ResearchGate

See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/262732532

Between History and Theory: Otto Neurath's Economics from 1906 to 1917

Conference Paper · May 2014

CITATIONS
0

READS
219

1 author:



Monika Poettinger
Università commerciale Luigi Bocconi
51 PUBLICATIONS **8** CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:

ANCIENT ECONOMIES IN COMPARATIVE PERSPECTIVE : MATERIAL LIFE, INSTITUTIONS AND ECONOMIC THOUGHT View project

Florence in the 19th century View project

All content following this page was uploaded by Monika Poettinger on 02 June 2014.

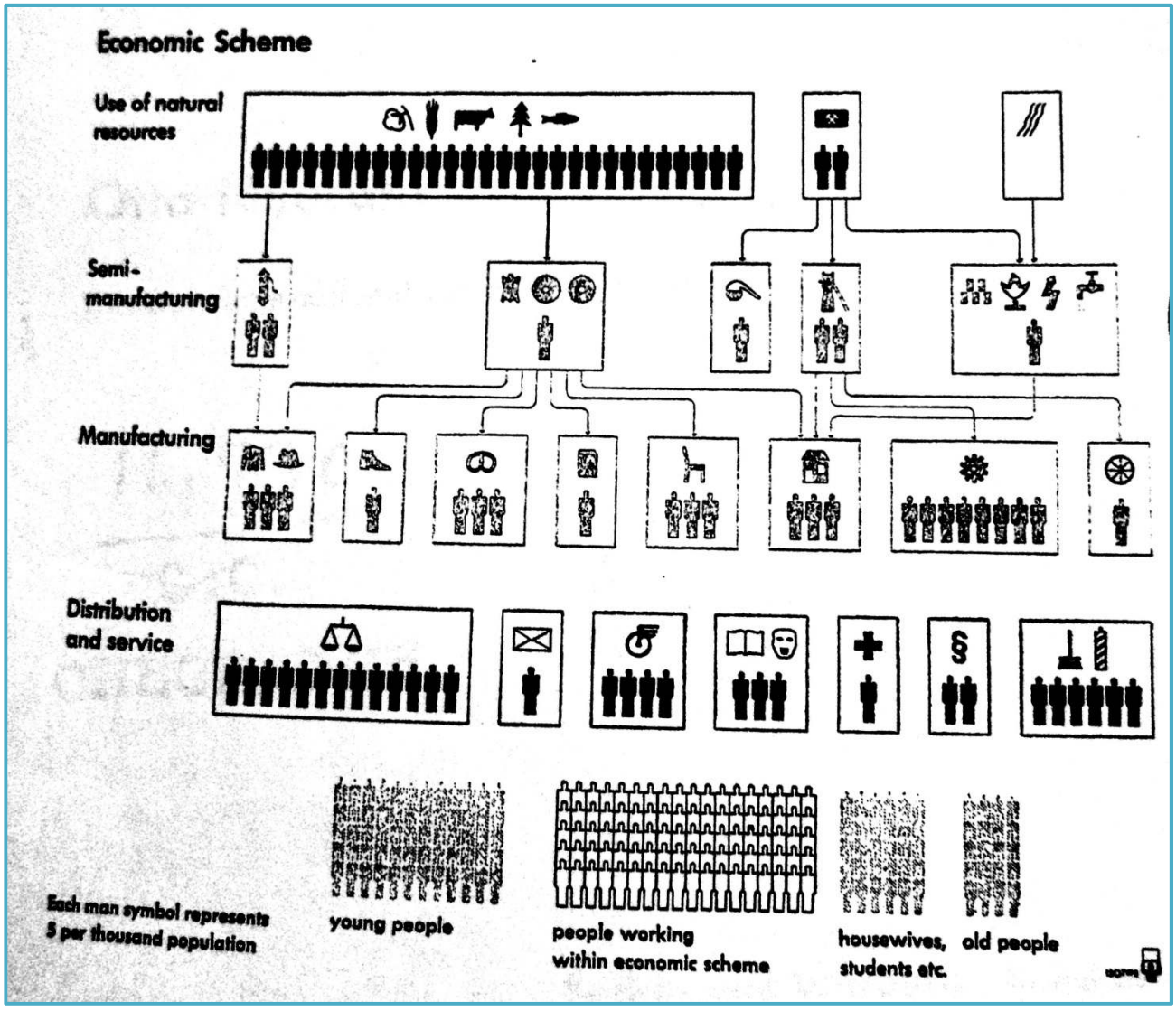
The user has requested enhancement of the downloaded file.

Monika Poettinger

Università Commerciale Luigi Bocconi, Milano

Between History and Theory:

Otto Neurath's Economics from 1906 to 1917



[Otto Neurath, **Modern Man in the Making***, London, Secker and Warburg, 1939, p.65]*

INTRODUCTION[1]

The 1980s witnessed a renewed interest in the *Wiener Kreis* and logical empiricism[2]. New historiographical accounts were dedicated to its principal components and their works have been widely republished. Among them also one of the most controversial adherents to the first Vienna circle: Otto Neurath (1882-1945)[3]. Once stigmatized as a volcanic revolutionary, poor in theory as rich in reforming enthusiasm, Neurath has been rediscovered as an astonishingly modern theorist of the philosophy of science, capable of anticipating the much later positions of Kuhn and Feyerabend.

Neurath's role as an economist, though, has been much more neglected, even if recently his economic writings have been republished and partially translated in English[4]. A quite astonishing occurrence, given that Neurath begun his scientific and academic career as an economist with an outstanding curriculum and participated in all debates of his time, discussing in depth central themes from the theory of value, to the method of social sciences, from the normative content of economics to the possibility of socialist calculation, to quote just the most renown. Due to the vehemence of these debates, contemporaries judged Neurath's accomplishments rather with contempt than appreciation. Nonetheless the silence of historiography for most of the remaining twentieth century is not easily understandable, particularly in the field of economic thought.

The main difficulty in evaluating Neurath's economic theory lies in his radical redefinition of the economic science as such, based on his empiricist, or better even 'physicalist', approach. The first section of this paper will so be dedicated to briefly introduce Neurath's idea of science and of the role scientists should have in society. How his epistemology resulted from of his experience in reforming economic science in the first decades of the twentieth century will also be briefly illustrated.

The second section of the paper will then relate how Neurath, in the course of the years comprised between the publication of his doctoral dissertation in 1906 and his essay on *Das Begriffsgebäude der*

[1] All translations present in the text, if not otherwise attributed, have been completed by the author.
[2] The most recent account on this philosophical school is: Alan Richardson and Thomas Uebel (eds.), *The Cambridge Companion to Logical Empiricism*, Cambridge, Cambridge University Press, 2007. Thomas Uebel has been throughout the decisive driving force behind the rediscovering of the Vienna Circle and also the republication of Otto Neurath's work. The manifold volumes he edited are extensively quoted in the following.
[3] A complete biography of Otto Neurath is to be found in: Enza L. Vaccaro, *Vite da naufraghi. Otto Neurath nel suo contesto*, Tesi di Dottorato in metodologia delle scienze sociali – ciclo XV – Università La Sapienza Roma; and: Nancy Cartwright, Jordi Cat, Lola Fleck, Thomas E. Uebel, *Otto Neurath: Philosophy Between Science and Politics*, Cambridge, Cambridge University Press, 2008.
[4] Rudolf Haller and Ulf Höfer (eds.*), Otto Neurath. Gesammelte ökonomische, soziologische und sozialpolitische Schriften*, Wien, Hölder-Pichler-Tempsky, 1998; Thomas E. Uebel and Robert S. Cohen (eds.), *Otto Neurath. Economic Writings: Selections 1904-1945*, Dordrect, Springer, 2006.

Wirtschaftslehre und seine Grundlagen[5] in 1917, completely revolutionized the idea of economics, refuting both the approach of the historical school represented by Gustav Schmoller, one of his supervisors in Berlin, and the sistematic of the school of Vienna he already attacked participating to the seminar held by Eugen von Böhm-Bawerk in 1906.

Neurath so redefined economics in an holistic effort to reduce to unity all the opposing positions inflaming the economic debates of those troubled years, giving life to a science that could equally make space for abstracting models and empirical verification; a science that applied the same methodology to the study of a market economy and of socialization processes; a science that could comprise List's cosmopolitan economy as a contemporary war economy.

Although being quite revolutionary in its outcome, Neurath's definition of economics rested heavily on the past of the discipline. In his view, no science could and should be rebuild completely, starting with a *tabula rasa*. From Aristotle to Smith, from Quesnay to Sismondi, all economists had still something useful to contribute to the advancement of science. What once had been cast away could find new validity in some novel form or in a restricted field. History was so an indispensable part of the economist's toolkit.

As described in the paper, many features of Neurath's economics reveal today a striking modernity, justifying the necessity of a new and more complete evaluation of his role in the history of economic thought.

[5] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 484-520.

ECONOMICS AS A SCIENCE

"The fight against today's economic order is a fight against an order of enmity. But it is also a fight against bad economics."(Otto Neurath)[6]

At the end of the nineteenth century, political economy attempted to acquire the status of natural science painstakingly searching for natural laws in human actions. Bent on *erklären* more than *verstehen*[7], political economy would so claim neutrality towards history and politics as it already had toward religion.

Ironically economics reached for this goal exactly when Europe's scientists, philosophers and literates questioned, with increasing impetus, the concept of science in itself, degrading and delegitimizing it. The intent was to abandon positivism along with every metaphysical foundation of science, reminiscent of the scholastic past. God was to die[8] while absolute space vanished from physics[9] and grand style disappeared from literature[10].

In *Knowledge and Error*, firstly issued in 1905, Ernst Mach revealed how easily science's natural laws proved to be false because of errors in men's interpretation of facts and data. He further questioned the necessity to discover such natural laws, a result of men's reaction to nature's chaos and also of Europe's specific culture. It was men who subjectively imposed such laws on nature, while nature itself would be completely foreign to such abstraction[11].

At the beginning of the new century, Otto Neurath collected all these suggestions[12], from Ernst Mach but also Pierre Duhem[13] and Gregorius Itelson[14], defining science as a logical construction, based on empirical

[6] Otto Neurath, *Lebensgestaltung und Klassenkampf,* (1928) translated in: Marie Neurath, Robert S. Cohen (eds.), *Empiricism and sociology*, Dordrecht, Springer, 1973, p.260.
[7] See: Wilhelm Dilthey, *Abgrenzung der Geisteswissenschaften von den Naturwissenschaften*, in: Volker Spierling (ed.), *Die Philosophie des 20. Jahrhundert. Ein Lesebuch*, München, Piper, 1997, pp.33-40; and: Johann Gustav Droysen, *Grundrisse der Historik*, in: Johann Gustav Droysen, *Historik*, Stuttgart-Bad Cannstatt, Frommann-Holzboog, 1977.
[8] Francesco Fistetti remarks the striking similarities between Neurath's stance and Nietzsche's position expressed in *The Gay Science*, *Human, All Too Human* and *Daybreak*. See: Francesco Fistetti, *Neurath contro Popper. Otto Neurath riscoperto*, Bari, Edizioni Dedalo, 1985, p.118.
[9] Ernst Mach, *Die Mechanik und ihre Entwickelung*, Leipzig, F.A. Brockhaus, 1883.
[10] Claudio Magris, *Grande Stile e Totalità*, in: AAVV, *Il ventesimo secolo*, Milano, Electa, 1993, pp.219-236.
[11] Ernst Mach, *Conoscenza ed errore*, Torino, Einaudi, 1992, pp.447-48. (Ernst Mach, *Erkenntnis und Irrtum. Skizzen Zur Psychologie Der Forschung*, Leipzig, J. A. Barth, 1905; first English translation: Ernst Mach, *Knowledge and error: sketches on the psychology of enquiry,* Wien, D. Reidel Pub. Co., 1976).
[12] "I shall therefore try to describe how I myself, as a logical empiricist, developed my attitude towards the sciences and their unity. Many of us, beside myself, have been brought up in a Machian tradition, e.g., Franck, Hahn, von Mises. Because of this, we tried to pass from chemistry to biology, from mechanics to sociology without altering the language applied to them. We, as many others all over the world, were also influenced by scientists such as Poincarè, Duhem, Abel Rey, William James, Bertrand Russell, and I, in particular, by Gregorius Itelson. I think that Poincarè and

propositions, that justified itself and self-explained itself, renouncing every external legitimation, be it an ideal and absolute truth[15], the correspondence to an objective reality or a group of epistemological rules.

Given this definition of science, obviously, every distinction between natural and social sciences became irrelevant and the *Methodenstreit* lost all its significance[16]. The same methodology could and should be used in biology, mechanics, chemistry and sociology. So Neurath in his scientific deed in 1946:

"As a sociologist I disliked all this talk about 'the national spirit', 'mentality of a ruler', etc. Why should we not speak here in the same simple way as in the laboratory? And, as an empiricist I asked myself how we might start from simple observation-statements, on which to base all further scientific discussions. So I developed my suggestions dealing with 'protocol statements' (cf. my ''Protokolsätze'', Erkentniss, 1932[17]), frequently discussed since then by various people. I disliked starting from a vague statement of 'something red' floating somewhere in the air and therefore I asked for a more exact formulation. Such a formulation always gives the name of the 'protocolist' first and then adds his sayings. 'Charles told us he had seen a red table in his room on March 4th' seemed to me a fair start, which enabled us to ask the question, 'When, where, and how?' which we are accustomed to ask when we make an astronomical or chemical statement. With one stroke, I thought, I could overcome a certain cleavage always felt when scientists want to pass from 'sensual elements' to descriptive statements on stars and stones. My suggestion seemed to have the

---

Duhem made me realize that wherever one hypothesis can be elaborated, it is possible to elaborate any number (cf. my "Prinzipielles zur Geschichte der Optik", Archiv für Geschichte der Naturwissenschaften, 1915).
Otto Neurath, *The Orchestration of the Sciences by the Encyclopedism of Logical Empiricism*, "Philosophy and Phenomenological Society", vol.6, n.4, p.497.

[13] Pierre Maurice Marie Duhem, *La théorie physique: son objet, et sa structure*, Paris, Chevalier & Riviere, 1906; first German edition: Pierre Maurice Marie Duhem, *Ziel und Struktur physikalischer Theorien*, Hamburg, Felix Meiner, 1978.

[14] On Itelson and his influence on Neurath see: Gideon Freudenthal e Tataiana Karachentsev, *G.Itelson A Socratic Philosopher*, in: John Symons, Olga Pombo, Juan Manuel Torres (eds.), *Otto Neurath and the Unity of Science*, Dordrecht, Springer, 2011, pp. 109-128.

[15] Neurath could not be more clear: "(…) we have no possibility of discussing the "truth" of anything, since there is no imagined arbitrator in the chair. Therefore I suggested that we drop the term "truth" with the whole of its large family. Everything will then be based on the comparison of statements with protocol-statements, leaving open the many ways in which such a comparison can be made. It is essential that all statements should be ''connectible", as von Mises happily puts it" (Otto Neurath, *The Orchestration of the Sciences by the Encyclopedism of Logical Empiricism*, "Philosophy and Phenomenological Society", vol.6, n.4, p.501). Neurath excluded the existence of an absolute truth. Truth was a concept that in time had assumed different metaphysical connotations and semantic significances. Popper himself testified that Neurath, at the Scientific Philosophy Congress held in Copenhagen in 1936, criticizing the theories of Tarski on truth, urged Arne Naess to start an empirical study on the same concept in the hope to confute Tarski. (Francesco Fistetti, *Neurath contro Popper. Otto Neurath riscoperto*, Bari, Edizioni Dedalo, 1985, p.132).

[16] On Neurath's stance in the *Methodenstreit* involving, at the beginning of the century, Weber, Menger and Meyer see: Nancy Cartwright, Jordi Cat, Lola Fleck, Thomas E. Uebel, *Otto Neurath: Philosophy Between Science and Politics*, Cambridge, Cambridge University Press, 2008, pp.213-224.

[17] Otto Neurath, *Protokollsätze*, "Erkenntnis", n.3, 1932, pp. 204-214. Neurath published this article as part of a controversy with Carnap (Rudolf Carnap, *Die physikalische Sprache als Universalsprache der Wissenschaft*, "Erkenntnis", n.2, 1932, pp.432-465) originating the famous debate on protocols (Rudolf Carnap, *Über Protokollsätze*, „Erkenntnis", n. 3, 1932, pp.215-228). While Carnap supported an empiricist position, Neurath, as clearly shown by the quoted passage considered even protocols to be subject to revision.

advantage that the 'when, where, and how' attitude could be maintained from the bottom to the top. This I call the 'physicalist' approach"[18].

This simple statement contains the extraordinary modernity of Neurath's epistemology, refuting idealism and metaphysics, but also the kind of empiricism typical of the Vienna Circle[19]. Only several decades later would epistemologists elaborate what Neurath already affirmed in the first decades of the twentieth century[20]: science was only one of the methods evolved in history to construe the *Weltanschaaungen* through which societies explained themselves and justified their decisions[21], rationality only a belated child of humanity[22]. Before science, man had conceived magic and then religion to absolve this function[23]. Neurath's science is, so, what Weber called an historically determined rationality, the relation between ideas, the ends of human action, and the means to realize them, decisions. While Weber, though, saw in the process of rationalization an armor constraining man's freedom[24], Neurath[25] interpreted technology and the scientific method as a means through which man could finally make his utopias come true and so exercise his will on the world. How? Thanks to an enlightening encyclopedic effort to diffuse scientific knowledge, so conceived that the greatest possible number of people could democratically decide which institutional setting would be the best to transform the desired utopia into reality. In his words: "(…) we logical empiricists want to show people that what physicists and astronomers do is only on a grand scale what Charles and Jane are doing every day in the garden and the kitchen" [26]. Scientists weren't so in any way different from the common man. They only elaborated a greater quantity of data regarding the past[27].

[18] Otto Neurath, *The Orchestration of the Sciences by the Encyclopedism of Logical Empiricism*, "Philosophy and Phenomenological Society", vol.6, n.4, p.499.
[19] With reason Francesco Fistetti defines Neurath as the "Nietzsche of the Vienna Circle" (Francesco Fistetti, *Neurath contro Popper. Otto Neurath riscoperto*, Bari, Edizioni Dedalo, 1985, p.127).
[20] Rudolf Haller affirms: "Without Neurath and the Wittgenstein of the 1930s, no neo-historical theory of science *à la* Hanson, Feyerabend e Kuhn could have been conceived" (Rudolf Haller, *Prefazione*, in: Francesco Fistetti, *Neurath contro Popper. Otto Neurath riscoperto*, Bari, Edizioni Dedalo, 1985, p.11).
[21] Otto Neurath, *Die Verirrten des Cartesius und das Auxiliarmotiv. (Zur Psychologie des Entschlusses), Vortrag gehalten am 27 Januar 1913 von Otto Neurath Wien*, Jahrbuch der Philosophischen Gesellschaft zu Wien, Leipzig, Johann Ambrosius Barth, 1913, pp.43-60.
[22] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 440.
[23] Otto Neurath, *Magie und Technik*, "Erkenntnis", n. 2, 1931, pp. 529-31; Otto Neurath, *Empirische Soziologie*, Vienna, Julius Springer, 1931, pp.5-17.
[24] Se. Among others,: Max Weber, *Lecture to the Verein fur Sozialpolitik in 1909*, published in: J.P. Mayer, *Max Weber and German Politics*, London, Faber & Faber Ltd, 1944, Appendix I, pp. 125-131; and Max Weber, *Protestantesimo e spirito del capitalismo*, Torino, Edizioni di Comunità, 2002, p.185.
[25] On Neurath's criticism to weberian sociology see: Otto Neurath, *Empirische Soziologie*, Vienna, Julius Springer, 1931, p.57.
[26] Otto Neurath, *The Orchestration of the Sciences by the Encyclopedism of Logical Empiricism*, "Philosophy and Phenomenological Society", vol.6, n.4, p.506.
[27] Otto Neurath, *Fondazione delle scienze sociali*, in: Id., *Sociologia e Neopositivismo*, Roma, Ubaldini, 1968, p.106.

In this sense, scientists shouldn't and couldn't take the place of the magicians and priests of the past. The platonic ideal could not become reality[28]: "People of the totalitarian kind may try to make scientists the leaders of a new society, like the magicians, nobles, or churchmen of former societies. The encyclopedism of logical empiricism does not see why scientists, trained to discover as many alternatives as possible, should be particularly able to select one alternative only (one that never can be based on calculation) by making a decision or performing an action for other people with different desires and attitudes"[29].

Contrary to the rationality of Weber's capitalism, Neurath's scientific method could not be a guide outside of Cartesio's forest[30]: "(…) in the end we have to reach a 'decision' not based on a calculus. One cannot test the future usefulness of a scientific technique beforehand; unpredictability here plays its part."[31]. Here lied the substantial difference between Weber and Neurath[32]. Where Weber's rationality ventured to become determining, Neurath's science could only propose possible alternative scenarios to the free decision of man.

If modern science could not definitively solve the problem of decision, what distinguished it, then, from magic, religion or totalitarian ideologies? They all represented solutions to the anguish of doubt, of having to decide in conditions of uncertainty, without the data necessary to act rationally[33]. Neurath, though, considered science to have one major advantage over the other alternatives: it hindered a governing minority from appropriating the decision capacity of individuals as in the case of magical faith, metaphysical ideologies, superstitions or totalitarian institutions. "The spreading of muddle – affirmed Neurath - does not seem to be as simple as the spreading of a successful technique. The frivolity of the race theory developed by the Nazis in many books, on character, physiognomics and heredity, did not even infect the mathematics, astronomy, chemistry, and physics of the Nazis very much"[34]. So "it is possible to sociologically analyze all ideologies one after another, those with a scientific character and those with an

[28] On the harsh criticism expressed by Neurath toward the use made of Plato's republic on part of supporters of nazism, see: Antonia Soulez, *Does Understanding mean Forgiveness? Otto Neurath and Plato's "Republic" 1944-45*, in: Elisabeth Nemeth e Richard Heinrich (a cura di), *Otto Neurath: Rationalität, Planung, Vielfalt*, Wien, Oldenbourg Verlag, 1999, pp.167-83.
[29] Otto Neurath, *The Orchestration of the Sciences by the Encyclopedism of Logical Empiricism*, "Philosophy and Phenomenological Society", vol.6, n.4, p.505.
[30] Otto Neurath, *Die Verirrten des Cartesius und das Auxiliarmotiv. (Zur Psychologie des Entschlusses), Vortrag gehalten am 27 Januar 1913 von Otto Neurath Wien*, Jahrbuch der Philosophischen Gesellschaft zu Wien, Leipzig, Johann Ambrosius Barth, 1913, pp.43-60.
[31] Otto Neurath, *The Orchestration of the Sciences by the Encyclopedism of Logical Empiricism*, "Philosophy and Phenomenological Society", vol.6, n.4, pp. 501-02.
[32] „Nothing is more alien to Neurath than the reduction of science to pure technique or the rationality towards an end of Weber" (Francesco Fistetti, *Neurath contro Popper. Otto Neurath riscoperto*, Bari, Edizioni Dedalo, 1985, p.127).
[33] This view is also to be found in Ernst Mach. See: Ernst Mach, *Conoscenza ed errore*, Torino, Einaudi, 1992, pp.448-49.
[34] Otto Neurath, *The Orchestration of the Sciences by the Encyclopedism of Logical Empiricism*, "Philosophy and Phenomenological Society", vol.6, n.4, p.508.

unscientific one" but in the end "the unscientific ideologies can be overcome only through a scientific attitude"[35].

In this light Neurath could positively judge the specialization that, from Renaissance onward had characterized science, making it impossible for one man to comprehend the totality of knowledge[36]. Scientists had been constrained to confront themselves continuously with one another, to decide which new protocol or new theory to include, being compatible, in the collective vision of the world, and which ones reject, in an unceasing process of redefinition and reconstruction of the *Weltanschauung* or *Weltauffassung*[37].

Neurath inherited this analysis of scientific activity from his father, the economist Wilhelm Neurath[38]. He remembered: "My father, an economists, used to ask: 'What would happen if someone were to force scientists to follow up consistently all the declarations they make. Fortunately', he would add, 'they compare their deductions again and again with their experiential material.' So it is; our scientific practice is based on local systematizations only, not on overstraining the bow of deduction. (…) I thought it in accord with the historically given situation to acknowledge these 'localized' contradictions, and to think of an 'encyclopedia as a model' (cf. my ''L'Encyclopédie comme 'modèle' '', Octobre, 1936, *Revue de Synthese*[39]) as intentionally opposed to the 'system as a model'. Let me call this approach 'encyclopedism'."[40]

Encyclopedism implied cooperation, one of the peculiar characters of modern man, and thusly guaranteed personal freedom much more than any other decision making systems of the past. "Without pursuing utopian ideals, men capable of judging themselves and their institutions scientifically should also be capable of widening the sphere of peaceful cooperation; for the historical record shows clearly enough that

[35] Otto Neurath, *Bürgerlicher Marxismus*, in: Rudolf Haller e Heiner Rutte (eds.), Otto Neurath, *Gesammelte philosophische und metodologische Schriften*, vol. I, Wien, Hölder-Pichler, Tempsky, 1981, p.350.
[36] Otto Neurath, *Antike Wirtschaftsgeschichte*, zweite umgearbeitete Auflage, Leipzig und Berlin, Teubner, 1918, p.3.
[37] The stance of Neurath in the debate on protocols has been the object or recent reappraisal with contrasting results. See: Thomas E. Uebel, *Neurath's Protocol Statements: A Naturalistic Theory of Data and Pragmatic Theory of Theory Acceptance*, "Philosophy of Science", 60, 4, 1993, pp.587-607; Nikola Nottelmann, *Otto Neurath on the structure of protocol sentences; a new approach to an interpretative puzzle*, "Journal for General Philosophy of Science", 37, 1, 2006, 165-186; Thomas Uebel, *Interpreting Neurath's Protocols. Reply to Nottelmann*, "Journal for General Philosophy of Science", 38, 2, 2007, pp.383-391; Thomas Uebel, *Neurath's Protocol Statements Revisited: Sketch of a Theory of Scientific Testimony*, "Studies in History and Philosophy of Science", 40, 1, 2009, pp.4-13.
[38] On the influence of Wilhelm Neurath on the ideas of his son, see: Thomas E. Uebel, *Otto Neurath's Idealist Inheritance: "The Social and Economic Thought of Wilhelm Neurath"*, „Synthese", 103, 1, 1995, pp. 87-121.
[39] Otto Neurath, *L'Encyclopédie comme modèle*, «Revue de Synthèse» XII, 2, 1936, pp.187–201.
[40] Otto Neurath, *The Orchestration of the Sciences by the Encyclopedism of Logical Empiricism*, "Philosophy and Phenomenological Society", vol.6, n.4, p.498.

the trend has been in that direction on the whole and that the more co-operative man is, the more 'modern' he is" [41].

Economics was the first science Neurath dedicated his efforts to and his earliest writings, comprised between his doctoral thesis in 1906 and his seminal essay on *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*[42] in 1917, already reflected all the principles exposed. Starting with its content and definitions, Neurath construed an economic science based on empirical data, widely collected in in-kind statistics, with the aim of studying the widest possible assortment of organizational structures and classifying them as to their economy, i.e. their capability to increment the wealth of mankind.

He wrote: "Scientific progress in economics is achieved when systems of empirical observations build abstractions and from these abstractions, then, new combinations are derived, the reality or feasibility of which is object of study. (…) In our research, so, only the elements and the relations among elements are strictly empirical, the complex organizations that can be derived from them, instead, are only partially to be met in reality" [43] .

The scope of Neurath's economics was so to present politicians with the array of alternative organizations resulting from this research activity[44], arranged on the scale of prospective happiness of men. The decision as to which organization transform into reality, in fact, could not be taken by economics alone. In the modern world the economist could not be a politician anymore. While Colbert and Turgot had been among the best economists of their time, Bismarck stood in no comparison to Marx. Times had changed: "those who rule the destiny of states do not possess an extensive knowledge, those who possess extensive knowledge do not govern states"[45].

The economist, then, had simply to be a sociological technician with a profound knowledge of the past, in order to be able to extract from ancient times possible organizational models[46], and a vivid imagination, necessary to build fictional utopias. Past, present and future should so all be object of study to modern economics, a science that, after the wreckage of classical thought and liberalism, needed a new definition, a new vocabulary and defining statute.

---

[41] Otto Neurath, *Modern Man in the Making*, London, Secker und Warburg, 1939, p.132.
[42] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 484-520.
[43] Otto Neurath, *Nationalökonomie und Wertlehre, eine systematische Untersuchung*, „Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung", Vol.20, 1911, p.82.
[44] Otto Neurath, *Empirische Soziologie*, Vienna, Julius Springer, 1931, p.17.
[45] Otto Neurath, *Die Verirrten des Cartesius und das Auxiliarmotiv. (Zur Psychologie des Entschlusses), Vortrag gehalten am 27 Januar 1913 von Otto Neurath Wien*, Jahrbuch der Philosophischen Gesellschaft zu Wien, Leipzig, Johann Ambrosius Barth, 1913, p. 56.
[46] On Neurath's theory of historiography and his earliest writings in economic history, see: Monika Poettinger, *Mercante e società: riflessioni di storia comparata*, Casagrande Editore, Lugano, 2012, pp.12-30.

OTTO NEURATH, A SEAFARER ON THE SHIP OF ECONOMICS

*"We have forsaken the land and gone to sea! We have destroyed the bridge behind us – more so, we have demolished the land behind us! Now little ship, look out! Beside you is the ocean; it is true, it does not always roar, and at times it lies there like silk and gold and dreams of goodness. But there will be hours that you realize that it is infinite and that there is nothing more awesome than infinity. Oh, the poor bird that has felt free and now strikes against the walls of its cage! Woe when homesickness of the land overcomes you, as if there had been more **freedom** there – and there is no more 'land'!"(Friedrich Nietzsche)*[47]

As seen, Neurath's economics was strictly related to his innovative epistemology. Historiography accusing him of having unattended his own epistemological principles in his economic theory, due to his ideological sympathies, utopist visions and sociological naïveté[48], is easily contradicted. The process of reconstruction of the economic science, undertaken by Neurath in the first decades of the twentieth century, bears ample proof of how Neurath derived his philosophy of science from this experience in economics.

One first example concerns his metaphor of the ship.

Neurath's style, simple and rich in metaphors, in the wake of Itelson, has gifted us with suggestive images of scientific activity, diffused and replicated during the whole twentieth century when his author had been mostly ignored. The one of the ship[49], loved by Quine[50] is the most famous. "We are like seamen – Neurath wrote in 1921 – having to rebuild their ship at sea, without the opportunity to do it completely. When a beam is taken off, it must immediately be substituted, while the whole ship acts as a supporting structure. The ship will so be completely renovated, through old and drifting wood, but only in a gradual process"[51]. Again in 1944: "Imagine seafarers that in open sea want to change the form of their heavy vessel, transforming its plumpness into a fish's slenderness. To rebuild the ship's supporting structure and the careen, they use timber from the old structure and drifting wood. But they cannot make port to do the

[47] Bernard Williams (ed.), Friedrich Nietzsche, The gay Science, Cambridge, Cambridge University Press, p.119. 1887.*La gaia Scienza*, Pordenone, Editori Riuniti, 1985, p.158.
[48] Jan Sebestik, *Vorwort. Der Wiener Kreis und die Geschichte-Erkenntnistheorie und Wissenschaftstheorie im Werk Otto Neuraths*, in: Elisabeth Nemeth e Richard Heinrich (a cura di), *Otto Neurath: Rationalität, Planung, Vielfalt*, Wien, Oldenbourg Verlag, 1999, p.11.
[49] L'origine della metafora della nave e le sue cinque declinazioni nell'opera neurathiana sono felicemente raccontate in: Nancy Cartwright, Jordi Cat, Lola Fleck, Thomas E. Uebel, *Otto Neurath: Philosophy Between Science and Politics*, Cambridge, Cambridge University Press, 2008, pp.89-95.
[50] Sull'uso estensivo e quasi ubiquo che Quine farà di questa metafora, si veda: Eduardo Rabossi, *Some Notes On Neurath's Ship And Quine's Sailors*, "Principia", n. 7 (1–2), 2003, pp. 171–184.
[51] „Wie Schiffer sind wir, die auf offenem Meer ihr Schiff umbauen müssen, ohne je von unten auf frisch anfangen zu können. Wo ein Balken weggenommen wird, muss gleich ein neuer an die Stelle kommen, und dabei wird das übrige Schiff als Stützte verwendet. So kann das Schiff mit Hilfe der alten Balken und angetriebenen Holzstücke vollständig neu gestaltet werden - aber nur durch allmählichen Umbau". Otto Neurath, *Anti-Spengler*, in: Rudolf Haller, Heiner Rutte (a cura di), *Gesammelte philosophische und methodologische Schriften*, Vol. 1, Hölder-Pichler-Tempsky, Vienna, 1981, p.184. Una versione italiana: F. Fistetti (a cura di), Otto Neurath, *Anti-Spengler*, Palomar, 1993.

renovating work from base up. While they work, they remain in the old structure, amidst terrible storms and deafening waves. During the restructuring they so have to pay attention not to create some dangerous leak. Step after step a new ship emerges from the old one, but while they work, seafarers already think of a new structure, not always being of one opinion about it. It will be impossible to foresee the exit of such a process. This is our destiny"[52].

As suggestive is Neurtah's metaphor of craftsmen: "Imagine craftsmen who are building a settlement, with a chest of drawers full of instruments, only part of which are well arranged and the usage of which is only partly known by them; imagine that, from behind, new instruments are continually put in the drawers, that some instruments are modified by unknown people, and that the craftsmen learn to use some of the old instruments in a way hitherto unknown, and now imagine further that the plans of our craftsmen dealing with the building of the settlement are changing too. This resembles to some extent the situation of our scientists." [53]

Neurath's images bear a strong message: no science would ever be complete, no science could be rebuilt from scratch. A statement firstly made, with rhetorical vehemence, discussing war economics and its role in a new defined economic science. As early as 1913, so, the first appearance of the ship's metaphor in Neurath's writings is in an economic essay: *Probleme der Kriegswirtschaftslehre*[54]. In it, Neurath attacked the pretense of scientists to produce perfect and complete systems of thought with no defects or anomalies, allowing no changes or amelioration. Such 'systematists' were "born liars" because a perfect system, in economics as in science, could only remain an eternal aim, never to be attained[55]. Trying to build such a deceitful system was neither the way of science nor of philosophy: "In logic, or physics, biology or philosophy we cannot put some undisputable statements on top and then logically derive from them an entire chain of thought. Inadequacies always contaminate the entirety of this ideal world, starting from the

[52] „Stellen wir uns Seefahrer vor, die auf hoher See die Form ihres schwerfälligen Schiffes von einer mehr runden zu einer mehr fischähnlichen verändern wollen. Neben dem Holz des alten Baus verwenden sie Treibholz, um Skelett und Rumpf ihres Schiffes neu zu gestalten. Aber sie können das Schiff nicht ins Dock bringen, um ganz von vorne zu beginnen. Während sie arbeiten, bleiben sie auf dem alten Bau und trotzen wilden Stürmen und donnernden Wogen. Beim Umbau des Schiffes tragen sie Sorge dass kein gefährliches Leck auftritt. Ein neues Schiff erwächst aus dem alten, Schritt für Schritt -, und während sie noch bauen, mögen die Seefahrer bereits an den neuen Bau denken, und sie werden nicht immer einer Meinung sein. Die ganze Sache wird in einer Weise vorangehen, die wir heutzutage nicht einmal erahnen können. Das ist unser Schicksal". Otto Neurath, *Grundlagen der Sozialwissenschaften*, in: Rudolf Haller, Heiner Rutte (a cura di), *Gesammelte philosophische und methodologische Schriften*, Vol. 2, Vienna, Hölder-Pichler-Tempsky, 1981, p.978.

[53] Otto Neurath, *Universal Jargon and Terminology*, in: Robert S. Cohen e Marie Neurath (eds.), *Otto Neurath Philosophical Papers 1913-1946*, Dordrecht, Springer, 1983, p.217.

[54] „Wir sind wie Seefahrer, die auf offenem Meere sich genötigt sehen, mit Balken, die sie mitführen, oder die herantreiben, ihr Schiff völlig umzugestalten, indem sie Balken für Balken ersetzen und die Form des Ganzen ändern. Da sie nicht landen können, wird es ihnen nie möglich sein, das schiff ganz zu beseitigen, um es neu zu bauen. Das neue schiff geht durch ununterbrochene Umgestaltung aus dem alten hervor". Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 457.

[55] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 456.

premises as from later consequences. No precaution can prevent this outcome, nor renouncing all previous knowledge, starting from a *tabula rasa,* to achieve a better result" [56]. A clear accusation toward the systematic turn taken by economics in Vienna.

Neurath's later images were so a consequence of what he himself had experienced in his early redefinition of the economic science, as shown in his writings from 1911[57] to 1917[58]. In 1917 he summarized: "The reconstruction of the economic science attempted here wishes to maintain as much as possible of the past tradition. Something could be retained only changing its form or being completed, something had to be abandoned. As a result some explanations, regarding different strata of the underlying problem, were put in competition with one another. Some erroneous statements did not have to be refuted completely, but found a useful application in more restricted areas. To proceed in the right direction in this process of reconstruction it was also necessary to resort to past arguments" [59].

The intent of Neurath is clear enough: to build a new supporting structure for the economic science, a *Neubau*, but at the same time employ, to this end, concepts and logical constructions already used - the timber of the old ship, the drawers full of instruments of craftsmen - and also the past knowledge that the metaphors so vividly depict as timber floating on the sea or as new construction instruments.

The role of history in this process is well defined. It is not possible to make port with the ship of science, nor build a new edifice just with new instruments. Parts of old theories have to be maintained, modified or completed, perhaps with a validity in different or more limited fields. Of the new components, then, some correspond to the innovative use of something already known and perhaps once rejected. This the rationale that guided Neurath in his newly foundation of economics.

When, though, did Neurath's adventure on board of the ship of economics begin? Undoubtedly at an early age, probably in his father's library[60]. There he could read many works of economics and science, but also hold lengthy discussions with Wilhelm Neurath himself[61]. In these occasions Otto certainly absorbed,

---

[56] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 456.
[57] Otto Neurath, *Nationalökonomie und Wertlehre, eine systematische Untersuchung*, „Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung", Vol.20, 1911, pp.52-114.
[58] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 484-520.
[59] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, p. 485.
[60] See: Nancy Cartwright, Jordi Cat, Lola Fleck, Thomas E. Uebel, *Otto Neurath: Philosophy Between Science and Politics*, Cambridge, Cambridge University Press, 2008, pp.8-10.
[61] Only some obituaries give clues on the life and works of Wilhelm Neurath. See: Hermann R. von Schullen zu Schrattenhofen, *Wilhelm Neurath*, „Jahrbücher für Nationalökonomie", 79, 1902, pp.166-169; August Oncken, *Neurath als volkswirtschaftlicher Theoretiker*, „Schweizerische Blatter für Wirtschafts- und Sozialpolitik", 11, 1903, pp.617-27. Curiously, works of Wilhelm Neurath were reviewed by the Italian *Rivista Internazionale di Scienze Sociali e Discipline Ausiliarie*. See: Victor Böhmert, *Der Arbeiterfreund. Anno XL, Der österreichische Volkswirt Wilhelm Neurath*

among many other things, the fatherly displeasure with the current economic system, and particularly the credit system, cause of economic crises[62].

Seen through the eyes of his father, the ship of economics leaked in many places and was in badly need of reparations. A judgment widely diffused in Vienna in the first decade of the twentieth century. "The classical system of political economy lays in ruins" [63] wrote Joseph A. Schumpeter in his own dissertation in 1908, condemning the chaos resulting from the coexistence of manifold paradigms. The "bankruptcy of the science"[64] seemed a menacing reality particularly to young scholars of the discipline. Neurath himself, in a youthful essay in 1903, wrote: "The 20th century takes over longstanding problems. A number of in part very painful experiences lie behind us. Economic atomism has fallen out of favor. What is to take its place is not at all clear. (…) That the foundations of the current economic system are faulty is becoming increasingly clear. Everywhere contradictions emerge which are not only of academic import but effect the welfare and suffering of millions."[65].

Economics, in Vienna as in Berlin, was shaken by a wild storm of change. Innumerable debates opposed in infinite discussions the best minds of the time. A creative destruction that had had its beginning in the *Methodenstreit*[66] but in time came to involve all fundaments of the youngest of sciences. Neurath's *Problemstellung* derived from this intellectual turmoil and his manifold attempts toward the unity of sciences and holism[67] were a clear response to such fruitless divisions[68]. "Speculation – he would later write – is of interest only in shaping life and procuring happiness"[69].

---

und seine neue Lehre über die Lösung socialer Probleme. (L'economista austriaco Guglielmo Neurath e la sua nuova dottrina intorno alla soluzione dei problemi sociali), "Rivista Internazionale di Scienze Sociali e Discipline Ausiliarie", Vol. 29, Fasc. 114, 1902, pp. 267-269; *Gemeinverständliche Nationalökonomische Vorträge. Geschichtliche und letzte eigene Forschungen by Wilhelm Neurath, "*Rivista Internazionale di Scienze Sociali e Discipline Ausiliarie", Vol. 30, Fasc. 120, 1902, pp. 647-648.

[62] See, for example,: Wilhelm Neurath, *Die Wirthschaftskrisen und das Cartellwesen*, Wien-Leipzig, Gloeckner, 1897.

[63] Joseph A. Schumpeter, *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie*, Leipzig, Duncker & Humblot, 1908, p.XI.

[64] Joseph A. Schumpeter, *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie*, Leipzig, Duncker & Humblot, 1908, p.V.

[65] Quoted in: Thomas E. Uebel, *Introduction: Neurath's Economics in Critical Context*, in Thomas Ernst Uebel e Robert Sonné Cohen (eds.), *Otto Neurath Economic Writings: Selections, 1904-1945*, Dordrecht, Springer, 2004, p.16.

[66] For a recent appraisal of the question, see: Roman Köster, *Die Wissenschaft der Außenseiter: Die Krise der Nationalökonomie in der Weimarer Republik*, Göttingen, Vandenhoeck & Ruprecht, 2011.

[67] On Neurath's definition of holism, in derivation from Quine, see: Jan Sebestik, *Otto Neurath's Epistemology and Its Paradoxes*, in: Olga Pombo, John Symons, Juan Manuel Torres (eds.), *Otto Neurath and the Unity of Science*, Dordrecht, Springer, 2011, pp. 41-57.

[68] On the influence that participating in the debate had on Neurath's later idea of the unity of science, see: Nancy Cartwright, Jordi Cat, Lola Fleck, Thomas E. Uebel, *Otto Neurath: Philosophy Between Science and Politics*, Cambridge, Cambridge University Press, 2008, p.167. A critical appraisal of the *Methodenstreit*, instead, is to be found in: D. Wade Hands, *Reflection Without Rules: Economic Methodology and Contemporary Science Theory*, Cambridge, Cambridge University Press, 2001, pp. 72-94.

[69] Otto Neurath, *Lebensgestaltung und Klassenkampf*, Berlin, Laub, 1928, p.134.

In search of a way to prevent a shipwrecking, Neurath firstly considered all timber of the existing ship that could be reused, and all pieces that, floating on the sea, could be retrieved and adapted to new use. He so eagerly begun studying economic history and history of economic thought. Following the advice of Ferdinand Tönnies, after publishing a short essay on interest in antiquity in 1904[70], he left Vienna for Berlin, where he completed his studies under the supervision of the renown economic historian Eduard Meyer[71]. Neurath himself recalled, in a letter to his son, how his rare competences, comprising economics as classical culture, would have found highest appraisal among the followers of the German historical schools, motivating his transfer[72]. In Berlin Neurath attended the economics seminar of Gustav Schmoller and studied statistics with Ladislaus Bortkiewicz, becoming involved in the *Methodenstreit* and in the debate on Marx's theory of value[73].

Out of his time in Berlin resulted two dissertations: a study on economics in antiquity[74] and a history of social classes based on Cicero's *De Officiis*[75]. This last one was selected by Meyer to grant Neurath the title of Doctor. The thesis also received the honor of publication in its first part[76], and was subsequently published in its entirety in Schmoller's *Jahrbücher für Nationalökonomie und Statistik* in 1906 and 1907[77].

Neurath's thesis, although being a juvenile work, already showed his attitude towards history and economics. *Zur Anschauung der Antike über Handel, Gewerbe und Landwirtschaft* was dedicated to a sketched representation of the historical evolution of social classes based on different evaluations of Cicero's work from antiquity to the eighteenth century. Through a complex study of all translations made of *De Officiis* and their reception and diffusion, Neurath exemplified the stance towards diverse professions and crafts and the cultural use of historical past made at different times in different countries. As he would

[70] Otto Neurath, *Geldzins im Altertum*, „Plutus", 1, 1904, pp. 569-573.
[71] On Eduard Meyer and his work, see: Alexander Demandt (ed.), *Eduard Meyer. Leben und Leistung eines Universalhistorikers*, Leiden, Kobenhanven, New York, Brill, 1990; Francesco Bertolini, *Eduard Meyer: uno storico universale*, "Quaderni di Storia", 34, 1991, 1, pp.165-182.
[72] The letter is quoted by Neurath's son in: Paul Neurath, *Otto Neurath und die Soziologie*, in: Richard Haller (ed.), *Schlick und Neurath. Ein Simposion*. „Grazer Philosophische Studien", 16/7, 1982, p.230.
[73] On this debate see: Heinz Dieter Kurz and Neri Salvadori, *Theory of Production: A Long-Period Analysis*, Cambridge, Cambridge University Press, 1997, pp.384-385.
[74] This dissertation would later be published as: Otto Neurath, *Die Entwicklung der antiken Wirtschaftsgeschichte*, „Jahrbücher für Nationalökonomie und Statistik", 1908; Otto Neurath, *Antike Wirtschaftsgeschichte*, Teubner, Leipzig, 1909.
[75] For a recent commented edition, see: Michael Winterbottom (ed.), Marcus Tullius Cicero, *De officiis*, Oxford/New York: Typogr. Clarendoniano, 1994.
[76] Otto Neurath, *Zur Anschauung der Antike über Handel, Gewerbe und Landwirtschaft. Inaugural-Dissertation zur Erlangung der Doktorwurde genehmigt von der Philosophischen Fakultät der Friedrich-Wilhelms-Universität zu Berlin*, Jena, Gustav Fischer, 1906.
[77] Otto Neurath, *Zur Anschauung der Antike über Handel, Gewerbe und Landwirtschaft*, „Jahrbücher für Nationalökonomie und Statistik", III, XXXII, 1906, pp. 577-606; Otto Neurath, *Zur Anschauung der Antike über Handel, Gewerbe und Landwirtschaft*, „Jahrbücher für Nationalökonomie und Statistik", III, XXXIV, 1907, pp. 145-205.

later vindicate, sometimes the analysis of literary texts could explain much more about the social and economic situation of a time than many useless statistics, based on erroneous or partial theories.

After obtaining his doctoral title, Otto Neurath returned to Vienna where he participated, between 1905 and 1906, to the renown economics seminar held by Eugen von Böhm-Bawerk. The seminar is justly famous given the participation, next to Neurath, of Otto Bauer, Rudolf Hilferding, Emil Lederer, Joseph Schumpeter and Ludwig von Mises[78]. The seminar was dedicated to the theory of value and the criticism of Marx, but the liberal direction of Böhm-Bawerk granted participants the freedom to express their ideas and theories, so that often harsh and heated debates erupted. Von Mises, in his memoirs, recalled Neurath intent on defending with fanaticism theses devoid, in his view, of any sense[79]. How Neurath's intended reconstruction plan for economics was unheard of and innovative can easily be deduced from such vehement judgment.

Given that no further details have been preserved on Neurath's participation to Vienna's seminar, how much of his renovating scheme derived from forgotten theories floating adrift in the sea of science, how much from existing concepts and statements, and how much from the empirical observation of reality, must be deduced from his later writings on economics, up to 1917.

In 1911 Otto Neurath published on the *Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung* an article on *Nationalökonomie und Wertlehre, eine systematische Untersuchung*, his answer to the lively debate on the theory of value he had witnessed at Böhm-Bawerk's seminar[80]. Von Mises' disconcert is understandable, reading a text in which the problem is confronted never issuing once the term 'capital', while chastising the excessive use of price theory in economics and the widespread belief in the market economy as the most efficient economic structure. Outside Neurath's vision of science and scientific endeavor, his renovation plan could not be easily understood by his fellow seamen. In fact the essay represents a perfect exercise of Neurath's methodology, comprising an holistic effort to include the greatest possible number of past and present theories while at the same time deepening the hermeneutical value of concepts.

The first step in this direction consisted, so, in seeking a definition of the economic science that rendered the debate on the theory of value futile and obsolete, a definition that at the same time could salvage and

[78] On this seminar see: Harald Hagemann, *Capitalist Development, Innovations, Business Cycles and Unemployment, Joseph Alois Schumpeter and Emil Hans Lederer*, GREDEG CNRS, 22 November 2012, pp.3-5.
[79] "Especially disruptive was the nonsense that Otto Neurath asserted with fanatical force". Ludwig von Mises, *Memoirs*, Ludwig von Mises Institute, 2009, p.32. On this also: Heinz D. Kurz, *Marginalism, Classicism and Socialism in German speaking Countries 1871-1932*, in: Ian Steedman (ed.), *Socialism and Marginalism in Economics 1870-1930*, London, Routledge, 1995, p.13.
[80] Otto Neurath, *Nationalökonomie und Wertlehre, eine systematische Untersuchung*, „Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung", Vol.20, 1911, pp.52-114.

include both equilibrium theory and Marxian economics. As the main girder sustaining the careen of the rebuilt ship, Neurath chose wealth, retrieving a piece of wood that had been drifting in the sea of science for a long time. He so affirmed: "We meet an old tradition selecting wealth as the object of political economy"[81]. Such tradition, born out of Aristotle's Nicomachean Ethics, considered economics as the science that aimed at maximizing social wealth and had been relevant up to Adam Smith, falling in discredit only with the rise of liberalism. Its historical development could accurately be followed through the reader of economic texts, compiled in 1910 by Otto Neurath and his wife Anne Schapire for his courses at the *Neuer Wiener Handelsakademie*[82].

A definition of wealth exactly as his own, though, Neurath found only in Isaak Iselin[83], the works of whom he undoubtedly had encountered while attending the seminar of political economy at the University of Bern. Iselin had been a Swiss illuminist who, in 1784, affirmed that the highest law in economics should be to: "do everything possible so that the greatest quantity of earth's and culture's products should be made available to the enjoyment of the greatest possible number of men, while avoiding everything that could cause a diminution of the quantity of goods or enjoyments"[84].

In his holistic intent of comprising as many theories and concepts as possible, determined not to create perilous leakages by throwing away precious timbers, Neurath indeed intended to unite Smith's wealth of nations (*Volkswohlstand* –welfare of people - as translated in German in Neurath's antology[85]) with an individual fundament of the same. In doing so, he again retrieved a piece of drifting wood, adapting it to a new use. He defined the individual basis of wealth as *Lebenstimmung* (life mood[86]), a balance of pleasure and pain of Epicurean origin[87]. Such *Lebenstimmung* was directly linked with all kind of human experiences, "eating, drinking, reading, perceptions of art, religious sights, moral reflections, love, hate, brave and

[81] Otto Neurath, *Nationalökonomie und Wertlehre, eine systematische Untersuchung*, „Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung", Vol.20, 1911, p.53.
[82] Otto Neurath and Anna Schapire-Neurath, *Lesebuch der Volkswirtschaftslehre*, Dr. Werner Klinkhardt, Leipzig, 1910, 2 vols.
[83] Isaak Iselin, *Filosofische und Patriotische Träume Eines Menschenfreundes*, BiblioBazaar, 2011. Sulla figura di questo importante illuminista svizzero, si veda: Sigrid-Ursula Follmann, *Gesellschaftsbild, Bildung und Geschlechterordnung bei Isaak Iselin in der Spätaufklärung*, Münster, LIT Verlag, 2001.
[84] Otto Neurath, *Nationalökonomie und Wertlehre, eine systematische Untersuchung*, „Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung", Vol.20, 1911, p.82, p.84.
[85] Otto Neurath and Anna Schapire-Neurath, *Lesebuch der Volkswirtschaftslehre*, Dr. Werner Klinkhardt, Leipzig, 1910, vol. I, pp. 125-167.
[86] This the English translation of *Lebenstimmung* to be found in: Nancy Cartwright, Jordi Cat, Lola Fleck, Thomas E. Uebel, *Otto Neurath: Philosophy Between Science and Politics*, Cambridge, Cambridge University Press, 2008, p.30.
[87] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 485. On the relation of economics with Epicurean philosophy, see: Otto Neurath, *Marx und Epikur*, „Der Freidenker", anno 32, n.12, 1928.

cowardly behavior" [88]. Substituting *Lebenstimmung* to utility, Neurath denied that wealth had a particular role in the construction of the world or that men acted only in consideration of utilitarian motives, rationally pursuing their happiness and pleasure[89]. Neurath's man operated not only according to rationality, but also following primary driving forces and traditional behavior. "If someone doesn't want to act overvaluing his own wisdom or the wisdom of others – wrote Neurath in 1913 – he will be obliged, in many cases, to resort to tradition or to his own impulses to decide his course of action, without being able to correctly evaluate the consequences of it, if not even feeling constrained to appeal to fate" [90].

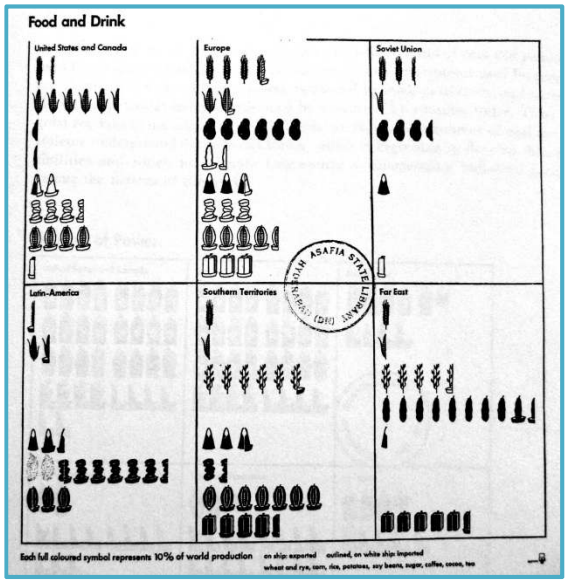
Neurath's felicitology[91] did not presume a *homo felix*, simplistic reduction of the modern man as was *homo oeconomicus*[92] and so was not limited to that "little island on the sea of unknown"[93] that represented the world of rationality. Neurath saved to men the possibility to mistake. He ventured to say: "Rightly many empiricist economists reproach theorists for almost always eliminating mistakes and errors from their conceptions. This is even more preoccupying considering that in the thought of many economists it is exactly the error, the incapacity to evaluate the consequences of single actions, that characterizes our social order and particularly the market, causing their most typical damages"[94].

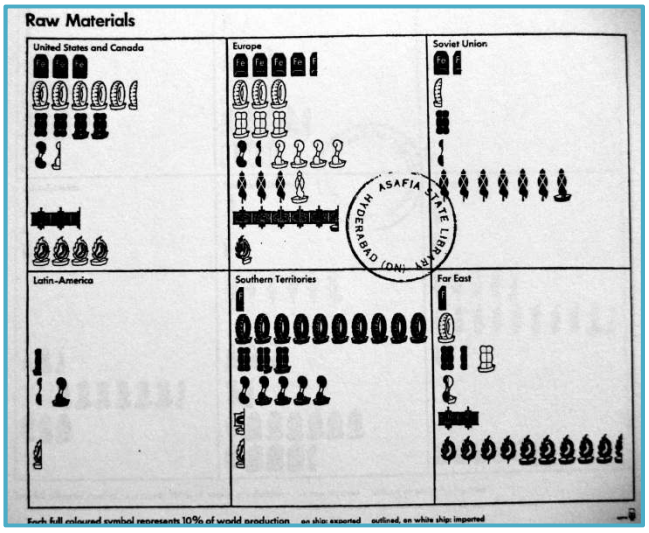
Thusly Neurath maintained a theory of value based on utility as an analytical instrument, but, through his more precise definition of utility as *Lebenstimmung,* granted it a much greater hermeneutical value. This way he also aimed at reconciling "men of action", usually diffident towards economics, to the discipline, offering an alternative to theories based on rational behavior that appeared to statesmen limited and diverting, incapable of grasping the problems of reality[95].

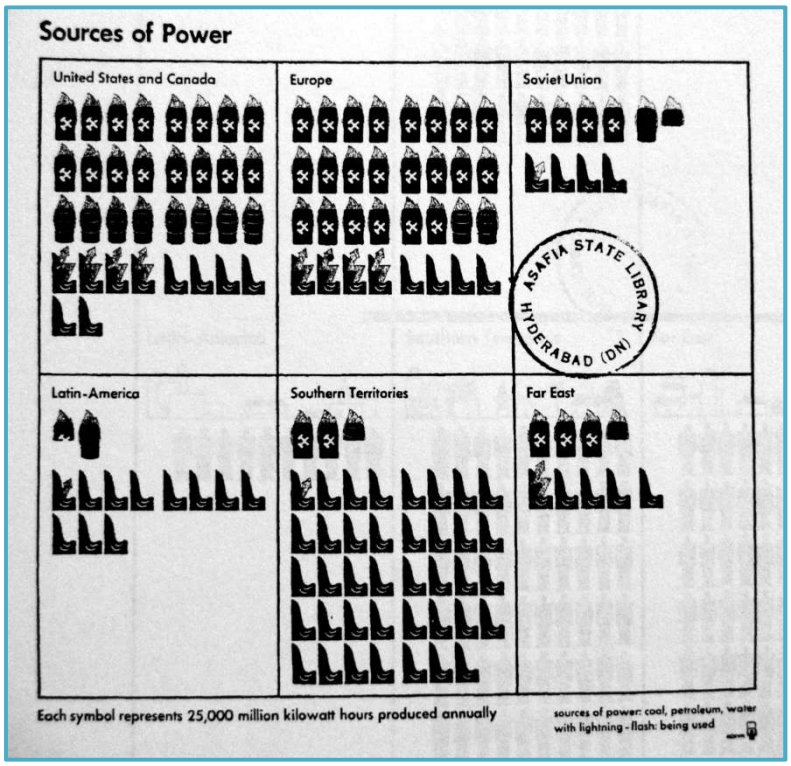
[88] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 485.
[89] „Damit daß man das Glück zum Gegenstande besonderer Untersuchungen macht, soll weder zum Ausdruck gebracht werden, daß die Menschen ausschließlich im Hinblick auf das Glück handeln, noch auch, daß sie dies tun sollen, es soll damit auch nicht zum Ausdruck gebracht werden, daß das Glück im Weltgebäude eine besonders wichtige Rolle spielt" Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 488.
[90] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 441.
[91] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 487.
[92] On the critic of Neurath tot he concept of *homo oeconomicus* particularly in the version of von Wieser see: Otto Neurath, *Nationalökonomie und Wertlehre, eine systematische Untersuchung*, „Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung", Vol.20, 1911, p.64; Otto Neurath, *Zur Theorie der Sozialwissenschaften*, in: Rudolf Haller e Heiner Rutte (a cura di), Otto Neurath, *Gesammelte philosophische und methodologische Schriften*, vol. I, Wien, Hölder-Pichler, Tempsky, 1981, p.32.
[93] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 441.
[94] Otto Neurath, *Nationalökonomie und Wertlehre, eine systematische Untersuchung*, „Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung", Vol.20, 1911, p.63.
[95] Otto Neurath, *Die Kriegswirtschaftsrechnung und ihre Grenzen*, „Weltwirtschaftliches Archiv", 10, 2, 1917, p.8.

Image 1

Lebenslagen as represented with Isotypes in 1939







[Otto Neurath,* Modern Man in the Making*, London, Secker and Warburg, 1939, pp. 66-68]

Having greatly augmented the hermeneutical validity of his individual theory of happiness, though, did not particularly help Neurath out of all problems involved in the further necessity to measure and compare individual *Lebenstimmungen* or even sum them up to groups' or nations' wealth: in this sense he was well aware of all difficulties later encountered by welfare economics. In the essay on *Die Kriegswirtschaftsrechnung und ihre Grenzen*, published in 1917 on *Weltwirtschaftliches Archiv*[96], he clearly faced the impossibility to measure individual sensations, but also to compare them among different persons and groups[97]. The comparison of different *Lebenstimmungen* for a precise set of people proved feasible only assuming the existence of a statesman always driven by the consideration of general welfare, a statesman from whom "in reality it is expected that in such indecisive cases as the ones described, he so vividly puts himself in the shoes of all persons involved, at the same time, that he can compare the resulting sensation with the one resulting from another state of happiness of the same group" [98]. A benevolent dictator would so be needed to act upon the evaluation of different *Lebenstimmungen* among his people.

Fortunately an alternative was given: substitute the comparison of individuals' or groups' states of happiness with the appraisal a measurable proxy. "Given that the statistical elaboration of sensations is impeded by great difficulties, - wrote Neurath in 1913 - it is necessary to substitute it with the statistic of sensations' causes"[99]. Given again that individual causes of individual sensation were practically impossible to determine, the best course would have been to analyze entire sets of causes of *Lebenstimmungen,* as good air, a clean environment, a good state administration, the availability of food, housing and education, etc[100]. In 1917, to these stimuli of sensations, Neurath added also the capacity of people to perceive pleasure and pain[101], a set of variables that changed in time and space. Similarities between Neurath's theory and recent contributions of Amartya Sen to welfare economics[102], as well with statistical instruments as the human development index are unmistakable and should at least be mentioned.

Neurath further developed his theory defining as *Lebenslagen* these life conditions influencing individual happiness. Life conditions included primarily goods and services available for consumption and consequently the productive forces and impediments of a country, but also "its state organization, the

[96] Otto Neurath, *Die Kriegswirtschaftsrechnung und ihre Grenzen*, „Weltwirtschaftliches Archiv", 10, 2, 1917, pp.1-15.
[97] An even lenghtier discussion oft he matter ist o be found in: Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 504-511.
[98] Otto Neurath, *Die Kriegswirtschaftsrechnung und ihre Grenzen*, „Weltwirtschaftliches Archiv", 10, 2, 1917, p.4.
[99] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 458.
[100] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 459.
[101] Otto Neurath, *Die Kriegswirtschaftsrechnung und ihre Grenzen*, „Weltwirtschaftliches Archiv", 10, 2, 1917, p.6.
[102] On similarities between Neurath and Sen see: Ortrud Leßmann, *A similar Line of Thought in Neurath and Sen: Interpersonal Comparability*, in: in Elisabeth Nemeth, Stefan W. Schmitz e Thomas Uebel, *Otto Neurath's Economics in Context*, Wien, Springer Verlag, 2007, pp.119-125.

diffusion of innovative capability, the organizational know-how, stupidity and laziness and so forth" [103]. All available data on these quantities should have been collected in statistical tables as had already been done, under absolutistic rule, by a class of clerks and civil servants of the like of Wenzel Anton von Kaunitz-Rietberg[104]. Neurath, in his later statistical book *Modern Man in the Making*, published in 1939, realized this earlier intent and vividly represented statistics regarding *Lebenslagen* with Isotypes comparing the availability of food and drinks, raw materials and sources of power in United States and Canada, Europe and the Soviet Union (img 1). Out of these collected data, Neurath further construed silhouettes for many countries in the world, depicting the average length of life of female population, suicide rates, literacy and the possession of radio sets (img 2). The resulting isotype allowed an intuitive comparison of the wealth, in Neurath's definition, of the respective nations. Confronted, for example, with simple data on income per capita, the suicidal rate comprised in the silhouettes casts a shadow on the otherwise brilliant performance of US and Great Britain, while giving merit to traditionally considered poor countries as India, Spain and Italy.

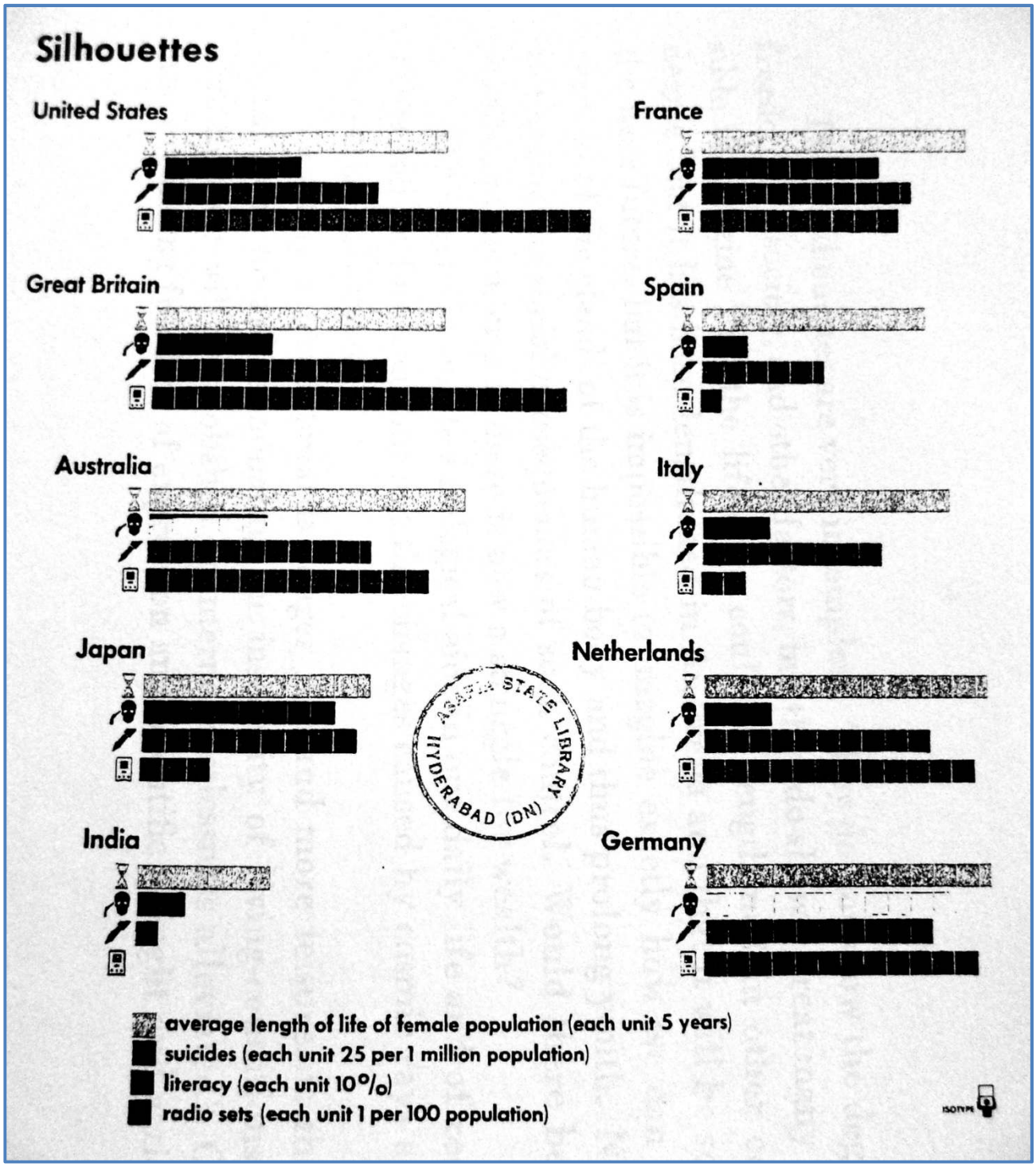
It should be noted that all the compared quantities regarded in-kind measures, not monetary measures. Neurath was convinced that useful statistical data had to refer to quantities and not prices, and *Lebenslagen* could be better represented by the quoted indexes than by a monetary measure of income. The difference among the two types of measures of wealth, in-kind and monetary, had something to do with economic theories, but also with their originating *Weltanschauungen*. In-kind calculations had been typical of absolutism's tradition of universal statistics and economic planning, while income statistics and price indexes had spread along with liberalism during the nineteenth century[105]. Both represented sources of information useful to measure states of happiness, but the first, in Neurath's opinion, could be collected and evaluated also in absence of a market economy and so had a wider use along with a greater hermeneutical value.

---

[103] Otto Neurath, *Die Kriegswirtschaftsrechnung und ihre Grenzen*, „Weltwirtschaftliches Archiv", 10, 2, 1917, p.8.
[104] Otto Neurath, *Die Kriegswirtschaftsrechnung und ihre Grenzen*, „Weltwirtschaftliches Archiv", 10, 2, 1917, p.8.
[105] „Die Nationalökonomen interessierten sich seit jeher dafür, wie Menschen arm oder reich werden. Soweit dies durch Bebauung der Felder, durch Betrieb von Fabriken geschehen konnte, waren es technische Fragen, aber bald merkte man, daß das Vertragssystem, das System der Steuern und Zölle von entscheidender Bedeutung sei, die Organisationssysteme wurden so Gegenstand der Untersuchung. Was die klassische Schule der Volkswirtschaftslehre untersuchte, war eine einzelne Form solcher Organisationssysteme, das der freien Konkurrenz; sie hat dasselbe ebenso angepriesen wie die Merkantilisten das ihrige. Bei der Untersuchung dieses Systems als Ursache der Volksvermehrung mußte man dessen Struktur im einzelnen prüfen. Dabei kam man auf Probleme, die nichts mehr direkt mit dem Reichtum zu tun hatten, man beobachtete z.B. das Fallen und Steigen der Preise ganz unabhängig davon, ob damit eine Vermehrung oder eine Verringerung des Reichtums verbunden sei. Da hier, sowie bei Ernteerträgen usw., meßbare Größen auftauchten, die leicht eindeutig feststellbar waren, wurde die Preislehre bald eine besonders eifrig betriebene Doktrin. Die Erwägung, ob das untersuchte Organisationssystem den Reichtum fördere oder nicht, wurde stark zurückgedrängt oder überhaupt nicht mehr behandelt. Zum Teil hing das mit der Anschauung zusammen, daß die Geldrechnung die Reichtumsverhältnisse ohnehin richtig widerspiegele".
Otto Neurath, *Zur Theorie der Sozialwissenschaften*, 1910, in: Rudolf Haller and Heiner Rutte (ed.), Otto Neurath, Gesammelte philosophische und methodologische Schriften, Hölder-Pichler-Tempsky, Wien, 1981, vol.1, p.30.

Image 2

Silhouettes of several countries, representing Neurath's definition of wealth, represented through isotypes in 1939



ASIATIC STATE LIBRARY HYDERABAD (DN)

At the beginning of time Neurath considered *Lebenslagen* as fully determined by the natural and physical conditions of the world, in form of fields, minerals, forests, water supply, etc. He consequently defined such situation of the world in a precise set of time as *Lebensboden* (life base) [106]. But with the evolution of society an order of society had emerged that could counter the effect that such primary conditions had on *Lebenslagen*: the *Lebensordnung*. It was this slow emergence of a *Gesellschaft* out of the originary *Gemeinschaft* that had also led to the appearance of theories studying the dependence of individual sensations (pleasure and pain) from the newly erected institutions[107]. A kind of calculation of happiness had arisen, as to be found in Aristippus and Epicurus, that through mercantilism had developed all the way down to modern economics. In this sense Neurath particularly quoted James Steuart, also including excerpts of his A*n Inquiry into the Principles of Political Oeconomy* in his anthology of economic thought[108]. Steuart had defined the task of the statesman to conceive in his mind many possible organizations of the state and then select the one that suited best his people. Steuart had moreover underlined the necessity to link the new organization to existing traditions and base it on the fact that people would choose the common good in their own interest.[109]. Neurath's own definition of the economy derived from this tradition of thought.

Denominations were, as always in Neurath, full of significance: *Lebensboden* is the base of life, *Lebenslage* is the condition of life, and *Lebensordnung* is the order of life. *Lebensboden* is historically determined, while *Lebensordnung,* as the material construction of the *Weltanschauung,* is determined by men and given only in a time period. Comparing the *Lebenstimmung* caused by a *Lebensboden* with the *Lebenstimmung* of another, gave as a result a judgment of relative happiness. Given the same *Lebensboden* to start with, instead, comparing the *Lebenstimmungen* related to diverse *Lebensordnungen* resulted in a judgment of relative economy[110].

The renewed use of old concepts on part of Neurath brought so to a definition of economies as the collected set of actions, prescriptions and attitudes – *Lebensordnungen* - having in any way influence on the happiness/wealth of men. In his words: "The scientific study of these economies, the Lebensordnungen

[106] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 487.
[107] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 442.
[108] Otto Neurath and Anna Schapire-Neurath, *Lesebuch der Volkswirtschaftslehre*, Dr. Werner Klinkhardt, Leipzig, 1910, pp.96-124.
[109] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p. 443.
[110] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 490.

determining the Lebenstimmungen, will be named economic theory, so to remain sufficiently near the linguistic habit to make it unnecessary to look for a new denomination" [111].

Neurath's spasmodic attention toward the lessical value of his definitions in the reconstruction of economic theory must not be further proven. Far away from any polemic or ideological intent, this attention for the language of economics stemmed from the influence of Friedrich Nietzsche and French linguistics, transmitted via Hofmannsthal[112] to the German speaking world. As Mach had unveiled the historicity and cultural dependence of natural laws and scientific paradigms, so Anatole France had uncovered the primitive and sensual origin of Europe's metaphysical language, reducing most of its philosophical reflection to white mythology[113]. Neurath himself brought into economics that rejection of metaphysical jargon that had slowly matured during the second half of the nineteenth century. Famous, or perhaps infamous, in contemporaries' remembrance, Neurath's loud interjection "Metaphysics!", cried out during the discussions on Wittgenstein's Tractatus, everytime someone spoke out words with no empirical correspondence[114]. The word 'capital' was one of the first victims of Neurath's empiricist purge.

This effort of linguistic purification, culminating in the later attempt to create an universal jargon, begun during Neurath's university studies when he had analyzed Smith's *Wealth of Nations* from a linguistic point of view[115]. In this case also, economics proved to be the sector in which Neurath firstly experimented what he later systematized in his methodological approach to science in general. Between his writings of 1911 and 1917, in effect, the terminological evolution clearly reflected the intent to create an empiricist language for economics. As Anatole France wrote: "Métaphysiquement, ou le mot est toute la chose, ou il ne sait rien de la chose"[116]. Empiricism as methodology needed an empiricist vocabulary.

So Neurath in 1917: "I did not create all these concepts as an artificial intellectual game, but following the stringent necessity to adequately analyse every days' experiences and in particular important present

[111] „Die wissenschaftliche Behandlung der Wirtschaften, das ist der Lebensordnungen als Bedienungen von Lebensstimmungen soll **Wirtschaftslehre** heißen, wodurch wir soweit mit den sprachgebrauch im Einklang bleiben, daß eine neue Namenbildung nicht erforderlich ist". Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 492.
[112] See: Hugo von Hofmannsthal, *Lettera di Lord Chandos*, Mimesis, 2007.
[113] See: Anatole France, *A Monsieur Horace de Landau, Ariste et Polyphile ou le Langage Métaphysique*, in: id., Le Jardin d'Épicure, Paris, 1894.
[114] See: Enza L. Vaccaro, *Vite da naufraghi. Otto Neurath nel suo contesto*, Tesi di Dottorato in metodologia delle scienze sociali – ciclo XV – Università La Sapienza Roma, p.53.
[115] "Particularly I was busy with reading Adam Smith's The Wealth of Nations along the lines of an analysis of language. I found out that such butchering criticism lacks constructive power and that a long self-education has to be the first step. I altered successively my own terms in all my articles and books in accordance with my increasing Index by eliminating 'emotional', 'concealing' and 'confusing' terms". Otto Neurath, *Universal Jargon and Terminology*, in: Robert S. Cohen e Marie Neurath (a cura di), *Otto Neurath Philosophical Papers 1913-1946*, Dordrecht, Springer, 1983, p.217.
[116] See: Anatole France, *A Monsieur Horace de Landau, Ariste et Polyphile ou le Langage Métaphysique*, in: id., Le Jardin d'Épicure, Paris, 1894.

events through the observation of their singular components" [117]. Undoubtedly an empiricist research program. But even in a linguistics redefinition process, the tools' kit could not be completely replenished with new instruments. "The reconstruction of the conceptual and linguistic framework here attempted – continued Neurath – must be limited to the essential. It is futile trying to create an entire new conceptual world with the related denominations. In fields of research as ours, unclearly defined, it is much too easy to end up in the wrong direction by adapting names and concepts, with terrible results. Every change imposed to an important concept, alters the entire conceptual structure, causing a chain reaction of redenomination"[118]. Neurath shows here to have had a very clear view of the relative value of words' significance, particularly in science. "We must try to capture the world in a net of concepts and thoughts with multiple connections. Object of the whole science is to structure the net's connections so that every part of it can be used in a similar way". As a consequence "*from the old conceptual framework we inherited we won't be able to escape at once*. Its reconstruction always happens with the aid of the concepts of the past"[119].

As seen Neurath exactly followed this research program and, uniting tradition and innovation in his definition of economics, extended the hermeneutic capacity of the science, at the same time recovering long lost knowledge. Neurath's economics, depending on the group of people the happiness/wealth of which was object of study, could include family's economy, political economy and also cosmopolitan economy, all subdivisions that, taken from Aristotle to Friedrich List, were now granted validity in new fields. Not only past economies, but also present and future *Lebensordnungen* possessed the right to be studied and classified as to their effects on people's sensations. Economics became thusly a comparative science based on empirical data statistically collected, but consisting of an infinite number of models, many of which with no relation whatsoever to reality.

In this sense Neurath excluded any kind of ethical prejudice from restricting economic analysis. Acquiring methods as war and smuggling should, in his view, have been studied exactly as market exchange and production, being evaluated, by economists, only in their effect on people's *Lebenstimmungen*. "That pillage – he wrote – is prohibited by law, should not impede economists from studying it. Why should the consequences of trade and domestic manufacture be worth to be analyzed, while the effects of smuggling

[117] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, Zeitschrift für die gesamte Staatswissenschaft, vol. 73, n. 4., 1917, pp. 516-17.
[118] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, Zeitschrift für die gesamte Staatswissenschaft, vol. 73, n. 4., 1917, pp. 516-17.
[119] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, Zeitschrift für die gesamte Staatswissenschaft, vol. 73, n. 4., 1917, pp. 516-17.

are ignored? In consequence of such considerations war has been vastly ignored by economists as a form of acquisition (…)" [120]. Economic analysis should, instead, also comprehend planned and war economies.

In the early years of Neurath's scientific activity here analyzed, particular attention was given by him to war economics as the study of all changes in the *Lebensordnung* brought about by war and their effects on *Lebenstimmungen*. Far away from any interventionist stance, Neurath considered the Balkan wars and WWI as an extraordinary occasion to gather information[121] about the emerging of barter trade, even at international level[122], the centralized administration of production, the controlled distribution of consumption goods and the destabilizing or even vanishing of financial systems. His extraordinary efforts in this field were recognized not only with a Carnegie Endowment for International Peace and an official commendation from the Austrian government, but also with the appointment as director of the Museum of War Economy in Leipzig in 1916[123].

Above all, studying a war economy in its development meant, for Neurath, the possibility to demonstrate that a certain grade of administrative control over the economy, based on a general system of in-kind calculations, could prevent what he considered the worst trait of a *Lebensordnung* based on the market economy: economic crises.

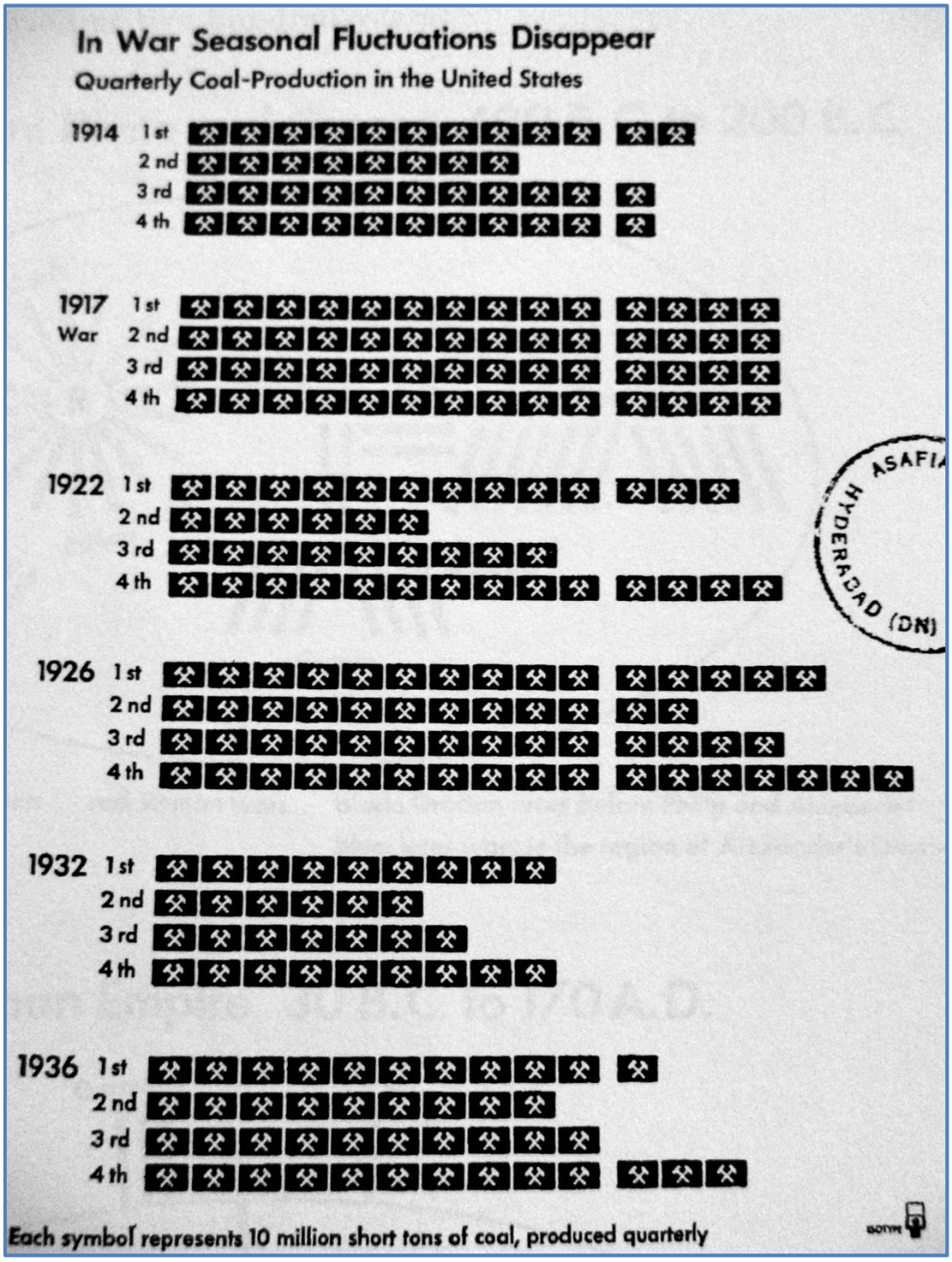
Neurath had identified many cases under which, in a market economy, the results of exchange were sub-optimal. For example when a consumer had to choose among two identical products with identical prices, or when limited rationality claimed the scene as with differentials in stock prices[124]. The major distortion to economy, in terms of *Lebenstimmungen*, though, was consequent to the widespread adoption throughout the market economy of a calculation based on prices. Such calculations, along with the institution of credit, constrained the production to maximize profits, so causing recurrent crises of overproduction. Would the economy be ruled by the maximization of productivity instead of profitability, crises, for Neurath, would no longer plague the world. An isotype in particular, of his volume of 1939, bears testimony of such stance (img. 3). The image illustrates a statistic on coal production in the United States between 1914 and 1936, underlining how in 1917, a year of war, production steadily remained on its maximum capacity, showing no sign of seasonal or cyclical fluctuation.

---

[120] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, p.493.
[121] Otto Neurath, *Die Kriegswirtschaftslehre als Sonderdisziplin*, „Weltwirtschatliches Archiv", 1, 1, 1913, p.23.
[122] See: Otto Neurath, *Grundsätzliches über den Kompensationsverkehr im internationalen Warenhandel*, „Weltwirtschaftliches Archiv", 13, 2, 1918, pp.23-35.
[123] Nancy Cartwright, Jordi Cat, Lola Fleck, Thomas E. Uebel, *Otto Neurath: Philosophy Between Science and Politics*, Cambridge, Cambridge University Press, 2008, pp. 19-21.
[124] Otto Neurath, *Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen*, „Zeitschrift für die gesamte Staatswissenschaft", vol. 73, n. 4., 1917, pp. 499.

Image 3

War economy and the disappearance of fluctuations in production as represented with isotypes in 1939



[Otto Neurath, **Modern Man in the Making***, London, Secker and Warburg, 1939, p. 87]*

To the naïve arguments of pacifists, then, Neurath countered that the origin of present wars, wars between social classes as wars between nations, was to be found in the lack of economic efficiency of the present *Lebensordnung*. He wrote: "The present underemployment of existing forces, that is typical of our *Ordnung*, incites to war: it is necessary, for example, to defend oneself from foreign wares and foreign laborers or oblige others to buy our wares or accept our workers, and all of this because it is not spontaneous to enter in cooperative relations between states; furthermore it is easy to alleviate the costs of war thanks to reparations; and lastly because at times war frees productive forces that would otherwise be bound. The uneconomic construction of our *Lebensordnung* is the cause why at present war causes lesser evils than in a more economical *Lebensordnung* the case would be" [125].

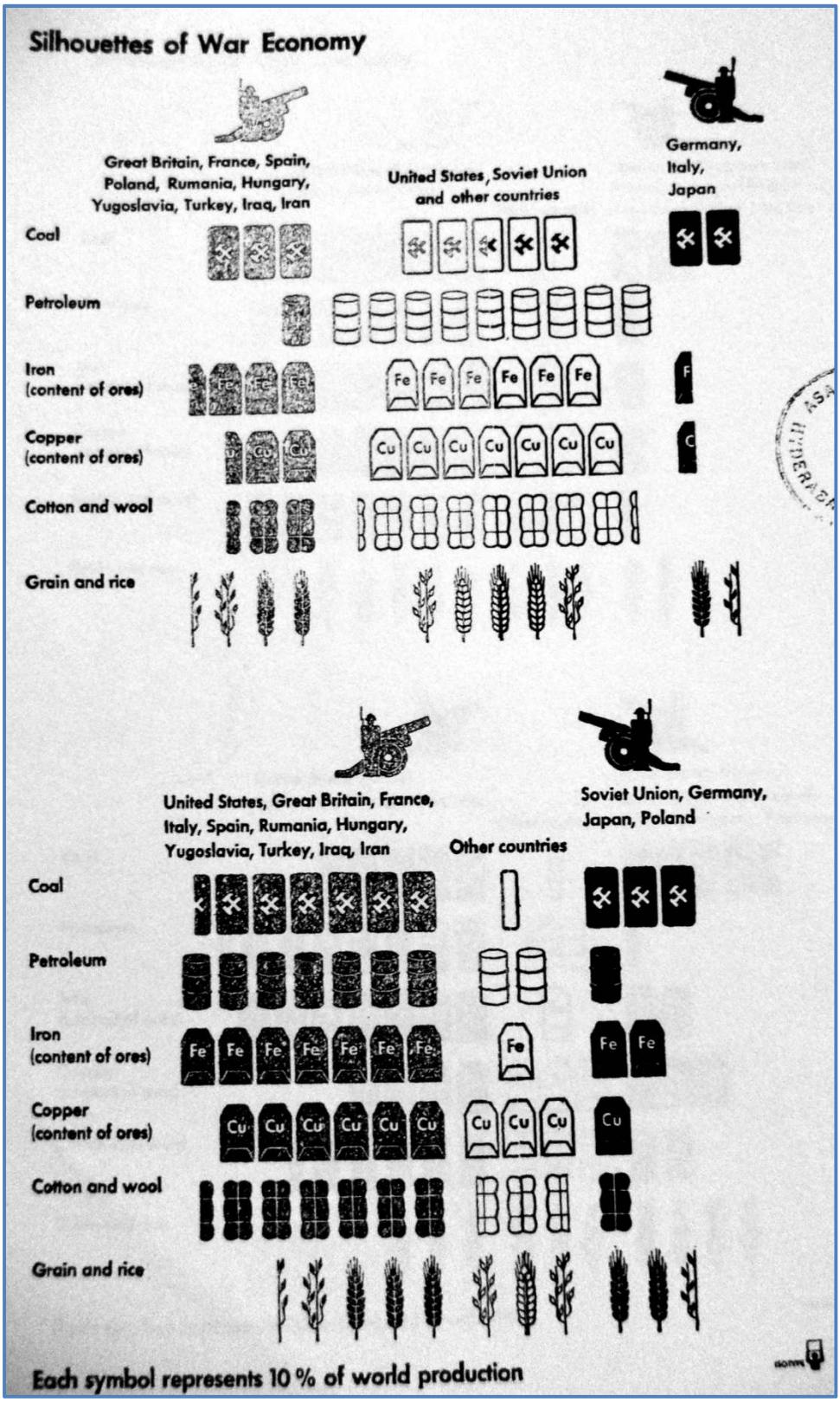
To eliminate war, mankind had only two alternatives. The first would have been to render it uneconomical, by constituting coalitions possessing the same amount of productive forces. Given this balance of power, such coalitions had only to loose from starting a conflict[126]. As to this end, Neurath represented in a couple of isotypes the relative economic power between three different coalitions in a prospective world war (img. 4). Incidentally it might be noted that results are clearly negative for the coalition headed by Germany in both the prospective compositions.

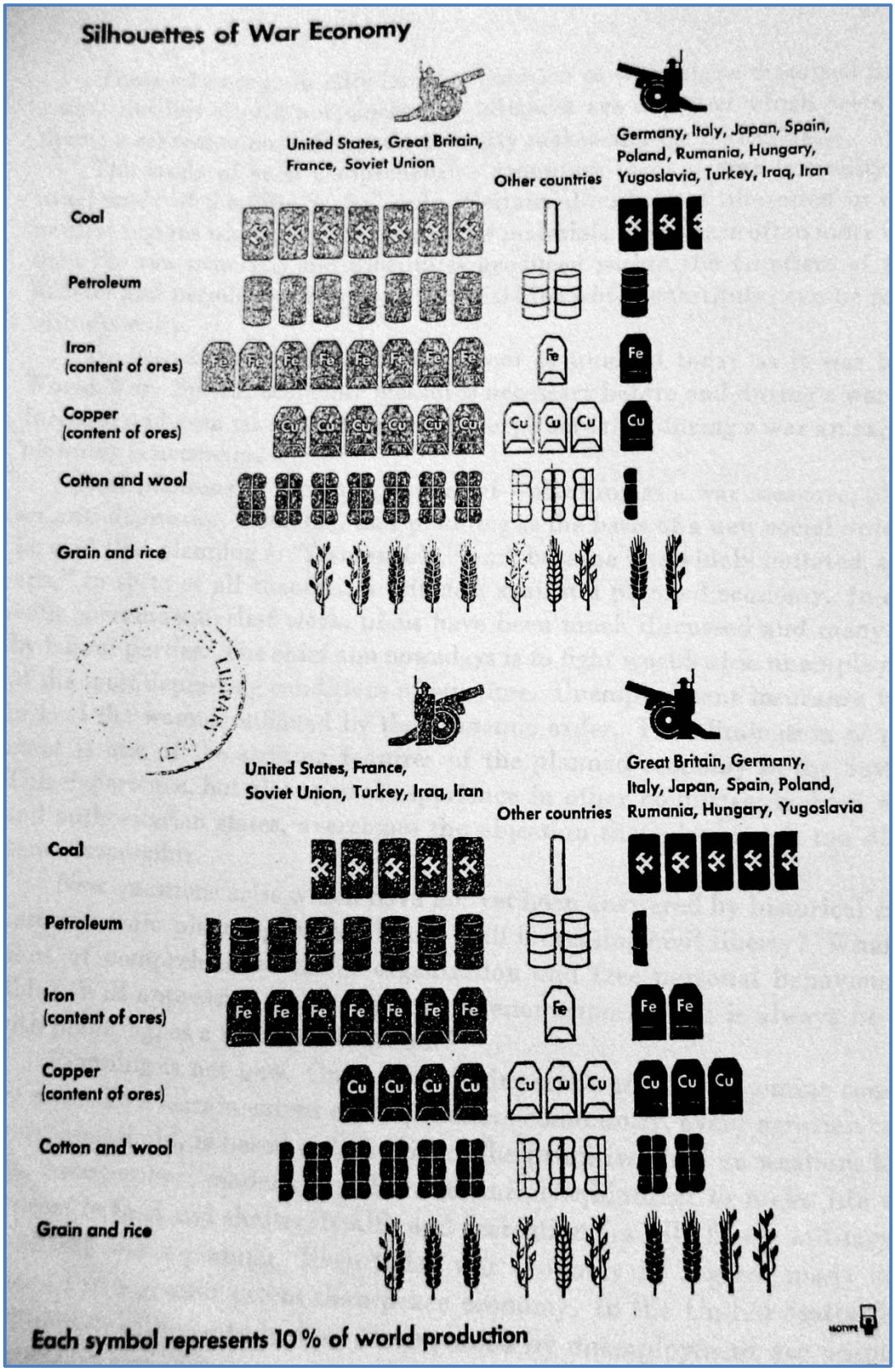
A second opportunity to foster peace, obviously, would have been to abandon the present inefficient *Lebensordnung* for a more effective one. To decide, though, which *Lebensordnung* to implement in reality was not the task of an economist. Neurath continued so, instead, to offer to the attention of politicians economic organizational alternatives to market economy, all the while steadily collecting statistical data and transforming it in easily understandable isotypes, in order to enable the largest possible strata of population to decide about their future.

[125] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, p.500.
[126] Otto Neurath, *Probleme der Kriegswirtschaftslehere*, „Zeitschrift für die gesamte Staatswirtschaft", I, 3, 1913, pp. 465-66.

Image 4

Relative economic power of different prospective coalitions in a world war as represented through isotypes in 1939





[Otto Neurath, Modern Man in the Making*, London, Secker and Warburg, 1939, pp. 84-85]*

CONCLUSIONS

The ship of science, in Neurath's metaphor, has no captain. Seafarers continuously create plans for its renewal but then must win supporters to realize them. Scientific progress is so the result of a sociological process that involves not only individuals and their ideas but also scientific communities, schools of thought and institutions of education as university and schools. It is from the interaction among these groups that new ideas emerge and a clear route is set for the ship. Surely the "spreading of mud" is no more easily done, but there is no guarantee that the plan chosen will prove to be better in respect to the past or the present of a discipline.

Neurath's economic theory could not find enough support so to become the methodological tool for twentieth century research. His concepts, linguistically refined and hermeneutically profound, have remained vastly ignored, drifting woods abandoned to the sea. Many aspects of his theory, though, anticipated what would, in the course of the century, become common tools for economists. So for his continued research for an objective measure of individual and social wealth, made out of non-monetary measures. So for his insistence on a precise statistical collection of macroeconomic data at country level. So for his perseverance in guiding research towards economic organizations different from the market. So for the hints he scattered about his writings, on the existence of market failures, of areas of limited rationality, of the perverse effects of self-fulfilling prophecies. Many more could be added.

The richness of Neurath's legacy in the field of economics is undeniable. It is his methodological attitude, though, that represents today his most fruitful bequest, a timber worth fishing out of the sea. Neurath's spasmodic attention for linguistics, for example, hints to manifold research fields for historian of economic thought. Many concepts in economics changed their significance in time, acquired symbolic or metaphysical content, lost empirical relevance, were subject to political use or propaganda. Studying such developments in time could bear many fruits. The diffusion of economic thought, then, could be followed by researching the frequency of certain words and concepts in journals, newspapers and literary works; across borders the same could be done watching attentively for translations of economic texts. Being science a complex net of interdependent significances, studying how just the changing of one knot altered the entire complex, through all subsequent variations of the interrelated concepts, could also be significant.

The use Neurath made of the historical past in reinventing the discipline is another inheritance that economists and historians of economic thought could rediscover with profit. Particularly in times of heavy storms, when uncertainty befalls economics as to its object, its methodology and its hermeneutical value, looking back in search of useful material to repair the ship could avoid perilous leakages and possible

shipwrecking. History of economic thought would so no longer be a mere "chronological sequence of discoveries and authors' biographies" [127], nor would it only "try to clarify the psychology of a researcher" [128] or "logically subdivide theories to obtain from their structure the development possibilities subsequently realized by this or that scholar" [129]. It would instead primarily aim, as in Neurath's intent, to unveil the theoretical structure of *Lebensordnungen,* the *Weltanschauungen* that had succeeded in time. In this sense studying the ship's own supporting structure in its historical changes, retracing the plans that in time have guided its unceasing renovation effort, rediscovering which ones succeeded, which ones failed and why, retrieving all useful drifting wood, would not be a mere academic exercise but a necessary step to establish the future structure of economics as a science and even the form of the economic organization of the world in general.

The lesson of Otto Neurath has, in conclusion, not lost every significance to today's researchers, also and particularly in the field of economics, and merits a careful reappraisal. His cautious and precise use of language, his appreciation of history along with theoretical logic, his preference for an inclusive science in contraposition to exclusive systems should undoubtedly find their place in the instrument case of economists who wish to build the future settlement of their discipline.

[127] Otto Neurath, *Prinzipielles zur Geschichte der Optik*, "Archiv für die Geschichte der Naturwissenschaften und der Technik", vol. 5, n.27, 1915, p.371.
[128] Ibid.
[129] Ibid.

View publication stats