Pluridisciplinarity as an Epistemological Device: Interwar Experiments in US Social Sciences

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Reflecting on Pluridisciplinarity and Economics

Session Hosted by the History of Economics Society

Outlines

- **Section 1. The insiders' history** of experimental economics as a subfield of the discipline: a history of precursors, a history of paradoxes. Or how economists only begun to experiment in three major fields of research: indifference curves, markets design and choice theory. Hence a canonical list of « precursors »: 1: Bernouilli; 2. Henry Schultz and Louis Léon Thurstone; 3: Edward Chamberlin; 4: Maurice Allais

- **Section 2. Another historical, narrative:** experimentation as an epistemic tool, not as a subfield of economic theory - and unlike the previous formal tools borrowed by economists from other disciplines (mathematics, physics, statistics), a very broadly multidisciplinary tool.
- Two structuring moments: **2.1.** Mill's 19th century veto and its wide acceptance by most classical economists; **2.2.** The rise of a strong « empirical envy » in the interwar period.

- **Section 3.** The blurred boundaries of the field in the interwar period: the development of other methodological empirical practices in other disciplinary fields: experimentation discussed both as an « image of knowledge » and as a « body of knowledge »
- **3.1. « An image of experimental knowledge »:** the need for an empirical/experimental turn in the discipline widely expressed by « non mainstream » authors: Wesley C. Mitchell or Rexford Tugwell among the institutionalis teconomists ; agricultural economists ; specialists in patterns of consumption patterns; industrial economists; educational economists; home economists: all of them plead in favor of experiments as a way towards a greater scientificity in the methodological devices of economic theory
- **3.2. The role of the Laura Spelman Rockefeller Memorial Fund in promoting experimental research in the social sciences in the United States** under the direction of Beardsley Ruml (1922-1929)
- **3.3. « A body of experimental knowledge »:** the existence of numerous laboratory and field experiments, rather sophisticated and widely disseminated in related disciplines
- **3.4. Three methodological discussions on the status of experiments in the social sciences** in general – and economics in particular
- **Conclusion 1: A broadly interdisciplinary matrix**
- **Conclusion 2. Why such an interwar agnotology on the part of mainstream economists of the interwar period?**

Section 1. The insiders' history of experimental economics as a subfield of the discipline: a history of precursors, a history of paradoxes

- Or how economists only begun to experiment in three major fields of research: indifference curves, markets design and choice theory.
- The insiders' history: Vernon Smith, Al Roth, Ivan Moscati, Steven D. Levitt John A. List Levitt and List: a history of precursors, a history of paradoxes

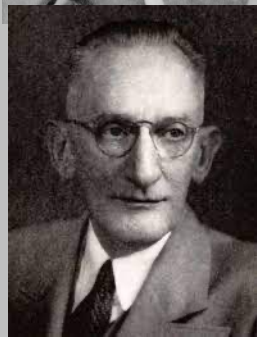
- Where to start a mainstream history of experimental economics? Four « precursors » :
- 1.1. Roth: Bernouilli's St Petersburg paradox
- 1.2. Moscati: Louis-Léon Thurstone's preference curve
- 1.3. Smith: Edward Chamberlin's classroom experiments
- 1.4.Levitt and List: Maurice Allais's paradox

1.1. « Precursor 1 »: Bernouilli's St Petersburg paradox

Following Alvin Roth, the standard historiography of experimental economics often considers the St. Petersburg paradox, formulated by Daniel Bernoulli, as one of the first « economic experiments ».
A game, not an « experiment ».

1.2. « Precursors 2 »: Henry Schultz and Louis Léon Thurstone

1929, Chicago: Henry Schultz, then engaged in his research on the statistical estimation of demand functions, asks psychologist Louis Leon Thurstone, known for his work in "psychometrics", to construct an indifference curve by subjecting a co-worker to a series of binary choices between hats and shoes, then hats, coats and shoes.



The explicit question of the article is the future relationship between the two disciplines:

« The writer dares not venture far into the economic theory which may be implied in this psychophysical problem, but it is clear that here is a fertile field for investigation in a very old problem that overlaps economic theory and psychophysical experimentation ».

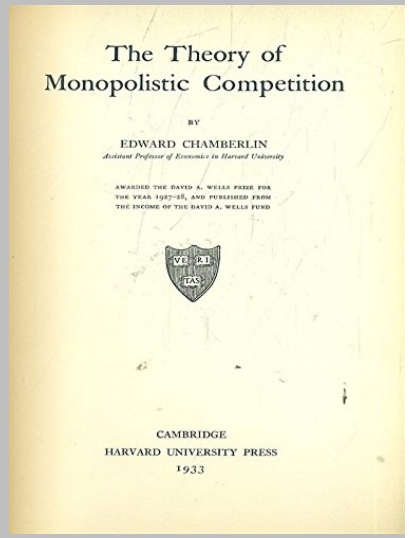
A one-time questionnaire, not an « experiment ».

1.3. « Precursor 3 »: Edward Chamberlin

- After the mixed reception of his *Theory of Monopolistic Competition* (1933), Edward H. Chamberlin, conducted his first classroom experiments on convergence to equilibrium at Harvard (Chamberlin, 1948).

- He induced demand and supply among his students by assigning each of them a reservation price as a buyer or seller, and found that the average prices and quantities traded were different from those predicted by the theory of perfect competition.

- These classroom experiments lasted from the 1930s to the 1950s.


The Theory of
Monopolistic Competition

BY

EDWARD CHAMBERLIN

Assistant Professor of Economics in Harvard University

AWARDED THE DAVID A. WELLS PRIZE FOR THE YEAR 1927–28, AND PUBLISHED FROM THE INCOME OF THE DAVID A. WELLS FUND

CAMBRIDGE
HARVARD UNIVERSITY PRESS
1933

1.4. « Precursor 4 »: Maurice Allais

- Trained in experimental physics as an engineer, Allais had written on experimental methodology since his first published articles.
- Allais's questionnaire : two choices between series of lotteries, A and B - and C and D, with:
- A: Win 100 million francs for sure
- B: 0.89 chance of winning 100 million francs, 0.01 chance of winning nothing, 0.1 chance of winning 500 million francs.
- C: 0.89 chance of winning nothing and 0.11 chance of winning 100 million
- D: 0.9 chance of winning nothing and 0.1 chance of winning 500 million.
- Trained in experimental physics as an engineer, Allais has been writing about experimental methodology since his first published articles(Allais, ref)
- Allais' hypothetical questionnaire: two choices between series of lotteries, A and B - and C and D, with:
- A: Win 100 million francs for sure
- B: 0.89 chance of winning 100 million francs, 0.01 chance of winning nothing, 0.1 chance of winning 500 million francs.
- C: 0.89 chance of winning nothing and 0.11 chance of winning 100 million.
- D: 0.9 chance of winning nothing and 0.1 chance of winning 500 million.

- A hypothetical questionnaire, not an experiment

- In each of these fields, these "precursors" communicated little with each other but rather exchanged and discussed with theorists in their respective sub-disciplines.

- There was no structured common project bringing together these different contributions: **1.** each of the designers of the experiments had his own agenda; **2.** these experiments developed according to their own methodologies, which were ultimately quite disparate: payments in money were used by Flood, but not by Chamberlin; the choices were real for Smith, but hypothetical for Allais; and **3. s**everal of the major players from the 1920s to the 1950s turned away from experimentation for various reasons, or considered it a secondary area of research.

Section 2. Another history: experimentation considered as an epistemic tool - and not as a subfield of economic theory

2.1. Mill's 19th century veto

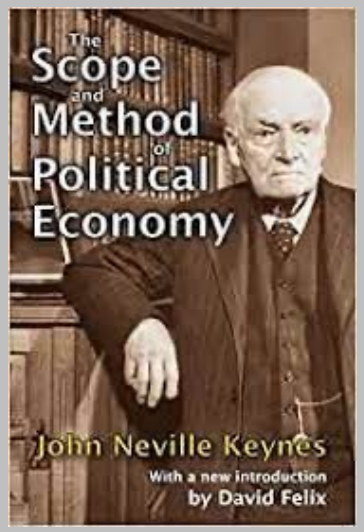
In *On the Definition of Political Economy; and on the Method of Investigation Proper To It* (1836) – Book V of the *System of Logic, Ratiocinative and Inductive*, John Stuart Mill discusses experimentation as a heuristic methodology:

« **There is a property common to almost all the moral sciences**, and by which they are distinguished from many of the physical; **this is, that it is seldom in our power to make experiments in them.** In chemistry and natural philosophy, we can not only observe what happens under all the combinations of circumstances which nature brings together, but we may also try an indefinite number of new combinations. This we can seldom do in ethical, and scarcely ever in political science. We cannot try forms of government and systems of national policy on a diminutive scale in our laboratories, shaping our experiments as we think they may most conduce to the advancement of knowledge. We therefore study nature under circumstances of great disadvantage in these sciences; being confined to the limited number of experiments which take place (if we may so speak) of their own accord, without any preparation or management of ours; in circumstances, moreover, of great complexity, and never perfectly known to us; and with the far greater part of the processes concealed from our observation. »

Mill's prohibition of experiments served as an epistemological rule until the early twentieth century and marked the beginning of a coherent discussion among economists about the pros and cons of experimentation in their field.

John Elliot Cairnes in his *Character and Logical Method of Political Economy* argues that in economics observational control, or more precisely, experimental control, cannot be achieved and used as a source of inductive generalizations:

"[T]he utter inadequacy of the inductive method [...] as a means of solving the class of problems with which Political Economy has to deal, **arising from the impossibility of employing experiment in economic inquiries under those rigorous conditions which are indispensable to give cogency to our inductions."** (p.45)



- After a precise definition of experience as different from observation "in experience we have control over the phenomena studied" (p.84), Neville Keynes discusses its use in political economy.
- "**It may now be asked how far experiment is possible in political economy** […]It cannot be said that experiment is a resource from which we are absolutely debarred in economic enquiries. […] **But there are problems that lie only on the threshold of economics.** Indeed, some of the laws thus determined by experiment may be regarded as data given to economics by other sciences, rather than as conclusions obtained by it. [..] **and even when some kind of experiment is possible, our power of controlling and varying the concomitant circumstances is very limited; nor can the experiment be freely repeated."** (Keynes, 1891, pp.85-86).

effective

The debate was different on the other side of the Atlantic, where, following both the *Methodenstreit and* Charles S. Peirce's Peirce's plea for experimentation as the only defensible scientific method, North American institutional economists based their critique of marginalist theories on an inductive and "experimental" claim, based on the practices of experiments in the field. Peirce's plea for experimentation, North American institutionalist economists based their critique of marginalist theories on an inductive and "experimental" claim, based on experimental practices in other social sciences

Section 3. The blurred boundaries of the field in the interwar period: the development of other methodological empirical practices in other disciplinary fields

3.1. « An image of experimental knowledge »

3.2. The role of the Laura Spelman Rockefeller Memorial Fund in promoting experimental research in the social sciences in the United States under the direction of Beardsley Ruml (1922-1929)

3.3. « A body of experimental knowledge ».

3.1. « An image of experimental knowledge 1 »: Wesley Clair Mitchell

- Peirce's legacy: In 1872, Charles Sanders Peirce advocated experimental research and conducted a series of experiments on the distribution of response times to a stimulus for the US Coast and Geodetic Survey.
- Mitchell's AEA address: In his 1924 presidential address to the 37th Congress of the American Economic Association, Wesley Clair Mitchell clearly invokes the need for economics to become an experimental science. .

« **The obsolescence of the older type of reasoning in economics will be promoted by the change which is coming over our thinking about human nature.** Psychologists are moving rapidly toward an objective conception and a quantitative treatment of their problems. Their emphasis upon stimulus and response sequences, upon conditioned reflexes; their eager efforts to develop performance tests**, their attempts to build up a technique of experiment, favor the spread of the conception that all of the social sciences have a common aim – the understanding of human behavor; a common method - the quantitative analysis of behavior records; and a common aspiration – to devise ways of experimenting upon behavior.** » (Mitchell, 1925, 5-6)

« Knowledge will grow by accretion as it grows in the natural sciences, rather than by the excogitation of new systems. [...]. **Economists will be valued** less on their erudition and more **on their creative capacity. The advances will be achieved** not only by conceiving new hypotheses, but also by compiling statistics from fresh fields, by inventing new technical methods, by refining upon old measures, and **perhaps by devising experiments upon certain types of behavior. »** (Mitchell, 1925, 6-7)

« **In speaking of experimentation, I do not forget the difficulty of making experiments in the social sciences.** That difficulty seems to me almost insuperable, **so long as we hold to the old conceptions of human nature.** But the behavioristic concept promises to diminish this handicap under which economics and its sister sciences have labored. For **we can try experiments upon group behavior.** […] this technical necessity of re-stating problems promises **to bring about radical changes in economic theory,** in particular to make the treatment of behavior more objective, to emphasize the importance of institutions, and **to promote the development of an experimental technique.** » (Mitchell, 1925, 8-9 , 9-10)

3.1. « An image of experimental knowledge 2 » : Rexford Tugwell

1924: Rexford G. Tugwell publishes an edited synthesis of the state of the discipline, *The Trend of Economics*, in which he devotes his own contribution to experimental economics.
1924: Rexford G. Tugwell published an edited a summary of the state of the discipline, *The Trend of Economics*, in which he devoted his own contribution to experimental economics.

In this article, entitled "**Experimental Economics**," he argued that the "**assurance of rightness in science" is to be found in the replication of experimental results**: "it is sometimes more, sometimes less, difficult to isolate and to demonstrate by experiment the bits of truth that scientists discover; but nothing is accepted as truth unless it can be so demonstrated. […] **The whole conception of science, then** – and the modern world has gone over to science – **is experimentalism**. »(Tugwell 1924, 386, 394-95).

The utter destruction of the pretensions of economics as a natural science have left the way open to a new generation who propose, most of them, to recognize their endeavors as based upon moral motives, **taking over from the sciences**, however, what they can of **the experimental method. The difficulties are obvious**, with the whole modern world, going about its complicated affairs, as subject-matter; and **with the obvious impossibility in most cases of controlling experimentation. Nevertheless, unless economists are willing to give up all pretense at productive endeavor, they find themselves committed to the method, difficulties and all.** (Tugwell, 1924, 686-687)

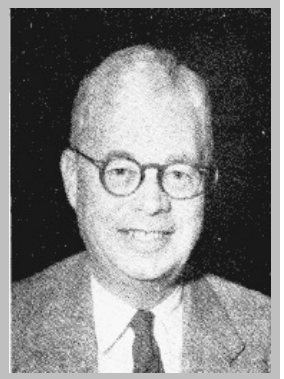
- Four years later, in a 1928 article, published in*The Journal of Philosophy*, Tugwell writes:

- « **Workers in the social sciences might easily be separated into two general categories** [...]. **One** mind finds in the discipline of social study **a rich *cache* of data to be worked over and experimented with**, for the imagination to be loosed upon. [...] **Another** mind will be **intolerably weighted down with the appalling contrast between what, conceivably might have been, and what, indubitably, is.** Gradually such a one turns away from chaotic reality to perfect ideality, from the going system of things which offends the conceptual taste, to the world of dreams in which he can live, not, perhaps, altogether content, for the worm of doubt dies hard, but at least relieved of an unbearable pressure of responsibility. »

3.2. The role of the Laura Spelman Rockefeller Memorial Fund in the promotion of experimental research in the United States social sciences under Beardsley Ruml direction (1922-1929)

In 1922, **Beardsley Ruml** was appointed director of the Laura Spelman Rockefeller Memorial Fund at the age of 27. Written shortly after his arrival, Ruml's October 1922 *Director's General Memorandum* was a manifesto for modern social science centered on experimental research as a tool for "practically useful social science research." It was intended to guide policy in support of academic social science for a decade, and marked the beginning of a modern phase in the organization of research within laboratories.

In June 1923, Ruml hired a 32-year-old institutional economist, **Lawrence K. Frank**, both to assist him and to engage in a “Review of the Social Sciences” in the United States. According to Frank, the social sciences needed experiments to test hypotheses, open up new areas, and dispel old "bookish" traditions (Bulmer & Bulmer, 376).



Both Ruml's and Frank's reports played a central role in launching - and funding - experimental research in the American social sciences between the wars.

3.3. « A body of experimental knowledge »: the existence of numerous laboratory and field experiments, rather sophisticated and widely disseminated in related disciplines

3.3.« A body of experimental knowledge 1 ». Experiments in agricultural economics

SIR JOHN BENNET LAWES, BART.

THE AGRICULTURAL LAWES, THE NEW WHEEL-BARROW-NET.
MOTTO, "LAUS ET HONOR."

The first experiments in agriculture were conducted in Rothamsted, UK, by **John Bennet Lawes**, the owner of Rothamsted Manor, and a young chemist, **Joseph Henry Gilbert**.

The Book of the Rothamsted Experiments

BY A. D. HALL, M.A. (Oxon.)

LONDON
JOHN MURRAY, ALBEMARLE STREET, W.

In 1919, **Ronald Fisher** was hired to bring modern statistical methods to the vast experimental data collected by Lawes and Gilbert. Fisher introduced the concept of randomization and highlighted "the experimental tripod" (Street, 1990): replication, blocking and randomization.

THE LABORATORY.

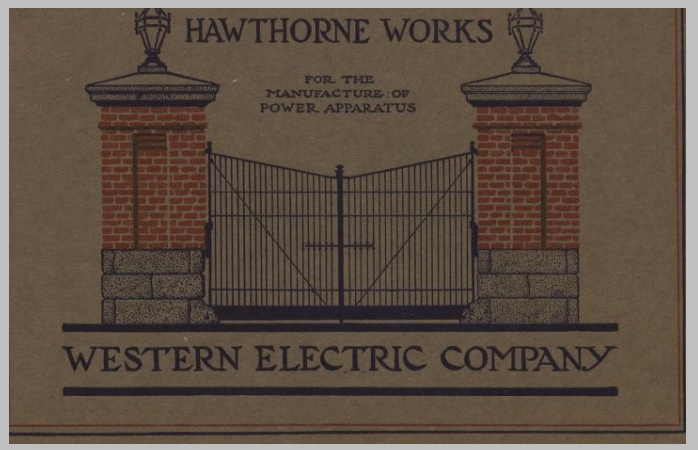
In the United States, agricultural experiment stations were established after the Hatch Act of 1887 to encourage research on agricultural problems in land-grant colleges.
In 1888, an "Office of Experiment Stations" was established as a special branch of the United States Department of Agriculture.

After the publications by Fisher and Gossett/Student (1923), U.S. agricultural economists embarked on experiments in the 1920s, and published their results in *the Journal of the Proceedings of the Agricultural Economics Society,* established in 1928 and widely read by academic economists.

3.3.« A body of experimental knowledge 2 ». Industrial economics and workforce management

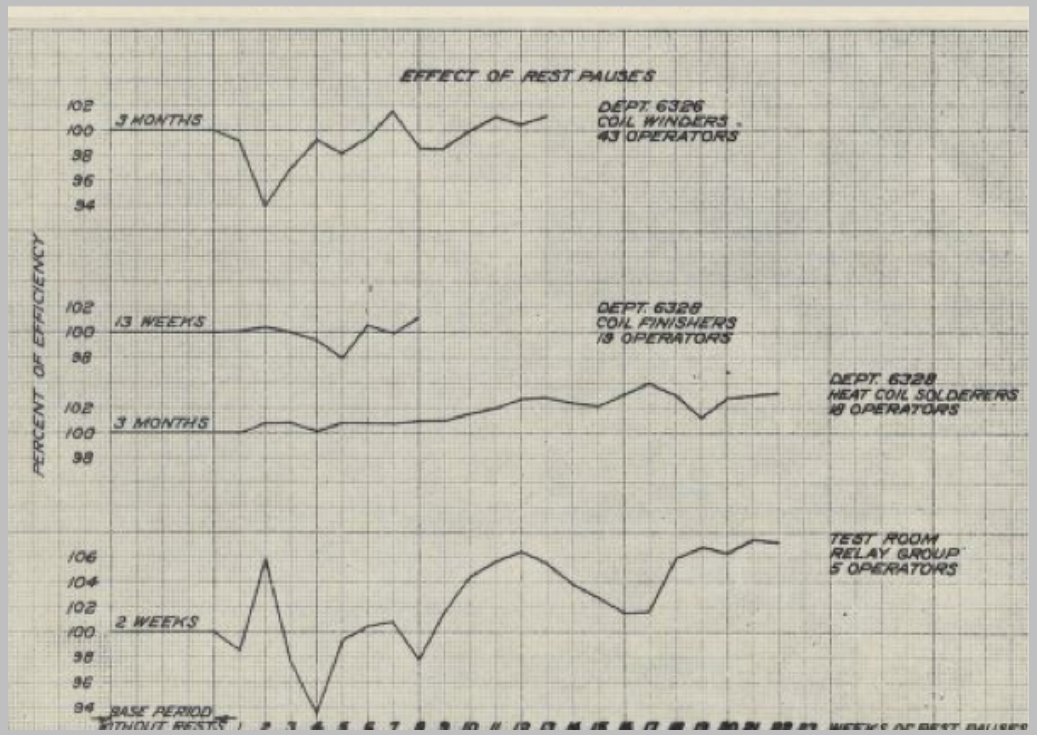
Time and motion studies, as well as managerial experiments, also developed in the interwar period.

- November 1924: The Hawthorne Works''s management launched a series of studies designed to test the effect of different lighting levels and supervision techniques on worker productivity.



In April 1927, the Western Electric Company called upon a new group of researchers related **to a Harvard laboratory – the *Fatigue Laboratory*** - to take over the experiment and bring their academic expertise to the ongoing research.

From that moment on, the conditions and protocols of the experiments changed: based on the physiological and *psychological techniques of the Fatigue Laboratory*, the Hawthorne experiment was transformed into a laboratory-type experiment on individual and collective behavior at work, with strong "performative" effects.



- The Hawthorme experiment served as a matrix for a new experimental disciplinary association between labor economics, physiology, experimental psychology, industrial sociology and personnel management: "industrial relations".

- “We discovered that light is only one and apparently a minor factor among many which affect output and employee reactions. **It was this discovery which suggested to us the use of the experimental method in determining the various factors governing employee effectiveness**”. (George Pennock)

3.3.« A body of experimental knowledge 3 ». Experiments psychology applied to « business »

- **Forrest A. Kingsbury**, associate professor of Psychology at the University of Chicago: “Applying Psychology to Business” (1923):
- “That psychology, in the past ten years, has come to be a subject of tremendous interest to the business man […] is too well known to need proof. […]
- **Undoubtedly the greatest contribution that psychology makes to the solution of business problems is its method or technique.**[…]
- **Psychological experimentation**, of course, has a good deal in common with experimentation in other fields, but it has much that is peculiar of itself. Like every empirical science, psychology formulates hypotheses to explain facts, and then tests out those hypotheses by controlling all the conditions, varying one at a time, and carefully observing the results.”

Psychogical experimental protocols applied to « business » were rather precise:

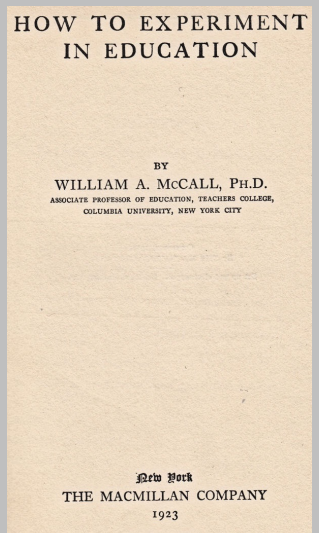
“Psychological experiment makes use of many devices and takes many precautions which are peculiar to psychology, or at any rate to the biological sciences. The elimination of many sources of error (such as variations in time of day, or in verbal instructions to the subject), the use of control groups, the use of large groups to insure reliability, the use of peculiar instruments of precision and the methods and language of exact numerical measurement suited to human materials, the repetition of trials under changed conditions- all these are characteristic of the work of the careful psychological investigator […]In dealing with large groups, as the psychologist must usually do in order to bring the factor of individual variability under control, he makes use of another sort of instrument, statistical method, with its various ways of measuring and giving expression to central tendencies-averages of various sorts-variability and correlation. “

3.3.« A body of experimental knowledge 4 ». Experiments in education

Three early examples:

- 1. **H. E. Conrad and G. F. Arps, "An experimental study of economical learning",** *The American Journal of Psychology,* 1916: an experiment designed to determine quantitatively the superiority of a learning method over the others through Courtis tests.

2. **William McCall (1923),** an education psychologist at Columbia University, early proponent of using randomization rather than matching as a means to exclude rival hypothesis, insisted on quantitative measures to test the validity of education programs.


HOW TO EXPERIMENT IN EDUCATION

BY
WILLIAM A. McCALL, PH.D.
ASSOCIATE PROFESSOR OF EDUCATION, TEACHERS COLLEGE, COLUMBIA UNIVERSITY, NEW YORK CITY

New York
THE MACMILLAN COMPANY
1923

- **3. Lucia Sprague Mitchell's Bureau of Educational Experiments (BEE) in New York City (later the Bank Street College of Education).**
- The first dean of women at the University of California at Berkeley from 1906–1912, and one of the first women instructors in UC Berkeley's Department of English, Lucia Sprague promoted educational and career opportunities for women.
- In 1916, she co-founded the Bureau of Educational Experiments (BEE) in New York City, with her husband, Wesley Mitchell, and colleague Harriet Johnson, to study and develop optimal learning environments for children from an experimental perspective inspired by John Dewey.

3.3.« A body of experimental knowledge 5 ». Psychometric measures of preferences

Before Thurstone's collaboration with Henry Schultz, Joy **Paul Guilford,** a psychometrician from the University of Nebraska, published two articles in *The American Economic Review* : « Measuring Human Wants in Business » (1929) and « Psychological Yardsticks For Economic Values » (1930).

Based on experimental results, he discussed the validity and reliability of three methods « as a device for measuring economic values as based upon human judgments »: the method of paired comparisons, the method of equal appearing intervals and the scaling method in which a psycho-economic yardstick is established with which to measure an unlimited number of samples.

The first article sets the project:

« **Psychology has in the past made a number of contributions to business, especially in the fields of advertising, salesmanship and personnel problems. The factor of human nature is a very important item in all these phases of business. So far as the writer knows the psychological factor in the determination of prices for the various commodities has not yet engaged the serious interest of psychologists.** In this paper I wish to suggest one possible application of psychological methods to the problem of human wants or demands as regards the products of commerce. » (1929, 412).

As a conclusion to the second article, Guilford considers **that these « three psychological yardsticks are recommended and they should be applicable to many phases of economics and business, both theoretical and practical.** » (1930, 672).

- Hazel Kirk, Margaret Reid: the development of special departments of « Home economics » allowed women trained in economics to teach and
- 1909, Ellen Swallow Richards founded the American Home Economics Association
- Therefore, in 1914 and 1917, women's groups, political parties, and labor coalitions worked together in order to pass the Smith-Lever Act and the Smith-Hughes Act. The Smith-Lever Act of 1914 and the Smith-Hughes Act of 1917 created federal funds for "vocational education agriculture, trades and industry, and homemaking" and created the Office of Home Economics.[29][30]

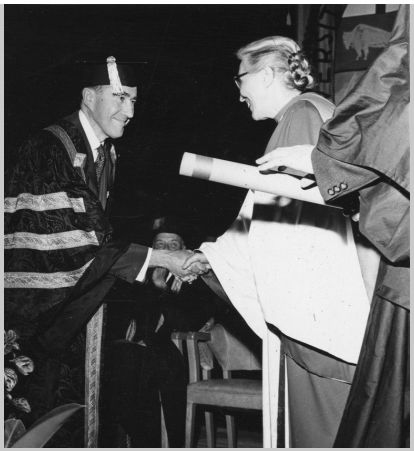
3.3.« A body of experimental knowledge 5 ». Home economics

An old experimental tradition

- **Ellen Richards**, the founder of the home economics movement , was an industrial engineer and environmental chemist, the first woman admitted to the Massachusetts Institute of Technology, and the first American woman to obtain a degree in chemistry, obtained from Vassar College in 1870. She developed research in sanitary engineering, and experimental domestic science, laiding the foundation for the new « science » of home economics.
- In 1898, she begun the Lake Placid club and the Lake Placid conferences, in cooperation with the Office of Experiment Stations of the U.S. Department of Agriculture, thus benefitting from their experimental experience (see the Iowa Agriculture and Home Economics Experiment Station).
- In 1909, she founded the American Home Economics Association.
- In 1914 and 1917, the Smith-Lever Act and the Smith-Hughes Act created federal funds for "vocational education agriculture, trades and industry, and homemaking" and created the Office of Home Economics.

Two other experimental home and consumption economics:

- **Margaret Gilpin Reid,** Kirk's PhD student at Chicago (*The Economics of Household Production, 1931),* taught at Connecticut College, Iowa State College, and the University of Chicago, as a Professor of Home Economics and Economics.



Elizabeth Ellis Hoyt, professor of Economics at Iowa State University

3.3.« A body of experimental knowledge 7 ». Experimental enquiries on costs of living and consumption patterns

At Berkeley, academics constructing databases of so-called 'experimental' household consumption data and applying randomisation techniques to them, which are still in their infancy.

« Were these researches « experiments » or classical inductive ‘bottom-up’ methodologies?

3 examples:

- 1. **Elizabeth Waterman Gilboy's questionnaires**: a well-known agricultural economist, ElizabethWaterman Gilboy carried on, in 1932, experiments and questionnaires at the request of the Harvard Committee on Economic Research, in connection with a committee project, entitled « the statistical complement of economic theory ».
- « Computed and charted » by « Miss Katherine Hampson, of the committee staff », hese experiments were published in the QJE, and syntethized thirty years later in her 1968 book, *Primer on the Economics of Consumption*.


THE
QUARTERLY JOURNAL
OF
ECONOMICS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QUARTERLY JOURNAL
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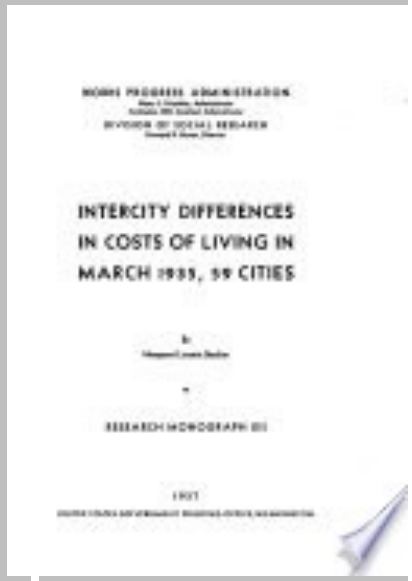
ECONOMICS

- **2. Jessica Blanche Peixotto's questionnaires on academic family budgets at the University of California at Berkeley.**
- The second woman to defend a PhD thesis at UCB, Blanche Peixotto was the first woman to become full professor in social economics, and the fist woman to chair a Department. She surveyed around 100 faculty to establish family incomes and a living wage, publishing the results in her 1927 and 1928 books *Getting and Spending at the Professional Standard of Living: A study of the costs of living on academic life* and *Family Budgets of University Faculty Members*. She followed this research with a community survey of 82 typographers and their families, with her results published in 1929 in *The Cost of Living Studies, II: How workers spend a living wage.*

- **3. Outside of the Academly, former agent of the US Commission on Industrial Relations, and National Industrial Conference Board (NICB) economist Margaret Loomis Stecker's researches on family budgets and costs of living:**
- 'Family Budgets and Wages', *The American Economic Review* , 1921
- 'Wage Studies of the National Industrial Conference Board: A Reply', *Journal the American Statistical Association*, 1922.
- Minimum wage legislation in Massachusetts, NICB, 1927.
- *Intercity Differences in Costs of Living in 59 Cities*, 1935.
- *Quantity bu[d]gets of goods and services necessary for a basic maintenance standard of living and for operation under emergency conditions : prepared as weights for retail prices used in ascertaining the cost of living of industrial, service and other manual workers of small means* / prepared by Margaret Loomis Stecker under the supervision of Henry B. Arthur, 1936.


INTERCITY DIFFERENCES
IN COSTS OF LIVING IN
MARCH 1935, 59 CITIES

3.4. Three methodological discussions on the status of experiments in the social sciences in general – and economics in particular

- A sophisticated methodological discussion of the major objective of experimental protocols in the social sciences: the control of a variable.
- A common use of statistics and randomization techniques in the different practices of experimenters.
- A well-established epistemological division between two types of experiments, linked to two different objectives: testing existing (or new) hypotheses or theories, and designing new institutions or policies.

Conclusion 1: A broadly interdisciplinary matrix

- The interwar period in the United States was marked by a proliferation of experiments in various social sciences: psychology, sociology, management, anthropology, education, agricultural economics, labor economics, home economics, consumer economics.
- All of these experiments had a dual purpose: 1. to test theories and 2. to design new institutions or policies.
- These exchanges and crossings at the borders of the different social science disciplines had a strong transformative impact on each of these disciplines.

Conclusion 2. Why such an interwar agnotology on the part of mainstream economists of the interwar period?

- Experiments in various social sciences, as well as in "marginal" (unconventional) areas of economics, have been widely published in major academic journals, including leading economic journals (AER, QJE, JPE, RES). Yet the subfield of "experimental economics" did not emerge as an institutionalized field until the 1960s or 1970s.
- In the institutionnal field of economics, these experiments were conducted either by "heterodox" economists, *i.e.,* critics of the top-down deductive-nomological approach to economic theory, by economists trained in another discipline, where experimental methods were a standard norm of scientific research, or by non-economists ;
- They implied a different conception of economic behavior than the mainstream individual "maximizing agent";

- From a theoretical point of view (the image of knowledge) , the references to experimentation in economics were of the order of an epistemological project for a new science of economics;

- From an applied point of view (the body of knowledge), experiments in this interwar period the experiments functioned as investigative tools, with three characteristics:

*1. They were essentially interdisciplinary;

*2. They were limited to local subjects: improving the performance of labor, agriculture or education, constructing demand curves or cost of living indices, challenging the hypothesis of pure and perfect competition;

*3. They contributed to question some major theoretical dogmas: the advantages of Taylorism, the postulate of economic rationality, the standard theory of consumer choice, the invisible status of domestic production - which made them the instruments of not only a methodological but also a theoretical revision of economic theory.

Thank you for your comments and criticisms.