History of Economic Thought I

8：IV. Innovations and Institutionalization

School of Political Science and Economics

Waseda University

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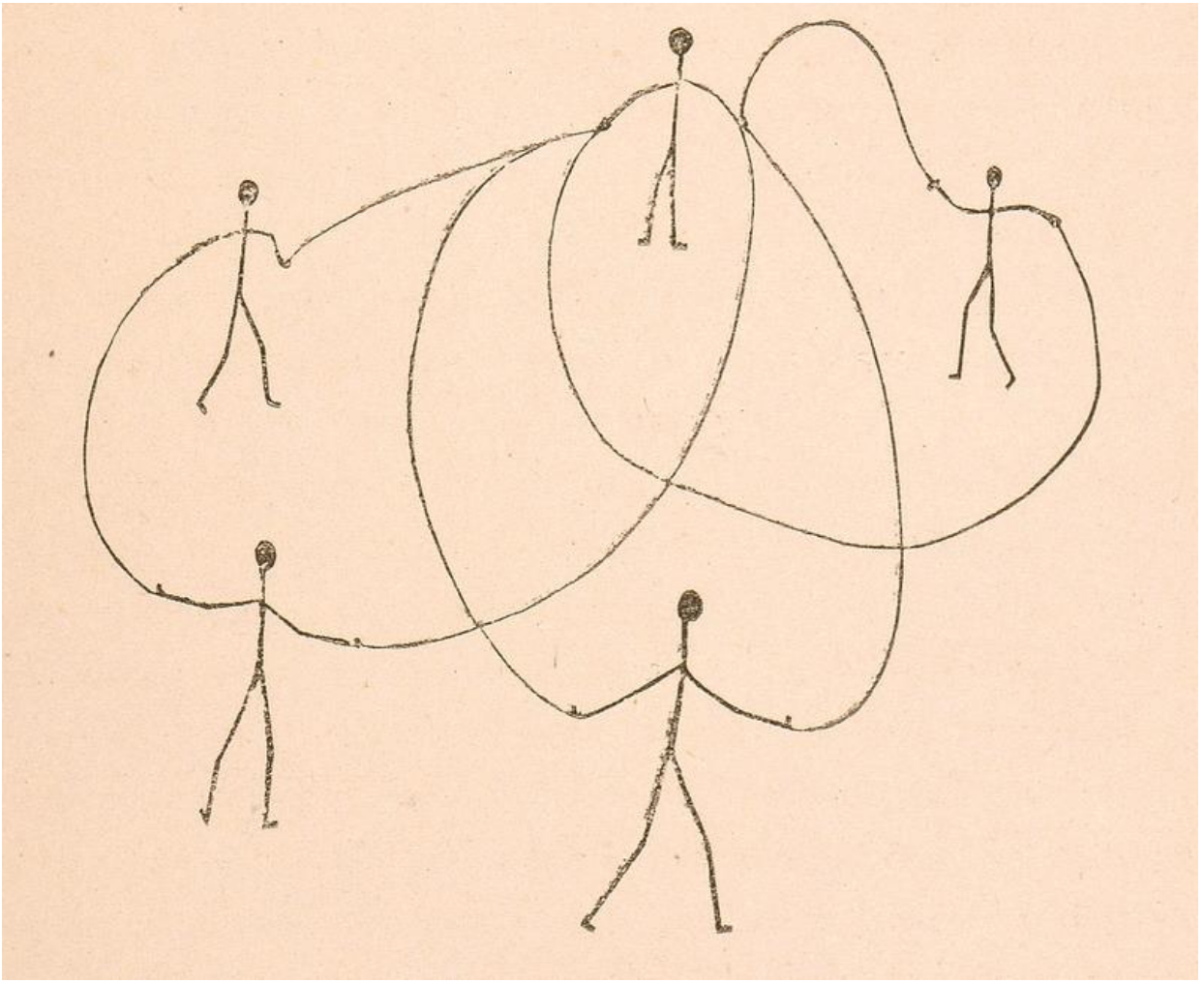
A Sum-up：The Left vs. the Right
Matsuo and Hashimoto 2016, p.25

- Why do they differ?
  - Difference in world views
  - Divide horizontally：The Left
  - Divide vertically：The Right

- In Economics?
  - Vertically：Nation state, race, ethnicity, National system of political economy of List
  - Horizontally： Class, Marxian economics

Classical, Neo-classicals?

Fleeming Jenkin, *Papers, literary, scientific, &c.,*London, New York, Longmans, Green, and Co., 1887, volume 2, p. 150.



Key Messages for Today‘s Lecture

- What is Neo-classical in the history of economics?
- Issue of historiography
  - What is the Marginal Revolution?
  - What is a revolution in the history of science?
    - Kuhn 1962
- What happened?
  - ①Innovations in theory
    - To what extent? Cf.Goodwin et al.1972
  - ②Change in the image of economics as a science
    - Cf. Mirowski 1989, Maas 2005
  - ③Change in views on human beings Cf.Levy and Peart 2001-2, Peart and Levy 2005

The Received View

- Around 1870, three economists (Jevons in England, Menger in Austria, French-born Walras in Lausanne, Switzerland) brought a big change in economic theory. They are isolated, mutually independent, yet simultaneous discovery
  - Cf. Merton 1973
- The core of theory＝marginal utility theory
- There are precursors
- The same narrative from a Marxian perspective. They explain by the same circumstances of capitalist development（Behrens 1949）.
  - But in UK, Austria and France: are they the same?

Precursors

- First Group : Marginal utility theory
  - France : Daniel Bernouille
  - Germany : H.H. Gossen, Hans von Mangoldt

- Second Group : Use of marginal concept
  - France: A.A. Cournot, Jules Dupuit
  - Germany: von Thunen
  - England: Nassau William Senior
  - Irish Dissenters: Mountifort Longfield, Isaac Butt

Antonine Augustin Cournot（1801-1877）

- French
- Studied mathematics at École Normale Supérieure
- *Researches on Mathematical Principles of the Theory of Wealth*（1838）
- １ Walras' Law
  - Number of Countries r, number of exchange rates could be r (r-1), but with free arbitrage r-1
  - Same with goods
- ２ Monopoly theory
  - Profit maximization→Marginal revenue=Marginal cost
- ３ Oligopoly theory
  - Cournot equilibrium
- ４ Perfect competition theory

Mathematics and Economics

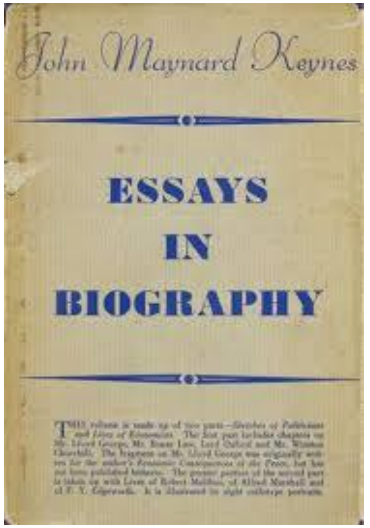
- Beginning of the use of mathematics in economics
- Changing relationship between mathematics and economics
- Mathematics itself changes over time
  - From applied mathematics to axiomatics
    - Cambridge Mathematics Tripos→Axiomatics
      - Weintraub 2002

William Stanley Jevons (1835-1882)

- Most self-aware of "revolution" among three
  - Cf. Keynes
- From science to economics
  - Australian experience
- *A Serious Fall in the Value of Gold ascertained*(1863)
- *The Coal Question*（1865）
- *Theory of Political Economy(1871)*

Keynes on Jevons, *Essays in Biography*, *Collected Writings of John Maynard Keynes*, Vol.X, Cambridge University Press, p.185

- In truth, Jevons' *Theory of Political Economy* is a brilliant but hasty, inaccurate, and incomplete brochure, as far removed as possible from the painstaking, complete, ultra-conscientious, ultra-unsensational methods of Marshall, It brings out unforgettably the notions of final utility and of the balance between the disutility of labour and the utility of the product. But it lives merely in the tenuous world of bright ideas when we compare it with the great working machine evolved by the patient, persistent toil and scientific genius of Marshall. Jevons saw the kettle boil and cried out with the delighted voice of a child; Marshall too had seen the kettle boil and sat down silently to build an engine.

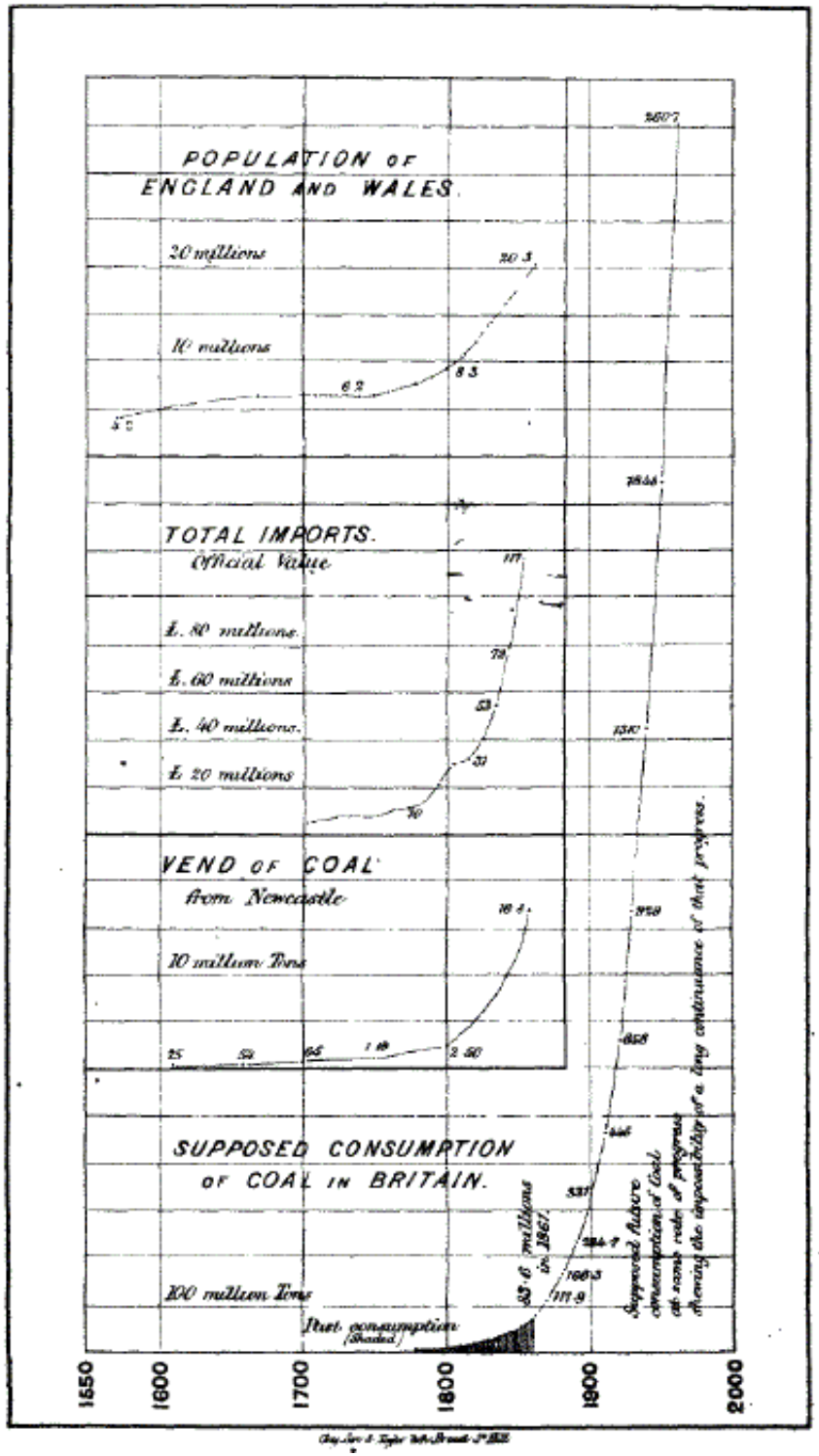


What Jevons Achieved

- 1 Emphasis of “mathematical method” in methodology. Economics as an exact science which deals with quantities
  - Re-introduction of statistics
  - Utilitarianism philosophy
- 2 Theory of value: resolving the paradox of “water and diamond”
- 3 Monetary theory
- 4 Business cycle theory：sunspots
- 5 The Coal Question: natural resource constraint, but Malthusian Cf.Peart 1996
- 6 Policy：laissez faire. Against Poor Law Cf.Peart 1996.

The Coal Question

- Malthusian resource constraint
- Precursor of *Limits to Growth* (1972)

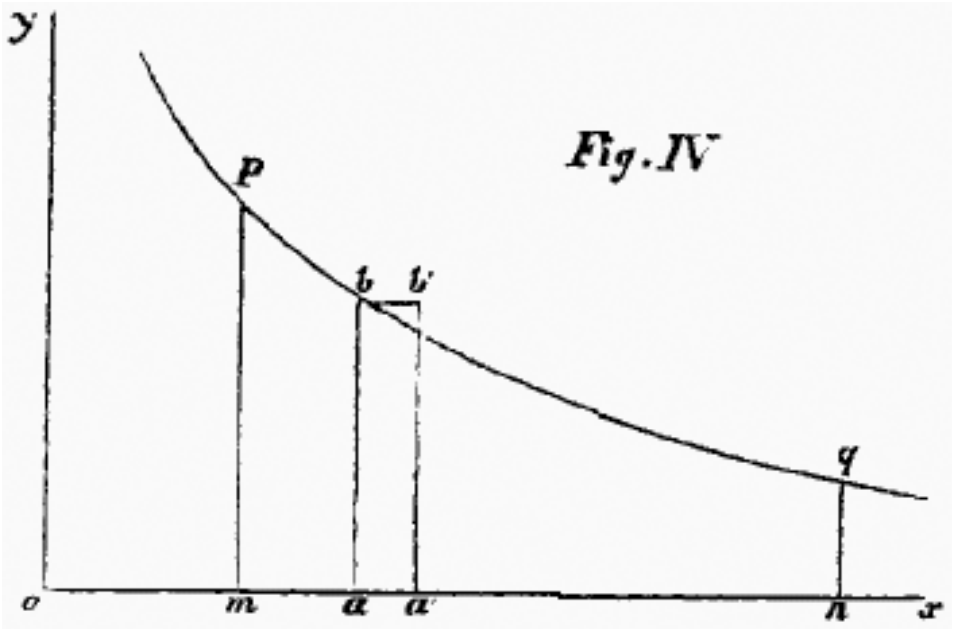


Theory of Political Economy

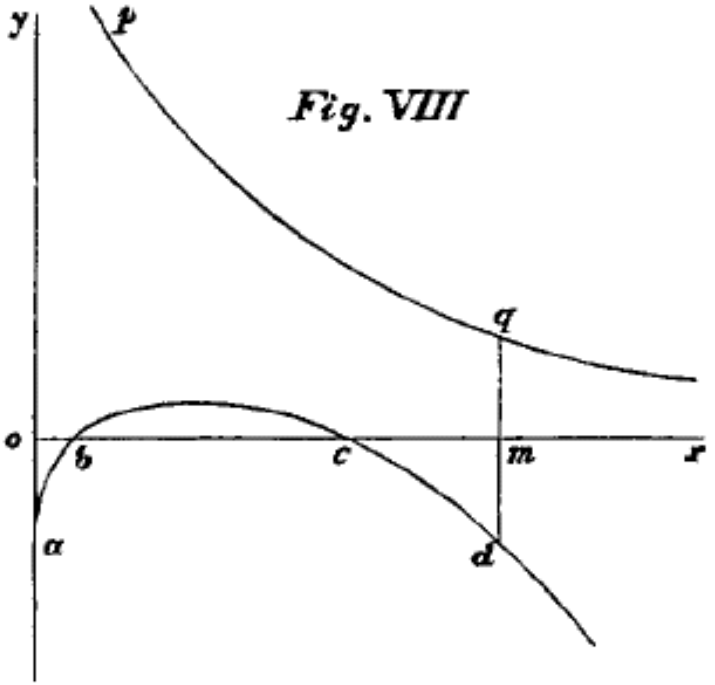
- THE contents of the following pages can hardly meet with ready acceptance among those who regard the Science of Political Economy as having already acquired a nearly perfect form. I believe it is generally supposed that Adam Smith laid the foundations of this science; that Malthus, Anderson, and Senior added important doctrines; that Ricardo systematised the whole; and, finally, that Mr. J. S. Mill filled in the details and completely expounded this branch of knowledge. Mr. Mill appears to have had a similar notion; for he distinctly asserts that there was nothing; in the Laws of Value which remained for himself or any future writer to clear up. Doubtless it is difficult to help feeling that opinions adopted and confirmed by such eminent men have much weight of probability in their favour. Yet, in the other sciences this weight of authority has not been allowed to restrict the free examination of new opinions and theories; and it has often been ultimately proved that authority was on the wrong side.
- Had Mr. Mill contented himself with asserting the unquestionable truth of the Laws of Supply and Demand, I should have agreed with him. As founded upon facts, those laws cannot be shaken by any theory; but it does not therefore follow, that our conception of Value is perfect and final.
- In this work I have attempted to treat Economy as a Calculus of Pleasure and Pain, and have sketched out, almost irrespective of previous opinions, the form which the science, as it seems to me, must ultimately take. I have long thought that as it deals throughout with quantities, it must be a mathematical science in matter if not in language. I have endeavoured to arrive at accurate quantitative notions concerning Utility, Value, Labour, Capital, etc., and I have often been surprised to find how clearly some of the most difficult notions, especially that most puzzling of notions *Value,* admit of mathematical analysis and expression.

Examples

Diminishing marginal utility

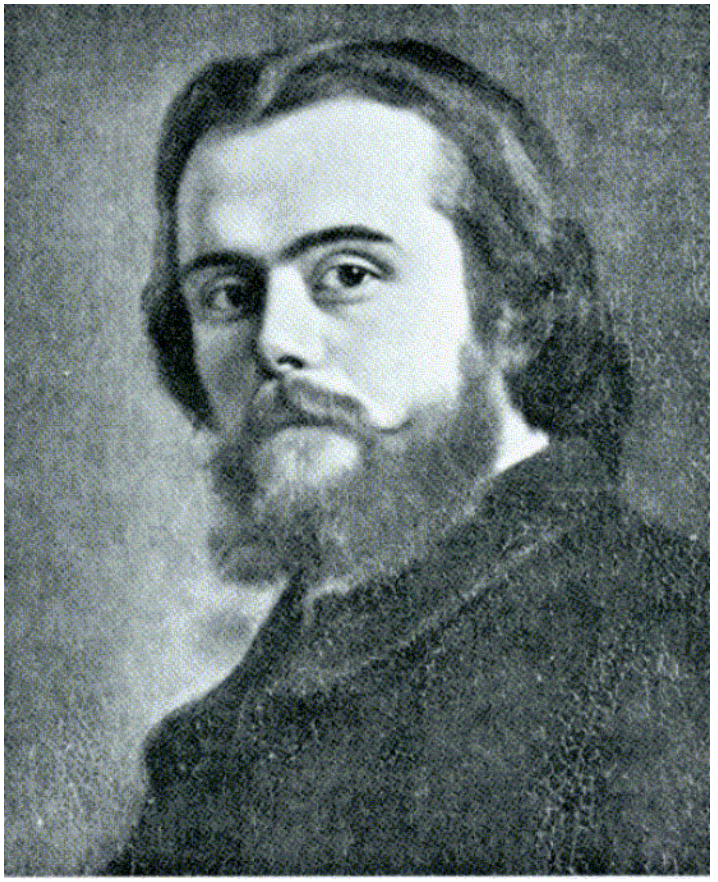


Determining labor supply : Marginal utility from rewards to labor = marginal disutility from labor



Marie Esprit Léon Walras, 1834-1910

- French
- His father was economist
- Twice failed to enter École polytechnique→ École nationale supérieure des mines de Paris
- Professor at Lausanne
- Socialist
- *Éléments d'économie politique pure, ou théorie de la richesse sociale*（First edition, first vol.,1874;Fourth edition, 1900）
- *Études d'économie sociale. Théorie de la répartition de la richesse sociale*（1896）
- *Études d'économie politique appliquée. Théorie de la production de la richesse sociale*（1898）



What Walras Achieved

- 1 Thought : Socialism = all aims to change private property system. The proletariat = the landless→Land nationalization
- 2 Program
  - Pure economics : foundation
  - Social economics : theory of property : justice
  - Applied economics : theory of industry : interests
- 3 Method of pure economics : Simple case to complex case; exchange → production → capital and credit → circulation and money
- 4 General equilibrium : mathematical expression of general interdependence of markets
  - From two goods to many goods
    - Walras' Law
  - Theoretical solution and market solution
- 5 Growth theory: economic growth→only rent increases

Carl Menger, 1840-1921

- Journalist to professor
- University of Vienna：educate future bureaucrats in Austria-Hungary empire
  - Taught economics at Faculty of Law and State Science
- *Principles of Economics (Grundsätze der Volkswirthschaftslehre)*（1871）

Menger, *Principles*, Preface

- The impartial observer can have no doubt about the reason our generation pays general and enthusiastic tribute to progress in the field of the natural sciences, while eco- nomic science receives little attention and its value is seriously questioned by the very men in society to whom it should provide a guide for practical action.
- Never was there an age that placed economic interests higher than does our own. Never was the need of a scientific foundation for economic affairs felt more generally or more acutely. And never was the ability of practical men to utilize the achievements of science, in all fields of human activity, greater than in our day. If practical men, therefore, rely wholly on their own experience, and disregard our science in its present state of development, it cannot be due to a lack of serious interest or ability on their part. Nor can their disregard be the result of a haughty rejection of the deeper insight a true science would give into the circumstances and relationships determining the outcome of their activity. The cause of such remarkable indifference must not be sought elsewhere than in the present state of our science itself, in the sterility of all past endeavors to find its empirical foundations.
- Every new attempt in this direction, however modest the effort, contains its own justification. To aim at the discovery of the fundamentals of our science is to devote one's abilities to the solution of a problem that is directly related to human welfare, to serve a public interest of the highest importance, and to enter a path where even error is not entirely without merit.
- In what follows I have endeavored to reduce the complex phenomena of human economic activity to the simplest elements that can still be subjected to accurate observation, to apply to these elements the measure corresponding to their nature, and constantly adhering to this measure, to investigate the manner in which the more complex economic phenomena evolve from their elements according to definite principles.
- This method of research, attaining universal acceptance in the natural sciences, led to very great results, and on this account came mistakenly to be called the natural-scientific method. It is, in reality, a method common to all fields of empirical knowledge, and should properly be called the empirical method. The distinction is important because every method of investigation acquires its own specific character from the nature of the field of knowledge to which it is applied. It would be improper, accordingly, to attempt a natural-scientific orientation of our science.

Stages of wants and diminishing marginal utility

I	II	III	IV	V	VI	VII	VIII	IX
10	9	8	7	6	5	4	3	2
9	8	7	6	5	4	3	2	1
8	7	6	5	4	3	2	1	0
7	6	5	4	3	2	1	0	
6	5	4	3	2	1	0		
5	4	3	2	1	0			
4	3	2	1	0				
3	2	1	0					
2	1	0						
1	0							
0								

German Historical School

- Influence of List
- Customs union⇒the rise of Prussia⇒Second German Empire（1871）
- First generation：Wilhelm Roscher
  - Totality of economy⇒emphasis on society, history and ethics
- Second generation：Gustav von Schmoller
  - Anti-theory, historical relativism
  - Policy：state intervention, social policy, protectionism, conservatism
- Third generation：Max Weber
  - Influence of Marxism and confrontation, vision of sociology as comprehensive social science

What Menger Achieved

- 1 Methodology: Defence of theory; controversy with the historical school (Methodenstreit)
  - "exact science" : explain causality
  - Against the use of mathematics, and against premature use of mathematics
- 2 Theory
  - Rational economic man; want-satisfying behavior
  - Exchange takes place to maximize utilities for both trading partners; benefits of exchange in utility term
  - The extent to which market is organized: "marketability" e.g. rare books
- 3 Policy: classical liberalism like Smith Cf. Streissler and Streissler 1994

The Current Views

- 1 Emphasis on the continuity with the Classicals（Samuel Hollander 1987）: a “change in emphasis”
  - Innovations in theory but not revolution
    - Sophistication of supply and demand theory; elaboration of the demand side; from dynamics to statics
      - Alfred Marshall

- 2 De-homogenize the Trio（William Jaffé 1987）
  - Difference among Jevons, Menger and Walras

The Current Views

- 3 Changing interpretation of precursors : national context
- Germany : Proto-neoclassicals
  - Hermann, Rau, Hufeland, Mangoldt, Schäffle
  - 1841 : Rau drew supply and demand diagram
  - Wants-utility theory in German tradition: to Menger
- France : Cournot, Engineer economists (Dupuit), apart from academia
  - Cf. Ekelund and Hebert 1999
- Austria: From Menger to Modern Austrians

A Sum-up on the Trio (1)

- 1 Thought and ideology
  - Jevons : utilitarianism, liberalism
  - Menger : subjectivism, liberalism
  - Walras : socialism
- 2 Theory
  - Image of economics as an exact science
  - Jevons: use of mathematics and statistics, with empirical studies
  - Menger : against the use of math
  - Walras : use of mathematics, but no empirics
- 3 Policy
  - J : Laisse-faire
  - M : Liberalism, but certain role of state
  - W : land nationalization

A Sum-up on the Trio（2）

- 4 Influences
  - J：Eclipsed in the shadow of Marshall
  - M: Founding of the Austrian school, but Historical school in Germany flourished
  - W: Lausanne school, but only Vilfredo Pareto. W's influence grew during the 20th century. Cf. Schumpeter 1954, and Hicks

Was It a Scientific Revolution?

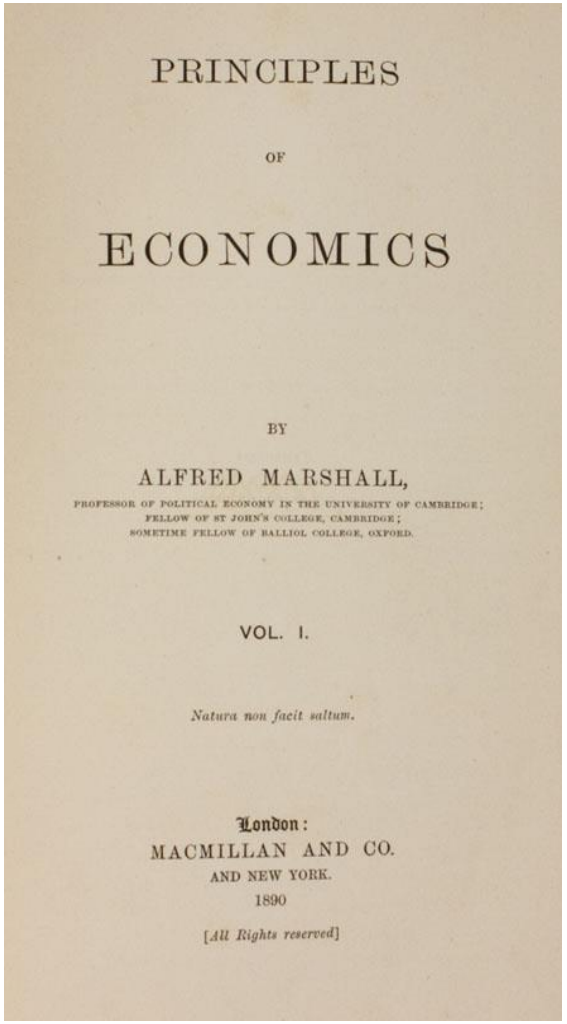
- Thomas Kuhn (1962/1970) : Normal science⇒crisis due to accumulated anomalies⇒Paradigm change⇒Next normal science
- ①Not a rapid change; it was an evolution taking long time (30 to 40 years)
- ②Not a response to anomalies (crisis)
  - Cf. the Keynesian revolution
- ③Not a wholesale change. The age of schools
  - Germany: Historical school dominant after 1870
  - UK, France: Classical economics, then Marshall. But even in UK, history-minded people (English historical school)
- Limitations to apply Kuhnian argument to economics

The Second Generation：Alfred Marshall (1842-1924) and the Birth of "Neo-classical" Economics

- From Math to Economics
  - Mathematical tripos, Second Wrangler
- Founding of the Cambridge school
  - "Cool head, but warm heart"
- Independence from moral philosophy
- *The Economics of Industry*（with Mary Paley Marshall, 1879）
- *Principles of Economics*（Vol.1：First edition, 1890）
- *Industry and Trade*（1919）
- *Money, Credit, and Commerce*（1923）

Principles of Economics: Economics

- Initially, Vol.I
- All math into appendix
- Book I. Preliminary Survey
- Book II. Some Fundamental Notions
- Book III. On Wants and Their Satisfaction
- Book IV. The Agents of Production. Land, Labour, Capital and Organization
- Book V. General Relations of Demand, Supply, and Value
- Book VI. The Distribution of National Income


PRINCIPLES

OF

ECONOMICS

BY

ALFRED MARSHALL,

PROFESSOR OF POLITICAL ECONOMY IN THE UNIVERSITY OF CAMBRIDGE;
FELLOW OF ST JOHN'S COLLEGE, CAMBRIDGE;
SOMETIME FELLOW OF BALLIOL COLLEGE, OXFORD.

VOL. I.

Natura non facit saltum.

London:
MACMILLAN AND CO.
AND NEW YORK.
1890

Preface

- Economic conditions are constantly changing, and each generation looks at its own problems in its own way. In England, as well as on the Continent and in America, Economic studies are being more vigorously pursued now than ever before; but all this activity has only shown the more clearly that Economic science is, and must be, one of slow and continuous growth. Some of the best work of the present generation has indeed appeared at first sight to be antagonistic to that of earlier writers; but when it has had time to settle down into its proper place, and its rough edges have been worn away, it has been found to involve no real breach of continuity in the development of the science. The new doctrines have supplemented the older, have extended, developed, and sometimes corrected them, and often have given them a different tone by a new distribution of emphasis; but very seldom have subverted them.
- The present treatise is an attempt to present a modern version of old doctrines with the aid of the new work, and with reference to the new problems, of our own age. Its general scope and purpose are indicated in Book I.; at the end of which a short account is given of what are taken to be the chief subjects of economic inquiry, and the chief practical issues on which that inquiry has a bearing. In accordance with English traditions, it is held that the function of the science is to collect, arrange and analyse economic facts, and to apply the knowledge, gained by observation and experience, in determining what are likely to be the immediate and ultimate effects of various groups of causes; and it is held that the Laws of Economics are statements of tendencies expressed in the indicative mood, and not ethical precepts in the imperative. Economic laws and reasonings in fact are merely a part of the material which Conscience and Common-sense have to turn to account in solving practical problems, and in laying down rules which may be a guide in life.

Book I, Chapter 1

- Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing.
- The hope that poverty and ignorance may gradually be extinguished, derives indeed much support from the steady progress of the working classes during the nineteenth century. The steam-engine has relieved them of much exhausting and degrading toil; wages have risen; education has been improved and become more general; the railway and the printing-press have enabled members of the same trade in different parts of the country to communicate easily with one another, and to undertake and carry out broad and far-seeing lines of policy; while the growing demand for intelligent work has caused the artisan classes to increase so rapidly that they now outnumber those whose labour is entirely unskilled. A great part of the artisans have ceased to belong to the "lower classes" in the sense in which the term was originally used; and some of them already lead a more refined and noble life than did the majority of the upper classes even a century ago.
- This progress has done more than anything else to give practical interest to the question whether it is really impossible that all should start in the world with a fair chance of leading a cultured life, free from the pains of poverty and the stagnating influences of excessive mechanical toil; and this question is being pressed to the front by the growing earnestness of the age.
- The question cannot be fully answered by economic science. For the answer depends partly on the moral and political capabilities of human nature, and on these matters the economist has no special means of information: he must do as others do, and guess as best he can. But the answer depends in a great measure upon facts and inferences, which are within the province of economics; and this it is which gives to economic studies their chief and their highest interest.

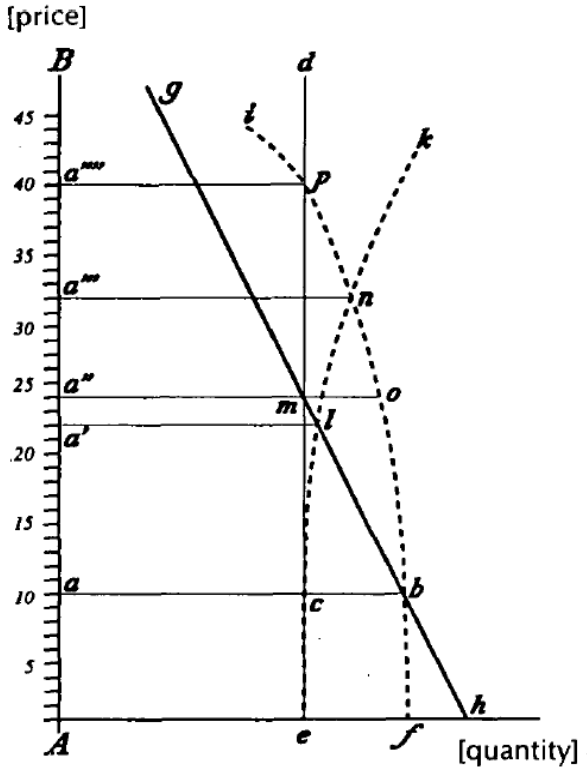
What Marshall Achieved

- 1 Integration of value price theory with distribution theory:
  - Classicals : coexistence of cost of production or labor theory of value and supply and demand theory
  - Neo-classicals : supply and demand; “blades of scissors”
  - Time structure : market period, short—run, long-run, super long-run
  - Quasi-rent, elasticities
  - Consumer surplus, producer surplus
- 2 External and internal economies
  - Industrial districts, cluster
- 3 National income to organic growth theory
  - Evolution theory
- 4 Monetary theory→Next lecture

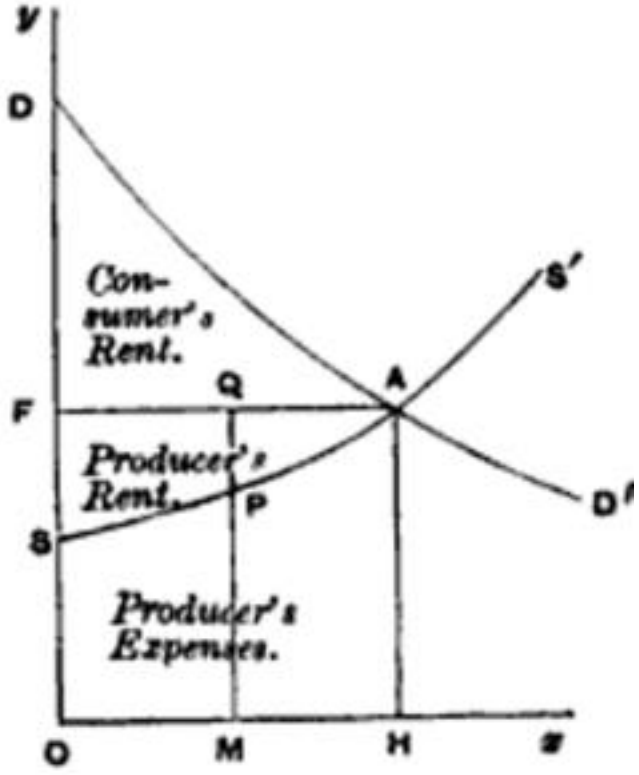
Development of supply and demand diagrams: 1841 to 1890
Cf. Humphrey 1992

Figure 3

RAU'S DIAGRAM



Source: Rau (1841b: 527).



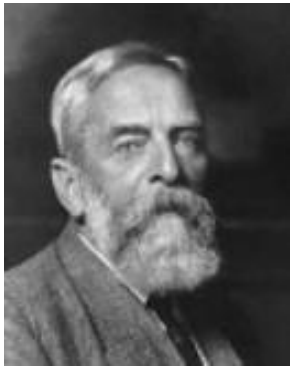
General Equilibrium and Partial Equilibrium

- Common in both methodologies : from a particular to the whole
- Difference
  - GE : hypothetical
  - PE : “other things being equal” : “part” of the existing society
- Which one is desirable?
- Conclusion : both needed

Innovation in what sense?

- Innovation in theory
  - ①Long transformation; at least 20 to 30 years
  - ② complete establishment of supply and demand theory：continuity with the classical, “neo-classical”; but discontinuity for followers of labor theory of value and the cost of production theory
  - ③integration of monetary theory as a part of supply and demand theory (next lecture); but resurrection of Thornton’s insights
- Change in image of science: physics
  - For Marshall, ultimately biology
- Change in views on human being? Theory of evolution

Second Generation : Friedrich von Wieser, 1851-1926

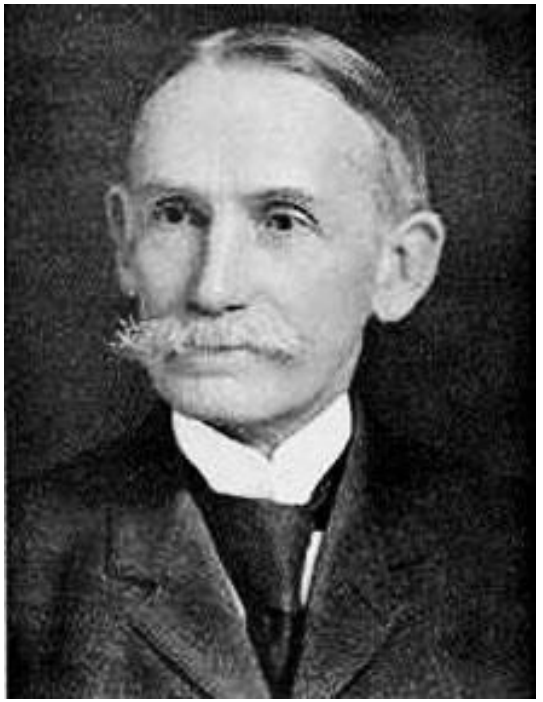


- Austrian
- Value Theory
  - The first use of the term “marginal utility”
  - From marginal utility to demand
  - Natural value
    - The role of price in resource allocation
- Factor Valuation
  - overevaluation : problem with Menger’s imputation method
  - The simultaneous solution
  - No role for supply

Second Generation: Eugen von Böhm-Bawerk, 1851-1914

- Austrian
- Scholar and politician
- Sophistication of value theory
  - Horse market
    - Finite, discontinuous number of traders
- Capital theory
  - It takes time to produce
    - roundabout way of production
    - Period of production
      - How to measure?
  - Three reasons for interest rate: positive time preference
    - Urgentness of present desire, systematic undervaluation of future desires, roundaboutness
- Criticism of Marxian economics : transformation problem
- Students
  - Rudolf Hilferding, J.A. Schumpeter

Second Generation: John Bates Clark, 1847-1938



- The first original American economist
- Background :
  - German connection
  - American Economic Association, 1885
    - John Bates Clark Medal, 1947-
- Statics and dynamics
- Marginal utility theory of value
- Marginal productivity theory of distribution
  - Following Ricardo's theory of land
  - Integration of theory of distribution and theory of value

Institutionalization of Economics

- Institutionalization
  - ①Formal part of education in university; economics department
  - ②from this period on, almost all economists are academic
  - ③curriculum and textbook
  - ④academic societies and journals
  - Cf.Classicals
- Less interested in real issues? The trio was interested in real issues. But involvement changed
  - E.g. Debates about the late 19th century deflation, partial equilibrium as a policy tool

Think Further:
They are topics for a short term-paper.

- Why did it take so long time for economics to adopt mathematics?
- What are the relationship between analytical tools and ideology? Consider some examples.
- Think about some examples of industrial clustering.

Next Week

- Textbook:
  - Wakatabe, Masazumi (2018), "The Great Depression and Macroeconomics Reconsidered: The Impacts of Policy and Real-World Events on Economic Doctrines," *Research in the History of Economic Thought and Methodology*, Vol. 35B, 237-250.
- Classics:
  - Knut Wicksell, *Interest and Prices*, Chapters 7-9 https://cdn.mises.org/Interest%20and%20Prices_2.pdf
  - J.M.Keynes, *A Tract on Monetary Reform*, Chapters I, III-IV https://www.gutenberg.org/ebooks/65278
- Others:
  - https://www.economicsonline.co.uk/definitions/bimetallism-explained.html/
  - https://lawliberty.org/the-wizard-of-oz-as-an-allegory-for-the-1896-presidential-election/

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