

Statistics and Socialism

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One of the preconditions of the creation of socialism, Otto Neurath wrote in 1925, is that society ‘must know from which conditions it starts at a certain moment and what it can undertake.’ To have such information, ‘above all the labour movement needs a statistics of the conditions of life. Its object should not be to establish total consumption or average consumption—these are of little significance—but the ‘standard of life’ of the main social groups and classes.’¹ Of course, it is not ‘society’ that will create this new order: ‘Socialism in practice ... will be brought about by the political victory of the proletariat ...’² hence ‘*Statistics is a tool of the proletarian struggle! An element of the socialist economy, the delight of the advancing victorious proletariat and, not least, a foundation for human solidarity.*’³

Unpacking this thought leads in a number of unexpected directions. Socialism, the institutional realization of class solidarity as human solidarity, requires the use of mathematics, to organize the information needed to plan the distribution of resources and human effort for the satisfaction of people’s needs. Neurath did not contrast science and utopia. Since, in his view, we can describe as utopias ‘all orders of life which exist only in thought and image but not in reality,’ we can set them ‘alongside the constructions of engineers, and one might with full justice call them constructions of social engineers.’⁴ Engineers are trained, technically knowledgeable people, who do a job for a client. The client in this case is the proletariat, which must make a –necessarily collective—decision about whether and how to implement the technician’s theoretical constructions.

Neurath spent much of the first world war studying the German ‘war economy,’ in which government decision-making in terms of use-values rather than money evaluations of goods guided the production and distribution of strategic materials. Already prepared by his studies of economic history to see the modern money-based economy not as the most rational form of society—as economists take it to be—but as productive of serious inefficiencies and systematically deleterious to human welfare, he had thrown himself into thinking about how to organize a peace-time economy on an in-kind basis, regulated not by the profitability demands of privately-owned enterprises but by the wishes of the population as a whole for a certain condition of life. To accomplish this, ‘one must be able to follow the movement and fate of all raw materials and energies, of men and machines throughout the economy.’ On this basis ‘economic plans would ... be designed by a special office ... from these economic plans the people’s representatives should be able to infer what sort of quantitative shifts would occur if dams are built, if all manure pits are cemented and the like, within the framework of the total economy.’⁵ Neurath envisioned the production by the central planning office of what he called ‘relief maps’ making visible the total pattern of quantitative changes in different types of output—which for him had to include such items as cultural activities, everyday pleasures, and environmental effects—produced by alternative plans. It was then up to ‘the people’s representatives’ to choose which plan to implement. Since ‘there is no way to calculate what the economic efficiency of the totality of measures and institutions is’—the illusion that monetary calculation accomplished this hides the reality of decision-making regulated by the profitability of businesses—society must consider ‘different

economic plans with various distributions of work and production and [choose] that plan which brings the highest usefulness—the maximum of quality of life ...’⁶

An index to how literally Neurath meant his conception of social planning as engineering is his behavior on an occasion when he was actually asked to provide technical expertise for the construction of socialism. Neurath’s political radicalization by the war was a common enough experience that the war was ended in Germany by mass revolution in 1918. On November 7, two days before the declaration of the social-democratic republic in Berlin, a coalition of socialists from different party organizations and orientations took power in Munich. As the majority Social-Democrats who controlled the Berlin government demonstrated their opposition to any radical transformation of society beyond the elimination of the monarchy, the Munich coalition fractured; in early April a Council Republic was proclaimed by the most radical forces, organized in the Revolutionary Workers Council. Attacked by socialist-directed military forces, this government was joined by the Communist Party, only to be quickly crushed. In the course of this brief history, Neurath was invited by the original republican government to oversee the ‘socialization’ of the economy increasingly demanded by the most radical workers—its direct management by a workers’ government. According to a leading participant in the Munich revolution, Erich Mühsam,

Neurath was of the naïve opinion that his ideas could be implemented without changing the country’s political constitution. He used to say that he would collabourate with any government that would let him go to work, whether it was an absolutist monarchy or a council republic.⁷

His post-1919 embrace of Marxism and focus on the proletariat as the maker of the socialist future suggests that he lost this naïveté in the course of his experiences in Munich (which ended with his imprisonment by the German socialist state). But something of his original idea remained in the conception of the planning expert as a skilled worker, producing materials for the consideration of society as a whole, rather than as someone who decides on implementation.

Neurath went so far, in fact, as to declare that, ‘just as the last revolution overthrew the rule of the aristocracy and landowners by the urban intelligentsia ..., the present revolution will overthrow the rule of the urban intelligentsia by the whole of the working people.’⁸ Whatever his original naïveté, he understood that ‘capitalist circles derived an advantage from the mobilization of democracy against the masses and the republic of councils they asked for,’ and that full ‘socialization’ of the economy could be accomplished only by a system of workers’ councils.⁹ Socialism means not the rule of planners but the collective decision-making of those who will implement the plan: ‘The working people decide for themselves,’ for instance, ‘whether they want to lay the bricks according to outdated rules or following scientific principles that take into account output, health and well-being on equal terms ...’¹⁰

Decision-making, of course, requires understanding the issues at hand and the various ways of resolving them—the alternative plans between which choices must be made. It means thinking objectively and realistically about the means and ends of production. This involves a certain way of looking at the world. In this Neurath saw the importance of Marxism, which he interpreted not as an ideological doctrine but as a science of society with definite historical implications. Marxism starts from the central

question of economic decision-making: ‘what social institutions condition the living standards of the various classes?’ to ask, ‘what historical changes bring forth new orders of life?’ Around this scientific center ‘are grouped certain opinions about the way the world hangs together, about necessity, in short about everything that makes a unified picture of the world possible.’¹¹ A unified picture of the world is required by the basic condition of scientific knowledge, that it be based on collectively accessible information, hence on human experience of objects in space and time, as opposed to supernatural revelations granted to particular individuals or cultures, or the special insights of unusual people, which have to be taken on faith by everyone else. It is thus in accord with the harmony between the basic character of socialism and actual social developments that ‘a scientific attitude is spreading, even among the less educated, whereas the less scientific attitude of the theological and philosophical era was often held by the most highly educated people of their time.’ In fact, ‘scientific thinking is safeguarded best by the proletariat which can use it to best advantage, whereas among its adversaries an unscientific attitude often strengthens the front-line.’¹²

This belief was restated in what is probably currently the best known of Neurath’s publications, ‘The Scientific Conception of the World: The Vienna Circle,’ written in 1929 with editorial help from Rudolph Carnap and Hans Hahn. This manifesto of the group of philosophers and scientists known as logical positivists or empiricists, asserted that ‘endeavors toward a new organization of economic and social relations, toward the unification of mankind, toward a reform of school and education, all show an inner link with the scientific world-conception ...’¹³ The converse of fascist mythmaking about ‘race’ and ‘nation,’ or—on a more abstract level—the reliance of Bergson’s philosophy

on the concept of *élan vital*, and the purposefully obscure adumbrations of Martin Heidegger, intended for a select few capable of the ‘will’ to fulfill the destiny of the German people, is the attitude of those who take a ‘stand on the ground of empirical science.’

This development is connected with that of the modern process of production, which is becoming ever more rigorously mechanized and leaves ever less room for metaphysical ideas. It is also connected with the disappointment of broad masses of people with the attitude of those who preach traditional metaphysical and theological doctrines. So it is in many countries the masses now reject those doctrines much more consciously than ever before, and along with their socialist attitudes tend to lean towards a down-to-earth empiricist view.¹⁴

Indeed, Neurath held, ‘it is precisely the proletariat that is the bearer of science without metaphysics.’¹⁵ Neurath’s optimism was not meant to deny the existence of ‘fierce social and economic struggles,’ in which he saw members of the Vienna Circle as participants. Apart from their activities within the scientific and philosophical spheres, he called on them to contribute to the movement for socialism: One of the ‘demands of the day’ on educated professionals was ‘to fashion intellectual tools for everyday life, for the daily life of the scholar but also for the daily life of all those who in some way join in working at the conscious re-shaping of life.’¹⁶

It was in thinking about how this could be done that Neurath made what has been probably his longest-lasting contribution to modern life: the development of a picture-language for ‘visual education.’ As a child he had been fascinated by Egyptian

hieroglyphics: 'I disliked the fact that they changed into the characters of current writing, only legible to the initiated. Why should not everybody get a chance to learn a lot by means of pictures?'¹⁷ As he wrote in 1931, 'Just through its neutrality, and its independence of separate languages, visual education is superior to word education. *Words divide, pictures unite.*'¹⁸

The potential of visual education became clear to Neurath in the course of his activities in connection with the Urban Settlement movement, which had developed in Vienna after the war as a result of the destruction of housing stock and the disorganization of the economy caused by the war. Tens of thousands of hungry and homeless people created gardens and helped each other to build housing on empty land. Extracted from a Bavarian prison after the crushing of the Council Republic, Neurath founded the Research Institute for Cooperative Economy in 1920, sponsored by the social-democrat-controlled Vienna city government. Neurath's institute 'hosted lectures, published policy papers and organized meetings with workers' groups and cooperatives'¹⁹—a post-revolutionary version of his activities in Munich. In 1921 Neurath helped to organize large public demonstrations demanding support for the settlements, and worked with architect Margarete Lihotzky to develop prototypes of easily constructible houses.

The settlement movement declined with the revival of the Austrian economy, which brought increased employment, incomes, and commercial building construction. Neurath shifted his attention to the need for workers to participate in planning the reconstruction of the city. To provide them with information about the development of cities and the special problems faced in Vienna, he established a Museum of Settlement

and Town Planning in 1923. This institution displayed ‘estate maps, ground-plans and photographs’ along with ‘sections of wall, in which different ways of arranging bricks were shown,’ and—most originally—‘some graphic presentations, which dealt with settlement and city development ...’ For instance, in one chart ‘dots representing a certain number of people were regularly distributed over areas divided into units, so that population density was immediately apparent and could be easily compared for different districts.’²⁰ The response to these exhibits inspired Neurath to generalize: in 1925 he renamed his enterprise the Museum of Society and Economy, deciding that its basic task was the use of pictures to convey social statistics.

He held that this method, like the scientific world-conception it embodied, was in accord with basic developments in social life:

Modern man is conditioned by the cinema and a wealth of illustrations. He gets much of his knowledge during leisure hours in the most pleasing way through his eyes. If one wants to spread social knowledge, one should use means similar to modern advertisements. ... Graphic representations of statistics should be made in such a way that they are not only correct but also fascinating.²¹

This required, he came to think, a system of simple, clearly designed symbols, following certain rules: for instance, that a larger number of things is represented by a larger number of symbols, and that the same symbol is always used for the same thing. Where possible, colors are used with their common meanings. Neurath’s commitment to the post-Expressionist modernist aesthetic of the time is visible in his statement that ‘such simple, careful symbolic representation is educationally superior to expressionistic play

with strong effective colors, to sentimental naturalism, and also to the jokes of caricature.’²² Neurath, a notoriously funny man, was opposed neither to jokes nor to feelings, but as an empiricist he drew a sharp line between emotions and scientific knowledge; it was the latter that people needed to guide their social decision-making. Thus ‘even the furniture of the exhibition is to serve the Museum’s purpose only and not to detract by sentimental or monumental effects.’ Visual education, as opposed to advertising or propaganda, aims ‘to give fundamental, strictly scientific information for social understanding, even to the less educated, without depressing him in the way learned books and statistical tables do.’²³

Like science, the educational activity of the Museum was collective in nature: ‘All charts and models are produced by a team; they serve the public and are not the expression of single individualities.’²⁴ Neurath spent years working with a variety of designers and artists before he found an artistic collaborator with a similar attitude towards collective work, Gerd Arntz, whose woodcuts Neurath saw exhibited in Düsseldorf in 1926. Arntz had been a member of the Group of Progressive Artists active in Cologne in the 1920s, which also included Franz Seifert, Heinrich Hoerle, the Czech August Tschinkel, Otto Freundlich, and the photographer August Sander.

The relationship between Neurath and other members of the Vienna Circle and the Bauhaus has been well established.²⁵ Modernist architecture was bound to be central to Neurath’s thinking, given his earlier concern with workers’ housing projects, but in addition he (along with, for example, Rudolph Carnap) recognized in it an impulse akin to their philosophical constructivism. ‘Truth to materials’ and functional, ornament-free design embodied the same commitment to progressivist rationality as the positivist

program of a unified science to be built up by transparent, logical methods out of materials furnished by experience, thus excluding metaphysical irrationalism. Yet Neurath chose to work with the Progressive Arntz, rather than one of the Bauhäusler. This is probably because Arntz's investigations into artistic means to depict capitalist society and movements contesting it, a focus he shared with other members of the Cologne group, had already led him to develop a pictorial language of the sort Neurath was looking for.

Arntz's work can be profitably seen in relation to August Sander's attempt to use photography to create a panoramic image of social classes and subclasses. Sander's treatment of his subjects as types (paradoxically employing the physical particularities of individuals to this end) manifested an interest in abstraction—here associated with rational knowledge rather than with individual self-expression--shared with the other artists of the Cologne group. Debates within the group over the political meaning and limitations of representational and non-representational art largely concerned issues of balance between documentation of existing reality and articulation of the desire to change it. It was as a part of the same discussion that Tschinkel, who worked for Neurath alongside Arntz, argued for aesthetic functionalism in a text published in the Progressives' journal *a bis z*, stressing the appropriateness of schematic signs to collective political struggle: 'the goal creates for itself a form that corresponds to it.'

Critic Hans Faber explained the formal approach of the Cologne Progressives in these terms:

These works are not abstract; they represent something; not individual features, however, but the general, typical, and determining ones: the form is a universal,

one subordinate to the law of the perpendicular, of subdivision, of strict pictorial calculation. It is fundamentally the same visibly fair planning that will be the criterion of communist production and consumption relations in the future.

Faber could have illustrated this with images by Gerd Arntz or Heinrich Hoerle; he chose to compare a brothel scene by Otto Dix with Seiwert's *Freudlose Gasse*. As Faber says, Dix makes his point by means of typical 'postwar atmospheric naturalism;' were the artist unknown, one would think him 'a moralizing bourgeois satirist.' In contrast, Seiwert's image of prostitution 'is painting first, i.e. surface and strict articulation. He paints no whore portraits but only blank facial surfaces. No lyricism spoils the clear depiction of social power positions: police, barred door, regulation, businesslike air, paying customers. The picture's formal law reveals that of the social structure, the fixing of a clear, rational insight.'²⁶ The refusal of sentimentality, even of satire, embodies a political judgment: that, as the artist explained in an essay on prostitution, the sex trade is not a 'problem' but of the essence of bourgeois society, whose workings should not be improved but destroyed.²⁷

Writing in *a bis z* in 1930, Arntz explained that 'the painter must take up a position in today's society as a helper of rationalization.' While 'statistics have other elements and laws than painting' the two share the use of pictorial means in the promotion of a general rationalization of social life, 'and this creates elements that aid in the overcoming of present-day society.' The Progressive artists' critique of leftover Romantic and Expressionist elements in contemporary German painting was of a piece with Arntz's search for graphic means to clarify the necessity for the overcoming of the existing social system.

The Cologne Progressives, a group of artists oriented politically towards the German anti-parliamentary left—and thus towards a revival of the postwar movement of workers councils--were in a different political situation than Neurath occupied as a city official in the midst of Red Vienna. Yet, in trying to respond as artists to the ongoing German crisis, they pursued analogous ends. As Seiwert wrote in 1923, when it became clear that revolution was no longer on the immediate agenda in Germany, ‘The only thing we can do is, first of all, to bring clarity into ourselves and our social relations and in this clarity to give expression to our work by means of the work.’²⁸ For the philosopher-social scientist, working-class education, for which the new system of pictorial statistics was an invaluable tool, exemplified the Vienna Circle’s commitment to logic and scientific progress, a means to beat back the rising tide of reaction.

Neurath seems to have been cheerful by nature, and the tone of his writings of the mid- and later thirties is generally optimistic. But this reflected the attitude that people must try to do their best rather than a willful denial of the reality of economic depression, fascism, and impending war. In 1939 he published in English a large-format illustrated book, *Modern Man in the Making*, which examined human history and its then state with a clear eye. Thus he began by contrasting declining mortality rates with the rise of unemployment as key indicators of the quality of modern life. He used picture symbols also to suggest the way in which the development of science-based technology led to the uniformization of military equipment: ‘a knowledge of war technology is the common possession of all nations today.’²⁹

At the same time, Neurath rejected the unscientific view that war was a function of an innate irrationality of ‘human nature’: He concluded his book with the thought that

‘the social order might be reconstructed without fundamentally changing human character, merely by transforming human institutions on the basis of traditional scientific attitude. Thus it may still be possible to love and hate one another, but with a sense of social security that is now lacking.’³⁰ It was in the interest of such a future that his book presented ‘material which everybody will find useful in interpreting statistics published in newspapers or reference books.’³¹ In this way visual education might create the basis for a more lasting achievement of the workers’ self-government that had made an all-too-brief appearance in the Council Republic.

¹ O. Neurath, *Wirtschaftsplan und Naturalrechnung. Von der sozialistischen Lebensordnung und von kommenden Menschen* (Berlin: E. Laub’sche Verlagsbuchhandlung, 1935), trans. T. E. Uebel, in O. Neurath, *Economic Writings*, p. 444-45.

² *Ibid.*, p. 405.

³ O. Neurath, *Lebensgestaltung und Klassenkampf* (Berlin, 1928), in R. Hegselmann (ed.) *Otto Neurath: Wissenschaftliche Weltauffassung, Sozialismus und Logischer Empirismus* (Frankfurt: Suhrkamp, 1979), p. 294.

⁴ O. Neurath, *Durch die Kriegswirtschaft zur Naturalwirtschaft* (München: Georg D.W. Callwey, 1919), trans. P. Foulkes and M. Neurath, in O. Neurath, *Empiricism and Sociology*, p. 151.

⁵ *Ibid.*, pp. 140-41.

⁶ O. Neurath, *Wirtschaftsplan und Naturalrechnung*, pp. 420, 423.

⁷ E. Mühsam, ‘From Eisner to Leviné. The Emergence of the Bavarian Council Republic,’ [1920], trans. Gabriel Kuhn, in G. Kuhn (ed.), *All Power to the Councils! A Documentary History of the German Revolution of 1918-1919* (Oakland: PM Press, 2012), p. 234. Neurath’s words, in his report to a plenary session of the Munich Workers Council, suggest less naiveté and more of a *parti pris* than Mühsam gives him credit for: while a social-democratic administration would regulate production and distribution in ‘a central and somewhat bureaucratic manner,’ its replacement by a system of workers’ councils would replace bureaucracy ‘by representative bodies’ (*Durch die Kriegswirtschaft*, in *Empiricism and Sociology*, p. 137).

⁸ O. Neurath, *Vollsozialisierung. Von der nächsten und übernächsten Zukunft* (Jena: Eugen Diderichs, 1920), trans. R.S. Cohen and T.E. Uebel, in *Economic Writings*, p. 364.

⁹ *Ibid.*

¹⁰ *Ibid.*, p. 359.

¹¹ O. Neurath, ‘Personal Life and Class Struggle’ (*Lebensgestaltung und Klassenkampf*), trans. P. Foulkes and M. Neurath, in *Empiricism and Sociology*, p. 290.

¹² *Ibid.*, p. 252.

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- ¹³ ‘The Vienna Circle,’ in *Empiricism and Sociology*, pp. 304-5.
- ¹⁴ *Ibid.*, p. 317.
- ¹⁵ ‘Personal Life and Class Struggle,’ in *Empiricism and Sociology*, p. 297.
- ¹⁶ *Ibid.*, p. 305.
- ¹⁷ O. Neurath, *From Hieroglyphics to Isotype, A Visual Autobiography* [1945], in *Empiricism and Sociology*, p. 6.
- ¹⁸ O. Neurath, ‘Visual Education and the Social and Economic Museum in Vienna,’ in *Empiricism and Sociology*, p. 217.
- ¹⁹ Nader Vossoughian, *Otto Neurath. The Language of the Global Polis* (Rotterdam: NAI Publishers, 2008), p. 29.
- ²⁰ Marie Neurath, *What I Remember* (ms.), p. 29.
- ²¹ O. Neurath, ‘The Social and Economic Museum in Vienna’ [1925], in *Empiricism and Sociology*, p. 214.
- ²² O. Neurath, ‘Visual Education,’ p. 215.
- ²³ *Ibid.*, pp. 216, 217.
- ²⁴ *Ibid.*, p. 215.
- ²⁵ See Peter Galison, ‘Aufbau/Bauhaus: Logical Positivism and Architectural Modernism,’ in *Critical Inquiry* 16:4 (1990): 709-752; for a critique, see Angela Potochnik and Audrey Yap, ‘Revisiting Galison’s ‘Aufbau/Bauhaus,’ in *Studies in History and Philosophy of Science* 37:3 (2006): 469-488.
- ²⁶ Hans Faber (pseud. Hans Schmitt-Rost), ‘inhalt und form,’ in *a bis* z 2:20 (1931), p. 77.
- ²⁷ F.W. Seiwert, ‘Gesellschaft und Prostitution,’ in *Die Aktion* 119/10 (1921); rep. in Bohnen and Backes (eds.), *Der Schritt, , der einmal getan wurde, wird nicht zurückgenommen. Franz W. Seiwert Schriften*, p. 23.
- ²⁸ F. W. Seiwert, , ‘Die Funktion der Intellektuellen in der Gesellschaft und ihre Aufgabe in der proletarischen Revolution,’ in *Die Aktion* 13:21/22 (1923); rep. in Bohnen and Backes (eds.), *Der Schritt, der einmal getan wurde*, p. 40.
- ²⁹ O. Neurath, *Modern Man in the Making* (New York: Alfred A. Knopf, 1939), p. 17.
- ³⁰ *Ibid.*, p. 132.
- ³¹ *Ibid.*, p. 7.

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