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The Philosophy of the "Other Austrian Economics"

Abstract

I propose to reconstruct Neurath's early economic theory as a genuinely theoretical, academic contribution to the epistemological controversies which were going on in the not yet well defined field of social science and economics before World War 1, rather than as an early, preparatory stage of his later ideas on socialism (as a planned economy in kind). Emphasizing the difference between his early theory and his later political activism can help us spell out the philosophical impact of Neurath's highly original theoretical approach to economics and how his conceptual innovations there are related to his later contributions to logical empiricism. Tracing Neurath's thought back to the debates on the subject matter of economics and social science before World War 1, also helps us to reconstruct the issues of these earlier debates that disappeared during the "short" 20th century.

The term "The Other Austrian Economics" was coined by Thomas Uebel and refers to a type of economic thought which arose in Vienna in competition with the famous "Austrian School of Economics". This "other" school developed a deeply heterodox approach to economic issues which, at first glance, had nothing to do with its famous counterpart. At second glance, however, it turns out that both shared certain elements.[1] The main representative of these "other Austrians" is Otto Neurath, but Josef Popper-Lynkeus is also an important figure. Although their writings were more or less forgotten after World War 2, a re-appraisal began with Juan Martinez-Alier's book on ecological economics of 1987.[2] Since then, a number of interesting studies on Neurath's economic theories have been published.[3] Many of these studies re-construct Neurath's economic thought from the perspective of the socialist calculation debate of the 1920s and 1930s. This may

1 See Thomas Uebel, "Introduction: Neurath's Economics in Context", in: Otto Neurath, *Economic Writings. Selections 1904–1945* (ed. by Thomas Uebel and Robert S. Cohen). Dordrecht: Kluwer 2004, pp. 1-108. (The volume as a whole will refered to hereafter as "*ONEW*".)

2 Juan Martinez-Alier, *Ecological Economics. Energy, Environment and Society*. Oxford: Blackwell 1987.

3 See, for example, John O'Neill, *The Market: Ethics, Knowledge and Politics*. London: Routledge, 1998, and Elisabeth Nemeth, Stefan Schmitz, Thomas Uebel (Eds.), *Otto Neurath's Economics in Context*. Dordrecht: Springer 2007 (with further references). The volume as a whole will refered to hereafter as "*ONEIC*".

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suggest a rather straight-forward continuity between the orientation of Neurath's economic theory before World War 1 and the manner it informed his political engagement afterwards. That an important doctrinal continuity exists is undeniable, of course, but I wish to emphasize that Neurath's economic theory took its shape in the *academic* debates in economics and social science before 1918.

1. Can history help philosophy of (social) science?

I would like to begin with a very rough sketch of James Lennox's view on the relationships between science, philosophy of science and history of science.[4] He argues that historical research can play an essential role in clarifying fundamental questions in the sciences, because

> the foundations of a particular scientific field, and … of science generally, are shaped by its history, and to a much greater degree than many of the practitioners of a science realize. There is more conceptual freedom in the way theories – even richly confirmed theories – may be formulated and revised than is usually realized. Studying the way they actually came to be formulated, and revised historically, can be of considerable value in doing philosophical work.[5]

Lennox takes his examples from the theory of evolution and genetics. But it is true not only of biology that there is "more conceptual freedom in the way theories may be formulated and revised than is usually realized". The same can be said about other disciplines, including economics. "A reasonably mature science", Lennox argues, "is the result of a number of decisions made, at various historical nodes, as to which, among a variety of possible options, ought to be taken."[6] Most of those decisions have been forgotten, though, and it is precisely this lack of historical consciousness that characterizes the state of science Lennox called "reasonably mature". In a "mature" science, most of the practitioners agree on the central concepts and methods of their field and therefore do not see any need for reconstructing the possible options that were passed over during the history of their field. Nevertheless, any scientific field has its puzzles and its unsolved problems. In reconstructing the historical origins and development of those problems, philosophers of science may achieve, Lennox argued, a much better understanding

4 Some of the following considerations have been published in E. Nemeth, "Socially Enlightened Science. Neurath on Social Science and Visual Education", in: Mélika Ouelbani (Ed.), *Thèmes de philosophie analytique*, Université de Tunis, Faculté des Humaines et Sociales 2006, pp. 83-112, and in "'Freeing up One's Point of View': Neurath's Machian Heritage Compared with Schumpeter's", 2007, in: *ONEIC*, pp. 13-36.

5 James Lennox, "History and Philosophy of Science: a Phylogenetic Approach", in: *História, Ciêcias, Saúde – Manguinhos*, vol. VIII(3), 2001, pp. 655-669, at p. 657.

6 *Ibid*., p. 659.

of them. Note that, in Lennox's view, better understanding of the *philosophical* problems in a particular scientific field might be achieved by a *historical* reconstruction that situates the current theory in the space of alternative options that were articulated and discussed before the current theory became the dominant one.

> As one traces back through the history of a current theory, one finds various alternatives. This historical research opens up a space of theoretical possibilities that were earlier rejected, or not considered, but in the light of current problems, may seem interesting and suggestive.[7]

From Lennox's point of view, it is not just any alternative theory that showed up at a certain time in history that deserves the philosopher's attention, but primarily those whose foundational problems were discussed by competing scientists before the current theory was accepted.

> [I]t is often true that at that point, those involved in the scientific debate will be quite self-conscious of problems that a couple of generations later submerged as unquestioned, unanalyzed presuppositions of the field's common set of concepts and methods.[8]

Thus, the historical point which Lennox suggests tracing theories back to is the point where scientists themselves still acted, so to speak, as philosophers: when they consciously discussed their conceptual and methodological assumptions. This is not to say, however, that scientists of former periods were *per se* more philosophically-minded than those of later generations. The important point is, rather, that before the basic assumptions of today's "reasonably mature" science were established, scientists had quite a lot to gain from criticizing competing assumptions and from convincing the scientific community that their approaches were sounder than competing ones.

2. Remarks on Neurath's biography

Lennox's reflections can be used as a backdrop against which some interesting features of Neurath's economic theory become visible. During the first decade of the 20th century the debates on methods and value judgements in social science were still going on and polarized many of the younger generation of social scientists in the German speaking world. Neurath was not the only one who thought that the polarisation between the two camps, the German Historical School and the Austrian School, was less substantial than the rhetoric of the debate suggested. For Neurath, however, it was quite natural to look for some sort of integration of the two approaches. He knew both camps rather well. He studied political economy

7 *Ibid*.

8 *Ibid*., p. 667.

at Berlin, the center of the Historical School. After his PhD in 1906, he returned to Vienna and participated in the seminars of some of the main representatives of the Austrian School of Economics. Around 1910 he began to publish on the theory of social science and a wide range of topics in economics and sociology: on the theory of money, the theory of value and political economy, on prize-regulation, sociology of religion and its economic impact, but also on some philosophical and psychological issues, and even on the history of optics. Both the range of topics and the manner in which he discussed them show that Neurath thought of himself as a young scholar about to become a recognized member of the academic community. In 1917 he took an important step towards this by gaining the "venia legendi" in political economy at the University of Heidelberg. Yet it turned out that his academic career ended there. With Neurath having decided in 1918 to join the Social Democrats and to go into politics and having been actively involved in the Bavarian revolution in Munich in 1919, the University of Heidelberg decided to exclude him from its list of lecturers. Although he tried to do so, Neurath was never able to regain a position in academia.

In my view it is important to see that it was not until 1918 that Neurath got involved in politics. Before that, he kept – quite cautiously – his distance from the politics of his day and made a name for himself in the field of economics and social science when their disciplinary borders were not yet established. The time in which Neurath's economic thought was formed was still one in which social scientists acted, so to speak, as philosophers. They disagreed about the nature of what they were doing and the borders of their field of subjects. They articulated their conceptual and methodological assumptions and tried to demonstrate that their approaches were sounder than the competing ones. How ambitious the young Neurath was can be seen from his interventions in these debates. He took every opportunity to address the fundamental conceptual and methodological issues in economics and social science. At the same time he discussed the foundational questions of modern mathematics and physics with Hans Hahn and Philipp Frank. With lessons learned from Ernst Mach and Pierre Duhem in mind, he set out to develop an entirely new conceptual framework of economic theory which he called "calculation in kind".

3. Neurath's early economic theory (1909–1917)

There were two main concerns lurking in the background of Neurath's ambitious theoretical project. The first concerned the divide between the Historical School and the Austrian School of Economics which Neurath thought was a false alternative. Neurath wanted to develop a conceptual framework which was broad enough to include theoretical elements from both sides. On the one hand, Neurath shared with the Austrian School the subjective theory of value and the demand for clearly

elaborated methodological and conceptual standards in economic theory. On the other hand, Neurath appreciated the Historical School for the rich empirical content of their work, for their interest in the economic development of whole populations, and for including certain cultural elements in economic theories.

The second concern that informed Neurath's early approach was that economists had become much too fascinated during the 19th century with exchange-relations under market conditions and price-formation. Their perspective on economic issues was extremely narrow and suggested that only one truly scientific theory of economics was conceivable, namely the theory of market relations as represented in prices. Economic behavior under non-market-conditions became literally un-thinkable. By contrast, Neurath pleaded for a much broader view which, he argued, had also been the view of the classical economists. Smith and Ricardo, for instance, were fully aware of the fact that the relationship between monetary income and real income was deeply problematic and tried to give a theoretical account of these issues.

What was at stake for Neurath was the project of recovering the broader perspective on economics in which the central question was how people become rich or poor. To Aristotle, Smith, Ricardo and other economists, Neurath argued, the subject-matter of economics was "wealth" in all its dimensions. He suggested defining "wealth" as "the totality of pleasure and displeasure that we find with individuals and groups of individuals." It is important to see how Neurath explained why he believed that the term 'pleasure' was particularly appropriate: "The term 'pleasure' has the advantage that in our use of language it comprehends *complex and primitive* facts at the same time".[9] Neurath required a terminology which does *not* invite us to search for the primitive, basic fact to which all other facts can be reduced. (Note that this anticipated a central motive in Neurath's later contributions to logical empiricism: his conception of protocol sentences was, as he once put it, a protest against the idea of basic elementary or atomic propositions.)

A few years later, Neurath changed the terminology to make his intentions better visible, now speaking of "quality of life" rather than of "wealth": "the quality of life is connected with all types of experiences, with eating, drinking, reading, artistic sensibility, religious contemplation, moral speculation, loving, hating, heroic and cowardly behaviour".[10] Remember, however, that the question Neurath wanted to ask is: how do people become rich and poor? To answer this it would not be sufficient simply to give a rich description of what quality of life consists

9 Otto Neurath, "Nationalökonomie und Wertlehre, eine systematische Untersuchung", in: *Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung* 20, 1911, pp. 52-114, reprinted in Neurath, *Gesammelte ökonomische, soziologische und sozialpolitische Schriften* (I), ed. by R. Haller and U. Höfer, Wien 1998, pp. 470-518, at p. 471.

10 Otto Neurath, "Das Begriffsgebäude der Wirtschaftslehre und seine Grundlagen", in: *Zeitschrift für die gesamte Staatswissenschaft* 73, 1917, pp. 484-520. Trans. "The Conceptual Structure of Economic Theory and its Foundations", in: *ONEW*, pp. 312-341, at p. 313.

in. We must also ask how changes of the quality of life come about. So Neurath suggested to reconstruct "whole orders of life", that is, structures the elements of which are as heterogeneous as those we found in "quality of life". "Orders of life" are ensembles of "actions, measures, customs, habits and the like …" which economists have to compare as to their "economic performance".[11]

In a small 1935 monograph of the Vienna Circle series *Einheitswissenschaft* Neurath re-formulated his early economic views again in a slightly different terminology, but the conception remained the same. (Here we see that the logical empiricist Neurath wanted to place his conception of economic theory within the framework of unified science.) And he put his view in a nutshell: "Economic theory deals with the influence particular institutions and actions bear on the standard of living."[12] And in 1938 he published another comprehensive account of his theory as "The Standard of Living".[13] However, it is important to see that the entire conceptual structure was in place before 1918. Neurath called it "calculation in kind" and stressed the theoretical nature of his approach:

> In itself, [calculation in kind] does not represent any one socio-political or economic standpoint; it is merely a way of looking at things. Economic institutions and whole systems of economic organizations can be investigated by the in-kind calculus and it may be found, for instance, that under some circumstances the free market is more efficient than the planned economy… What is essential is how we formulate the problem to be solved. The focus does not lie on the change of prices, of the interest rate, of wages, but on their influence on the satisfaction of needs. Even economic orders that make no use of these concepts may be examined on their efficiency.[14]

After Neurath went into politics in 1918, things changed. In the socialist calculation debate of the 1920s, Neurath defended the view that a socialist economic order had to abolish the monetary system and replace it by a centrally planned economy in kind. (The huge majority of economists did not agree and even the socialist ones were more than sceptical.) So from 1918 onwards, the in-kind-calculus became a tool for the planned economy in-kind that he envisaged and wanted to establish.

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11 *Ibid.,* p. 318.

12 Neurath, *Was bedeutet rationale Wirtschaftsbetrachtung?* Vienna: Gerold 1935. Trans. "What is Meant by Rational Economic Theory?", in: Brian McGuinness (Ed.), *Unified Science*. Dordrecht: Kluwer 1987, pp. 67-109, at p. 96.

13 Neurath, "Inventory of the Standard of Living", in: *Zeitschrift für Sozialforschung* 6, 1937, pp. 140-151, reprinted in: *ONEW*, pp. 513-525.

14 Neurath, "Die Wirtschaftsordung der Zukunft und die Wirtschaftswissenschaften", Verlag für Fachliteratur, Berlin-Wien 1917, reprinted in: Neurath, *Durch die Kriegswirtschaft zur Naturalwirtschaft*. München: Callwey 1919. Trans. in: *ONEW,* pp. 241-261, at p. 244.

From the very beginning, Neurath was fully aware of the methodological challenge faced by his theoretical approach. Here is one early formulation, put forward during a meeting of the Social Policy Association in 1909:

> Suppose a civil servant has the choice between two places of residence, A and B. In A, he receives a larger quantity of food and accommodation, in B on the other hand a larger quantity of honour. Is it possible to have a calculus such that it summarises for us food and accommodation as one magnitude, and honour as another? Impossible! We are not able to compute such a complex, containing both pleasure and pain, by first separately establishing the magnitude of pleasure, then the magnitude of pain and finally doing the sum. On the contrary, we can only look at such a complex as a whole. Therefore the conversion into money is of no help in this case. … In the end we have to consider a complex of pleasure and pain as *a whole,* if we want to characterise the entire situation of a person.[15]

Note that for Neurath this also held for a whole population.

> The situation is the same if we want to describe the order of life of a people, or of a temporal period, in order to infer from that its favourable or unfavourable conditions. Again we have to look at the entire situation. Here and at many other points as well, the calculus of value reaches its limits, because the value of a sum of goods is not derivable from the sum of the values of the individual goods.[16]

It is important to see that Neurath criticized not only the way economists use the monetary calculus (for which he became notorious among economists). His main intention was to block any attempt to measure a complex structure by using a single unit of measurement. Therefore he also rejected the idea of pleasure units (for which he criticized utilitarian theories), as well as working time units (which some Marxist economists wanted to apply). His main point was not to criticize the use of money, but to raise a more fundamental methodological issue. Its importance becomes clear when Neurath pleaded for the opposite strategy, for beginning with groups of *un*like elements.

> If one begins with groups of like elements, one is all too easily seduced into thinking of the results that one thereby obtains as the only possible ones, and thus into neglecting the analysis of other cases. If we want to investigate groups of elements systematically, we can start out by assuming that each element consists of parts that are fully different from each other.[17]

Neurath's methodological axiom was: construct the subject matter you are dealing with in economics – "wealth", "quality of life" – as an ensemble of heterogeneous

15 Otto Neurath in the general discussion "Über die Produktivität der Volkswirtschaft", in: *Schriften des Vereins für Sozialpolitik* 132, 1910, pp. 599-602. Trans. "Remarks on the Productivity of Money", in: *ONEW*, pp. 292-296, at p. 293.

16 *Ibid*., pp. 293-294.

17 Neurath, "Nationalökonomie und Wertlehre", *op. cit*., at p. 489.

elements; do not presume that its heterogeneity might on a deeper level be reduced to one single element.

It is of considerable interest that a similar methodological challenge plays still a crucial role in modern development economics. In a detailed paper on the conceptual foundations of development studies Sabina Alkire lays much emphasis on the same point. She characterizes "dimensions of human development" as follows: "They are incommensurable, which means that all of the desirable qualities of one are not present in the other, and there is no single denominator they can be completely reduced to (the list cannot be made shorter)."[18] This is exactly Neurath's point.

4. Traces of Mach in Neurath's economic thought

So the central methodological question is how to compare groups of unlike elements systematically with each other. There are different sources from which Neurath drew his inspiration, but we will focus only on one of them. During World War 1 Neurath wrote in a letter to Ernst Mach:

> I have heard with great interest about the latest developments in relativity theory which can be traced to your conception that gravity as a function depends on the total distribution of mass and remains constant toward certain transformations (for example, rotation). It was this idea in your *Mechanics* which has never left me since my first reading, and has influenced my own intellectual development and by indirect paths even in economics. It was your tendency to derive the meaning of particulars from the whole rather than the meaning of the whole from a summation of the particulars, which has been so important. It is in value theory in particular that these impulses have benefited me through indirect paths.[19]

To be sure, Neurath stressed that Mach's influence worked via "indirect paths". Nevertheless, the passage is instructive, not only because Neurath himself related his holistic approach in economics to Mach. It is, I think, a fair interpretation that Neurath wanted to modernize the holistic conception of economics he had inherited from the Historical School by re-formulating it from a Machian point of view. (This was one instance of the transfer of high-level epistemological reflection from physics to economics.) The passage is of interest also because Neurath referred to the chapter of Mach's *Mechanics* in which a new formulation of the law of inertia was given. In doing so, Neurath referred to an important example of the type of reconsideration and reformulation of the basic principles of physics that revolutionized modern physics in the late 19th century.

18 Sabina Alkire, "Dimensions of Human Development", in: *World Development* 30, 2002, pp. 181-205, at p. 185.

19 An undated letter (probably from 1915) from Neurath to Mach, trans. in: John T. Blackmore, Ryoichi Itagaki and Setsuko Tanaka (Eds.), *Ernst Mach's Vienna 1895-1930*, Dordecht: Kluwer 2001, at p. 106.

Mach himself gave an interesting interpretation of what he had tried to do there. In a comment added to the 1908 edition of his *Mechanics*, he stressed that many physicists had come to share his view "that 'absolute motion' is a senseless concept with no content and no scientific utility." However, the issue, Mach continued, is not only to accept this critical insight but to use it in order to "give the law of inertia an understandable sense." In Mach's opinion, there are two ways of doing this. Although the contrast between the two ways is interesting in itself,[20] we will focus only on the one which Mach, following his own interpretation of what he was doing, took "to give the law of inertia an understandable sense":

> the historical and critical way, which considers anew the facts on which the law of inertia rests and which draws its limits of validity and finally considers a new formulation … we must take account of modifications of expression which have become necessary by extension of our experience.[21]

The parallels are clear. While Mach took a fresh look at the facts upon which the law of inertia rests, Neurath took a fresh look at the facts upon which economic theorizing rests. This fresh look conceived of the subject matter of economics as an ensemble of pleasure and displeasure which is influenced by an ensemble of actions and institutions. Neurath also considered the limits of the validity of the economic laws which have been established until now and perhaps a new formulation of them. He aimed at a conceptual framework in which market-exchange could be considered as being only one particular economic order amongst others. In such a framework economists would be able to investigate the effects markets have on the quality of life of particular populations and compare them systematically with the effects which other economic orders would produce. (Neurath suggested investigating and comparing historical ones like the administrative economy of ancient Egypt, war economies of different periods, but also purely theoretically constructed structures.)

For Mach, it was "expanding experience" which made it necessary to introduce modifications of in the formulation of physical law. Neurath's programmatic paper of 1917 developed a conceptual structure in order to allow economists to consider a much broader range of phenomena than previously. In a little thought experiment he indicated the type of consideration that he had in mind, how the economic performance of a particular "order of life" was to be investigated.

> Consider a person who can enjoy two pieces of ripe fruit in the days to come. In one case, the wind blows down the ripe fruit from the tree with the two fruits; in another case, it blows down the unripe fruit, which has to rot uneaten. Then we can say that the initial condition of the wind direction facing the same group of things was more economical in the first case

20 See Elisabeth Nemeth, "'Freeing up One's Point of View'", *op. cit*., at p. 27.

21 Ernst Mach, *Die Mechanik in ihrer Entwicklung, historisch-kritisch dargestellt*. Leipzig: Brockhaus 1883, 6. Aufl. 1908, S. 257. Trans. *The Science of Mechanics*. Chicago: Open Court 1960, at p. 293.

than in the second. We introduced the direction of the wind, so to speak, as an independent variable, assuming that the direction of the wind does not entail any essential differences for the rest of the initial basis of life. … If we could not introduce independent variables, then there would only be the different pleasurableness of total bases of life, but no economic efficiency of individual determining factors.[22]

Note that for Neurath the individual factors which determine the economic efficiency were not bound to be human actions. Later in the text Neurath gave some examples in which the variables are human actions. Nevertheless, it is significant and important that he treated human and non-human variables on the same level. This last feature is directly related to what Ernst Mach says about the "method of variation".

If we have to investigate a set of multiply interdependent elements there is only one method at our disposal: *the method of variation.* We simply have to observe the change of every element for changes in another: it makes little difference whether these latter changes occur "sponaneously" or are brought about through our "will".[23]

For Mach, the method of variation is "the basic method of experimentation", and therefore an essential part of science. (Variation plays also a central role in Mach's famous chapter about thought experiments.) The method of variation has a long tradition in philosophy of science reaching from John Stuart Mill to today's theories of causation. So I think that the method of variation is one promising candidate for further research into the question how far and in what respects Neurath's methodological and epistemological approach to economics followed Mach as its main model.[24]

5. Why should we pay attention to the philosophy of Neurath's economic thought?

The first and maybe easiest answer is that Neurath was a predecessor of economic approaches that became prominent only during the last decades of the 20th century. Today some of the questions Neurath raised are broadly discussed in Ecological Economics, in Welfare Economics and Development Economics. The most im-

22 Neurath, "The Conceptual Structure of Economic Theory", in: *ONEW*, at p. 317.

23 Ernst Mach, *Erkenntnis und Irrtum* (1905), trans. by T. J. McCormack as *Knowledge and Error*, Dordrecht: Reidel 1976, p. 10.

24 There are further places to look for structural similarities with Neurath's economics, e.g., the Machian "elements", Mach's view on the function of thought experiments, his "historic-critical way of looking at things". See Nemeth, "Scientific Attitude and Picture Language. Otto Neurath on Visualisation in Social Sciences", in: Richard Heinrich, Elisabeth Nemeth, Wolfram Pichler and David Wagner (Eds.), *Image and Imaging in Philosophy, Science and the Arts,* vol. 2, Frankfurt: Ontos 2011, pp. 59-83.

portant name here is Amartya Sen.[25] Even if one looks at recent papers from international organisations, it is striking to what extent they deal with the problems Neurath wanted to address.[26] However, I don't think that this first answer can be fully satisfying. What ecological economists call the "incompatibility of values" and what development economists call the "incommensurability of dimensions of societal progress" is indeed closely related to the methodological problems Neurath raised, but the theoretical models of today are much more sophisticated than Neurath's ever were. The same, of course, can be said about Amartya Sen's functions and capability approach. What would be the point of looking in some detail at an earlier, less developed state of the same (or similar) approach?

The second answer I want to suggest therefore is the following: when we read Neurath's economic writings, we see him actively involved in the theoretical development of a particular scientific field. We see him as practitioner of economic science and social science, struggling with some basic notions of his own field and trying to re-conceptualize them. Some of the ideas which we know as Neurath's contributions to logical empiricism are already present in his early economic writings: most prominently the simile of Neurath's boat representing a holistic fallibilism, but also the proto-pragmatic concept of auxiliary motives, his sharp critique of pseudorationalism, his criticism of the fetish of precision etc. In this connection I would like to plead for a sort of "Gestalt-switch". We are used to think of Neurath's early conceptions as markers on his way to logical empiricism, i.e. to what we think of his mature philosophy of science. I suggest that we look at them the other way round: as generalized epistemological concepts which were originally developed and designed with the intention to provide an epistemological basis for Neurath's approach to economics. Relatedly, the way in which Neurath imported some of Mach's ideas into economics may serve as an example of what the unity of science project was meant to be.

The third answer I would like to suggest is related to the way in which Jim Lennox conceives of the relationship between history of science and philosophy of science. When we look at Neurath's economic writings we look at a period in which economics had not yet reached the state of a more or less well defined discipline in its own right. (This state was not achieved until the so-called "high years of theory" during the 1920s and 30s.) The topics that were discussed before World War 1 disappeared. Before then, however, we can see epistemology at work within an emerging scientific field. This should be of high interest to philosophers of science anyway.

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25 For a discussion of how far the similarities between Neurath and Sen go, see Ortrud Lessmann, "A Similar Line of Thought in Neurath and Sen: Interpersonal Comparability", in: *ONEIC,* pp. 115-130.

26 See, e.g., Enrico Giovannini, Jon Hall, Adolfo Morrone, Giulia Ranuzzi, "A Framework to Measure the Progress of Societies", OECD Working Paper 2009; the Human Development Report 2011 from the UN: Sabina Alkire, "Dimensions of Human Development", *op. cit*., and other papers on poverty measurement by the same author.

Yet we should also remember that economics as it has developed since the 1920s is a child of what Eric Hobsbawm called the "short 20th century" which began with the Russian Revolution in 1918 and ended with the fall of the Berlin wall. The short 20th century was politically, culturally and economically shaped by the tension between socialism on the one hand and liberal democracy and capitalism on the other. Neurath's economic thought developed its profile before that opposition took over the whole political and intellectual world, but the tension between defenders of socialism and capitalism was a main point of discussion already before World War 1. Yet in the young Neurath's day it was still possible to think of a conceptual framework in which a plurality of possible economic orders was conceivable and subject of scientific inquiry, moreover, the borders between economics and sociology were not yet established. Thus – and this would be my fourth answer – tracing Neurath's economic thought back to the debates on the subject matter of economics and social Science before World War 1, allows us to reconstruct this broader range of possible questions and problems that disappeared during the short 20th century. This reconstruction will enrich not only our scientific and intellectual options but also our political ones.

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