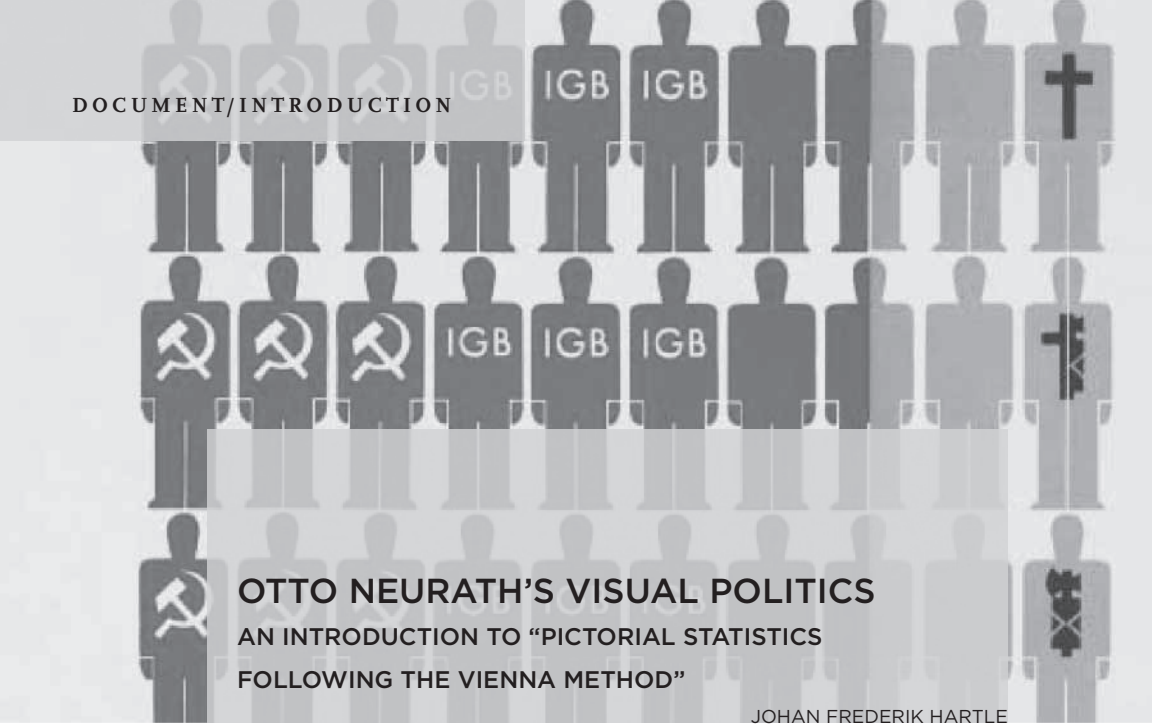

OTTO NEURATH'S VISUAL POLITICS

AN INTRODUCTION TO "PICTORIAL STATISTICS FOLLOWING THE VIENNA METHOD"

JOHAN FREDERIK HARTLE

Otto Neurath (1882–1945) was an activist on many fronts, a pedagogue and agitator for social change, whose work bore witness to some of the most dramatic ruptures in the first half of the 20th century. His interests lay not only in intellectual knowledge, but in producing the social conditions for its development, distribution, and employment. According to Elisabeth Nemeth, Neurath's organizing ability was what especially helped him to establish the renowned Vienna Circle of philosophers as a group with more or less well-defined programmatic positions.[1] That programmatic approach often led to criticism for an overly technical understanding of politics with strong inclinations toward social engineering (a suspicion most famously voiced by Otto Bauer, the left-wing thinker of Austrian Marxism).[2] But it was also an approach through which Neurath sought to apply his own theoretical positions in practice, beginning with his attempts to turn his experiences with the war economy (that is, with the successful state-organized attempts at dealing with the scarcity of goods) into collectivization programs and modes of planned economy (in both Saxony and Bavaria, where Neurath was a minister for planned economy in

1 Elisabeth Nemeth, *Otto Neurath und der Wiener Kreis: Revolutionäre Wissenschaftlichkeit als Anspruch* (Frankfurt am Main: Campus, 1981), 11.

2 Günther Sandner, *Otto Neurath: Eine politische Biographie* (Vienna: Zsolnay, 2014), 134.

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the short-lived Bavarian council republic). Just as important, Neurath engaged in the development of new forms of housing in the vagabond squatters' movement on the outskirts of Vienna—where people constructed their own suburban dwellings, supported by some of the most renowned architects of the time—and emphasized new modes of visual pedagogy, based on a simplified system of visual communication, to broadly communicate the findings of the social sciences.

The particular importance of the document translated here, Neurath's "Bildstatistik nach Wiener Methode," or "Pictorial Statistics Following the Vienna Method," is closely linked to this general intellectual profile. The document exemplifies Neurath's efforts to turn knowledge into a form of social practice, first and foremost through education involving images. Driven by a strong pedagogical impulse,[3] Neurath's methods implicitly reflected the more general political and epistemological struggles of his time. For today's readers, three aspects make this a document of particular interest: it helps us identify Neurath as a predecessor of what in Germany goes by the name of *Bildwissenschaften* (image studies); it situates Neurath's pedagogical practice between the socialism of the Second International, on the one hand, and logical positivism, on the other; and it asks timely questions about both the possibilities and the pitfalls we encounter when we apply various modes of pictorial representation to general societal structures.

ARCHAEOLOGIES OF *BILDWISSENSCHAFT*: THE VIENNA METHOD

The 1931 essay on "Pictorial Statistics Following the Vienna Method" is one of numerous texts in which Neurath reflected on his pedagogical program, seeking to disseminate it as didactically as possible. The fact that Neurath focused on the educational value of *images* (or diagrams) is crucial here, not only for his assessment of the cultural specificities of modernity, but also for his relevance today. Neurath conceptualized images as visual signifiers: he emphasized their historical significance for modern culture and, at the same time, was encouraged by the use of visual imagery to explain modern science. Neurath was, for instance,

3 To be more precise, this impulse is often seen as one of systematization, simplification, and rationalization, identifying the Vienna Circle, at least in German, firmly within the European Spätaufklärung, or Late Enlightenment. See Friedrich Stadler, "Spätaufklärung und Sozialdemokratie in Wien 1918–1938: Soziologisches und Ideologisches zur Spätaufklärung in Österreich," in *Aufbruch und Untergang österreichischer Kultur zwischen 1918 und 1938*, ed. Franz Kadmoska (Vienna: Europa Verlag, 1981), 441–73.

deeply inspired by the cartographic and botanical illustrations that accompanied Alexander von Humboldt's *Cosmos* and Charles Darwin's *The Descent of Man*.[4]

What Neurath called his "Vienna Method" of pedagogy offered a program of visual statistics that tried to develop a vocabulary of visual signs designed to communicate data about society as clearly and transparently as possible. He developed the method primarily for adult education, but it was quickly taken up in school education as well. Neurath's interest in images expressed the general mood of the times in an increasingly visual age. Because of this diagnostic engagement with a highly *visual* culture, but also and especially because of its contribution to the nascent understanding of the semiotics of the image, Neurath's Vienna Method can be seen as an early contributor to the discussions on and around *Bildwissenschaften*. In Germany, along with other parts of the world, that academic discourse has strongly emphasized the importance of scholarship into image phenomena, developing new fields of cultural research of which Neurath's work can be seen as a significant antecedent.[5]

Within the vast range of such discussions, however, Neurath's position marks an extreme case. In his emphasis on diagrammatic representation, Neurath abstained from focusing on those aesthetic qualities of an image that cannot be reduced to sheer information (what we might call an image's iconic ambiguities), and tended to programmatically dismiss the "painterly" element of images: "The stimulus of the painterly distracts," he claimed.[6] He instead conceived images as "signatures," or bearers of information, as one would find them in the world of text. Neurath's Vienna Method is thus, to a large extent, a diagrammatic strategy that strives for maximal transparency and minimal iconicity, aiming to convey information as clearly as possible by avoiding all aesthetic or pictorial rhetoric.[7]

4 Otto Neurath, *From Hieroglyphics to Isotype: A Visual Autobiography* (London: Hyphen Press, 2010), 33, 35. Ed. Matthew Eve and Christopher Burke.

5 This development, which has been going on for about two decades, has been advanced strongly by scholars like Hans Belting, Gottfriend Boehm, and Horst Bredekamp, as well as by W. J. T. Mitchell and Georges Didi-Huberman.

6 Otto Neurath, "Bildliche Darstellung sozialer Tatbestände," in *Gesammelte bildpädagogische Schriften*, ed. Rudolf Haller and Robin Kinross (Vienna: Hölder-Pichler-Tempsky, 1991), 57–62, here 60. Here and below, all translations are mine, except those from the following Document.

7 Astrit Schmidt-Burkhardt, *Die Kunst der Diagrammatik: Perspektiven eines neuen bildwissenschaftlichen Paradigmas* (Bielefeld: Transcript, 2012) 20, 30f.

The historical origin of Neurath's method can be found in his work, in 1924, for the foundation of the Museum of Society and Economy of the City of Vienna (*Gesellschafts- und Wirtschaftsmuseum*, hereafter GWM), one of the city's most innovative cultural institutions. To Neurath the museum context emphasized the practical conditions for understanding images. Meaning, he argued, is extrapolated from the signifier, which carries a number of heuristic possibilities. Such extrapolation, however, is predetermined by social contexts and habits. For his own practice at the GWM, this implied that the readability of images was in large part derived from museums, as they also helped to form social contexts and habits of reception.[8]

Neurath's striving for an ideally self-explicating sign, and for maximum proximity between signifier and signified, gained contours in the Vienna Method. His program of visual communication implied a desire to convey information as quickly as possible; as a consequence, Neurath rejected all abstract diagrams because, in his mind, they force the viewer to "unoptically" (in other words, abstractly, purely intellectually) comprehend "what they mean."[9]

The Vienna Method implies the use of symbols of the same size and form, which can be understood at first sight not because their size or scale changes, but because they multiply. Moreover, in the Vienna Method, objects are not reproduced according to the rules of linear perspective, but rather in an isometric fashion, in which parallels are not conceived to meet in a projected vanishing point. In this way, information can be presented directly, without the "irritations" of changing proportions, as is often the case when symbols are compared with each other and where variations in width, size, volume, or location can affect one's reading.

Neurath's interest in developing a unified and comprehensive pictorial language required the development of a visual vocabulary that could serve this purpose. He therefore placed great value on consistency and on maintaining a sign's meaning across different graphical representations (such as human forms to represent workers, or the standardized figures of different social classes and professions, which have become famous and can be seen in the illustrations accompany-

8 Karl H. Müller, "Neurath's Theory of Pictorial-Statistical Representation," in *Rediscovering the Forgotten Vienna Circle: Austrian Studies on Otto Neurath and the Vienna Circle*, ed. Thomas E. Uebel (Dordrecht: Kluwer, 1991), 241f.

9 Otto Neurath, "Statistische Hieroglyphen," in Haller and Kinross, *Gesammelte bildpädagogische Schriften*, 40–50, here 44.

ing the Document). Such a universal pictorial language is inherently focused on good pedagogical technique, but is also, not incidentally, about political strategy. "These figures," according to Neurath, "are not visual pleasantries designed to stimulate our interest, they are elements of a *pictorial language* that is perhaps called upon one day to be used internationally."[10] Pictorial language could, in other words, offer universal comprehensibility that would avoid the cultural nuances and differences between and even within other forms of language.

Such internationalism was matched by Neurath's extensive traveling, as he sought to bring his technique to the Netherlands, England, and the Soviet Union. It even filtered down to the name of Neurath's technique. In 1935, under the auspices of the designer Gerd Arntz, who after 1929 was also the head of the graphic department at GWM, the Vienna Method of pictorial statistics was renamed "Isotype," which was short for "International System of Typographic Picture Education."

PURIFIED ENLIGHTENMENT: SOCIALIST PEDAGOGICS AND VISUAL POSITIVISM

On one level, Neurath's visual program should be seen as part of the broader education of Austrian workers, which played a particular role in the cultural politics of the Austrian Social Democrats in the interwar period.[11] Neurath's pictorial statistics focused on housing, health, and education in a way that ultimately stood in solidarity with the three key political foci of "Red Vienna," the socialist-governed city isolated like an island within broader, conservative Austria. At the same time, the Vienna Method of pictorial statistics also identifies Neurath's general philosophical attempt to simplify language (in this case, visual language) and, by ridding it of ornament and distraction, to develop, as we have now noted, a universal language based on a "popular version of logical positivism."[12]

As Neurath emphasized at the very beginning of "Pictorial Statistics Following the Vienna Method," his pictorial pedagogy sought to echo contemporary science. In 1931, Neurath formulated this idea in

10 Otto Neurath, "Bildliche Darstellung," 59.

11 See the still-decisive study by Helmut Gruber, *Red Vienna: Experiment in Working Class Culture 1919–1934* (Oxford: Oxford University Press, 1991), and the book edited by Ursula Apitzsch, *Neurath–Gramsci–Williams: Theorien der Arbeiterkultur und ihre Wirkung* (Hamburg: Argument, 1993).

12 Ellen Lupton, "Reading Isotype," *Design Issues* 3, No. 2 (Autumn 1986): 47–58, here 49.

the following way: "In its most modern incarnation, science is especially interested in preserving facts *visually*."[13] The very concept of the image was at the center of one of the most inspirational texts of the Vienna Circle, Wittgenstein's *Tractatus Logico-Philosophicus*. The epistemological idea that images (which would include thoughts as well as speech acts) are models of the world was suggested by Wittgenstein's concept of the image in this text. The relationships between knowledge in the *Tractatus* are, as a whole, described as representational, whereby the spoken sentence is understood as an image that (either clearly or confusedly) reproduces thought.[14] The logical structure of language thereby corresponds to the logical structure of the world, reinforcing the importance of a logically structured and transparent form of language.

Neurath's empiricism is in fact even more exacting than Wittgenstein's, insofar as Neurath focuses on visual images, or more specifically pictorial representations, and does not just use the term "image" as a synonym for representation as such. As Neurath writes, "That which one can express with pictures one should not express in words."[15] We should note, however, that Neurath did not believe that knowledge could be realized independently of symbols, through pure visualization or self-evidence, which is why the development of a universal pictorial language for him had to be accompanied by the development of normalized visual symbols.

This was a fundamentally political position to take. Neurath's drive for universalism relied on notions of transparency, freedom from value, and a basic trust in the historic institutions of knowledge, each of which was reflected in the political discourse of Viennese social democracy at the time, during the Second International. The politics of Red Vienna, and especially its Social Democratic Workers Party (or SDAP), are very relevant here. Both Red Vienna and the SDAP during the interwar period realized far-reaching socialist reform programs, especially in the areas of living, education, and health. Those programs continued until 1934, when—in the wake of the SDAP's defeat during the February Uprising—the Austro-Fascist government took over. In 1931,

13 Otto Neurath, "Bildstatistik nach Wiener Methode," in Haller and Kinross, *Gesammelte bildpädagogische Schriften*, 180–90, here 180.

14 Ludwig Wittgenstein, *Tractatus Logico-Philosophicus* (New York: Dover, 1998). This perspective mirrors concisely the concept of realism in Viennese positivism, even if Neurath penned a thoroughgoing critique of the *Tractatus*.

15 Otto Neurath, "Die pädagogische Weltbedeutung der Bildstatistik nach Wiener Methode," in *Gesammelte bildpädagogische Schriften*, 240–43, here 243.

however, Neurath's ideas about visual education were just beginning to take root in a number of Montessori and secondary schools, at the same time as Social Democratic programs to reform the school system became the focus of political debates. Because of his reputation in adult education in general, and workers' education in particular, Neurath had himself hoped to enter the sphere of school education as well. Indeed, "Pictorial Statistics Following the Vienna Method" was one of his early developments in this direction, and it would soon be followed by his larger project, *Bildstatistik nach Wiener Methode in der Schule* ("Pictorial Statistics Following the Vienna Method in Schools"), which was eventually published in 1933, when the conditions for its realization were slowly facing decline.[16]

In both texts, Neurath believed that the transmission of social facts through pictorial pedagogics and statistics was in line with the general state of historical progress, which he sought to document (two of his essays are even titled "Statistics and Socialism" and "Statistics and the Proletariat").[17] Without doubt, Neurath's hope in society-building owed its plausibility to the successes of Red Vienna, before all else in the areas of housing and healthcare, and the golden age of social democracy with its unrelenting economic growth.[18] As Neurath put it in "Statistics and the Proletariat," "statistics are a joy for those who are successful! Statistics are a necessity for the planned economy, which makes statistics the concern of the socialist proletariat!"[19] Yet, even during the interwar period the general strands of social progress were less reliable than Neurath wanted to believe. The massive emphasis on cultural politics and popular education was partly due to the Viennese Social Democrats' impotence in addressing the more solid reality of property relations, let alone the awareness that while the city's socialism allowed for some kinds of progress, at the same time it also foreclosed others.

16 Friedrich Stadler, "Otto Neurath: Encyclopedist, Adult Educationalist and School Reformer," in Uebel, *Rediscovering the Forgotten Vienna Circle*, 263. Stadler sees this as Neurath's most important contribution to developing a pedagogical method.

17 Otto Neurath, "Statistik und Sozialismus," in *Wissenschaftliche Weltauffassung, Sozialismus und logischer Empirismus*, ed. Rainer Hegselmann (Frankfurt am Main: Suhrkamp, 1979), 288–95; "Statistik und Proletariat," in Haller and Kinross, *Gesammelte bildpädagogische Schriften*, 78–84.

18 Very specific to Neurath was the idea that statistical knowledge would provide people with the capacity to deal with the problems of a planned economy. See Hegselmann, *Wissenschaftliche Weltauffassung*, 53.

19 Otto Neurath, "Statistik und Proletariat," 78.

DOCUMENTING THE NONEMPIRICAL

Neurath's ambition to document general social developments—not only forms of social progress, but also social structures—was a key aspect of his politics, partly converging with the problems inherent in the representation of the general societal developments that were addressed by his Marxist contemporaries. The extent of this problematic is accompanied by questions pertaining to social realism that were formulated around the same time. Yet, unlike the realist models of Lukács or Brecht (which were based on epic narratives, theater, or, in Brecht's preferred case, poetry),[20] Neurath chose a pictorial and diagrammatic approach that bore its own potentials and problems.

Neurath identified as a Marxist,[21] however much Marxism may have contradicted his baseline epistemological convictions. Marx had reflected heavily on the possibility of representing social reality, its temporal nature and relationality, and the construction of the overarching logics of social development. The merely visible appeared—to Marx as to his more Hegelian successors—as an expression of the deeper logics of capital, such that his fact-based positivism struggled with a tension that Brecht was to describe in a nutshell: "The situation has become so complicated because the simple 'reproduction of reality' says less than ever about that reality. A photograph of the Krupp works or the AEG reveals almost nothing about these institutions. Reality as such has slipped into the domain of the functional."[22]

The Vienna Method poses a similar question, albeit from the perspective of a strictly visual paradigm and against the background of a strictly empiricist epistemology: namely, how to make visible both individual, societal facts and more abstract social relations. Grasping the complexity of social relations was one of the key problems with which Neurath struggled. In 1925, he wondered how "to show what occurs within a social body: the changes in the constellation of classes, the circulation of money and commodities, the activity of banks, etc.; the correlation between personal income and tuberculosis, between the national

20 For understanding the different perspectives on social realism during the period, the texts compiled by New Left Books are still very useful; see Ronald Taylor, ed., *Aesthetics and Politics* (London: NLB, 1977).

21 For Neurath's Marxism, see Nancy Cartwright, Jordi Cat, Lola Fleck, and Thomas E. Uebel, *Otto Neurath: Philosophy between Science and Politics* (Cambridge: Cambridge University Press, 1996), 144f.

22 Bertolt Brecht, "The *Threepenny* Lawsuit," in *Brecht on Film and Radio*, ed. Marc Silberman (London: Bloomsbury, 2000), 147–99, here 164–65.

birthrate and mortality?"[23] Neurath's answer was, however paradoxically, to address nonempirical relations (such as the movements of capital, legal relations, etc.) in an empirical, statistical way, using the concept of typification—a category that was also central to Lukács's understanding of social realism—as the means to strive for a diagrammatic reduction of information. The simplified representation of social characters (workers, capitalists, etc.) was thus meant to represent overarching social structures as such (e.g., class relations or relations of capital).

That reduction still left open the question of how to depict and interpret the social regulations and norms that lay beneath manifest empirical reality. Neurath's answer emphasized "figures and contexts, which are ultimately first constructed through particular mental processes."[24] In his methodological reflections on the conditions of the social sciences, Neurath also gave much attention to the identification of social laws and regulations.[25] Yet he also insisted that material (literally physical) relations should be crucial for any kind of nonmetaphysical science.[26] His social science methodology thus emphasized the observation of groups—of social behaviorism—and of observable structures. The statistical identification of ethnic groups (or "races," which in German has long been a highly problematic term[27]), documenting people as members of identity groups, is one of the returning motifs in his own visual statistics. Neurath believed that the world of facts would, if statistically represented, disclose itself to progressively minded readers. That view was clearly optimistic, because it mistakes a world of facts and representation for what it is not: the complexity of social mediations. Yet Neurath still found that his sociological methodology in general and his use of pictorial statistics in particular were adequate for

23 Otto Neurath, "Gesellschafts- und Wirtschaftsmuseum in Wien," in Haller and Kinross, *Gesammelte bildpädagogische Schriften*, 1–17, here 1–2.

24 Otto Neurath, "Darstellungsmethoden des Gesellschafts- und Wirtschaftsmuseums," in Haller and Kinross, *Gesammelte bildpädagogische Schriften*, 18–33, here 18.

25 Otto Neurath, "Soziologie im Physikalismus," in *Gesammelte Philosophische und methodologische Schriften*, vol. 2, ed. Rudolf Haller and Heiner Rutte (Vienna: Hölder-Pichler-Tempsky, 1981), 533–62, here 549.

26 Otto Neurath, "Empirische Soziologie," in *Gesammelte Philosophische und methodologische Schriften*, vol. 1, ed. Rudolf Haller and Heiner Rutte (Vienna: Hölder-Pichler-Tempsky, 1981), 423–527, here 466.

27 See Sybilla Nikolow, "'We Could Not Photograph Social Objects, Even If We Tried': Otto Neuraths Bildstatistik als Beobachtungs- und Darstellungsinstrument sozialer Fakten," in *Tabellen, Kurven, Piktogramme: Techniken der Visualisierung in den Sozialwissenschaften*, ed. Elisabeth Nemeth und Wolfgang Pircher (Mitteilungen des Instituts für Wissenschaft und Kunst 1–2, Vienna: Institut für Wissenschaft und Kunst, 2009), conference proceedings, 18–30.

understanding "the circulation of money and commodities," as he put it, and for the successively abstract and speculative movement of capital. The result was a conflict within Neurath's methodology.

Indeed, Neurath's preference for immediately clear representations of empirical entities, rather than allusions to movements and relations, meant that he struggled to provide the visual representation of nonempirical social facts, like overarching structures and developments. Our contemporary attempts to come to terms with diagrams and cartographies of social reality (one may think of the work of Mark Lombardi or of Alice Creischer and Andreas Siekmann)[28] find themselves battling with the same type of challenge. Attempts to bring processes (narratives) and relations (interactions) more explicitly into play in sociological and cultural analysis—reasons for Lukács and Brecht to favor epic forms or theater over visual representations––are part of the problem that Neurath left to his successors.

Obviously, contemporary attempts to make sense of the visual representation of society (with or without references to the Vienna Method) are confronted with different scenarios and problems, not least with the growing complexity of capital relations and economic power under the conditions of a speculative financial economy. Fredric Jameson has consistently emphasized that contemporary attempts to map social structures and relations will always remain highly allegorical.[29] Neurath's pictorial statistics are nevertheless tremendously useful devices, if understood as models of political constructivism that help us to orient ourselves in an increasingly uncertain world. Properly understood, however, such political constructivism is not just an act of the transparent representation of scientific knowledge, technology, and social progress, but also an act of will.

28 For artistic references to Neurath, see Wim Janssen, "Neurath, Arntz, and Isotype: The Legacy in Art, Design, and Statistics," *Journal of Design History* 22, No. 3, 227–42. For the work of Creischer and Siekmann, see specifically their *Ex Argentina: Schritte zur Flucht von der Arbeit zum Tun* (Cologne: Verlag der Buchhandlung Walther König, 2004). See also Johan Frederik Hartle, "Kommunikationsdesign als politische Aufklärung: Das Gesellschafts- und Wirtschaftsmuseum, die Wiener Methode, Isotype und die Gegenwart," in *Ausstellen: Zur Kritik der Wirksamkeit in den Künsten*, ed. Kathrin Busch, Burkhard Meltzer, and Tido von Oppeln (Berlin: Diaphanes, 2016), 291–318.

29 See Fredric Jameson, "Cognitive Mapping," in *Marxism and the Interpretation of Culture*, ed. Lawrence Grossberg and Cary Nelson (Chicago: University of Illinois Press, 1990), 347–60. For a more recent approach to this problem, see Alberto Toscano and Jeff Kinkle, *Cartographies of the Absolute: An Aesthetics of the Economy for the Twenty-First Century* (London: Zero Books, 2014).