spring the leaves of a tree grow, attain full strength, and after passing their zenith decay; while the tree itself is rising year by year to its zenith, after which it also will decay. And here we find a biological analogy to oscillations in the values of commodities or of services about centres which are progressing, or perhaps themselves oscillating in longer periods.

The balance, or equilibrium, of demand and supply obtains ever more of this biological tone in the more advanced stages of economics. The Mecca of the economist is economic biology rather than economic dynamics.⁸⁾

Schumpeter had already expressed his doubts about Marshall's biological analogy in his first work, but it seems to me that his view was expressed more clearly in "Theoretical Problems of Economic Growth" (1947) which he wrote in his later years:

In the Smith-Mill-Marshall theory, the economy grows like a tree. This proc-

6) J.A. Schumpeter, "Über das Wesen der Wirtschaftskrisen", *Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung*, 1910, S. 301.

7) Masahiro Nei, *From Marshall to Keynes*, University of Nagoya Press, 1989, pp. 69-70. (in Japanese)

8) Alfred Marshall, "Distribution and Exchange", *Economic Journal*, Vol. 8, 1898, p. 43.

ess is no doubt exposed to disturbances by external factors that are not economic or strictly so. But in itself it proceeds steadily and continuously, each situation grows out of the preceding one in a uniquely determined way, and the individuals, whose acts combine to produce each situation, count individually for no more than do the individual cells of the tree. This passivity of response to given stimuli extends in particular to accumulation of "capital": in a mechanical way, households and firms save and invest what they have saved in given investment opportunities.⁹⁾

However, it was Schumpeter's criticism that in the Smith-Mill-Marshall theory only the passive responses to given stimuli were taken into consideration even when they treated the problem of economic development. Why didn't they pay more attention to the creative response to given stimuli?

The creative response in the economic field was, according to Schumpeter, combining the existing productive resources in a new way or for a new purpose, i.e., carrying out new combinations by the entrepreneur. He said in "Über das Wesen der Wirtschaftskrisen" (1910) to which I referred before:

Das Wesen der wirtschaftlichen Entwicklung liegt darin, daß die Produktionsmittel, die bisher bestimmten statischen Verwendungen zugeführt wurden, aus dieser Bahn abgelenkt und in den Dienst neuer Zwecke gestellt werden. Diesen Vorgang bezeichnen wir als die Durchsetzung neuer Kombinationen. Und diese neuen Kombinationen setzen sich nicht gleichsam von selbst durch, wie die gewohnten Kombinationen der Statik, sondern es bedarf dazu einer Intelligenz und Energie, die nur einer Minorität der Wirtschaftssubjekte eigen ist. In der Durchführung dieser neuen Kombinationen liegt die eigentliche Funktion des Unternehmers.¹⁰⁾

This idea was explained more fully in his *Theorie der wirtschaftlichen Entwicklung* (1912); he definitely denied Marshall's vision of continuous and gradual economic development. In Schumpeter's words:

Development in our sense is a distinct phenomenon, entirely foreign to what may be observed in the circular flow or in the tendency towards equilibrium. It is spontaneous and discontinuous change in the channels of the flow, disturbance of equilibrium, which forever alters and displaces the equilibrium state previously existing. Our theory of development is nothing but a treatment of this phenomenon and the process incident to it.¹¹⁾

9) J.A. Schumpeter, "Theoretical Problems of Economic Growth", *Journal of Economic History Supplement*, 1947, p. 7.

10) J.A. Schumpeter, "Über das Wesen der Wirtschaftskrisen", op. cit., S. 284.

11) J.A. Schumpeter, *The Theory of Economic Development*, trans. by R. Opie, Oxford University Press, 1961, p. 64.

Then, what is a more concrete explanation of new combinations or innovation which is the point of Schumpeter's theory of economic development? We shall see it in the next section.

II The Challenge to External Economy

Schumpeter was well known as a great historian of economic analysis during his lifetime, and he made suggestive comments on Marshall's economics.

Marshall, in Schumpeter's estimation, was 'one of the first economists to realize that economics is an evolutionary science....., and in particular that the human nature he professed to deal with is malleable and changing, a function of changing environments'¹²⁾. Then, in what point was Schumpeter's view opposed to Marshall's? To answer this question, let us read the following by Schumpeter's:

His thought ran in terms of evolutionary change—— in terms of an organic, irreversible process. And something of the flavor of it he imparted to his theorems and concepts and still more to the factual observations with which he presented them. I do not think that the theory of evolution at the back of them was satisfactory. No schema can be that does not go beyond an automatic expansion of markets—— an expansion not otherwise motivated than by increase of population and by saving—— which then induces internal and external economies that in turn are to account for further expansion¹³⁾

Marshall, as is well known, divided 'the economies arising from an increase in the scale of production of any kind of goods' into two classes: internal economies and external economies.¹⁴⁾ The former are those dependent on 'the resources of the individual houses of business engaged in it, on their organization and the efficiency of the their management', and the latter are those dependent on 'the general development of the industry'.¹⁵⁾

Marshall took notice of the situation that a firm's costs were dependent not only on its own scale of production but also on 'the general development of the industry' which was external to the firm, and regarded the external economies as the reason for declining supply price (increasing returns).

However, in Schumpeter's view, the external economies particular to the industry do not constitute the fundamental of economic development, i.e., innovation (new combinations). For innovation means, above all, changing 'internal economies into ex-

12) J.A. Schumpeter, *Ten Great Economists from Marx to Keynes*, Oxford University Press, 1951, p. 93.

13) *Ibid.*, p. 101.

14) A. Marshall, *Principles of Economics*, op. cit., p. 221.

15) *Ibid.*

ternal ones¹⁶⁾.

The instant innovation occurs, 'there is a drop—— in its nature discontinuous, irregular, "unpredictable" and "historically" unique—— in costs'¹⁷⁾. Innovation thus destroys the existing supply function and creates a new one. The Marshallian explanation of this process would be that the envelope for successive short-period supply curves may be downward sloping. However, Schumpeter said that 'they never *are* theoretic curves and have not, in this sense, any theoretic meaning'¹⁸⁾. That is, they have become historic curves.

In contrast to Schumpeter' view, that Marshall's curves of declining supply price are theoretical is evident from his successor A.C. Pigou's words:

The relations which these laws [laws of long-period or normal supply price] express between variations in supply price and variations in output are not necessarily the relations which do subsist between these things in history, but the relations which would subsist subject to the condition *other things being equal*.¹⁹⁾

Therefore, Schumpeter's theory of economic development was a keen criticism of the Marshallian economics.

16) J.A. Schumpeter, "The Instability of Capitalism", *Economic Journal*, September 1928, p. 384.

17) *Ibid.*, p. 367, n. 2.

18) *Ibid.*, p. 367, n. 2.

19) A.C. Pigou, *The Economics of Welfare*, fourth edition, 1932, p. 216. In this respect I am indebted to Professor Izumi Hishiyama who advised me to read Pigou.