

ABSTRACT

Title of Document: FIGURATIVE CONSTRUCTIVISM,
PICTORIAL STATISTICS, AND THE
GROUP OF PROGRESSIVE ARTISTS,
C. 1920-1939

Benjamin Benus, Doctor of Philosophy, 2010

Directed By: Professor Steven A. Mansbach
Department of Art History and Archaeology

This dissertation examines an episode of interdisciplinary collaboration in Vienna during the late 1920s and early 1930s, led by the Austrian social scientist Otto Neurath (1882-1945) and the German printmaker Gerd Arntz (1900-1988). This collaboration, which took place at Vienna's *Gesellschafts- und Wirtschaftsmuseum* [Social and Economic Museum] ultimately created an international graphic sign language that would have wide-ranging applications across a variety of media and disciplines. Known as the Vienna Method of Pictorial Statistics, this graphic language was intended to communicate social and economic facts to a general audience. In making such information broadly accessible, the Vienna Method's designers hoped to empower the public at large to take informed positions on a variety of social and political issues.

Prior to and during the period of this collaboration, Arntz was a member of the Rhineland-based *Gruppe progressiver Künstler* [Group of Progressive Artists]. In

1929 two additional members of this group—the Dutch artist Peter Alma (1886-1969) and the Czech artist Augustin Tschinkel (1905-1983)—joined Arntz at the museum. All three artists produced prints, drawings, and paintings in an expressive mode, later classified under the rubric “figurative constructivism.” While these “free” works (as they often described them) were produced independent of the applied work at the museum, the two types of production share several key stylistic and iconographic features. Yet, the relationship between figurative constructivist artworks and pictorial statistic graphics has until now remained obscure. This dissertation analyzes the nature of this creative relationship by describing the different circumstances out of which the two projects originated, and by examining the manner in which certain figurative constructivist features were adapted in the design of pictorial statistics. In considering the ways in which these two types of work were presented and discussed together in a variety of contemporaneous avant-garde publications, the present investigation will provide new insights concerning the interwar connections between the artistic avant-garde and visual communication in the sciences.

FIGURATIVE CONSTRUCTIVISM, PICTORIAL STATISTICS, AND THE
GROUP OF PROGRESSIVE ARTISTS, C. 1920-1939

By

Benjamin Benus

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Advisory Committee:
Professor Steven A. Mansbach, Chair
Professor Dorothea Dietrich
Professor Joshua A. Shannon
Professor Marjorie S. Venit
Professor Jeffrey Herf

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198. *XV let sovetskoy vlasty. 44 diagrammi*. [15 Years of Soviet Power: 44 Diagrams] (Moscow: Ogiz State Fine Art Publishers, 1932), 43, 44.
199. *Molodezh CCCP v zifrach. Zbornik diagram* [Youth of the USSR in Figures: A Compilation of Diagrams] (Moscow, 1936).
200. *USSR: An Album Illustrating the State Organization and National Economy of the U.S.S.R.* (Moscow: Scientific Publishing Institute of Pictorial Statistics, 1939), 35.
201. *USSR* (Moscow, 1939), 48.
202. Letterheads showing the succession of organizations associated with the *Gesellschafts- und Wirtschaftsmuseum* in the early 1930s.

203. *Survey Graphic* (February, 1937) cover.
204. Pages from *Tuberculosis: Basic Facts in Picture Language* (New York: National Tuberculosis Association, 1939), 12, 13.
205. Poster for the New York City Department of Health (with text on reverse side), 1939.
206. Pages from Compton's Picture Encyclopedia (Chicago: F.E. Compton & Co., 1939).
207. Page from *Modern Man in the Making* (New York: Alfred A. Knopf, 1939), 53.
208. W.J.H.B. Sandberg, *Het verleden in egyptische reliefs, het heden in statistisch beeld* [The Past in Egyptian Reliefs, the Present in Statistical Pictures] (Amsterdam, 1929).
209. Peter Alma, "Carrying capacity of arriving and departing aircraft at Schiphol," Amsterdam, c.1938.
210. *Welvaart en industrie in Nederland* [Prosperity and Industry in the Netherlands] (Leiden: H.E. Stenfert Kroese, 1940).
211. "Population by Nationality" and "Population by Profession," in *Malá vlastivěda* [Little Civics Reader] (Prague: Státní nakladatelství, 1935), 17, 19.
212. "The Population of Prague" (above) and "Prague in 1400 and Today" (below), in *Malá vlastivěda* (1935), 28, 29.
213. Rudolf Modley, *Now it can be shown* (New York: Pictorial Statistics, Inc., 1937), cover.
214. "Electric Power on the Farm." Graphic by Rudolf Modley for the Rural Electrification Administration, Washington D.C., 1936. Reproduced in Modley, *How to Use Pictorial Statistics* (New York: Harper and Brothers, 1937).
215. Graphics produced by Rudolf Modley for the Henry Street Settlement, New York City, 1930s. Reproduced in Modley. *How to Use Pictorial Statistics*. New York: Harper and Brothers, 1937.
216. Gerd Arntz, Examples of later pictograms from the 1950s and 1960s, reproduced in Arntz and Broos, *Symbolen voor onderwijs en statistiek: 1928-1965 Wenen-Moskou-Den Haag* (The Hague: Nederlandse Stichting voor Statistiek, 1979).

Introduction

Figurative Constructivism and Pictorial Statistics

In January 1929, the German printmaker Gerd Arntz (1900-1988) was promoted to head of the graphics department at the *Gesellschafts- und Wirtschaftsmuseum* [Museum of Society and Economy] in Vienna, where, since the previous autumn, he had worked on a trial basis under the museum's director, Otto Neurath (1882-1945). As its main task the museum's design-team produced information graphics for exhibition displays and print media. Generally, these charts communicated social and economic information of a quantitative nature, such as rates of unemployment or income distribution. In communicating this information, pictograms played a central role, and their arrangement in rows and columns lent themselves to easy quantification and comparison [FIGURES 1, 2]. The graphic language developed for these charts—initially called the *Wiener Methode der Bildstatistik* [Vienna Method of Pictorial Statistics] and later renamed “Isotype”¹—was aimed at general audiences, and therefore, was designed to be “universally” legible. In making this material as accessible and inclusive as possible, the Vienna Method's designers hoped to empower the public at large to take informed positions on a variety of social and political issues.

¹ The name Isotype, an acronym for International System of Typographic Picture Education, was adopted following the relocation of Vienna museum's core team to The Hague in 1934, and its reincarnation there as the International Foundation for Visual Education. This organization underwent one further displacement with the outbreak of the Second World War, and was reconstituted in Oxford in 1942 (and subsequently in London) as the Isotype Institute.

Prior to joining the design team at the *Gesellschafts- und Wirtschaftsmuseum* in Vienna, Arntz was (and continued to be) affiliated with an international artists' organization based in Cologne, known as the *Gruppe progressiver Künstler* [Group of Progressive Artists]. In 1929 Arntz was joined at the museum by two additional members from this group, the Dutch artist Peter Alma (1886-1969) and the Czech artist Augustin Tschinkel (1905-1983), both of whom were hired to assist in the design of the museum's pictorial statistic atlas, titled *Gesellschaft und Wirtschaft* [Society and Economy], which would be published in the following year. Throughout the mid-1920s and 1930s, Arntz, Alma, and Tschinkel created prints, drawings, and paintings in an expressive mode, later classified together under the rubric "figurative constructivism." This artistic tendency was, to a large extent, the creation of the group's leading figures, the Cologne artists Franz Wilhelm Seiwert (1894-1933) and Heinrich Hoerle (1895-1936). It was Seiwert, in fact, who coined the term in 1929; however, figurative constructivist features appeared in his work, as well as in prints and drawings by Hoerle, as early as 1920.²

As can be seen in a page from the Progressives' official journal, *a bis z* [FIGURE 3], these five artists' graphic works are characterized at the formal level by a tendency towards geometric abstraction: human anatomy is reduced to simple shapes; facial characteristics, where they do occur, are limited to one or two circular forms and lack any individualizing characteristics; forms are generally composed

² A variation on the term "figurative constructivism" first appears in a short autobiographical sketch by Seiwert in 1929, in which he describes working with a "gegenständlichen konstruktiven" [figurative constructive] pictorial form. See *Kunst der Zeit* 3, no. 6, Sonderheft Rheinland (1929): 171. The term has since been employed to describe the work of several Progressive members. See, for example, Ingeborg Güssow, "Die Malerei des Gegeständlichen Konstruktivismus," in *Kunst und Technik in den 20er Jahren: Neue Sachlichkeit und Gegenständlicher Konstruktivismus* (Munich: Städtische Galerie im Lenbachhaus, 1980), 74-93.

along vertical and horizontal axes; and figures, which refer to professional types or social classes rather than specific individuals, are set in frontal or profile views.

Meanwhile, the settings depicted in these works are limited to social institutions and sites of production and consumption, such as the factory and the department store—though scenes set in harbors, prisons, and in army barracks figure prominently in other works.

While Arntz, Alma, and Tschinkel produced their “free” works (as they sometimes described them) independent of their applied work designing statistical pictograms in Vienna, these two types of production share several key stylistic and iconographic features. Indeed, some of the most important and frequently recurring Vienna Method pictograms, including those for the basic human figure, the worker-type, and the factory building—as well as those symbols connected to automobile production and coal-mining—appear to have been adapted directly from the artists’ “free” work [FIGURES 4, 5]. Yet, the relationship between these two realms of production has until now remained obscure. This dissertation will attempt to throw light on the nature of this relationship by considering the different circumstances out of which the two projects originated, by analyzing the manner in which certain figurative constructivist conventions were adapted to the design of statistical pictograms, and by examining the ways in which these two types of work were presented and discussed together in a variety of publications, both during the period of collaboration in Vienna, as well as in its aftermath.³

³ 1929-1930 mark the years during which all three artists were together in Vienna, though Arntz and Alma’s collaboration with Neurath extended beyond this timeframe. Arntz, whose employment at the museum began in September 1928, continued to work with Neurath until 1940. Alma worked for Neurath until 1934.

As these projects were generally collaborative in nature—and often represented collective efforts—I looked for their origins less in the private lives of the figures involved with these projects, and more in the larger cultural spheres in which they participated. This has meant situating these projects in relation to the different discourses of the period from a variety of disciplines, ranging from art and design, to education, to politics. In the case of figurative constructivism, the movement may best be understood as an attempt to negotiate the competing art-theoretical discourses of the period concerning the social function of art and the proper relation between artistic practice and political commitment. Thus, while the Group of Progressive Artists was sympathetic to the political left's demand that artworks serve to cultivate a unified political consciousness among a working class audience, they rejected the naturalistic approach generally favored and promoted among the left political parties. On the other hand: while the Progressives were sympathetic to the Suprematists' and Constructivists' assaults on pictorial naturalism, they were skeptical with regard to these movements' reliance on abstraction. With figurative constructivism, then, the Progressive Artists sought to navigate these two positions by means of a synthesis of Constructivism's formal invention and social realism's narrative content.

In the case of the Vienna Method of Pictorial Statistics, the project can be understood to a large extent in the context of the social education policy promoted by the Austrian Social Democrats, who controlled Vienna in the aftermath of the First World War. By educating the residents of Vienna about relevant social issues, the Social Democratic Party hoped to engage and win the support of city's population. This policy coincided with Neurath's own interests in aesthetics and visual education,

formed earlier during his tenure as director of the *Kriegswirtschaftliches Museum* [Museum of War Economy] in Leipzig and, soon after, through his involvement with Viennese modernist architects as General Secretary for the *Österreichischer Verband für Siedlungs- und Kleingartenwesen* [Austrian Association for Settlement and Allotment Gardens]. At the same time, the formal character of the Vienna Method represents a departure from the traditional aesthetic standards promoted by the Viennese Social Democrats, reflecting instead Neurath's openness to the techniques utilized in the production of mass media and to the radical aesthetics advanced by members of the international avant-garde. In this way, the pictorial statistic project may be seen in connection with developments in modernist graphic design of the mid- and late-1920s, represented by the work of artists at the Bauhaus, or those associated with the international circle known as the *Ring 'neue Werbegestalter'* [Ring of New Advertising Designers].

In explaining why these projects originated and developed where and when they did—and in understanding the relationship between the two types of work—I have drawn extensively on primary sources, including statements by the affiliated artists and designers—as well as their critics—which appear in publications of the period. These publications, many of which are avant-garde journals, often featured reproductions of figurative constructivist graphics and pictorial statistic charts. Since, in some cases, original works are no longer accessible, the reproductions included in these publications provide a valuable record that expands upon the picture provided in more recent, related exhibition catalogs. These journals are especially significant, moreover, in that they constitute the sites wherein the two projects—figurative

constructivism and pictorial statistics—have most often been brought into contact with one another.

Arntz, in statements made later about the relationship between the “Progressive style” and Isotype, often emphasized the distinction between his “free” and applied work.⁴ Alma and Tschinkel, by contrast, were far more emphatic in their writings about links between the two areas of production. Neither, however, pursued their assertions after the short-lived period of collaboration in Vienna, despite the fact that both continued throughout the 1930s to produce pictorial statistic graphics, as well as artworks in a figurative constructivist style. For Seiwert and Hoerle—who, in any case, played no direct role in designing pictorial statistic symbols—the Vienna project may even be seen to run counter to certain aspects of their artistic program.⁵ Finally, in those cases where Neurath addressed the Progressives’ “free” work, his attention was mostly focused on the potential application of its stylistic conventions for pictogram design. Thus, while Neurath and the Progressives both promoted one another’s work in their published writings, each of the participants in the Vienna collaboration conceived of the relationship between the two types of production in rather different terms.

What becomes clear, however, both in reading the statements made by the artists and designers and in looking at the artworks reproduced in these publications, is the value that all of the aforementioned figures placed upon the cultivation of a

⁴ See, for example, Gerd Arntz, *Zeit unterm Messer: Holz- & Linolschnitte 1920-1970* (Cologne: Leske Verlag, 1988), 22.

⁵ Lynette Roth puts forth this argument in her recent catalog, *Painting as a Weapon: Progressive Cologne 1920–1933. Seiwert – Hoerle – Arntz* (Cologne: Walther König, 2008), 123.

universal visual literacy among the general public. This new kind of literacy was largely based on what I have described as diagrammatic visualizations, or arrangements that facilitate comparisons between parts, and emphasize structural relationships. In some respects, these projects share certain features with contemporaneous efforts in modernist art and design to produce “universal” languages based on visual forms, such as those undertaken at the Bauhaus by Wassily Kandinsky (1866-1944) and Paul Klee (1879-1940)—or later, by Werner Graeff (1901-1978) and Karl Peter Röhl (1890-1975).⁶ Like these projects at the Bauhaus, figurative constructivism and pictorial statistics utilized vocabularies of basic geometric elements “arranged according to a ‘grammar’ of formal contrasts” with the aim of producing a mode of expression that would have universal appeal.⁷ In contrast to these experiments at the Bauhaus, however, figurative constructivism and pictorial statistics were not based exclusively on the emotional impact of abstraction; rather, these latter projects combined the language of geometry with representational elements to produce socially critical narratives.

In combining this diagrammatic pictorial approach with social content, the projects of figurative constructivism and pictorial statistics aimed to provide viewers with analytic tools by which they might better reflect upon their place in the social

⁶ Klee and Kandinsky both developed “grammars” for “visual languages” in the books they published as part of the *Bauhausbücher* series. See Klee’s *Pädagogisches Skizzenbuch* (Munich, 1925) and Kandinsky’s *Punkt und Linie zur Fläche* (Munich, 1926). While these visual languages were conceived, as Kandinsky asserted, to have applications for “‘Art’ as a whole,” Graeff and Röhl’s visual systems were developed for more specific, utilitarian purposes. For a discussion of Graeff’s “Plan for an International Traffic-Sign Language” and Röhl’s “Sign Language for All Areas of Public Life,” see Daniela Stöppel’s essay, “Rabbits Darting Sideways. On the Development of Modern Traffic Signs and Pictograms,” in *Piktogramme – die Einsamkeit der Zeichen* (Berlin; Munich: Deutscher Kunstverlag, 2006), 346-349.

⁷ Ellen Lupton and J. Abbot Miller, *The ABCs of ▲ ■ ●: The Bauhaus and Design Theory* (New York: Princeton Architectural Press, 1991), 23.

order. Furthermore, in the intention to appeal to a mass audience at an intellectual rather than an exclusively emotional level, both projects were guided by the belief that the general population possessed the intellect necessary to draw well-informed conclusions and that they could participate responsibly in a democratic society. This belief in the masses' capacity for self-management, which represented a unique position among intellectuals at this moment, helps explain the connection between figurative constructivism and pictorial statistics.

I have presented this argument over the course of five chapters, which chart the parallel trajectories of these two projects and consider their points of intersection. Chapter 1 examines the origins of figurative constructivism in the work of the Cologne-based artists Seiwert and Hoerle, along with its later manifestations in the work of Arntz, Alma and Tschinkel. In particular, this chapter considers the impact of the First World War and the workers' council movement on the development of the figurative constructivist idiom. Chapter 2 explores the role that publications and exhibitions played, both in the formation of a group identity and in the self-conscious articulation of the movement's aims. Additionally, this chapter examines the way in which publications served to foster exchanges among an international network of avant-garde artists, and to link figurative constructivism with contemporaneous developments in design, such as "the new typography" movement. With Chapter 3, the focus shifts to the *Gesellschafts- und Wirtschaftsmuseum* in Vienna, for which the pictorial statistic method was developed. This chapter outlines the principles of the Vienna Method and describes the larger social and political context out of which the method originated, and in which it operated. This chapter also considers the aesthetic

transformation to which this method was subjected under the leadership of Arntz, and through the work of Alma and Tschinkel. Chapter 4 examines the relationship between figurative constructivism and pictorial statistics. In particular, emphasis here is upon how the two types of work were discussed and presented in relation to one another within avant-garde publications. Finally, the fifth (and concluding) chapter summarizes the dual trajectories of figurative constructivism and pictorial statistics in the period following the collapse of democracy in Central Europe. This period, from 1933 to the start of the Second World War, witnesses both the dissolution of the Group of Progressive Artists and the gradual abandonment of its associated figurative constructivist idiom, as well as the international displacement of the Vienna museum's operations and concomitant changes in its project's mission.

Figurative Constructivism in the Literature

Since the period following the Second World War, a growing body of literature on figurative constructivism and the Group of Progressive Artists has taken shape gradually and sporadically. Like many of the lesser-known groups and tendencies of the interwar avant-garde, the Group of Progressive Artists (and the figurative constructivist approach associated with some of its members) was largely forgotten in the intervening years of National Socialism and the Second World War. The first efforts in the postwar period to recover this historical episode from obscurity came from surviving members of the original circle in Cologne. Over the course of the 1950s and 1960s, the art historians Hans Schmitt-Rost (1901-1978) and Carl Oskar Jatho (1884-1971)—both friends and associates of the Progressives during the

peak years of the group's activities—attempted to resuscitate the memory of these artists and their work through publications and exhibitions.⁸ In this early phase of the secondary literature, emphasis was placed upon the Group of Progressive Artists as a local, Cologne-based phenomenon. These studies dealt primarily with the group's leading figures, Seiwert and Hoerle, who (like Schmitt-Rost and Jatho) had lived in and around Cologne. However, the Progressives' international and political dimensions began to emerge with greater clarity only in 1969, with the reprint of the group's journal, *a bis z*.⁹ Beyond introducing a new generation of scholars and historians to these artists' work and writings, this reprint revealed the extensive scope of the international network within which the Progressives operated.

This revelation was reinforced the following year in an exhibition organized at the Kunstverein zu Frechen, titled *Hoerle und sein Kreis* [Hoerle and His Circle].¹⁰ This exhibition was the first major postwar show to exhibit work by Hoerle and Seiwert alongside that of other Cologne members of the group, such as Hans Schmitz (1896-1977) and Anton Räderscheidt (1892-1970), as well as participants from beyond Cologne, such as Gerd Arntz, Augustin Tschinkel, Jankel Adler (1895-1949), and Otto Freundlich (1878-1943).¹¹ What also became clear with this exhibition was the important place that the Progressives occupied during the years of the Weimar

⁸ Hans Schmitt-Rost, *Hoerle und Seiwert. Moderne Malerei in Köln zwischen 1917 und 1933* (Cologne: Kölnischer Kunstverein, 1951); Carl Oskar Jatho, *Franz Wilhelm Seiwert* (Recklinghausen: A. Bongers, 1964).

⁹ *a bis z: organ der gruppe progressiver künstler*, ed. Heinrich Hoerle, Franz Wilhelm Seiwert, and Walter Stern (Cologne, 1929-1933). [Reprint Cologne: Verlag Gebr. König, 1969.]

¹⁰ *Hoerle und sein Kreis* (Frechen: Kunstverein zu Frechen, 1970).

¹¹ Adler, who was a prominent figure in the Düsseldorf art scene during the years of the Weimar Republic, first brought Arntz into contact with Seiwert and Hoerle. Freundlich lived in Cologne from 1914 to 1924, after which he relocated to Paris.

Republic, both within the international, as well as regional, art scenes. The art historian Horst Richter, in his foreword to this catalog, called upon the cultural institutions of Cologne to play a more active role in the recovery of this history.

Over the course of the ensuing decade, the Kölnischer Kunstverein answered Richter's call with several exhibitions and publications devoted to Seiwert, Hoerle, and their larger circle. These exhibitions and publications coincided with a second wave of scholarship, which emphasized the political context in which the Group of Progressive Artists had operated. The surviving members of the circle had, until now, been rather quiet with regard to this aspect of the group's history, but a younger generation of scholars now sought to recover figurative constructivism as a political project. These scholars, inspired by the student movement and the still recent events of May 1968, were particularly receptive to the Progressives' promotion of an anti-authoritarian communism, as revealed by the recent reprint of the group's journal. The 1973 catalog of Gerd Arntz's woodcuts, *Politieke prenten tussen twee oorlogen* [Political Prints between Two Wars], issued by the Dutch socialist publisher SUN and authored by Uli Bohnen and Kees Vollemans, is representative of this subsequent, more politically oriented wave of scholarship.¹² Bohnen's dissertation, completed two years later at the University of Tübingen (and published in 1976), constitutes the first attempt to offer a comprehensive account of the entire group's history and to define its core membership.¹³ Beyond this study's analysis of the Progressives' political

¹² Uli Bohnen and Kees Vollemans, *Politieke prenten tussen twee oorlogen* (Nijmegen: Socialistiese Uitgeverij Nijmegen, 1973).

¹³ Uli Bohnen, *Das Gesetz der Welt ist die Änderung der Welt: Die rheinische Gruppe Progressiver Künstler, 1918–1933* (Berlin: Karin Kramer Verlag, 1976).

program, Bohnen's dissertation is significant for its examination of the group's connections with the photographer August Sander (1876-1964), as well as for his discussion of Arntz, Tschinkel, and Alma's collaboration at the *Gesellschafts- und Wirtschaftsmuseum* in Vienna.

Bohnen's dissertation also coincided with two major, related exhibitions—the catalogs for which included essays by Bohnen, describing the political scene in which certain members of the Group of Progressive Artists participated. The first exhibition, held at the Kölnischer Kunstverein from March to May of that year, took a broad view of the cultural landscape of Cologne in the 1920s, affording the (mostly Rhineland-based) Progressives a prominent place in the city's cultural scene.¹⁴ The section of the exhibition devoted to the Progressives was reinstalled later that year at the Akademie der Künste in Berlin, and expanded to include wider geographic range of the group's members.¹⁵

Following these group exhibitions, which were crucial in the beginning to recover a place for the Progressives in the modernist art-historical narrative, the Kölnischer Kunstverein organized retrospective exhibitions for Seiwert (in 1978) and Hoerle (in 1981), with comprehensive catalogues raisonnés authored by Uli Bohnen and Dirk Backes, respectively.¹⁶ In conjunction with the Seiwert retrospective, Bohnen and Backes edited and published an extensive collection of Seiwert's

¹⁴ *Vom Dadamax bis zum Grüngürtel: Köln in den zwanziger Jahren*, ed. Wulf Herzogenrath (Braunschweig: Waisenhaus Verlag, 1975).

¹⁵ *Politische Konstruktivisten: die "Gruppe progressiver Künstler" Köln* (Berlin: Neue Gesellschaft für bildende Kunst, 1975).

¹⁶ Uli Bohnen, *Franz W. Seiwert (1894–1933): Leben und Werk* (Cologne: Kölnischer Kunstverein, 1978); Dirk Backes, *Heinrich Hoerle: Leben und Werk (1895–1936)* (Cologne: Rheinland-Verlag GmbH, 1981).

writings, containing his numerous published articles, unpublished manuscripts, and personal correspondences.¹⁷

In addition to the efforts of Uli Bohnen and the Kölnischer Kunstverein, the Dutch art historians Flip Bool and Kees Broos played important roles in the resuscitation of this historical chapter. In the year following the first major show in Cologne, Bool and Broos organized a retrospective exhibition of Gerd Arntz's graphic work at the Gemeentemuseum in The Hague, for which they published a comprehensive catalog.¹⁸ In addition to Arntz's "free" work, the catalog also examined his applied work in pictogram design. Bool and Broos were particularly interested in the printed work produced by the Progressives, and followed up the Arntz retrospective with smaller exhibitions of Seiwert's typographic work, and Augustin Tschinkel's prints, drawings, and graphic design work.¹⁹

While the spike in activity during the 1970s ultimately failed to bring the Group of Progressive Artists entirely out of obscurity (and into the official narrative as recounted by modern art survey textbooks), works by the group's members were increasingly included in thematic group exhibitions over the ensuing decades. Some of these exhibitions framed the Progressives' work in terms of national and

¹⁷ *Der Schritt, der einmal getan wurde, wird nicht zurückgenommen. Franz W. Seiwert: Schriften*, ed. Uli Bohnen and Dirk Backes (Berlin: Kramer, 1978).

¹⁸ Flip Bool and Kees Broos, *Gerd Arntz: kritische grafiek und beeldstatistiek* (The Hague: Haags Gemeentemuseum; Nijmegen: Socialistische Uitgeverij Nijmegen, 1976).

¹⁹ Flip Bool and Kees Broos, *Franz W. Seiwert 1894-1933: kritische grafiek en typografie* (The Hague: Haags Gemeentemuseum, 1976); Kees Broos, *Augustin Tschinkel* (The Hague: Haags Gemeentemuseum, 1976).

international movements, such as *Neue Sachlichkeit* or constructivism.²⁰ Other exhibitions situated the work in local and regional contexts, as the Kölnischer Kunstverein had done in their earlier *Dadamax bis zum Grüngürtel* exhibition.²¹

The recovery of the Progressives' work and history was much slower in coming to the English-speaking world. The first English-language publication devoted exclusively to these artists was the small catalog accompanying the 1987 "Cologne Progressives" exhibition at the Rachel Adler Gallery in New York, which included a brief essay by Bohnen.²² The Progressives received some further attention when prints by Seiwert and Arntz were featured in the 1990 exhibition, *Envisioning America*, at the Busch-Reisinger Museum at Harvard and, more recently, with the 2006 exhibition of the *Société Anonyme*, which included work by Seiwert.²³ More often, however, when Progressives have received mention in English-language scholarship it has been in connection with the Dada movement in Cologne, with which several artists from the group had been associated earlier in their careers.²⁴

²⁰ See, for example, *Kunst und Technik in den 20er Jahren: Neue Sachlichkeit und Gegenständlicher Konstruktivismus* (Munich: Städtische Galerie im Lenbachhaus, 1980); and *Konstruktivistische internationale Arbeitsgemeinschaft 1922-1927 – Utopien für eine europäische Kultur* (Stuttgart: G. Hatje, 1992).

²¹ See Ulrich Krempel, *Am Anfang, Das Junge Rheinland: zur Kunst- und Zeitgeschichte einer Region, 1918-1945* (Düsseldorf: Claassen, 1985); and *Zeitgenossen: August Sander und die Kunstszene der 20er Jahre im Rheinland* (Cologne: SK Stiftung Kultur, 2000).

²² Bohnen, Uli. "Constructivism Between East and West: The Progressives of Cologne." In *The Cologne Progressives, 1919-1933*. New York: Rachel Adler Gallery, 1987.

²³ *Envisioning America: Prints, Drawings, and Photographs by George Grosz and his Contemporaries 1915-1933* (Cambridge: Busch-Reisinger Museum, Harvard University, 1990); *The Société Anonyme: Modernism for America*, ed. Jennifer R. Gross (New Haven: Yale University Press, 2006).

²⁴ See, for example, the following works: Angelika Littlefield, *The Dada Period in Cologne: Selections from the Fick-Eggert Collection* (Toronto: Art Gallery of Ontario, 1986); Wulf Herzogenrath, Dirk Teuber, and Angelika Littlefield, *Willy Fick, ein Kölner Maler der zwanziger Jahre wiederentdeckt* (Cologne: Kölnischer Kunstverein, 1986); Charlotte Stokes, "Rage and Liberation: Cologne Dada," in *Crisis and the Arts: The History of Dada*, ed. Stephen C Foster (New York: G.K.

The most extensive English-language publication devoted to the Progressives to date appeared only two years ago, in connection with an exhibition at the Museum Ludwig in Cologne, curated by Lynette Roth.²⁵ This exhibition, the first major show on the group in more than three decades, took as its focus three of the group's Rhineland members—Seiwert, Hoerle, and Arntz. Central to Roth's study is the reevaluation of the relationship between traditional craft—painting, in particular—and leftist politics in the Weimar period. In contrast to the established narrative of artistic-political engagement in interwar Germany, in which reproducible media—posters, magazines, or cinema, for example—supplanted such traditional media as painting and sculpture, the case of the Cologne Progressives, Roth asserts, provides an alternative model, wherein traditional craft served a radical political program. In making this argument, Roth has sought to counter earlier studies, which, in her estimation, have placed too much emphasis upon the Progressives as graphic artists. To this end, she has argued against characterizations that couch this work “in the language of the print,” on the grounds that terms like “reduction,” “symbol,” and “sign” downplay the artists' commitment to craft and handwork, and (in the cases of Seiwert, Hoerle, and Arntz) overlook “their investment in intensely worked surfaces and haptic effects.”²⁶ For similar reasons, Roth suggests little connection between the Progressives' artistic project and the pictorial statistic work in Vienna.²⁷

Hall; London: Prentice Hall International, 1996); *Dada: Zurich, Berlin, Hannover, Cologne, New York, Paris*, ed. Leah Dickerman (Washington: National Gallery of Art in association with D.A.P./Distributed Art Publishers, 2005).

²⁵ Lynette Roth, *Painting as a Weapon: Progressive Cologne 1920–1933. Seiwert – Hoerle – Arntz* (Cologne: Walther König, 2008). Roth's related dissertation, “The Cologne Progressives: Political Painting in Weimar Germany” (The Johns Hopkins University, 2009), is not yet accessible.

²⁶ Roth, 30-34.

Yet, the collaboration in Vienna represents a decisive chapter in the careers of three key members of the Group of Progressive Artists; and their published writings on the subject of pictorial statistics suggest that this relationship requires further—and more careful—study. In considering this relationship, I do not wish to suggest that pictorial statistics were the culmination of the Progressives’ work. To the extent that this dissertation draws parallels between figurative constructivist graphics and pictorial statistic charts, it is with the goal of explaining why the Progressives’ prints and drawings had such appeal for Neurath, why the group embraced and promoted the pictorial statistic project in their own avant-garde publications, and why certain graphic conventions associated with figurative constructivism were so effectively adapted in the design of statistical pictograms.

It is also important to note that, while paintings (to varying extents) comprise a significant part of the Progressives’ total artistic production,²⁸ prints and drawings played an essential role within the context of the Vienna collaboration. In addition to being exhibited on occasion at the *Gesellschafts- und Wirtschaftsmuseum*, the prints that Neurath purchased for the museum’s collection also served as source material for

²⁷ In her catalog, Roth warns against projecting the aims of the later pictorial statistic project “back onto Arntz’s earlier oeuvre, as well as that of Seiwert and Hoerle.” As she explains: “Instead of focusing on the specificity of the Progressives’ pursuit of legible art forms, accounts privileging graphic art as the defining medium of the Progressives group read their work more strictly as a ‘symbol.’ This often results in an emphasis on the more functional aspect of the standardized form of the worker or the factory as it appears, for example, in Seiwert’s [linocut] *Feierabend*. And while the Progressives were committed to creating legible art, the popular belief that the Viennese statistical language represents the apex of the artists’ aims overlooks key aspects of the collaborative atmosphere of 1920s Cologne.” Roth, 22.

²⁸ While Seiwert and Hoerle were prolific in their printmaking output between 1920 and 1923, they concentrated increasingly on painting in the later years of the decade. For Arntz, Alma, and Tschinkel, prints and drawings account for the majority (between two thirds and three quarters) of each artist’s total artistic production in the years between the wars.

symbol design. Moreover, reproductions of graphic works appeared with greater frequency than paintings in those publications that featured pictorial statistic charts together with the Progressives' artworks, and which sought to present the latter as representative of an international movement.²⁹ Since this dissertation is concerned with the relationship between pictorial statistics and figurative constructivism—and with the latter's dissemination within print media—the focus here is generally limited to the Progressive Artists' prints and drawings.

Of the three members of the Group of Progressive Artists who participated in the Vienna project, only Arntz has received substantial attention in publications or scholarly research.³⁰ Neither Peter Alma nor Augustin Tschinkel has been the subject of a monograph. With the exception of a master's thesis in 1978, and two short booklets accompanying solo exhibitions in the 1960s, Alma's extensive career has been treated only in a cursory manner, principally through his inclusion in several recent group exhibitions and survey texts.³¹ Tschinkel has received even less

²⁹ See, for example, *a bis* z, nos. 1 (October 1929) and 12 (November 1930); *Wendingen* 11, no. 9 (1930); Augustin Tschinkel, "Zobrazení množství a kolektivní tvary," *výtvarné snahy* 11, no. 8 (1930): 136-137; and *soziale grafik: ein bilderbuch mit internationaler auswahl* (Kladno: Naše cesta, 1932).

³⁰ In addition to the catalog for the 1976 retrospective exhibition at the Gemeentemuseum in The Hague and the recent work by Roth, Arntz (together with Kees Broos) published a catalog of his woodcuts and linocuts in 1988, for which he wrote an autobiographical account of his artistic career and extensive commentary on the works. See Gerd Arntz, *De tijd onder het mes: hout- & linoleumsneden 1920-1970* (Nijmegen: SUN, 1988); also published in German as *Zeit unterm Messer: Holz- & Linolschnitte 1920-1970* (Cologne: Leske Verlag, 1988).

³¹ See the following works: Erik Luermans, "Peter Alma. Een documentair verslag van een beeldend kunstenaar in het interbellum" (master's thesis, Universiteit van Amsterdam, 1978); *Peter Alma, 1886-1969* (Amsterdam: Kunsthandel ML de Boer, 1975); H.L.C Jaffé, *Overzicht-tentoonstelling van schilderijen, gouaches, houtsneden van Peter Alma* (Amsterdam: Stedelijk Museum, 1966). For group exhibitions and surveys see *Magie en zakelijkheid: realistische schilderkunst in Nederland 1925-1945*, ed. Carel Blotkamp and Ype Koomans (Zwolle: Waanders, 1999); Peter Hofland et al., *Die Olympiade unter der Diktatur. Rekonstruktion der Amsterdamer Kunstolympiade 1936: Kunst im Widerstand* (Berlin: Stadtmuseum Berlin, 1996); and Geurt Imanse et al., *Van Gogh bis Cobra. Holländische Malerei, 1880-1950* (Stuttgart: Verlag Gerd Hatje, 1980).

attention. Aside from discussions of his work in Bohnen's 1975 dissertation and in the catalogs accompanying the exhibitions in Cologne and Berlin that same year, only one publication—a small pamphlet with a two page biographical sketch by Kees Broos, accompanying the 1976 exhibition in The Hague—has thus far been devoted exclusively to Tschinkel's career.

Pictorial Statistics in the Literature

As with the literature on the Progressives, the first works to provide historical accounts of the pictorial statistic method came from the project's surviving participants. Marie Neurath [née Reidemeister] (1898-1986), Otto Neurath's wife and long-time collaborator, wrote some of the earlier historical assessments of the project in journal articles in the early 1970s.³² Marie Neurath also undertook an effort, around this same time, to revive the work of her late husband in such fields as economics, sociology, and philosophy. To this end, she published in 1973 an English-language collection of his writings, which included some of his texts on visual education.³³ Marie Neurath can, in fact, be said to have played the key role in initiating the first phase of scholarship when, in 1971, she donated the materials of the Isotype Institute in London (which comprised nearly a half-century of work and

³² Marie Neurath, "Otto Neurath and Isotype," *Graphic Design*, no. 42 (1971): 11-30; and "Isotype," *Instructional Science* 3, no. 2 (1974): 127-50. As early as 1937, Rudolf Modley (1901-1976), a member of the museum-team in Vienna and later a designer of pictorial statistics in the United States, had produced a short historical account of the method's origins in his book, *How to Use Pictorial Statistics* (New York: Harper and Brothers, 1937). This book was followed by several reiterations in the postwar period, such as *Pictographs and Graphs: How to Make and Use Them* (New York: Harper, 1952). As these books' titles suggests, however, Modley's focus was on the method's practical applications, rather than a historical assessment of the method.

³³ *Empiricism and Sociology*, eds. Marie Neurath and Robert S. Cohen (Dordrecht; Boston: D. Reidel Publishing Company, 1973).

documentation) to the Department of Typography & Graphic Communication at the University of Reading, housed there today as the Otto & Marie Neurath Isotype Collection.

This collection provided the material for the first major exhibition devoted to Isotype, held at the University of Reading from May to October 1975, marking the fiftieth anniversary of the founding of the *Gesellschafts- und Wirtschaftsmuseum* in Vienna.³⁴ In addition to providing a historical overview of “the Isotype movement,” the accompanying catalog for this exhibition, *Graphic Communication through ISOTYPE*, represented the first attempt to produce an extensive bibliography on the subject, listing both pictorial statistic publications, as well as theoretical expositions, and appreciations and assessments of the work. Throughout the remaining years of the decade, further work on Isotype was carried out by Robin Kinross, who, earlier—as an undergraduate in the Department of Typography & Graphic Communication—had assisted with the 1975 exhibition at the University of Reading. As a post-graduate, Kinross conducted intensive research on Isotype, working in consultation with Marie Neurath to catalog the materials in the Isotype Collection, and completing an MPhil thesis on the subject in 1979.³⁵ This unpublished work remains an invaluable source on the subject, and among the most rigorous examinations of the Vienna Method’s design principles.

³⁴ *Graphic Communication through ISOTYPE*, eds. J.A. Edwards and Michael Twyman (Reading: Department of Typography & Graphic Communication, University of Reading, 1975).

³⁵ Robin Kinross, “Otto Neurath’s contribution to visual communication, 1925-45” MPhil Thesis, Department of Typography & Graphic Communication, University of Reading, 1979.

At the same time, a project was undertaken at the Gemeentemuseum in The Hague, which houses one of the copies of Arntz's "symbol dictionary," a collection of proofs from the pictogram-linocuts produced during The Hague period (after 1934). Under the direction of Kees Broos, an extensive selection of these pictograms was published in 1979.³⁶ In contrast to the work being conducted at the University of Reading, however, which emphasized the collaborative nature of Isotype, this latter publication focused on the role of the pictogram designer alone, "thus underplaying the work of transforming and configuring the whole assembly of material," which, as Kinross notes, is "the essential contribution of Isotype."³⁷ The 1982 exhibition catalog, *Arbeiterbildung in der Zwischenkriegszeit: Otto Neurath, Gerd Arntz*, by contrast, takes a more balanced and historically grounded approach. This publication, which marks the last major work from this initial phase of scholarship, was produced in connection with an exhibition held in Vienna in 1982 at the *Österreichisches Gesellschafts- und Wirtschaftsmuseum* [Austrian Social and Economic Museum], the descendent of the original museum established by Neurath.³⁸ In addition to contributions by scholars such as Kinross and Twyman, as well as by such surviving participants as Marie Neurath and Gerd Arntz, this book also reproduced sections from the 1975 *Politische Konstruktivisten* catalog, thereby framing the artistic project

³⁶ Gerd Arntz and Kees Broos, *Symbolen voor onderwijs en statistiek: 1928-1965 Wenen-Moskou-Den Haag = Symbols for education and statistics: 1928-1965 Vienna-Moscow-The Hague* (The Hague: Spruijt, 1979).

³⁷ Robin Kinross, "On the Influence of Isotype," *Information Design Journal* 2, no. 2 (1981): 122-130.

³⁸ *Arbeiterbildung in der Zwischenkriegszeit: Otto Neurath, Gerd Arntz*, ed. Friedrich Stadler (Vienna: Löcker, 1982).

of figurative constructivism and social scientific project of pictorial statistics as two connected strategies in *Arbeiterbildung* [worker education].

This initial phase of research and publication was followed by two decades of relative inactivity. Occasional articles by Robin Kinross (along with a few other writers) appeared in design and science journals, but no further exhibition catalogs or major research publications on pictorial statistics were produced during these years.³⁹ At the same time, however, this period did witness a sustained effort to recover Neurath's work in a variety of other related fields, including philosophy, political economy, and social science, and, in so doing, achieve a better understanding of his role in the interwar Vienna Circle. Between 1981 and 1998 a five-volume collection of Neurath's writings in a number of fields was published under the direction Rudolf Haller. The third volume in the series, issued in 1991 and co-edited by Robin Kinross, was devoted to Neurath's writings on visual education.⁴⁰ The publication of these collected primary texts coincided with a major anthology of new research on Neurath, followed by two more scholarly works on Neurath in 1996.⁴¹

³⁹ See Robin Kinross, "On the Influence of Isotype," *Information Design Journal* 2, no. 2 (1981): 122-130; and "The Work of Otto Neurath in Visual Communication," *Fundamenta Scientiae* 5, no. 2 (1984): 185-199; see also Ellen Lupton, "Reading Isotype," *Design Issues* 3, no. 2 (1986): 47-58.

⁴⁰ Otto Neurath's collected writings have been appeared in five volumes, published in Vienna by Hölder-Pichler-Tempsky: *Gesammelte philosophische und methodologische Schriften* (Vol. 1 and Vol. 2), eds. Rudolf Haller and Heiner Rutte (1981); *Gesammelte bildpädagogische Schriften* (Vol. 3), eds. Haller and Robin Kinross (1991); *Gesammelte ökonomische, soziologische und sozialpolitische Schriften* (Vol. 4 and Vol. 5), eds. Haller and Ulf Höfer (1998).

⁴¹ *Rediscovering the Forgotten Vienna Circle: Austrian Studies on Otto Neurath and the Vienna Circle*, ed. Thomas E. Uebel (Dordrecht; Boston: Kluwer, 1991); *Encyclopedia and Utopia: The Life and Work of Otto Neurath, 1882-1945*, eds. Elisabeth M. Nemeth and Friedrich Stadler (Dordrecht; Boston: Kluwer, 1996); Nancy Cartwright et al., *Otto Neurath: Philosophy between Science and Politics* (New York: Cambridge University Press, 1996).

Renewed interest concerning Neurath's pictorial statistic project and its relation to modern art, architecture, and design, appears to have come about only in the last several years, in large part, as the result of this more broadly construed work on the Vienna Circle from the preceding decade. Eve Blau began exploring this relationship in her book, *The Architecture of Red Vienna* (1999), and has subsequently pursued the subject in great detail in an essay published in 2006, "Isotype and Architecture in Red Vienna: The Modern Projects of Otto Neurath and Josef Frank."⁴² A number of other scholars have recently singled out particular aspects of Neurath's larger visual education project, ranging from exhibition design to urban planning, to the implications of Neurath's work for new media.⁴³ Of particular significance is the most recent publication, *The transformer: principles of making Isotype charts* (2009), which examined the stages in the design process related to the analysis, selection, and ordering of quantitative information, prior to its final visual

⁴² Eve Blau, *The Architecture of Red Vienna, 1919-1934* (Cambridge, MA: MIT Press, 1999); and "Isotype and Architecture in Red Vienna: The Modern Projects of Otto Neurath and Josef Frank," *Austrian Studies* 14 (1 October 2006): 227-259.

⁴³ See Frank Hartmann und E.K. Bauer, *Bildersprache: Otto Neurath / Visualisierungen* (Vienna: WUV Universitätsverlag, 2002); Nader Vossoughian, *Otto Neurath: The Language of the Global Polis* (Rotterdam: NAI Publishers, 2008); Hadwig Kraeutler, *Otto Neurath. Museum and Exhibition Work: Spaces (Designed) for Communication* (Frankfurt am Main: Peter Lang, 2008). One recent anthology that brought together these and other scholars is *European Modernism and the Information Society: Informing the Present, Understanding the Past*, ed. W. Boyd Rayward (Burlington, VT: Ashgate Publishing Company, 2008). In addition to contributions from Hartmann and Vossoughian, this compilation included an essay by Sybilla Nikolow (who has published several articles on Neurath's work in recent years), addressing Neurath's contribution to thematic cartography. See her essay in the above-mentioned anthology, "Gesellschaft und Wirtschaft: An Encyclopedia in Otto Neurath's Pictorial Statistics from 1930," 257-278. Two more recent publications to come out of the Netherlands are: Ferdinand Mertens and Lars Kuipers, *An idealist in The Hague: Otto Neurath's years in exile* (The Hague: Municipality of The Hague, 2007); and Ed Annink and Max Bruinsma, *Lovely Language* (Rotterdam: Veenman, 2008), the last of which examines the influence of Arntz and Neurath's work on graphic design.

presentation.⁴⁴ Referred to as “transformation,” this task was performed principally by Marie Reidemeister⁴⁵—both at the *Gesellschafts- und Wirtschaftsmuseum* and later at the International Foundation for Visual Education in The Hague. In addition to an essay by Kinross, *The transformer* includes a text written by Marie Neurath in 1986, the last year of her life, providing a valuable firsthand account of the Isotype team’s design approach. In publishing this book, Kinross has sought to counter the popular misconception that Isotype merely constitutes a style for drawing pictograms; rather, *The transformer* highlights the method’s unique and multifaceted approach to chart design (that is to say, the arrangement of information on the page), which Kinross has long maintained to be Isotype’s primary contribution to visual communication.

The transformer was published in conjunction with a four-year research project at the University of Reading (set to wrap up in 2011), titled *Isotype revisited*, which promises to “review the Vienna Method / Isotype approaches to pictorial language and visual education by tracking their evolving character between 1925 and 1970,” and “consider Isotype’s place in twentieth-century design history, and its influence on graphic communication today.”⁴⁶ Another publication connected to *Isotype revisited*, scheduled to appear in September 2010, is Otto Neurath’s previously unpublished “visual autobiography”—a manuscript written in the last two years of the author’s life, documenting the impact that visual media had on him, from the years of

⁴⁴ Marie Neurath and Robin Kinross, *The transformer: principles of making Isotype charts* (London: Hyphen Press, 2009).

⁴⁵ Since Marie Reidemeister and Otto Neurath were not married until 1941, I have chosen, when discussing her in the context of the prewar period, to refer to her by her maiden name.

⁴⁶ See the project’s website at <http://www.isotyperevisited.org>.

his childhood through the period of his later work in visual education.⁴⁷ In addition to issuing previously unpublished texts, the *Isotype revisited* project will culminate with an exhibition (to be held at the Victoria and Albert Museum from December 2010 to March 2011) and an accompanying anthology of new research papers (including a contribution from this author).

Historical and Theoretical Objectives

While the last few years have thus seen a renewed focus on the work of certain members of the Group of Progressive Artists on the one hand, and Neurath's pictorial statistic project on the other, the relationship between these two subjects has remained outside the scope and focus of the most recent scholarship in both areas. Some of the writing from earlier phases in the scholarship suggested a connection between figurative constructivism and pictorial statistics, but this connection was generally not pursued beyond formal and iconographic comparisons.⁴⁸ In particular, the discussion and presentation of pictorial statistics within the avant-garde publications affiliated with the Group of Progressive Artists has received little in-depth treatment. This is an area to which this dissertation devotes considerable attention. In so doing, the present investigation will make several contributions to the study of the history of modern art and design. First, this dissertation will demonstrate

⁴⁷ Otto Neurath, *From hieroglyphics to Isotype: a visual autobiography*, eds. Matthew Eve and Christopher Burke (London: Hyphen Press, 2010), forthcoming.

⁴⁸ See Bohnen (1976); Bool and Broos (1976); and Eckhart Gillen, "Von der symbolischen Repräsentation zur Rekonstruktion der Wirklichkeit. Das Verhältnis von Bildstatistik und politischer Grafik bei Gerd Arntz," in *Politische Konstruktivisten: die "Gruppe progressiver Künstler" Köln* (Berlin: Neue Gesellschaft für bildende Kunst, 1975).

that the widespread ambition among international avant-garde movements in the earlier part of the twentieth-century to develop a new visual literacy based on universal forms was not exclusively sought in the various languages of abstraction; rather, as the cases of figurative constructivism and pictorial statistics suggest, such projects were also conceived to accommodate representational content. Second, this study will recount the ways in which the pictorial statistic design approach was deeply indebted to the figurative constructivist aesthetic, thus providing new insights concerning the connections between the artistic avant-garde and visual communication in the social sciences during the interwar period. Finally, the comparative study of these two areas of production will enrich our general understanding of modernism and the historical avant-garde. In contrast to earlier art historical narratives which have framed modernism in terms of stylistic dogmatism and the rejection of tradition, the Group of Progressive Artists and their members' collaboration in Vienna suggest an alternative modernist narrative that accommodates stylistic plurality and historical continuity.

Chapter 1: The Origins and Development of Figurative Constructivism

The “Stupid” Group

Already in 1920, as members of the Cologne-based artists’ group “Stupid” (a Dadaist precursor to what would eventually become the Group of Progressive Artists), Franz Wilhelm Seiwert and Heinrich Hoerle had begun to employ many of the features that would later characterize figurative constructivism.⁴⁹ The “Stupid” group developed, in part, as a reaction against the Dadaist circle around Max Ernst (1891-1976) and Hans Arp (1886-1966), who, according to Seiwert, were not sufficiently politically committed. In a letter drafted the previous autumn to one of his colleagues at the expressionist journal, *Die Aktion*, Seiwert distinguished the “Stupid” artists’ position from that of the other Cologne Dadaists, asserting that, “Our pictures stand in the service of the exploited, to whom we belong and with whom we feel solidarity. Therefore, we reject the supposedly anti-bourgeois Dadaist harlequinades, which are performed to the delight of the bourgeoisie, because we don’t want to point

⁴⁹ In addition to Seiwert and Hoerle, “Stupid” included the latter’s wife, Angelika Hoerle (1899-1923), her brother Willy Fick (1893-1967), Anton Räderscheidt (1892-1970) and his wife Marta Hegemann (1894-1970). The group’s name appears to have been derived from the neologisms “Oststupidien” and “Weststupidien,” which were used in the proto-Dadaist satirical journal, *Der Ventilator* [The Fan]. The journal, published in Cologne between February and March 1919, included among its contributors Seiwert, Hoerle, and Max Ernst. The term “Weststupidien” has been interpreted as a play on the name of the province Westphalia, as well as a derisive reference to Germany. See Angelika Littlefield, *The Dada Period in Cologne: Selections from the Fick-Eggert Collection* (Toronto: Art Gallery of Ontario, 1986), 13; and Sabine T. Kriebel, “Cologne,” in *Dada: Zurich, Berlin, Hannover, Cologne, New York, Paris*, ed. Leah Dickerman (Washington DC: National Gallery of Art, 2005), 220, 236.

out [the bourgeoisie's] bankruptcy; rather, we want to make visible the creative will of the masses.”⁵⁰

Seiwert's letter, written prior to the adoption of the name “Stupid” by the abovementioned artists, refers to them instead as the *Neukölnische Malerschule* [New Cologne School of Painting], an allusion to the *Kölnische Malerschule*, the Late-Gothic painters of fifteenth-century Cologne. Seiwert interpreted these painters' anonymous, shared formal language as expressing the sense of community, which he imagined characterized pre-capitalist society.⁵¹ Seiwert's turn to late-medieval art as a source for authentic values finds several parallels in Germany at this moment: Walter Gropius (1883-1969), for example, had invoked the concept of the medieval guild and the image of the cathedral in the Bauhaus school's 1919 founding program and manifesto.⁵² Additionally, Seiwert and his colleagues often drew upon folk art and even prehistoric art in their search for artistic models of collective expression that

⁵⁰ “Unsere Bilder stehen in Dienst der Ausgebeuteten, zu denen wir gehören und mit denen wir uns solidarisch fühlen, deshalb lehnen wir die zur Ergötzung des Bürgers vollführte, angeblich anti-bürgerliche, dadaistische Harlekinade ab, weil wir nicht den Bankrott des Bürgertums sondern den Schaffenswillen der Masse sichtbar zu machen haben.” Franz Wilhelm Seiwert, Letter to Pol Michels, in *Der Schritt, der einmal getan wurde, wird nicht zurückgenommen. Franz W. Seiwert: Schriften*, eds. Uli Bohnen and Dirk Backes (Berlin: Karin Kramer Verlag, 1978), 79. (All translations are the author's, unless otherwise noted.)

⁵¹ See Uli Bohnen, “Constructivism Between East and West: The Progressives of Cologne,” in *The Cologne Progressives, 1919-1933* (New York: Rachel Adler Gallery, 1987).

⁵² For Gropius, the guild was an authentic model of community, cooperation, and spiritual unity, and the cathedral offered a perfect example of the integration of fine and applied arts in the service of society's collective interests. Gropius observed how this was the opposite of the modern state of affairs, in which the arts had grown apart from one another into fragmented, isolated disciplines. The contemporary state of the arts, according to Gropius, reflected a society that had itself become fragmented and disconnected, in which individuals were increasingly isolated from one another—a society in which individuals worked to serve self-interests rather than collective interests. The total destruction of the First World War, however, appeared to have created an opening for the transformation society. This was the new task for the artist and architect, which, as Gropius explained in the school's founding manifesto, would be achieved through the reintegration of the arts and through a return to craft. See Eva Forgács, *Bauhaus Idea and Bauhaus Politics* (Budapest; New York: Central European University Press, 1995).

could serve as alternatives to post-Renaissance pictorial tradition. In 1920, for example, the “Stupid” group gave Willy Fick a copy of the 1919 book, *Schwedische Felsbilder* [Swedish Rock Pictures], published by Ernst Fuhrmann’s Folkwang Company in Hagen [FIGURE 6].⁵³ As Dirk Teuber notes, “One should not overlook the importance of [this] book,” which portrayed “a way of looking at the world not through externals, but by focusing only on the important inner realities.”⁵⁴ Teuber further explains that Fuhrmann’s interpretation of ancient Scandinavian rock art, which held that abstraction served the ancient artists in isolating what was essential and discarding what was incidental, “indicated an interest in simplified means of communication... that appealed both to the Cologne ‘stupid’ group and also later to the Progressives.”⁵⁵

In this regard, these artists were also inheritors of the notion, popularized by Wilhelm Worringer’s 1906 text, *Abstraktion und Einfühlung* [Abstraction and Empathy], that the art of “primitive” cultures, in its higher degree of abstraction and its disregard for the world’s external appearance, comes closer than naturalistic approaches to representation in visualizing “its absolute value.”⁵⁶ Indeed, many of the formulations provided within Seiwert and his colleagues’ art-theoretical texts reiterate

⁵³ Fick’s copy of the book (now in the Fick-Eggert collection in Toronto) contained an added drawing (possibly by Angelika Hoerle) with a dedication inscribed to Willy Fick. See Dirk Teuber, “Willy Fick and his Friends – A Contribution to Cologne’s Art History of the 1920s,” in Wulf Herzogenrath, Dirk Teuber, and Angie Littlefield, *Willy Fick, ein Kölner Maler der zwanziger Jahre wiederentdeckt* (Cologne: Wieland Verlag, 1986), 37.

⁵⁴ Dirk Teuber, “Willy Fick and his Friends – A Contribution to Cologne’s Art History of the 1920s,” in *Willy Fick, ein Kölner Maler der zwanziger Jahre wiederentdeckt* (Cologne: Wieland Verlag, 1986), 40.

⁵⁵ Teuber, 41.

⁵⁶ Wilhelm Worringer, *Abstraction and Empathy: A Contribution to the Psychology of Style* (Chicago: Ivan R. Dee, Inc., 1997), 17.

Worringer's distinction between essence and appearance in art, advancing formal simplification and geometric reduction as the primary strategy in distilling essence from appearance. These ideas also formed the basis for Paul Westheim's 1921 *Holzchnittbuch* [Woodcut Book],⁵⁷ which Arntz later cited as an important influence upon artists of his generation. It was the late-medieval woodcut in particular, with its stark contrasts, lack of illusionism, and simplified formal language that, according to Westheim, could offer contemporary artists a model of pure and direct expression. More than this, German artists of the period were attracted to the medium of woodcut on account of its perceived social dimension. In addition to Westheim's book, Arntz cites a lecture by Georg Schmidt, director of the Kunstmuseum in Basel, which suggested a historic correlation between "technically primitive media" and "artistic expressions of the revolutionary classes."⁵⁸ In its capacity for reproduction and mass distribution, woodcut also appeared as a more inclusive and democratic art form than the precious medium of easel painting.⁵⁹

Initially, then, the woodcut medium served a dual function: its material properties aided formal abstraction and its technical reproducibility facilitated accessibility and distribution. For "Stupid"—and later for the Group of Progressive Artists—reaching a mass-audience was paramount, and the creation of a clear and simple formal language was seen as critical to this effort. "Beyond all loquacious

⁵⁷ See Paul Westheim, *Das Holzchnittbuch* (Berlin: Gebr. Mann Verlag, 2000).

⁵⁸ Gerd Arntz, *Zeit unterm Messer*, 16.

⁵⁹ While all the core members of the Group of Progressive Artists worked in woodcut, Seiwert and Hoerle turned increasingly to easel painting after 1923, and the other members of the group—each to a varying extent—also worked intermittently with oils throughout their careers. However, as Lynette Roth asserts, this painterly practice was not necessarily a contradiction: "although [Seiwert] harshly criticized some aspects of easel painting in his written statements," she explains, "[his] criticisms are not of oil painting per se, but rather the ways in which the medium had been deployed." Roth, 24.

intellectuality,” Seiwert continued in his aforementioned letter, “we want to do simple work. [...] We do not want to say more than we know, but we want to say what we can so clearly, so simply, that everyone can understand it.”⁶⁰ To this end, “Stupid” published a catalog of its members’ work [FIGURE 7], as well as several print series by Seiwert and Hoerle, in which the artists reduced their formal vocabulary to basic shapes and simplified their page layouts to sparse compositions.⁶¹ This emphasis upon clarity and legibility distinguished the “Stupid” group’s work from the sensory overload characteristic of many other Dadaist publications. Additionally, the group’s publications reveal the primary role that print series played in these artists’ efforts to reach a wider public—a format also embraced later by Arntz and Alma. It is worth noting here as well, that the “Stupid” group’s artistic program as articulated in Seiwert’s letter bears similarity to certain later formulations by Otto Neurath—particularly in its emphasis on simplicity, accessibility, unpretentiousness, and saying only what is known and relevant.⁶² Indeed, the passages from Seiwert’s letter quoted above would seem to anticipate the design requirements for the pictorial statistic symbols produced a decade later by Arntz, Alma, and Tschinkel.⁶³

⁶⁰ “Wir wollen jenseits von aller schwatzhaften Geistigkeit einfache Arbeit tun. [...] Wir wollen nicht mehr aussagen als wir wissen, aber das möchten wir so klar, so einfach sagen, dass jedermann es verstehen kann.” Seiwert, *Der Schritt, der einmal getan wurde, wird nicht zurückgenommen*, 79.

⁶¹ Print series published by the Stupid press include Franz Seiwert’s *Geschöpfe* [Beings], Heinrich Hoerle’s *Frauen* [Women], and Angelika Hoerle’s *ABC Bilderbuch* [ABC Picture Book].

⁶² Neurath discusses the challenge of designing symbols that do not “say more than one knows” about the subject, in “Schwarzweissgraphik,” in *Gesammelte bildpädagogische Schriften*, ed. Rudolf Haller and Robin Kinross (Vienna: Hölder-Pichler-Tempsky, 1991), 51-55. The article originally appeared in the *Österreichische Gemeinde-Zeitung* 3, no. 10 (1926): 334-338.

⁶³ Again, in drawing out parallels here between the goals of Seiwert’s artistic circle and those of Neurath’s later pictographic project, my intention is not to project the aims of the latter onto the former, or to cast pictorial statistics as the logical outcome of the Progressives’ work. Rather, the

Heinrich Hoerle and the Automaton Motif

Of the many pictograms designed by Arntz, Alma, and Tschinkel at the *Gesellschafts- und Wirtschaftsmuseum*, it is in the form of what Arntz has called the “standard-figure” that the Vienna Method’s debt to the earliest manifestations of figurative constructivism is still most evident—above all, in the drawings and linocuts produced by Heinrich Hoerle between 1920 and 1923, during his “first figurative constructivist phase.”⁶⁴ In works like *Mann (Konstruktive Figur)* [Man (Constructive Figure)] [FIGURE 8] and *Frau* [Woman] Hoerle reduced his figures to a series of geometric and mechanized forms—an approach to figuration that was ultimately embraced by several other Progressives. The stenciled letters reading “h20” (indicating the artists’ name and year of production), echo the simple geometry of the figure itself and—though the image is hand drawn in graphite on paper—evoke the qualities of mechanical production through its precise and depersonalized execution.

While Hoerle’s *Mann* and *Frau* drawings anticipate the direction that he and his colleagues would pursue over the ensuing decade, several other works produced in the same year—a linocut series titled *Frauen*, and an airbrush work titled *Zeichnung (Frau)* [Drawing (Woman)]—reveal more clearly the Dada context out of which his pictographic figures first developed [FIGURES 9, 10]. In these works,

comparison is intended to highlight certain values shared by both Neurath and the Group of Progressive Artists, which later led to such a fruitful collaboration.

⁶⁴ Despite Arntz’s later expressions of ambivalence about the Progressives’ influence on pictorial statistic design—and his assertion that the pictograms he designed in Vienna all “carried [his] own stamp” [*tragen meinen Stempel*—Arntz made an exception in the case of this human figure-pictogram, conceding that “an exact analysis would perhaps show that works, linocuts, by Hoerle still for the most part correspond in their basic form to the later established basic and standard-figure.” [*Eine genaue Analyse würde vielleicht ergeben, dass Arbeiten, Linoleumschnitte, von Hoerle noch am meisten korrespondieren mit der später festgelegten Grund- und Standardfigur, in der Grundform etwa.*] Gerd Arntz, Manuscript of July 3, 1972, Otto & Marie Neurath Isotype Collection, University of Reading.

figures are presented in profile with truncated limbs and torsos, and shown in x-ray cross-section views, revealing what seem to be internal mechanical organ systems. Between the mechanized anatomy, the absence of limbs, and the near-featureless heads, the figures are further reminiscent of a dressmaker's dummy.

In introducing this mechanized image of the human figure into his work, Hoerle was responding to what had by this point become a widespread pictorial practice among artists of the international avant-garde, many of whom had recast the human image in a variety of uncanny guises, including automaton, puppet, mannequin, and tailor's dummy. Hoerle's engagement with these themes beginning in 1920 can be explained, in part, by his encounter with the paintings of Giorgio de Chirico (1888-1978) and Carlo Carrà (1881-1966), with whom he had become familiar through Max Ernst.⁶⁵ However, Hoerle adapted this mannequin imagery (which had been used by the Italian painters to evoke nostalgia for a lost classical past) to address a specific contemporary phenomenon: the physical and psychological injuries suffered by veterans of the First World War.⁶⁶ The dummy-like figure, for example, in Hoerle's linocut *Der Europäer* [FIGURE 11]—with its truncated limbs and mechanical parts—directly references the prosthetic anatomy of wounded war

⁶⁵ In 1920, Hoerle published a portfolio of lithographs by Ernst, *Fiat Modes, pereat ars* [Let There Be Fashion, Down with Art], which featured automaton-type figures. The work was largely inspired by Ernst's encounter with work by Giorgio de Chirico, about whom he had learned during a trip to Munich the previous summer, where he came across an issue of the Italian journal, *Valori Plastici*, featuring the Italian artist. See Dirk Backes, *Heinrich Hoerle: Leben und Werk, 1895–1936* (Cologne: Rheinland-Verlag GmbH, 1981), 24-25, 37-39. See also Kriebel, 226.

⁶⁶ In 1917 Hoerle served at the front as a field artillery telephone operator and though he suffered no physical injuries himself, he was deeply affected by the experience. See Kriebel, 228. Just prior to his first figurative constructivist works in 1920, Hoerle produced a portfolio of 12 lithographs, titled *Die Krüppelmappe* [Cripple Portfolio], depicting both the physical and psychological traumas experienced by wounded veterans returning from the front. While these works exhibit thematic continuity with Hoerle's figurative constructivist production, the lyrical drawing style and organic, curving forms are more evocative of symbolism and expressionism.

veterans.⁶⁷ In this work from 1923, one of the more widely reproduced prints by the artist,⁶⁸ a figure with the featureless head of a tailor's dummy strolls through an urban space, his left limbs replaced by artificial machine parts, visible once again through a kind of x-ray cross-section. The blank faces and empty heads in Hoerle's automatons also referenced a new kind of widespread injury, specific to trench-warfare. Hoerle refers to such facial injuries in two woodcuts from approximately 1923 [FIGURES 12, 13], *Kopfprothese* [Head prosthesis] and *Prothesenkopf* [Prosthetic Head], both of which later reappeared in one of his best-known works, the 1930 oil painting, *Denkmal der unbekanntten Prothesen* [Monument to the Unknown Protheses] [FIGURE 14].

In the aftermath of the war, veterans' disfigured faces and prosthetic limbs soon became a standard part of antiwar iconography. Such images occur with great frequency in prints and drawings by Otto Dix (1891-1965) [FIGURE 15], and in the photographs of the 1924 book by Ernst Friedrich (1894-1967), *Krieg dem Krieg!* [War Against War!] [FIGURE 16].⁶⁹ In contrast, however, to the gore and carnage that characterize the war injuries in Dix's drawings, or in Friedrich's collected photographs, Hoerle's war-wounded are sanitized—their faces are either blank,

⁶⁷ Indeed, it was the dramatic increase in the visibility of amputees in everyday life after the war—many of them fitted with prosthetic parts—that in large part accounts for the prevalence of mannequin and automaton imagery among the international avant-garde during these years. As Mia Fineman notes, "World War I sent a flood of approximately 80,000 amputees—24,083 with missing arms and 54,953 with missing legs—streaming back into the German fatherland. Each amputee was entitled by law to two working prostheses." Mia Fineman, "Ecce Homo Protheticus," *New German Critique*, no.76 (Winter, 1999): 88.

⁶⁸ Versions of this work appeared in the British journal *Worker's Dreadnought* 10, no. 32 (October 27, 1923): 1; in *a bis z* 3, no. 21 (January 1932): 83; and in the booklet *soziale grafik* (Kladno, 1932): 21 (under the title "Denkmal des unbekanntten Invaliden").

⁶⁹ See Ernst Friedrich, *War Against War!* (Seattle: The Real Comet Press, 1987).

empty surfaces, or they are replaced with mechanical visages of geometric precision. Yet it precisely this geometric sanitization that makes Hoerle's images disconcerting: they reveal the extent to which technological violence had transformed the human body into something resembling a machine.⁷⁰

In place of the fragmentation and incompleteness that characterize the automaton-amputee in the work of artists like Ernst, Dix, or Grosz [FIGURES 17, 18], the automaton figure in Hoerle's work retains a measure of unity and integrity that distinguishes it from its Dadaist counterparts. This is reinforced by Hoerle's use of more "traditional" media—linocut and oil on canvas rather than montage—which provides his images a sense of solidity and permanence. This differing attitude towards both media and figural composition reflects at its core a differing artistic as well as political philosophy—one that by the summer of 1920 had led Hoerle and Seiwert to break off from Max Ernst and Cologne Dada in order to pursue an alternative direction. The objective of art for both Seiwert and Hoerle was not merely to offer a negative critique of society, destroying old values without offering alternative ones in their place. Rather, they believed art should have a positive social

⁷⁰ It was precisely this realization that led both the Berlin Dadaists, as well as Max Ernst, to employ the automaton motif as critical tool in their work. In 1920 Max Ernst executed a series of drawings depicting automaton-like configurations, portraying these figures as a collection of parts, uncomfortably held together. In his drawing, *Self-Constructed Small Machine*, for example, Ernst depicted a figure composed of disparate machine parts, precariously balanced and buckling under its own weight. Likewise, Berlin artists such as Raoul Hausmann (1886-1971), George Grosz (1893-1959) and John Heartfield (1891-1968) assembled automaton-figures from mannequin parts and found materials. Heartfield and Grosz's *The Middle-Class Philistine Heartfield Gone Wild (Electro-Mechanical Tatlin Sculpture)*, shown at the First International Dada Fair of 1920 along with Dix's (now lost) painting *War Cripples (45% Fit for Service)*, recasts the automaton as an absurd and dysfunctional conglomeration of fragments which together still fail to produce a whole. It should be noted here that, in contrast to Hoerle's automatons, this motif was for most Dadaists intrinsically bound up with the artistic practices of montage and assemblage. See Matthew Biro, "The New Man as Cyborg: Figures of Technology in Weimar Visual Culture," *New German Critique*, no. 62 (Spring-Summer, 1994): 71-110.

function, fostering solidarity among an imagined working class audience. The broken bodies of the Dadaists' automatons offered no hope of reconstruction or future progress. In the same way that Hoerle and Seiwert hoped socialism would repair and make a fragmented society whole again, Hoerle's image suggests that the veteran's fragmented body could be reassembled and reconstituted through his reintegration into the work force.⁷¹

This was precisely the hope of social and scientific reformers in the postwar years, and it was assembly line labor, in particular, that played a key role in these efforts. Through redesigned prostheses, disabled veterans could perform assembly line tasks.⁷² Hoerle appears to have been responding to these developments with his 1922 oil painting *Fabrikarbeiter* [Factory Worker] [FIGURE 19], wherein he depicted a mechanical worker—limbs replaced with tools and face replaced with what appears to be a pressure gauge—standing against a background of factory machinery. Thus, the realm of labor, industry, and assembly line production provided yet another context (though one inextricably bound with the context of prosthetic anatomies) from which the automaton motif in Hoerle's work emerged.

⁷¹ This perspective coincided with “the discourse of postwar rehabilitation in Germany.” As Fineman explains, “The primary goal of [postwar] rehabilitation programs was to put the army of disabled veterans— “war cripples” in the jargon of the day—back to work. [...] *Arbeit* became the key to overcoming the psychic disability that followed the loss of a limb.” Fineman, 90.

⁷² The attempt at this time to reintegrate amputees into the workforce, led to what Fineman has described as a change from “the dominant conception of the prosthesis as the cosmetic replacement of a missing limb... to a new model of prosthetic technology conceived as the mechanical supplementation of a lost or weakened function.” See Fineman, 103. This new, instrumental conception of the prosthetic limb was best illustrated, as Fineman points out, by a 1919 German medical publication titled *Ersatzglieder und Arbeitshilfen für Kriegbeschädigte und Unfallverletzte* [Artificial Limbs and Work Aids for War Cripples and Accident Victims] (Berlin: Julius Springer, 1919), which featured photographs of amputees fitted with prosthetic devices designed to perform specific assembly line tasks. Similar photographs later appeared in Friedrich's *Krieg dem Krieg!*, though in this context, the images were framed in terms of the exploitation of veterans.

The image of the factory, of course, had particular significance for artists and audiences in the Rhineland—a region which, over the previous half-century, had become among the densest and most rapidly industrialized on the European continent. Hoerle’s oft-quoted artistic statement of this time, that one must “depersonalize everything, use stencils, be an engineer,”⁷³ suggested a positive estimation of rationalized production. His automatons seem invincible, and their functional and fully integrated character suggests an overcoming of human frailty through technology.⁷⁴ However, the dehumanized character of the automaton also registers ambivalence. For what became clear through the reincorporation of wounded veterans’ bodies into the mechanism of industrial production was the extent to which life in general had become increasingly subordinated to the demands of factory labor. This critique is echoed in Seiwert’s 1923 woodcut, *Die Fabrik* [FIGURE 20], as well as in Arntz’s 1926 woodcut, *Ruhe und Ordnung* [FIGURE 21], wherein workers become increasingly indistinguishable from the machinery of the factory. Furthermore, other woodcuts by Arntz from 1926 and 1927, such as *Die Ordnung* and *Fabrik* [FIGURES 22, 23], depict factory workers whose limbs have been replaced by tools, again suggesting a blurring of the boundaries between human and machine.

While the amputee constitutes a more frequent presence in Hoerle’s work than any other artist in his circle, wounded veterans do make occasional appearances in works by Arntz and Alma. The amputees, for example, in Arntz’s 1927 woodcut, *Krankenhaus* [Hospital] [FIGURE 24]—some of them missing multiple limbs and

⁷³ “Alles entpersönlichen, Schablone benutzen, Konstrukteur sein.” Quoted in Bohnen (1976), 54.

⁷⁴ This interpretation is suggested by Michael Mackenzie in his dissertation, “*Maschinenmenschen: Images of the Body as a Machine in the Art and Culture of Weimar Germany*” (University of Chicago, 1999).

one with a bandage across his eyes—as well as the truncated figures in his earlier woodcut *Matrosen* [Sailors] (1925), were intended, as Arntz later recalled, as a direct reference to the victims of the First World War.⁷⁵ Additionally, the veteran-amputee reappeared years later in Alma's 1937 oil painting, *Oorlog* [War] [FIGURE 25], as well as in his anti-war (and anti-fascist) poster design of the previous year, *De oorlog maakt de man* [War Makes the Man] [FIGURE 26], the title of which he attributed to a quote from Mussolini.

Franz Wilhelm Seiwert and the Council Movement

Beyond a critique of the dehumanizing impact of modern warfare and the mechanized production process, this “constructivist” figure also emerged as the expression of an ideological position. For Seiwert especially (and later for Arntz and Tschinkel) the deployment of “constructivist” forms in the depiction of factory workers was linked to the political project of council communism. This movement emerged in the aftermath of Germany's November Revolution and promoted a system in which local councils, elected from within factories and other workplaces, would manage both government and economy, independent of any centralized party or state bureaucracy.⁷⁶ The grassroots character and participatory political structure of the

⁷⁵ Arntz, *Zeit unterm Messer*, 60.

⁷⁶ Council communism was an offshoot of the larger workers' council movement, which enjoyed mass support among the working class throughout Central Europe in the days leading up to and following the end of the First World War, and had gathered particular strength within the Rhine and Ruhr regions of Germany. Modeled on the Russian soviets that had emerged in the revolutions of 1905 and 1917, German soldiers' and workers' councils quickly spread in the early days of November 1918 and seized power in cities throughout Germany. In addition to briefly assuming the functions of local governments, soldiers' and workers' councils pressed for a wide range of social reforms. These councils—though at times supported by or connected with various parties on the political left—were, by and large, the spontaneous creations of the working class and had as their primary goal the introduction of greater democracy and equality in the workplace and in society at large. Fearing that they would carry out a repeat of the Bolshevik revolution, the Social Democrat-led provisional

council system had great appeal for artists like Seiwert, who aimed in his art and his writing to promote a more inclusive, egalitarian, and radically democratic social order.

Throughout the early 1920s Seiwert articulated his commitment to the council movement in journals like *Die Aktion* and *Der Ziegelbrenner*,⁷⁷ both through the reproduction of his graphic works, as well as the publication of critical and theoretical texts. It would have been clear to informed observers, however, as early as 1920, that the permanent institutionalization of workers' councils was no longer a realistic possibility. In his ink-drawing series *Sieben Antlitze der Zeit* [Seven Faces of the Times] [FIGURE 27], published in the last issue of *Der Ziegelbrenner* in December 1921,⁷⁸ Seiwert expressed anger and disappointment at the social and political leaders who, in his view, had compromised the revolution. One of the drawings, for example, titled *Die Arbeitsgemeinschaft* [Working Association], features two well-dressed

government (who had initially cooperated with and participated in the local councils) ultimately took a position against the councils, in some cases suppressing them with military force. The councils, in actuality, were much more moderate and reformist in their aims than was perceived by either their opponents or their more radical supporters. The council communist ideology to which Seiwert and other Progressives subscribed, which had as its goal the socialization of the economy and the permanent institutionalization of the councils, was always a minority position within the councils—articulated by intellectuals outside the councils and largely developed after the councils' suppression. On this last point, see Eberhard Kolb, *The Weimar Republic* (New York: Routledge, 2005), 151-154.

⁷⁷ *Die Aktion*, founded in Berlin in 1911 by the critic and publisher, Franz Pfemfert (1879-1954), was one of the few avant-garde journals to take an explicit antiwar stance from the very start of the First World War. *Der Ziegelbrenner*, published in Munich between 1917 and 1919 by the journalist Ret Marut (1890-1969), took a similarly anti-establishment position. Following the collapse of the Bavarian Council Republic Marut fled to Cologne, where he collaborated with Seiwert on a number of publications, including the last issue of *Der Ziegelbrenner*, published in December 1921.

⁷⁸ With *Sieben Antlitze der Zeit* Seiwert appears to have anticipated other series-based works by members of the Progressives circle, including Gerd Arntz's 1927 woodcut series, *Zwölf Häuser der Zeit* [Twelve Houses of the Times]; Gottfried Brockman's 1927 linocut series, *Bilderbogen der Zeit* [Pictures of the Times]; Peter Alma's 1929 woodcut series, *Acht soziale portretten* [Eight Social Portraits]; and August Sander's photographic publication of 1929, *Antlitz der Zeit: Sechzig Aufnahmen deutscher Menschen des 20. Jahrhunderts* [Face of Our Time: Sixty Portraits of 20th Century Germans].

figures in the foreground greeting one another as a mass of workers clusters around a factory in the background. A caption, running along the lower edge and right side of the image reads: “Guten morgen, Herr Gewerkschaftsbonze, sie werden die Sache schon wieder in Gang bringen!” [Good morning, Mr. union fat cat. They will surely get the business back in operation!]

The image appears to depict the deal making that characterized the aftermath of the November Revolution, where, in return for concessions from industry leaders (such as the eight-hour workday and collective wage bargaining) trade union officials agreed to abandon the demand for the nationalization of heavy industries.⁷⁹ For supporters of the council movement, such actions on the part of trade union leadership signified a betrayal of the revolution, since they not only preserved the private ownership of industries, but also served to keep power in the hands of union leadership, effectively shutting out the mass of ordinary union members from the decision-making process.

Beyond industry and labor leaders, Seiwert’s *Sieben Antlitze* series vilifies a variety of authority figures and institutions, ranging from the educational system, to the clergy, the military, and the government, all of whom are depicted engaging in self-serving deal making at the expense of the working class. Each of the seven vignettes, accompanied by satirical captions, highlights the perceived hypocrisy and self-interest of the social and political leadership. In addition to presenting a typology

⁷⁹ The most important development in this regard was the agreement of the *Zentralarbeitsgemeinschaft* [Central Working Association], which was concluded on November 15, 1918. This agreement, which, according to the historian Detlev Peukert, defined “the new social and economic order” of the Weimar Republic, essentially “constituted an insurance policy for employers against nationalization and gave the unions a guarantee that the leaderships would not have to surrender control over social and economic issues to the mass rank and file whom they distrusted.” Detlev J. Peukert, *The Weimar Republic: The Crisis of Classical Modernity* (New York: Hill and Wang, 1992), 109.

of the institutions—the “seven faces of the times”—that had undermined the revolution, Seiwert’s series also served to establish a graphic language and typology of forms, that was soon embraced by members of Seiwert’s artistic circle. Above all, this iconography consisted of forms related to factory architecture: saw-tooth rooftops, smokestacks, wheels and transmission belts, and window-crossbars. Additionally, the image of the collective masses, represented by clusters of identical, anonymous, worker-figures—a motif that Seiwert employed with increasing frequency in woodcuts and linocuts over the next two years—makes one of its earlier appearances in this series.

For Seiwert as well as for Hoerle, 1922 and 1923 marked the peak years of their graphic production, after which both artists turned increasingly to oil painting. The woodcuts and linocuts they produced during this period had a great impact on the stylistic development of the other members who would later join their circle, particularly through their reproduction in *Die Aktion*. This journal was one of the most important channels through which Seiwert expressed his support for the project of council communism and, along with many other artists and intellectuals, debated the role that art should play in the cause.⁸⁰ Between 1922 and 1926 Seiwert’s prints appeared on *Die Aktion*’s cover on nine separate occasions, while Hoerle’s work was featured on four journal covers during this period—and works by both artists appeared with even greater frequency within the journal’s pages. These reproductions

⁸⁰ After 1920 *Die Aktion* became an important advocate of council communism, publishing the manifestos and guidelines of council communist factions like the *Allgemeine Arbeiter Union – Einheitsorganisation* (AAU-E) [General Workers’ Union – Unity Organization], of which Seiwert and Arntz were both supporters. While the actual council movement had all but disintegrated by 1923 (and had reached the height of its political relevance in the period immediately following the November Revolution), *Die Aktion* continued to advance the cause of council communism well into the later part of the decade.

were of tremendous importance for the artistic development of other members of the Group of Progressive Artists, who first became acquainted with Seiwert and Hoerle's graphic work, as well as with the tenets of the council movement, through this source.⁸¹

With works, for example, like the 1922 woodcut *Betriebsorganisation* [Factory Organization] [FIGURE 28], which first appeared on a 1923 cover of *Die Aktion* (later becoming one of the artist's most circulated graphic works),⁸² Seiwert attempted to articulate the political reality facing the council movement while simultaneously suggesting possibilities still open to it. In this work, a cluster of near-identical factory workers appears crammed into the space between factory transmission belts, "caught up in the machinery of capital as exploited and de-subjectivized human material," as art historian Uli Bohnen has described them. Yet, Bohnen also observes that Seiwert has invested this image with a certain tension, since the workers—in their position as an organized and collective body within the machine—appear "capable of tearing through the strained movements of the transmission belts, which encompass them."⁸³ As Bohnen's reading implies, the formal arrangement here is as critical to the print's message as the narrative elements.

⁸¹ See Arntz, *Zeit unterm Messer*, 15; Tschinkel, "Parallelen und Nachwirken," in *Hoerle und sein Kreis* (Frechen: Kunstverein zu Frechen, 1971); and Kees Broos, *Augustin Tschinkel* (The Hague: Haags Gemeentemuseum, 1976).

⁸² This work was first reproduced on the *Aktion* cover of vol. 13, no. 10 (1923), and was later reproduced in several Czech publications including the journal *naše cesta* (1932), and the booklet *soziale grafik* (1932). It also served as the cover for the compilation *f.w. seiwert – gemälde – grafik – schriften* (Prague, 1934).

⁸³ "...einerseits sind sie ins Räderwerk des Kapitals einbezogen als ausgebeutetes und entsubjektiviertes Menschenmaterial, andererseits sind sie die organisatorisch gebundene menschliche Kraft – imstande, durch eine angestrenzte Bewegung den Transmissionsriemen zu zerreißen, die sie umspannt." Bohnen (1976), 71.

The collective strength of the workers, for example, is communicated through their formal organization—through the overlapping of figures and the repetition of shapes—into a single monolithic form. Additionally, the image is composed according to a diagrammatic logic, in that it expresses structural relationships through the placement of forms: while the gears and transmission belts are superimposed upon the workers and image of the factory looms above their heads, the group’s position at the center of the production apparatus suggests a tactical advantage. The placement of the letters “BO” (an abbreviation for *Betriebsorganisation*) further serves to emphasize this point: integrated into the factory gears, the letters’ position might remind one of the councils’ ability to jam up the wheels of production through organized strikes.

Seiwert, then, in his promotion of the council ideology, did not show a victorious proletariat or depict the revolution as a *fait accompli*. Instead, his work presented the revolution as a yet unrealized, though possible, outcome. In this way, his images left the audience to reach an independent conclusion, and invited their participation in the completion and fulfillment of the revolutionary project. This conformed to Seiwert’s understanding of the revolution, which—rather than a vision dictated to the masses from above, to which they were expected to conform—would have to be a participatory event, created by the masses themselves, and organized from the ground up. The *Betriebsorganisationen* were, for Seiwert, emblematic of such grassroots participation: comprised of all workers in a factory and created to serve their interests, these organizations elected their leaders through a democratic process and constituted the basic units forming the larger workers’ councils.

In works like *Betriebsorganisation*, which continue to employ the standardized factory symbols of saw-tooth rooftops, smokestacks, and transmission belts, the image of the masses, or worker-groups (which had appeared only as a peripheral motif in *Sieben Antlitze der Zeit*), now figures as a central feature. In this motif, clusters of near identical figures, presented frontally or in profile with facial features described by discs and dashes, are clustered in dense configurations—almost piled up on one another in a compressed spatiality reminiscent of pre-Renaissance paintings—in order to suggest unity and solidarity. Indeed, another woodcut of 1922, which also appeared in *Die Aktion*, titled *Solidarität* [Solidarity] [FIGURE 29], goes as far as to intersect the figures' heads, so that one face's right eye becomes another's left eye—a literal visualization of connectedness.⁸⁴

In these later graphic works, the social typology that Seiwert had begun to develop in *Sieben Antlitze der Zeit* also appears with greater clarity. In *Feierabend* [Quitting Time] [FIGURE 30], for example, workers, with their plain, simple, unadorned and near identical uniforms, are less differentiated than other social types. The bourgeois couple in the left margin of the image are given more space (as well as more accessories), and described in greater detail than the mass of unemployed workers at the center of the image. This is evident, for example, in the addition of walking sticks, the depiction of more elaborate hats, the greater detail and differentiation in the faces and hairstyles of the bourgeois couple, and the more complicated contours of the man's suit jacket.

⁸⁴ El Lissitzky (1890-1941) later employed this device in his well known photomontage for the cover of the catalogue of the 1929 Russian Exhibition at *Kunstgewerbemuseum* in Zurich.

Again evident in this work is the tendency towards diagrammatic compositions that characterize figurative constructivist pictures, in which social relations are expressed through formal relationships. Thus, the bourgeois couple in the left margin occupies a superior position to the worker-figures, and look down upon the mass from their elevated position. The mass of workers, meanwhile, occupies a central position within the image, confronting the viewer directly and advancing towards the picture plane—suggesting that, on the stage of history, the proletariat is the advancing class.⁸⁵

The Factory Council Motif in the Work of Gerd Arntz and Augustin Tschinkel

In later prints by Arntz and Tschinkel, the factory organization is also featured as a recurring theme. In Arntz's 1926 woodcut, *Spartakusbund* [Spartacus League] [FIGURE 31], which was featured on a cover of *Die Aktion* that same year, the initials BO reappear in stenciled form, hovering above a cluster of armed workers who appear to be storming the gates of a factory. The initials made another appearance in a widely reproduced woodcut of the following year, *Tag der Freiheit* [Day of Freedom] [FIGURE 32], in which Arntz depicted armed workers breaking into a prison to free the languishing prisoners, the letters BO emerging once again from the armed masses at the gates. (That the workers in these later images take on more active and militant roles, may be read more as an expression of frustration than

⁸⁵ Roth suggests a similar diagrammatic reading of Seiwert's 1925 oil painting, *Demonstration*, which she explains, "depicts the division of society... as imposing from the side. The demonstrating mass is literally squeezed out into the space in front of the canvas, the space ideally occupied by the worker-viewer." See Roth, 87.

as a reflection of reality, as the real possibilities for revolutionary action had by this point largely evaporated.)

This latter image first appeared in 1927 in *Die proletarische Revolution*, the journal published in Frankfurt by the council communist General Workers' Union – Unitary Organization (AAU-E).⁸⁶ Throughout 1927 and 1928, both Seiwert and Arntz contributed graphic work to this publication. The two linocuts by Seiwert (produced around 1924 but appearing in 1927) featured all of the typical graphic devices [FIGURES 33, 34]: a central mass of figures representing the revolutionary working class, framed by standardized iconography denoting social institutions—factories or prisons—and the addition of hand-carved text, set against the field of a waving banner. One banner, extending from the central grouping of three workers and hovering above a background factory structure reads: “Erkenntnis der Welt treibt zur Änderung der Welt” [Awareness of the World Drives the Transformation of the World]. In a second linocut, the banner-text frames a typical grouping of heads along

⁸⁶ The AAU-E (*Allgemeine Arbeiter Union – Einheitsorganisation*) was established in October 1921 under the leadership of the former Social Democrat Otto Rühle and the *Aktion* publisher Franz Pfemfert, who printed the group's guidelines later that year in his journal. The organization was intended to supersede both party and union organizations, combining the political activities of the former and the economic role of the latter within a single body. It was formed as a splinter group of the revolutionary General Workers' Union of Germany (AAUD), which had emerged two years earlier in opposition to the German Communist Party (KPD), but had since fallen under the domination of German Communist Workers' Party (KAPD)—itself a splinter group of the KPD. Ultimately, such splits and infighting were “quite artificial,” as one early supporter of the council movement, the writer Paul Mattick, would later recall. “Neither the Communist Workers' Party nor the two General Labor Unions overcame their status of being ‘ultra-left’ sects. [...] [T]here was actually no difference between [them]. [...] Both unions indulged in the same activities. Hence all theoretical divergences had no practical meaning.” While the AAU-E and similar organizations continued to exist through the end of the Weimar period “in the form of weekly and monthly publications, pamphlets and books,” Mattick continues, “their functions were restricted to that of discussion clubs trying to understand their own failures and that of the German revolution.” See Paul Mattick, “Otto Rühle and the German Labour Movement,” in *Anti-Bolshevik Communism* (White Plains, NY: M.E. Sharpe, Inc., 1978), 108. See also Hans Manfred Bock, *Geschichte des ‘linken Radikalismus’ in Deutschland. Ein Versuch* (Frankfurt: Suhrkamp Verlag, 1976); and Uli Bohnen, “Zum Verständnis der politischen Vorstellungen der rheinischen ‘Gruppe progressiver Künstler,’” in *Politische Konstruktivisten: die ‘Gruppe progressiver Künstler’ Köln* (Berlin: Neue Gesellschaft für bildende Kunst, 1975).

with symbols denoting a globe and a prison building (indicated by the window crossbars), reading: “Die Weltrevolution zerstört die Gefängnisse der Welt” [The World Revolution Destroys the Prisons of the World]. The factory and the prison comprised two of the main social institutions at which Seiwert, Arntz, and their colleagues aimed their critiques; indeed, connections between the two institutions were frequently suggested in the publications to which these artists contributed graphics.⁸⁷

In total, Arntz contributed seven woodcut graphics to *Die proletarische Revolution* between 1927 and 1928, all of which use various diagrammatic compositions combined with text in the promotion of the council ideology. One such woodcut features a worker-type standing on the left, the figures of Hindenburg and Ebert standing on the right, and a figure holding a sign reading “Partei,” blocking the worker access to the politicians **[FIGURE 35]**. The accompanying text reads, “Die Partei schützt den Staat!” [The Party Protects the State!], expressing the council communist argument that political parties serve the interests of the state government rather than the needs of their constituents. A woodcut which appeared in the journal the following year, titled *Räte mandat oder Diäten mandat?* [Council Mandate or Salary Mandate?], makes this point even more clearly **[FIGURE 36]**.⁸⁸ The image is divided into two halves: on the left a cluster of workers stands before a factory (the printed word *Räte mandat* hovering above them), facing forward with hands linked in

⁸⁷ In the text accompanying Hoerle’s *Europäer* linocut in the *Workers’ Dreadnought*, for example, the author speculates on whether the depicted brick wall in the image belongs to a factory or prison, concluding: “there is little difference.” See the *Workers’ Dreadnought* 10, no. 32 (October 27, 1923).

⁸⁸ See *Die proletarische Revolution* 3 (1928), 9. This print was later reproduced in the Dutch journal, *De Zaterdagavond* (January 18, 1930), 10.

a show of unity; on the right stand several workers (seemingly unaware of one another) with their backs towards the viewer, turned in attention to the bourgeois parliamentarian who addresses them from the door of train car. The council mandate, the print suggests, is the product of the local factory workers themselves, designed to serve and promote their own interests. The parliamentary mandate, in contrast, is created from the top down, and serves the interests of the party leaders in the form of their sessional allowances [*Diäten*]. That the party leader addresses his constituents from the door of a train car suggests a lack of connection to or investment in local issues—for the parliamentarian this is only one stop among many.

The diagrammatic character, prevalent in so many figurative constructivist prints and drawings, is even more pronounced in another woodcut by Arntz, *Räte- und Betrieb Organisation* [Council and Factory Organization] [FIGURE 37], which appeared on the cover of a 1928 issue of *Die proletarische Revolution*. Here, at the ground level is the familiar cluster of workers framed by their factory environment of fences and industrial structures, upon which the words “Räte u. Betrieb Organisation” are inscribed. The accompanying caption reads: “The revolutionary program remains a mere piece of paper if it lacks the instrument to implement it. The instruments are the industrial organizations and the council system.”⁸⁹ This print’s composition functions similarly to a flow chart, suggesting a structural organization whereby workers are organized (literally from the ground up) through local factory organizations, and then connected to one another through larger workers’ councils.

⁸⁹ “Das revolutionäre Programm bleibt ein armseliges Stück Papier, wenn das Mittel fehlt, es zu verwirklichen. Das Mittel sind die Betriebsorganisationen und das Räte-system!!” *Die proletarische Revolution* 3 (1928), 1.

The woodcut, in fact, shares a compositional logic with an actual flow chart diagram designed by Seiwert, representing the structure of the council system [FIGURE 38], which appeared four years later in one of the last issues of *a bis z*, to accompany an essay distinguishing the principles of state socialism from those of the council movement.⁹⁰

The *Betriebsorganization* was also a repeating subject in Tschinkel's work. Tschinkel's 1928 linocut, *BO (Fabrik)* [BO (Factory)] [FIGURE 39], with its grouping of abstracted worker-heads at the lower edge of the image, framed above by factory wheels and transmission belts, reads like an abstracted version of Seiwert's woodcut from several years earlier. Bohnen has, once again, interpreted this work in a way that highlights the diagrammatic character of these figurative constructivist images: here the two transmission belts form a triangle at the picture's right edge, which encapsulate the initials "bo" (the placement of which is nearly identical to that in the earlier Seiwert print) and effectively drives a wedge between the workers at the lower part of the image and the factory machinery which subjugates them from above.⁹¹ A highly abstracted oil painting from the following year [FIGURE 40], later reproduced in an issue of *a bis z*, follows a similar format: three highly abstracted figures occupy the central ground, surrounded by factory architecture and flanked by the letters "BO." This format was repeated in an oil painting of three years later [FIGURE 41], though this time with far less abstraction, wherein a cluster of nine near identical worker figures stand before a factory landscape, a red flag held above

⁹⁰ See Seiwert's drawing "Schema des Rätessystems," in conjunction with the article "Staat und Rätessystem" in *a bis z* 3, no. 27 (September 1932): 107-108.

⁹¹ See Bohnen, 72.

them by the figure at the far left, and the stenciled letters “BO” printed over the bodies of the two most central figures.

Gerd Arntz

By 1924 (after only four years of formal artistic training and development), Arntz had reached a stage approaching his mature style, for which his initial encounters with Seiwert and Hoerle during these early years were crucial.⁹² As with the work of Seiwert and Hoerle, the factory constituted the central motif within Arntz’s work.⁹³ His factory depictions are unique when compared with those of his colleagues, however, in their incorporation of popular culture references—particularly in his allusions to fashion and entertainment imported from the United States. These two realms of culture—the rationalized production process of the factory assembly line and the synchronized performances of American entertainment—intersect, for example, in Arntz’s 1924 woodcut, *Amerikanisches* [Things American] [FIGURE 42].⁹⁴ Here each motif occupies its own horizontal register: the lower band depicts six female figures—faceless bodies in bathing suits arranged in a chorus-line formation—while a row of cars resembling Ford Model-Ts fills the space above. Additionally, the figure of hanged man—the victim of a

⁹² Gerd Arntz, *Zeit unterm Messer*, 18.

⁹³ For Arntz especially, who descended from a family of local industrialists and for a time had worked in his father’s Remscheid factory, the subject had personal significance. See Bool and Broos (1976), 7.

⁹⁴ Though it was not widely reproduced in the interwar years, it became in subsequent years one of Arntz’s most well known works. See for example Eberhard Kolb, Eberhard Roters and Wieland Schmied, *Kritische Grafik in der Weimarer Zeit* (Stuttgart: Klett-Cotta, 1985); *Envisioning America: Prints, Drawings, and Photographs by George Grosz and his Contemporaries 1915-1933* (Cambridge: Busch-Reisinger Museum, Harvard University, 1990).

lynching—overlaps and connects the two registers at the left side of the image, representing yet another aspect of American culture. Already in this early print, the tendency towards diagrammatic presentation is clear: each element—the showgirls, the cars, the hanged man—are isolated in separate compartments, as if to facilitate comparison between them. The work, as Arntz later explained, was a response to the literature, films, and illustrated magazines then flooding into Germany from the US, through which he became familiar with images of both racial violence and “bathing beauties.”⁹⁵ Above all, Arntz cited as an inspiration Henry Ford’s autobiography *My Life and Work* (1922), which had become an instant bestseller in Germany after the publication of the German edition in 1923.⁹⁶ Through standardized forms and precise, geometric execution Arntz sought to evoke Ford’s rationalized assembly line production process, while his comparison of Model-Ts and showgirls, facilitated by their diagrammatic arrangement in separate registers, suggests a general equivalence between the mechanized character of production and the standardized forms of consumption. In this equation of production and consumption, work and leisure, Arntz’s image also foreshadows the analyses of critics like Siegfried Kracauer, who later described chorus line performances and other forms of popular entertainment as “the aesthetic reflex of the rationality to which the prevailing economic system aspires.”⁹⁷

⁹⁵ See Arntz, *Zeit unterm Messer*, 60.

⁹⁶ On the impact of Henry Ford and the popularity of his autobiography in Germany, see Mary Nolan, *Visions of Modernity: American Business and the Modernization of Germany* (New York: Oxford University Press, 1994), 34.

⁹⁷ Siegfried Kracauer, “The Mass Ornament,” in *The Mass Ornament: Weimar Essays* (Harvard University Press, 1995), 75-86.

This notion that life outside the factory might become indistinguishable from time spent inside was articulated with even greater clarity in a woodcut from two years later, titled *Ruhe und Ordnung* [Calm and Order] [FIGURE 43]. The figures distributed throughout the image, representing a variety of professions and activities, all echo the forms and rhythms of the factory operations depicted in the lower right register; meanwhile, the repeating figures within the factory compartment have become nearly indistinguishable from the machines at which they are stationed. This conflation of the body and machine was depicted in still more literal terms in a woodcut produced the following year titled *Fabrik* [Factory] [FIGURE 44], where, in a chilling synthesis of the amputee and assembly line motifs, workers' limbs are replaced with tools.

Between 1924 and 1926 Arntz's figuration went through numerous stylistic fluctuations, as he worked further to refine his formal language. Woodcuts like *Erschossen um nichts* [Shot for Nothing] (1924) and *Beschissen um alles* [Cheated Out of Everything] (1925) [FIGURES 45, 46] exhibit far greater levels of figural distortion and stylization than *Amerikanisches*. The bodies in these works are comprised entirely of rectangles and triangles, with large, perfect circles for heads and horizontal dashes in place of facial features. The figures are, furthermore, depicted at a far greater scale than in most of his other works; indeed, the scale of the figures in these works recalls Seiwert's work.⁹⁸ Other woodcuts, like *Les Baigneuses* [Bathers] of 1926 [FIGURE 47], use more organic, anatomically naturalistic forms to depict bodies, which both display more complex gestures and inhabit semi-

⁹⁸ In fact, Arntz attributes this stylistic departure to the influence of Seiwert. See Arntz, *Zeit unterm Messer* (1988), 66.

perspectival spaces. Ultimately, Arntz settled on a mode of figuration more along these lines. The figures still conform to standardized types, and are generally depicted frontally and composed along vertical and horizontal axes to reinforce the overall grid arrangement, but they do contain a level of dimensionality, naturalistic proportion, and gestural complexity, which sets them apart from the work of Seiwert and other members of the Progressives circle.

In the two years between Neurath's discovery of Arntz in 1926 and the latter's move to Vienna in 1928, Arntz became increasingly engaged with leftist publications, contributing to both the Berlin-based *Aktion* and the Frankfurt-based *Proletarische Revolution*. Furthermore, in these years, during which Arntz collaborated with Neurath intermittently and from afar, he produced his best-known series, *Zwölf Häuser der Zeit* [Twelve Houses of the Times] [FIGURE 48]. This woodcut portfolio, the first of Arntz's series-based works, featured twelve three-level architectural cross-sections, each representing a different social institution. As Arntz explained, the decision to use twelve houses was a reference to the twelve celestial "houses" of the astrological horoscope. The work was a critique of transcendental worldviews, meant to counter metaphysical thinking with concrete, empirical facts.⁹⁹ The types of institutions chosen by Arntz vary greatly and depict the prevailing social order in a variety of ways. Generally speaking, though, the depicted settings seem to fall into two broad categories: the first category, into which half of the woodcuts fall, relates *directly* to fundamental relations of production, power, and authority; this category includes a factory, a prison, an army barracks, a bank, a hospital, and an

⁹⁹ Arntz, *Zeit unterm Messer*, 22

apartment house (conspicuously absent from the series, as Arntz himself later remarked, are educational and religious institutions).¹⁰⁰ The second category, to which the other half of the series belongs, relates more *obliquely* to relations of production and power; this category revolves around culture, consumption, and entertainment, and includes a department store, a stadium, a “theater,” a hotel, a bar, and a bordello. There is some redundancy, especially among the last four listed institutions, wherein social and sexual intimacy appears to be always mediated by economic exchanges.¹⁰¹

The following year, 1928, would be Arntz’s last year of woodcut production until 1931, when he once again resumed printmaking. In this year Arntz produced one of his more unusual woodcuts of the interwar period, *Bürgerkrieg* [Civil War] [FIGURE 49].¹⁰² As Roth points out, *Bürgerkrieg* departs from the *Zwölf Häuser* series, both in physical scale—the former print is more than three times the size of a single print from latter series—as well as in composition: Arntz abandoned the linear compositions of the *Zwölf Häuser*, which served to isolate individual themes, and instead, with *Bürgerkrieg*, combined several disparate themes in a circular composition from which the center has been extracted.¹⁰³ This woodcut, as Arntz later

¹⁰⁰ Arntz, *Zeit unterm Messer*, 82.

¹⁰¹ Only for Arntz did figurative constructivism occasionally accommodate sexual content. For the other members the circle, only themes directly related to labor and class struggle seem to have been considered appropriate to the style. Hoerle, incidentally, did produce a series of six “pornographic” linocuts in the early thirties, a series titled *Pornomappe*, but these were executed in a style that might be described alternatively as expressionist or surrealist. See Dirk Backes, *Heinrich Hoerle: Leben und Werk, 1895–1936* (Cologne: Rheinland-Verlag GmbH, 1981, 217-218).

¹⁰² This print appeared in *a bis z* 1, no. 4 (January 1930), under the title *Strassenkampf* [Street Fighting].

¹⁰³ See Roth, 122.

noted, also marked the end of his Düsseldorf period and served to summarize his experience and memories of the Rhine and Ruhr regions in the period in the aftermath of the First World War.¹⁰⁴ It is of particular interest, moreover, to note that *Bürgerkrieg* features what is likely the only depiction of an artist in a figurative constructivist artwork—indeed, depictions of artistic production appear even less frequently in work by the Progressives than depictions of sex. That the artist, standing with his palette and easel before a scene of carnage and destruction, opts to paint a still life with flowers, reflects the prevailing attitude among the Group of Progressive Artists: namely, that the art world was willfully blind to the class struggle, and that the commodity status of the easel paintings served only to entrench the artist in the reactionary camp of the bourgeoisie.¹⁰⁵ In the case of Arntz—as well as Tschinkel and Alma—his work in pictorial statistics and design afforded him an alternative means of income, and lifted the pressures of earning a livelihood by means of his “free” work alone.¹⁰⁶

While Arntz’s graphic production was interrupted during his first years working at the museum in Vienna, these years mark the height of his activity as a painter: twelve of Arntz’s fourteen oil paintings were produced between 1928 and 1931. As Arntz later explained, his work for the museum did not afford him the time and concentration required for his primary medium of woodcut; he turned to painting during these years because he felt the medium demanded less of him, that he could

¹⁰⁴ Arntz, *Zeit unterm Messer*, 89.

¹⁰⁵ On the status of easel painting within the Group of Progressive Artists, see the earlier discussion in footnote 57.

¹⁰⁶ See Arntz, “Otto Neurath, ich und die Bildstatistik,” in *Arbeiterbildung in der Zwischenkriegszeit: Otto Neurath, Gerd Arntz* (Wien: Löcker, 1982), 32.

approach it more, in his words, as a “Sunday painter.”¹⁰⁷ That painting was, in fact, more than just a hobby for Arntz is evident in his practice of painting his woodblocks; of his interwar woodcut production, Arntz produced a total 40 painted woodblocks.¹⁰⁸ Nonetheless, following his return to woodcut in 1931, Arntz gave up painting and devoted himself again exclusively to printmaking. Once again Arntz returned to concepts he had explored in his *Zwölf Häuser* series. Of the ten woodcuts he produced in the ensuing two years, which together constitute an unfinished series that he had initially planned to call *Klassengesellschaft* [Class Society], six conform explicitly to the earlier tripartite scheme of *Zwölf Häuser*, and all ten employ at least a loose version of this format [FIGURE 50]. These works, as Arntz described them, were “part backward- and part forward-looking.”¹⁰⁹ They handled such themes as war, revolution and counter-revolution, unemployment, and economic crisis, which both evoked the earlier postwar period as well as the situation of the early 1930s, with the looming threat of rising fascism. More so than *Zwölf Häuser*, however, which (produced at the height of the Weimar Republic’s “relative stability phase”) portrayed the social order as a static hierarchy, the *Klassengesellschaft* series (produced in the midst of the world economic crisis) emphasized organized class struggle and resistance.

¹⁰⁷ Arntz, *Zeit unterm Messer*, 29.

¹⁰⁸ See Bool and Broos (1976).

¹⁰⁹ Arntz, *Zeit unterm Messer*, 30.

Augustin Tschinkel

Just as Seiwert had played an important role in Gerd Arntz's artistic evolution, Tschinkel's discovery of Seiwert's work in *Die Aktion* in 1922 was also critical for his own development. While Tschinkel's earliest known graphics, published two years later in *Die Aktion*, had not yet fully absorbed the figurative constructivist tendencies of Seiwert's work, they did express a political position in common with Seiwert and *Die Aktion* [FIGURES 51, 52]. Graphics like Tschinkel's *Solowetzky* and *Der Kapitalismus im ehemaligen Sowjet-Russland* [Capitalism in the Former Soviet Russia] were, like the position articulated by *Die Aktion*, both pro-socialist and anti-Bolshevik. The drawing *Solowetzky*, for example, the title of which refers to one of the earliest established prison camps of the Soviet Gulag, accompanied an article in *Die Aktion* exposing the imprisonment and brutal treatment there of the Socialist Revolutionaries by the Bolsheviks.¹¹⁰ This drawing employed both a geometrizing and depersonalized style of figuration, as well as the prison theme, by then quite common to Seiwert's work. Tschinkel's drawing *Der Kapitalismus im ehemaligen Sowjet-Russland*, was also critical of the Bolsheviks. Depicted in a caricatured manner, a fat bourgeois industrialist sits atop a complex of factory buildings, clutching greedily at the smokestacks, with sub-caption reading, "Lang lebe die NEP-Politik der Bolschewicki" [Long Live the New Economic Policy of the Bolsheviks]. This drawing, however, in contrast to *Solowetzky* and other graphics by Tschinkel published in *Die Aktion* that year, had much more in common with political cartoons

¹¹⁰ "Die revolutionären Genossen, die auf Solowetzki gefangen sind, über Lenin-Inseln," *Die Aktion* 14, nos. 17-18 (September 1924): 499-506.

and popular illustration. The same can be said of Tschinkel's graphics featured the following year in the Czech theater journal *Loutkár* [Puppeteer].

Tendencies that might be described as figurative constructivist began appearing with greater frequency in Tschinkel's work around 1927, though woodcuts and linocuts from this year still exhibit mixed stylistic tendencies.¹¹¹ While Tschinkel's 1927 woodcut, *Leben und Tod* [Life and Death] [FIGURE 53], for example, reveals the grain of the woodblock and employs a rough, expressionist technique, linocuts of the same year [FIGURES 54, 55, 56], like *Menschen* [People], *Alltag* [Daily Life], and *Auswanderer* [Emigrants], use geometric and standardized forms, executed with varying degrees of precision. Despite the stylistic diversity of these prints, there are some telling similarities among them, including the frontal presentation of figures arranged along vertical and horizontal axes, and a tendency towards generality—that is to say, symbols representing general rather than particular objects. The upright, non-descript figure in *Leben und Tod*, for example, represents living human beings generally, juxtaposed with the symbol of death across the print's lower register in the form of the skeleton within a black horizontal rectangle. This upright figure, occupying the realm of life, is further flanked by two generalized symbols: at the left a smokestack (symbolizing the factory, and labor in general) and at the right a steeped-structure (its proportions, storied divisions, clock, and faint indication of a cross at the top suggesting a church). The binary logic at work in this image, which—besides life and death—suggests such oppositions as work and rest,

¹¹¹ This statement is based on the evidence of Tschinkel's extant work, of which the only known pre-1927 works are six graphics from 1924, which appeared in *Die Aktion* and *Loutkár*.

past and present, spiritual and material, is typical of Tschinkel's work in particular, and the Group of Progressive Artists generally.

Tschinkel's linocut of the following year, *Profitgesellschaft* [Profit Society] [FIGURE 57], employs—along with this frontal, cross-section presentation—a hierarchical structure that recurs throughout his work. In this linocut a highly abstracted figure composed of reduced, geometric forms and holding a sack of money in each hand, stands atop a column of horizontally stacked skeletons, flanked by factory architecture at the left and right. The motif recalls the *Leben und Tod* woodcut of the previous year. The same compositional device was used four years later in Tschinkel's linocut *Kohle* [Coal] [FIGURE 58], which depicts a coalmine owner—his industry indicated by the crossed hammers on his chest and his position indicated by both his fedora hat and his relative size and placement with regard to the other figures—standing atop a column of toiling, bent-over mineworkers, arranged in identical rows with pick axes raised. Again, industrial structures—the saw-tooth roof, factory smokestacks, and mining tower—flank the column. Both images use hierarchical compositions to express in spatial terms the idea that profit is expropriated from the producers of that profit, and that the expropriators stand on the backs of producers. Tschinkel employed a similar hierarchical device to critique the education system in an ink drawing from 1928, titled *Schema der zeitgenössischen Pädagogik* [Scheme of Contemporary Pedagogy] [FIGURE 59] (which was included along with *Kohle* in the 1932 booklet *soziale grafik*). In this drawing, a large figure—stereotypically bourgeois in his appearance with his bowler hat, overcoat, and cigar—pours liquid from a bottle into a funnel atop the head of the smaller, bureaucratic

looking figure of the teacher, who in turn pours a bottle into funnels on the heads of two rows of yet smaller, identical school children. Tschinkel's work, as is evident in this last example, possessed a humoristic element that set his work apart from that of his colleagues, whose temperament generally ranged from melancholic to ironic, but rarely playful.

Peter Alma

Of the figurative constructivist wing of the Group of Progressive Artists, Peter Alma's work was likely the most stylistically diverse, up to and through the interwar period. Alma was the oldest of the artists in this circle and had worked in a variety of styles prior to adopting a figurative constructivist vocabulary around 1927.¹¹² The stylistic breadth of his work is evident in merely browsing the numerous woodcuts and ink drawings that Alma contributed to the left-communist publication, *De Tribune*, between 1920 and the early 1930s [FIGURE 60]. These graphic works range in style from expressionist to social realist, and many, which do not seem to draw directly upon any avant-garde tendencies, could be characterized as political cartoons or popular illustrations. Alma's diverse stylistic range is also apparent in his 1923 woodcut portfolio, *Colijn-iade*,¹¹³ which combines expressionist characteristics with geometric tendencies of *De Stijl* [FIGURE 61].

¹¹² Alma had been a participant in cubist-influenced circles in prewar Paris, and during the war was involved with the artists who would establish *De Stijl* in 1917.

¹¹³ *Colyn-iade* was published as a booklet, and individual prints appeared in *De Tribune*. The title is a reference to the right-wing Dutch politician, Hendrikus Colijn (1869-1944), from 1922 the leader of the *Anti-Revolutionaire Partij* [Anti-Revolutionary Party], and from 1925 CEO of Royal Dutch Shell.

Like Tschinkel, Alma became directly involved with the Group of Progressive Artists after meeting Seiwert during the 1928 Pressa exhibition in Cologne, though he would have been aware of the group from at least 1926, when he participated along with the German Progressive members in the Western Revolutionary Art Exhibition in Moscow,¹¹⁴ and possibly even earlier, as an exhibiting member of the Berlin-based *Novembergruppe*, to which several members of the group's larger circle belonged, including Otto Freundlich and Jankel Adler.¹¹⁵

Even before his involvement with the Progressives, however, and his adoption of figurative constructivist tendencies, Alma's work already exhibited certain strategies common to the group. In woodcuts like *Een huis* [A House] [FIGURE 62] or *De straat* [The Street] [FIGURE 63], Alma employed the structure of the architectural elevation as a framework for the presentation of social content. This form, which allowed both for the compartmentalization of different thematic elements and their arrangement according to an overall grid composition, appeared with increasingly frequency in Alma's work by the later 1920s. Three woodcuts from 1928 [FIGURES 64, 65, 66], for example, *Acht uur* [Eight Hours], *Militaire* [Military], and *De Bankier* [The Banker],¹¹⁶ use the grid framework of architectural elevations to organize variously depicted social actors according to a hierarchical scheme.

¹¹⁴ See *Katalog vystavki revoliutsionnogo iskusstva Zapada* [Catalog of an Exhibition of Revolutionary Western Art] (Moscow, 1926).

¹¹⁵ Helga Kliemann, *Die Novembergruppe* (Berlin: Berlinische Galerie, 1969).

¹¹⁶ These prints appeared in 1930, along with work by Arntz, in the Dutch socialist newspaper, *De Zaterdagavond* [Saturday Evening]. In addition, a detail of *Acht uur* was reproduced in *a bis* z 1, no. 1 (October 1929): 2.

Even approaching the period of Alma's closest involvement with the Progressives, however, his work usually exhibited a greater degree of naturalism than the other members. Alma's 1927 woodcut, *Werkelozen in wachtzaal* [Unemployed in the Waiting Room] [FIGURE 67], reproduced in the journal *i10*, alongside his essay of that year, "Kunst en Samenleving" [Art and Society],¹¹⁷ reveals this greater tendency towards naturalism. While the figures—in their sparse detail, frontal or profile presentation, and near identical appearance—exhibit the typological reduction characteristic of the other Progressives' prints and drawings, they lack the imposition of strict geometric forms that would lend them the quality of standardization. Furthermore, the figures are situated in a perspectival space, diminishing in proportion as the space of the room recedes. Again, in contrast to Seiwert's mass-image, wherein the setting is merely a distant backdrop—flanking the figures that occupy the central space of the image—the setting in Alma's picture is a space for the figures to inhabit. The atmosphere in Alma's waiting room is—in further contrast to Seiwert's images of working class solidarity—rather melancholy: the figures stand with heads sunk below their shoulders or sit slumped in their chairs, looking forlorn and demoralized.

Alma's woodcut, *Acht uur*, published the following year as part of the International Workers' Relief campaign,¹¹⁸ projects less sentiment and exhibits stronger figurative constructivist tendencies. The perspectival dimension present in the *Werkelozen* woodcut of the previous year has been eliminated. Figures have been

¹¹⁷ Peter Alma, "Kunst en Samenleving," *i10 Internationale Revue* 1, no. 7 (1927): 241-244.

¹¹⁸ See Bohnen (1976), 117.

reduced further, their blank round faces similar to those populating Arntz's woodcuts. They still possess a certain degree of naturalism in their sense of proportionality, as well as a level of naturalism in the description of their anatomy—the articulation of the calf muscles in the legs of the two figures on the right, for example. These figures reappeared in a different arrangement the following year in *Maschinefabriek* [Machine Factory] [FIGURE 68], a woodcut, which—in its rigid composition and pictographic figuration—possesses the clearest articulation of figurative constructivist tendencies.

Nineteen twenty-nine was an especially productive year for Alma with regard to graphic work. This year saw the production of two woodcut series [FIGURES 69, 70], *Acht portretten* [Eight Portraits] and *Het Geld* [Money] (elsewhere titled *Vier Marxistische Leerstellingen* [Four Marxist Doctrines]). The *Acht portretten* series, to which two further woodcuts were added in 1931, was published in the following year by the *Socialistische Kunstenaarskring* [Socialist Artists' Circle] as a small, ten-part accordion-format booklet, and remains Alma's best known and most widely reproduced work. The series' social-typological theme coincides, in some respects, with August Sander's 1929 publication, *Antlitz der Zeit* [Face of Our Time], which presented a cross-section of German society, organized according to social position. Like Sander's photographic portraits, Alma's woodcuts present figures that function as signs for their respective professions and classes, indicated by uniform, setting, and various accoutrements. In contrast to Sander's broad survey, Alma's typology is limited to figures of power, authority, and wealth: military general, government minister, diplomat, banker, priest, lawyer, judge, and jailer. To these original eight

portraits were later added a bishop and a pensioner.¹¹⁹ All of the portraits share the same format, with its centered, frontal, and iconic presentation of a single pictographic figure, flanked by underlings and associated symbols of power, arranged in symmetrical rows and configurations.

Concluding Remarks

The features of figurative constructivism as they appear in works by Arntz, Tschinkel, and Alma can be seen, in part, as a synthesis of Hoerle and Seiwert's respective approaches. With regard to their precise execution and geometric approach to figuration, these works draw upon Hoerle's images of mechanized automatons. At the level of iconography and pictorial structure they are undoubtedly informed by Seiwert's work—particularly in his efforts to visualize a mass subject. It should be understood that these features—the geometrized figuration, the tendency towards diagrammatic compositions, and the typological treatment of subject matter—were developed to serve a communicative and educational function. This is, indeed, how contemporaneous critics discussed these works. Writing about figurative constructivist prints and drawings in the introduction to the 1932 publication, *soziale grafik*, the Czech poet Břetislav Meneček described how the clarity and simplicity of the style's formal language was intended to guarantee accessibility to a broad audience: “A graphic expression is sought here, which should immediately reveal the class-mediated contexts and contradictions to the masses in a clear, symbolic, and generally understandable artistic language. These drawings are as simple as building

¹¹⁹ Like Arntz's *Zwölf Häuser*, the logic behind the chosen categories is not entirely clear. Conspicuously absent are some of the figures frequently vilified in other works by these artists, such as industrialists, police officers, and elected politicians.

blocks and elementary textbooks, so that children, young and old, can at least develop the most basic socialist attitude towards society and learn the ABCs of the new face of the world.”¹²⁰ More than this, the language of figurative constructivism functioned to frame subjects in collective terms, since the images were meant to depict social phenomena, rather than isolated, individual experiences. In this way, these artists hoped to cultivate a sense of collective identity among their intended working-class audience, and, at the same time, provide them with analytical tools with which to contemplate their place in the social order. In particular, it was through the elimination of sentiment and emotion, which were linked in the minds of the Progressives with individual subjectivity, that the formal language of figurative constructivism was perceived to serve this collective expression. Thus Seiwert, in the short autobiographical sketch in which he coined the term “figurative constructivism,” described his intention “to present a reality divested of all sentiments and particularities, and to make visible within the frame and laws of the picture, the functions, the lawfulness, the relationships, and the tensions of this reality.”¹²¹ In taking this analytical (and, one might add, somewhat clinical) approach with regard to social content, the Progressives hoped to transcend the sentimentality that

¹²⁰ “Für solche Abschnitte dieser sozialen Wirklichkeit wird hier der grafische Ausdruck gesucht, der die klassenmäßigen Zusammenhänge und Gegensätze unmittelbar aufzeigen soll, in einer klaren, zeichenartigen und allen verständlichen Sprache des Malers zur Masse. Es sind Zeichnungen, einfach wie Baukasten und Fibel, dass die großen und kleinen Menschenkinder wenigstens die einfachste sozialistische Einstellung zur Gesellschaft sich aufbauen können und dass sie das ABC des neuen Weltgesichtes erlernen.” Břetislav Mencák, Foreword to *soziale grafik* (Kladno: Naše cesta, 1932), 1.

¹²¹ “Ich versuche mit dieser [gegenständlichen konstruktiven] Bildform eine allem Sentimentalen und allem Zufälligen entkleidete Wirklichkeit darzustellen, ihre Funktionen, ihre Gesetzlichkeit, ihre Beziehungen und ihre Spannungen innerhalb des Bildrahmes und seiner Gesetzmäßigkeit sichtbar werden zu lassen.” Franz Wilhelm Seiwert, Autobiographical sketch in *Kunst der Zeit* 3, no. 6, Sonderheft Rheinland (1929): 171.

characterized social realism and other artistic currents affiliated with the political left, and to appeal to audiences at an intellectual level.

Chapter 2: Figurative Constructivism and the International Avant-garde

Figurative Constructivism as a Movement

Though the basic features of figurative constructivism originated in Cologne around 1920, it was only with the publication in 1929 of *a bis z*, the Progressives' official journal, that the loosely shared character of the style and the international dimensions of the movement were self-consciously articulated. The journal's first issue, which appeared in October of that year, featured five woodcuts and linocuts by members of the group who worked in a figurative constructivist style, arranged mostly in a column along the left side of the issue's second page [FIGURE 71]. The accompanying text states that the five prints were produced over the previous decade by "five different painters in four different countries,"¹²² and the corresponding numbered key lists the authors and their affiliated cities as follows: Arntz (Vienna); Seiwert (Cologne); Tschinkel (Prague); Alma (Amsterdam); and Hoerle (Cologne). Arntz had, in fact, only moved earlier that year from Düsseldorf to live in Vienna on a permanent basis, but the editors of the new journal (who, in addition to the author of the accompanying text, Walter Stern, also included Seiwert and Hoerle) appear to have leapt at the opportunity to link themselves with yet one more international center—thereby emphasizing the international breadth of the artistic movement represented by these artists.

¹²² Walter Stern, "Zu fünf Schnitten," *a bis z* 1, no. 1 (October 1929): 2. The later-established titles, dates, and media for the works are as follows: Arntz, *Warenhaus* [Department Store], 1925, woodcut; Seiwert, *Arbeiter* [Worker], 1924, linocut; Tschinkel, *Frau* [Woman], 1928, woodcut; Alma, *8 uur* [8 Hours], 1928, linocut; Hoerle, *Prothesenkopf* [Prosthetic Head], 1923, linocut.

Beyond serving to solidify the Progressives as an artists' organization, the first issue of *a bis z* also served to introduce this formal language (shared by a portion of the group's members) as something approaching an international stylistic movement. Indeed, the claim that this work represented an international avant-garde tendency, unified by a shared formal vocabulary, a shared worldview, and common political aims, would be reasserted in the ensuing months and years by both critics and the artists themselves.

One component of this shared worldview, as Stern formulates it in his brief accompanying text, held that in the modern era, human beings could only achieve their full potential as members of a collective; as an individual the human being was merely "a dummy, a lever, a joint, material."¹²³ The five prints, according to Stern, "expressed [the fact] that human beings have lost their individuality; that the private individual has been absorbed into the collective through work and social organization."¹²⁴

The critic Hans Schmitt-Rost (1901-1978), writing in a later issue of *a bis z* (under the pseudonym Hans Faber), echoed Stern's interpretation, emphasizing both the collective character of the style within which these five artists worked, as well as that of the figures depicted within their artworks. "These works," Schmitt-Rost writes, "present something but not individual traits; rather [they show] the collective,

¹²³ Here is the full quote: "Der Begriff Mensch wird nur noch sichtbar in der Vervielfältigung seiner selbst, er wird schöpferisch im Kollektivbegriff der Masse. Als Individuum ist er Attrappe, Hebel, Gelenk, Material." [The concept of the human being is only still visible in the multiplication of itself; it becomes creative in the collective concept of the masses. As an individual it is a dummy, a lever, a joint, material.] Stern, "Zu fünf Schnitten," 2.

¹²⁴ "Sie drücken aus, dass der Mensch seine Individualität verloren hat, dass das private Individuum im Kollektiv der Arbeit und der gesellschaftlichen Organisation aufgegangen ist." Stern, "Zu fünf Schnitten," 2.

the typical and this is essential.” This collective character, Schmitt-Rost continues, is achieved through the employment of “universal” form—that is to say, form “subordinated to the law of perpendiculars, partition, and rigorous pictorial calculation.”¹²⁵ Adherence to pictorial “lawfulness,” according to Schmitt-Rost, distinguishes the work of these artists from that of other socially oriented tendencies. As examples he compares two paintings—one by Seiwert and one by Otto Dix—both depicting brothel scenes. In contrast to Dix’s detailed and illustrative approach, which Schmitt-Rost compares to “a moralizing bourgeois satirist” [*einen moralisierenden bürgerlichen Satiriker*], Seiwert’s “bordello street scene is first and foremost a painting; that is to say, surfaces and rigorous arrangement.”¹²⁶ In further contrast to Dix’s sentimental portrayal, Schmitt-Rost continues, Seiwert “paints no prostitutes’ portraits, but rather empty facial surfaces.” In this way, “no lyricism disturbs the clarity of the social power positions” and “the formal law of the picture” is free to reveal “the formal law of social structure.”¹²⁷ Indeed, it was this “clear lawfulness” that, according to Schmitt-Rost, accounted for these five artists’ “precision of composition and form” and their “correspondence in character.”¹²⁸

¹²⁵ “Diese Arbeiten... stellen etwas dar, aber nicht individuelle Züge, sondern das Gemeinsame, Typische und entscheidend: die Form ist eine universale, eine, die dem Gesetz der Senkrechten, der Teilung, der strengen bildmäßigen Berechnung unterworfen ist.” Hans Faber (= Schmitt-Rost), “Inhalt und Form,” *a bis z 2*, no. 20 (December 1931): 77.

¹²⁶ “...seine Bordellstrasse ist zuerst Malerei, d.h. Fläche und strengste Gliederung.” Ibid.

¹²⁷ “Er malt keine Dirnenporträts, sondern nur leere Gesichtsflächen. Kein Lyrismus stört die Klarheit der sozialen Machtlagen... Im Formgesetz des Bildes offenbart sich das Formgesetz der gesellschaftlichen Struktur...” Ibid.

¹²⁸ Thus, Schmitt-Rost concludes, “Es ist sicherlich kein verabredeter Manierismus, sondern klare Gesetzlichkeit, dass sich die Bilder von Künstlern wie: Arntz aus Wien, Tschinkel aus Prag, Alma aus Amsterdam und Hoerle und Seiwert aus Köln in der Strenge von Aufbau und Form äußerlich ähnlich sind und ihrem Wesen nach durchaus entsprechen.” [It is surely no prearranged mannerism, but rather clear lawfulness, that the pictures of artists like Arntz from Vienna, Tschinkel from Prague, Alma from

Aside from pointing to the formal and conceptual affinities between these members of the Group of Progressive Artists, neither Stern nor Schmitt-Rost offered any stylistic label or terminology under which to classify these artworks. Seiwert, in his short autobiographical sketch of 1929,¹²⁹ had described his work in terms of a “figurative constructive [*gegenständlichen konstruktiven*] pictorial form,” though the term appears to have been adopted by others only retroactively, in postwar scholarship.¹³⁰ The term “sociological graphics,” employed on occasion by Alma and Tschinkel, among others, appears to have been used in a somewhat different context than “figurative constructivism”: while the latter included painterly practice, the former was generally used to designate prints and drawings.¹³¹ Nonetheless, Alma’s definition of “sociological graphics” shares a great deal with Seiwert’s description of “figurative constructivism.” “Sociological graphics,” Alma explains, are characterized by “an objective, investigative, and orderly approach in relation to the

Amsterdam, and Hoerle and Seiwert from Cologne, are outwardly similar in the precision of their composition and form, and correspond throughout in their character.] Faber, 78.

¹²⁹ Franz Wilhelm Seiwert, Biographical sketch in *Kunst der Zeit* 3, no. 6, Sonderheft Rheinland (1929): 171.

¹³⁰ See, for example: Ulrich Fernkorn, “Der gegenständliche Konstruktivismus der Progressiven am Beispiel von Seiwerts Arbeitsmännern,” in *Konstruktivistische internationale Arbeitsgemeinschaft 1922-1927 – Utopien für eine europäische Kultur* (Stuttgart: G. Hatje, 1992), 207-210; and Ingeborg Güssow, “Die Malerei des Gegenständlichen Konstruktivismus,” in *Kunst und Technik in den 20er Jahren: Neue Sachlichkeit und Gegenständlicher Konstruktivismus* (Munich: Städtische Galerie im Lenbachhaus, 1980), 74-93.

¹³¹ The term appears to have been introduced by Otto Neurath in 1930 in an article in *Die Form*, the journal of the *Deutscher Werkbund* [German Work Federation], which featured a reproduction of Arntz’s woodcut *Bank*, from his *Zwölf Häuser* series. See “Das Sachbild. 1: Bildhafte Pädagogik,” *Die Form* 5, no. 2 (1930): 34. Alma and Tschinkel quickly followed suit, employing the term in several articles published that same year. See, for example, Alma, “Beeldstatistiek en sociologische grafiek,” *Wendingen* 11, no. 9 (1930): 3-7; and Tschinkel, “Zobrazení množství a kolektivní tvary: k výběru ze sbírky sociologické grafiky sociologického a hospodářského musea ve Vídni” [Quantitative Pictures and Collective Form: A Selection of Sociological Graphics from the Sociological and Economic Museum in Vienna], *výtvarné snahy* 11, no. 8 (1930): 136-137.

object” [*een objectieve, onderzoekende en ordenende instelling ten opzichte van het object*], wherein “objectivity,” means the “simplification and elimination of that which is extraneous and contingent, in order to clarify that which is essential.”¹³² Alma’s description echoes that of Seiwert, who aimed through his “figurative constructive pictorial form to present a reality divested of all sentiments and particularities.” Thus, the shared iconographic and stylistic characteristics designated by the labels “figurative constructivism” and “sociological graphics” emerged as a solution to the problem of how to “objectively” represent social conditions in pictorial form; that is to say, how to depict concepts (such as social stratification or economic exploitation) in a way that represented these phenomena as collective, rather than as disconnected, isolated, and individual experiences.

Avant-garde Publications

In introducing the features of this shared formal language and in gaining exposure for this work among an international avant-garde audience, *a bis z* was arguably the most important publication for the figurative constructivist wing of the Group of Progressive Artists. Along with work by Arntz, Alma, Tschinkel, Seiwert, and Hoerle, *a bis z* featured graphics by artists whose work also exhibited figurative constructivist tendencies, such as Hans Schmitz, Vladimir Krinski (1890-1971), Helios Gómez (1905-1956), and Walter Heinz Allner (1909-2006). Yet this work

¹³² “‘Zakelijk’ moet zijn uitbeelding zijn... door vereenvoudiging, weglaten van bijkomstigheden en toevalligheden, om het essentieele duidelijk tot zijn recht te doen komen.” [‘Objectivity’ should be represented... through simplification and elimination of that which is extraneous and contingent, in order to clarify that which is essential.] Alma, “Beeldstatistiek en sociologische grafiek,” 6.

only comprised a fraction of the journal's total content, which was actually much broader in scope than the rather narrow stylistic category of figurative constructivism. Furthermore, *a bis z* featured articles on subjects as wide-ranging as film, photography, sculpture, architecture, typography, exhibition design, medieval art, and folk art; it treated movements as varied as Expressionism, Futurism, Cubism, Suprematism, Constructivism, Purism, and the *Neue Sachlichkeit*; and included artists as diverse as Kazimir Malevich (1879-1935), Gino Severini (1883-1966), Constantin Brâncuși (1876-1957), Amedeo Modigliani (1884-1920), and Theo van Doesburg (1883-1931). In addition to texts by such Cologne-based members of the Progressives' inner circle as Seiwert, Walter Stern, Hans Schmitt-Rost, and Carl Oskar Jatho (1884-1971), frequent contributions came from Raoul Hausmann and Otto Freundlich, as well as occasional contributions from Arntz, Tschinkel, Stanislaw Kubicki (1889-1943), Ernst Kallai (1890-1954), Jan Tschichold (1902-1974), Laszlo Moholy-Nagy (1895-1946), and Josef Albers (1888-1972), to name but a few.¹³³ Finally, the journal featured excerpts from the writings of such political thinkers and activists as Rosa Luxemburg, Erich Mühsam, and Franz Mehring, among others.

Despite the thematic breadth of the journal, however, and the stylistic diversity of its contributors, *a bis z* remains one of the most valuable resources with regard to the figurative constructivist branch of the Progressives. During its three-and-a-half-year run, the journal reproduced more than sixty works by the members of the group who worked in this manner—with Seiwert, Hoerle, and Arntz represented

¹³³ By far the greatest number of contributions came from Seiwert, who published a total of 27 articles and 20 artwork reproductions over the course of the journal's three-year and a half run.

in greatest proportion.¹³⁴ These reproductions were fairly evenly dispersed throughout the thirty issues of the journal; however, there are particular issues that focus on figurative constructivist works with greater emphasis. In addition to the aforementioned first issue, which introduced figurative constructivism as a shared international tendency, the twelfth issue of *a bis z*, from November of 1930, is especially significant [FIGURES 72, 73]. This issue was introduced with an essay by Augustin Tschinkel, titled “Tendenz und Form” [Tendency and Form], which promoted “progressive social art”—that is, figurative constructivist artworks—as an alternative to the current left-tendentious [*linkstendenziose*] art, and featured eight graphic works by seven of the artists who represented this alternative tendency: Arntz, Alma, Tschinkel, Seiwert, Hoerle, Krinksi, and Schmitz.

It is worth taking note, as well, of the announcements and advertisements on the last page of the issue [FIGURE 74], which are quite typical for the journal and provide a sense of the extent to which the Progressives—in part, through the journal itself—were engaged with the wider world of modernist visual culture, both within Cologne and internationally. Beneath Seiwert’s drawing, an announcement for the upcoming “Socialist Art of Today” exhibition in Amsterdam listed those members who would be participating, as well as an announcement in the adjacent column for

¹³⁴ Of the selected works by Hoerle, however, it must be said that the majority reflect his move away from a figurative constructive approach in the later 1920s; they share more stylistically with the Purist paintings of Jeanneret and Ozenfant (both of whose work was reproduced in *a bis z*). That Hoerle had turned almost exclusively to oil painting by the mid-1920s is also reflected in the journal’s selection of reproduced work, of which oil paintings produced around the years of the publication comprise the majority; only a fraction of Hoerle’s selected works are graphics, and these works come, for the most part, from the early 1920s. Seiwert had also turned in increasingly to painting by the later 1920s, although the works chosen for reproduction in *a bis z* do not entirely reflect this development. More than half of the works by Seiwert that appears in the journal are prints and drawings, the majority of them produced between 1922 and 1924.

the third Paris exhibition of the “Surindépendants,” in which Seiwert and Hoerle were included. Lower on the page were advertisements for August Sander’s photography studio in Cologne-Lindenthal, as well as an announcement for the upcoming publication of the twelfth installment of the *Bauhausbücher* on the subject of Gropius’ Dessau buildings, and even a birthday announcement for the Austrian architect, Adolf Loos.

Moreover, the design of the journal itself reveals the group’s engagement with the international avant-garde—in particular, with the ideas of the “new typography” movement. This movement, like other contemporaneous developments in modern design and architecture, embraced mechanical reproduction and standardization, and was guided by the demand that function (rather than aesthetic considerations) dictate form. Jan Tschichold, an occasional contributor to *a bis z*, had earlier emerged as one of the movement’s most important spokesmen with the 1928 publication of his book, *Die neue Typographie*. Among his numerous prescriptions, Tschichold advocated the use of sans-serif type as “the only one in spiritual accordance with our time.”¹³⁵ *A bis z* embodied many of the principles of the new typography espoused by Tschichold in his book: the exclusive use of lowercase; justified text columns; dynamic, asymmetrically balanced arrangements of text and image; the division of sections with horizontal bars; and the frequent inclusion of photographic

¹³⁵ See Jan Tschichold, *The New Typography: A Handbook for Modern Designers*, trans. Ruari McLean (Berkeley: University of California Press, 1995), 73. See also Christopher Burke, *Active Literature: Jan Tschichold and New Typography* (London: Hyphen Press, 2007), 119. Seiwert’s typographic work was, in fact, reproduced in Jan Tschichold’s 1928 publication. He also participated with Tschichold in the seminal 1932 “Modern Typography” exhibition in Łódź and Warsaw. This exhibition, hosted by the Łódź-based avant-garde group, “a.r.,” was advertised in *a bis z* 3, no. 25 (July 1932): 100. Other participants included Henryk Berlewi (1894-1967), Walter Dexel (1890-1973), Theo Van Doesburg (1883-1931), Laszlo Moholy-Nagy, and Kurt Schwitters (1887-1948).

reproductions of artworks.¹³⁶ Many of these features became even more pronounced with the second volume beginning in October 1930 and with the adoption of the *Futura* typeface for captions, subheadings, page numbers, and the footer, which listed in an orderly arrangement the title, volume number, issue number, page numbers, location, and date.¹³⁷ Typography itself was, furthermore, the subject of several texts in the journal—among them a short piece by Franz Roh advocating a universal typeface, and a longer text by Tschichold illustrating just such a project [FIGURE 75].¹³⁸

While *a bis z*, as the Progressives' official "organ," provided the most numerous examples of figurative constructivist artworks over the course of its three-and-a-half year run, several Czech publications also played important roles in the movement's propagation. The arts journal *výtvarné snahy* [Artistic Endeavors],¹³⁹ for example, was significant in this regard. The journal's eleventh volume (1929-1930) featured a short, but richly illustrated essay by Tschinkel [FIGURE 76], addressing the relationship between figurative constructivist artworks and pictorial statistic

¹³⁶ In addition to the photographic reproduction of paintings, for which August Sander was instrumental, photographic reproductions of both sculpture and film sequences figured prominently in the journal.

¹³⁷ The *Futura* typeface was designed between 1925 and 1927 by the Munich based typographer, Paul Renner (1878-1956), an associate of Tschichold's at the *Meisterschule für Deutschlands Buchdrucker*. Shortly before its appearance in *a bis z*, *Futura* was adopted as the official typeface of the *Gesellschafts- und Wirtschaftsmuseum* in Vienna. See Christopher Burke, *Paul Renner: The Art of Typography* (New York: Princeton Architectural Press, 1998), 86-91. For further discussion of the influence of the "new typography" movement on pictorial statistic design, as well as Tschichold's connection to the work in Vienna, see Chapter 4, pages 134-135.

¹³⁸ Jan Tschichold, "Noch eine neue Schrift," *a bis z* 2, no. 11 (October 1930): 42; Franz Roh, "Vier Alphabeten," *a bis z* 2, no. 11 (October 1930): 43.

¹³⁹ *výtvarné snahy: Umělecký měsíčník věnovaný výtvarné práci a výtvarné výchově* [Artistic Endeavors: Monthly Art Journal for Decorative Arts and Artistic Education] (Volumes 7–11 by Prometheus Publishers in Prague, 1926-1930).

charts, and exploring the concept of “collective form.”¹⁴⁰ In Tschinkel’s view, this concept provided both a point of overlap between the two projects, and connected them with larger developments in modernist design.¹⁴¹ Typeface design, in particular, provided a model for thinking about the relationship between “collective form” and standardization: “The letter ‘d’ is all the more the letter ‘d,’” Tschinkel explained in his text, “the closer it comes to its standard form, and it is all the less a ‘d’ when it is individually adorned.”¹⁴² Tschinkel’s typographic analogy should come as no surprise: his long-time colleague and collaborator, Ladislav Sutnar (1897-1976)—one of the main proponents of the new typography movement in Czechoslovakia—was also an editor and designer of *výtvarné snahy*. The influence of Tschichold’s book, with its emphasis on standardization and functionality, can be seen all through the journal’s design [FIGURE 77]. In fact, *výtvarné snahy* was the first to carry Czech translations of excerpts from *Die neue Typografie* in 1929, the year after its publication.¹⁴³ There also appears to have been a close relationship between *výtvarné snahy* and *a bis z* (though the former was a much more extensive and longer-running publication). Substantial sections of the twelfth and thirteenth issues of *a bis z*, for

¹⁴⁰ Tschinkel, “Zobrazení množství a kolektivní tvary,” *výtvarné snahy* 11, no. 8 (1930): 136-137. The essay, as stated in its subtitle, was illustrated by with “a selection of sociological graphics from the collection of the *Gesellschafts- und Wirtschaftsmuseum* in Vienna.”

¹⁴¹ For more on Tschinkel’s discussion of “collective form” and the relationship between figurative constructivism and pictorial statistics, see Chapter 4.

¹⁴² “Der Buchstabe d ist um so mehr der Buchstabe d, je mehr er sich seiner Standardform nähert, und er ist es um so weniger, als er individuelle verziert wird.” Tschinkel, “Das Mengenbild und die Kollektivformen: Zur Auswahl aus der Sammlung soziologischer Graphik des Gesellschafts- und Wirtschaftsmuseums in Wien,” German translation of the original Czech text, “Zobrazení množství a kolektivní tvary,” *výtvarné snahy* 11, no. 8 (1930): 136-137; typed manuscript in the *Historisches Archiv der Stadt Köln*.

¹⁴³ See Iva Janáková et al., *Ladislav Sutnar – Praha – New York – Design in Action* (Prague: Argo, 2003).

example, were largely appropriated from issues of *výtvarné snahy* containing articles by Tschinkel.¹⁴⁴

With regard to design, however, the Kladno-based Czech student journal *naše cesta* [Our Path] appears to have had an even stronger visual connection with *a bis z* [FIGURE 78]. Tschinkel was in charge of typographic design and layout for several of issues of the publication, and the lowercase sans serif typeface used for the nameplate and headings is identical with that used for the nameplate of *a bis z*.¹⁴⁵ In addition to layout design and artwork reproductions, Tschinkel contributed texts to *naše cesta*, including an essay in 1931 titled “Umění století stroje” [Art in the Machine Age],¹⁴⁶ wherein he attempted to situate figurative constructivism in relation to both competing trends in contemporary art as well as in relation to historical precedents. Tschinkel provides a rather reductive scheme in which artistic production of the time can be divided into two general camps: those whose work is socially and politically committed, and those whose work would suggest that “nothing new would need to be done or happen in society.”¹⁴⁷ Tschinkel derisively characterizes this latter group as painters of “tropical fruits, nudes, castles, and mandolins,” and would appear

¹⁴⁴ Tschinkel’s essay in the thirteenth issue of *a bis z*, “Statistik und Kollektivform,” appears to be an abbreviated version of the essay that appeared earlier in *výtvarné snahy*, “Zobrazení množství a kolektivní tvary.” Additionally, the illustrations for these issues of *a bis z* were provided by *výtvarné snahy*, as indicated by the former publication’s acknowledgments.

¹⁴⁵ The typeface is the late nineteenth-century Extended Sans Serif, also called *Kompakte Grotesk*, from the Haas Type Foundry, Münchenstein, Germany. See Jan Tschichold, *Treasury of Alphabets and Lettering* (New York: Rheinhold Publishing Corporation, 1966), 203.

¹⁴⁶ Augustin Tschinkel, “Umění století stroje” [Art in the Machine Age], *naše cesta* 2, no. 8 (1931): 99-100.

¹⁴⁷ “...als ob in der Gesellschaft nichts geschähe oder als ob nichts Neues getan werden müsste.” Augustin Tschinkel, “Die Kunst des Maschinezeitalters,” German translation from the original Czech, “Umění století stroje,” *naše cesta* 2, no. 8 (1931): 99-100; typed manuscript in the *Historisches Archiv der Stadt Köln*.

to include painters associated with the Paris school, surrealism, and the *Neue Sachlichkeit* within this category, whose lack of social tendentiousness [*Tendenzlosigkeit*], he claims, is most agreeable to the bourgeois consumer.¹⁴⁸ The former, socially committed camp, Tschinkel explains, can be further divided into three trends: an abstract tendency (under which Tschinkel groups both Constructivism and Suprematism), a naturalistic tendency (which includes both social realism and “Verism”), and, finally, a third way, for which he offers no specific terminology for classification but points to the reproduced artworks by Alma, Arntz, Hoerle, Krinski, Seiwert, and himself.

Tschinkel praises the first tendency, Constructivism, for its lack of individualism and its embodiment of “positive elements,” but laments its essentially “bourgeois” status and its dependence upon art dealers. He derides the second, “naturalistic tendency,” as “formally bourgeois, sentimental, picturesque ‘poor people art,’” asserting that it must be sternly rejected with regard to both form and content. In addition to such artists as Käthe Kollwitz (1867-1945), Hans Baluschek (1870-1935), and Heinrich Zille (1858-1929), he includes in this category “the so-called Verists, who try to tie in with old German painting.” Here Tschinkel names Otto Dix, Otto Nagel (1894-1967), Georg Scholz (1890-1945), and the later George Grosz—“though not the Grosz,” Tschinkel notes, “who once allowed himself photographed with a placard reading ‘Art is Dead. Long live the new machine art of Tatlin!’”¹⁴⁹ By

¹⁴⁸ Tschinkel, “Die Kunst des Maschinezeitalters.”

¹⁴⁹ “Am andern Ufer stehen bekanntlich drei Hauptrichtungen: der Konstruktivismus, die am wenigsten individualistische, aber ohne bestimmte, kämpferische Tendenz. Doch enthalten seine Abstraktionen positive Elemente... Zweitens die naturalistische Richtung, die formal teilweise zur bürgerlich-sentimentalen, malerischen ‘Armeleutkunst’ gehörte (Kollwitz, Steinle, Baluschek, Zille) und die wir, formal wie inhaltlich beurteilt, strikt ablehnen müssen. Zu dieser Richtung gehören auch die sogen.

contrast, Tschinkel says of his figurative constructivist colleagues, “they do not search for a language among their great-grandfathers,” but rather adopt elements of constructivist art “and try to proceed where art can no longer advance through its dependency upon art dealers.” Interestingly, Tschinkel situates this work within a lineage that descends from Seurat through the Futurists, to Léger, Herbin, Jeanneret, and Baumeister, “whose great achievement,” Tschinkel informs us, “was to show that the machine forms and standard forms correspond to the times.”¹⁵⁰

Tschinkel’s emphasis on collective nature of standardized, geometric forms (along with his typographic analogy) was reiterated in 1932 by the poet Mencák,¹⁵¹ in his introduction to the German-language booklet, *soziale grafik* [FIGURE 79].¹⁵² With the subtitle, “a picture book with an international selection,” *soziale grafik* assembled together nineteen graphic works by six artists affiliated with the Progressives, including Alma, Arntz, Hoerle, Seiwert, and Tschinkel. “A graphic expression is here sought after,” wrote Mencák, “which should immediately reveal

Veristen, die an die altdeutsche Malerei anzuknüpfen versuchen. Wir nennen hier Otto Dix, Nagel, Scholz und den späteren Grosz (nicht den Grosz, der sich einmal mit einem Plakat fotografieren ließ, auf dem zu lesen war: ‘Die Kunst ist tot. Es lebe die neue Maschinenkunst Tatlins!’)” Tschinkel, “Die Kunst des Maschinezeitalters.”

¹⁵⁰ “Sie suchen ihre Sprache nicht bei den Urgroßvätern, aber sie knüpfen an der konstruktivistischen bürgerlichen Kunst an und versuchen, dort fortzusetzen, wo die Kunst durch ihre Abhängigkeit vom Kunsthandel nicht weiterkommen kann. Diese Linie deutet sich schon bald bei Seurat oder z.B. bei den Futuristen an und führt zu Léger, Herbin, Jeanneret und zu Baumeister, deren große Tat es war zu zeigen, dass die Maschinen- und Standardformen die zeitgemäßen sind.” [They search for their language not among their great grandfathers; rather they connect their work with constructivist bourgeois art and try to proceed where art can no longer advance through its dependency upon art dealers. This line was already indicated with Seurat, for example, or with the Futurists, and leads to Léger, Herbin, Jeanneret and Baumeister, whose great achievement was to shown that machine and standard forms correspond to the times.] Ibid.

¹⁵¹ Tschinkel had three years earlier provided illustrations and the cover design for a book of poems by Mencák, titled *Romance počestného clowna: sbírka milostné lyriky z let 1925-1929* [Romance of an Honorable Clown: A Collection of Love Poems, 1925-1929] (Hradec Králové: William Hampl, 1929).

¹⁵² *soziale grafik: ein bilderbuch mit internationaler auswahl* (Kladno: Naše cesta, 1932).

the class-mediated contexts and contradictions to the masses in a clear, symbolic, and generally understandable artistic language. These drawings are as simple as building blocks and elementary textbooks, so that children, young and old, can at least develop the most basic socialist attitude towards society and learn the ABCs of the new face of the world.”¹⁵³ As Tschinkel had done earlier, Mencák contrasted sociological graphics with social realism by means of a typographic analogy: “These forms are as far removed from the material forms of bourgeois realism and its ‘poor-people-art,’ as contemporary typography is from ornate parchment manuscripts: their content and thematic starting point is the more relevant reality of mechanization, rationalization, collectivization, and the overcoming of individualism.”¹⁵⁴

While *soziale grafik* was issued by the Kladno-based publisher Naše cesta, it was printed in German, and exhibits numerous formal similarities with the Cologne-based journal, *a bis z*. The back cover of *soziale grafik* even contained an advertisement for *a bis z*, as well as contact information for the journal’s administration, and a note regarding the availability of original graphics [FIGURE 80]. In particular, the booklet shares with *a bis z* the influence of Tschichold’s ideas: the exclusive use of lowercase; a similar sans serif typeface; and a functional design

¹⁵³ “Für solche Abschnitte dieser sozialen Wirklichkeit wird hier der grafische Ausdruck gesucht, der die klassenmäßigen Zusammenhänge und Gegensätze unmittelbar aufzeigen soll, in einer klaren, zeichenartigen und allen verständlichen Sprache des Malers zur Masse. Es sind Zeichnungen, einfach wie Baukasten und Fibel, dass die großen und kleinen Menschenkinder wenigstens die einfachste sozialistische Einstellung zur Gesellschaft sich aufbauen können und dass sie das ABC des neuen Weltgesichtes erlernen.” Břetislav Mencák, Foreword to *soziale grafik* (Kladno: Naše cesta, 1932), 1.

¹⁵⁴ “Diese Formen sind vom Formenmaterial des bürgerlichen Realismus und seiner Armeleutekunst ebenso entfernt, wie die heutige Typografie von verschnörkelten Pergamenthandschriften: ihr Inhalt und thematischer Ausgangspunkt ist die wichtigere Realität der Mechanisierung, Rationalisierung, der Kollektivisierung, der Überwindung des Individualismus.” Ibid. Mencák’s foreword appears to derive largely from ideas articulated by Tschinkel in his essays of the previous two years. “Poor-people-art” was, in fact, a term that Tschinkel had previously employed to deride social realism in his article, “Umění století stroje,” *naše cesta* 2, no. 8 (1931): 99-100.

in which the use of boldface text, changes in font size, and page layout were intended to facilitate reading and create an overall sense of order. The booklet also makes a point on its last page to indicate that it conforms to the DIN A6 format, the paper size standards that had been implemented ten years earlier in Germany, and to which Tschichold had devoted an extensive section in his book.¹⁵⁵ *Soziale grafik* further follows the example of Tschichold's book, in listing the names and addresses of the publication's contributors [FIGURE 81].¹⁵⁶

Perhaps more than in any other place, figurative constructivist graphics appear to have proliferated within Czech publications during the early 1930s. In addition to *výtvarné snahy* and publications by *Naše cesta*, works by the Group of Progressive Artists were reproduced in such periodicals as the Prague-based youth magazine *Slunce* [Sun], the Prague-based satirical journal *Tramp*, and the dual-language arts journal, *Forum* (published in Bratislava). Finally, figurative constructivism had a deep influence on the Czech artists' group *Linie*, whose journal of the same name, published in České Budějovice, also included work by the Progressives.¹⁵⁷ Tschinkel

¹⁵⁵ See Jan Tschichold, *The New Typography: A Handbook for Modern Designers*, translated by Ruari McLean (Berkeley: University of California Press, 1995), 96-106. The DIN (*Deutsche Industrie-Normen*) standards were set by the *Deutscher Normenausschuss der Industrie*, an organization established in 1917 with the goal of improving standardized production in industry. As Robin Kinross explains in his introduction to the English-language edition: "Norms and standards play a fundamental part in the argument of *Die neue Typographie*... [Standardization] was a means for bringing order to industrialized societies... Producers, users, and intermediaries would be able to act more freely once these basic factors had been determined. [...] Standards seemed to embody a collective wisdom, as against the willful arbitrariness of individual expression." Kinross, "Introduction to the English-Language Edition," in Tschichold, *The New Typography*, xxvii.

¹⁵⁶ Kinross has interpreted this aspect of Tschichold's book, as part of the author's efforts in establishing a new movement, for which there had previously been little public awareness. The inclusion of contributors' addresses, Kinross remarks, "seems to say: here are the protagonists, you have seen their work reproduced in these pages, now write to them!" Kinross, "Introduction," *The New Typography*, xxv.

¹⁵⁷ On the *Linie* group see Jaroslav Anděl, *The Avant-garde across Media: Josef Bartuška and Linie Group 1931-1939* (Prague: Obecní dům, 2004).

later exhibited with these artists, and a portfolio of linocuts by two members of the group, Josef Bartuška (1898-1963) and Oldřich Nouza (1903-1974), published in 1934, exhibits many of the features specific to sociological graphics.¹⁵⁸

While *a bis z* did the most over an extended period to establish figurative constructivism as an international tendency and link it with other international currents, the Dutch arts journal *Wendingen* [Upheavels] was the first publication to name and devote an entire issue exclusively to this tendency.¹⁵⁹ *Wendingen* was an Amsterdam-based arts journal published from 1918 to 1932,¹⁶⁰ of which each issue was dedicated to a different and specific cultural subject.¹⁶¹ The September 1930 issue, which was devoted to the theme of “pictorial statistics and sociological graphics,” remains valuable as an introduction to both subjects, and, furthermore, as one of the only primary sources to bring these two areas of production together in such an elaborate manner within a single publication. The issue followed the same

¹⁵⁸ See Josef Bartuška and Oldřich Nouza, *Grafika* (České Budějovice, St. Kocmoud, Edice Linie, vol. 6, 1934).

¹⁵⁹ See *Wendingen* 11, no. 9 (1930).

¹⁶⁰ The journal was the creation of the Amsterdam architect Hendricus Theodorus Wijdeveld (1885-1987), who served as its chief editor and designer until his resignation in 1925. Published by the long established Amsterdam art society, *Architectura et Amicitia*, the journal was largely associated with the architects of the Amsterdam School, and at times served as a platform for their promotion of “decoration through material in building or in design.” See Pieter Brattinga, *Influences on Dutch Graphic Design 1900-1945* (Otterloo: AGI, 1986), 6.

¹⁶¹ In contrast to a journal like *De Stijl*, whose period of publication roughly coincides with the lifespan of *Wendingen*, the latter journal did not present a unified front. It was not dogmatic or prescriptive, but sought to show the variety of contemporary artistic innovation. The journal has sometimes been classified under the stylistic categories “Nieuwe Kunst” and “Amsterdam Expressionism,” though its coverage was wider in scope than such labels and affiliations suggest. See Alston W. Purvis, “One Man’s Vision,” in *Wendingen: A Journal for the Arts, 1918-1932* (New York: Princeton Architectural Press, 2001), 20: “[Wendingen] differed from other avant-garde publications such as *De Stijl* or H.N. Werkman’s *The Next Call* in that it was a vehicle for the message rather than message itself. Yet, through the introduction of architectural order and through the applying the objectives of the Amsterdam School to typography, *Wendingen* provided a valuable bridge between nineteenth-century disorder and modern design.”

format as nearly all the issues of the journal's thirteen-year run: exclusive treatment of a selected theme; a cover designed specifically for the issue by a selected artist; a short essay introducing the issue's subject; and a rich assortment of illustrations. In this case, the cover design [FIGURE 82], the introductory essay, and the largest number of artworks all come from Peter Alma.

Alma's essay, appropriately titled "Beeldstatistiek en sociologische grafiek" [Pictorial Statistics and Sociological Graphics], offered readers an introduction to these then relatively unknown subjects. The essay was divided into two sections, which, predictably, dealt with the two areas of production, respectively. The reproductions were largely arranged according to this same scheme. Including Alma's cover design, the issue contained thirty-six reproductions, making this one of the most richly illustrated publications related to the combined theme of pictorial statistics and figurative constructivist prints and drawings—and, together with *soziale grafik*, one of the most extensive single documents related to the latter category.

The first section of Alma's essay, which appeared under the subheading "Beeldstatistiek," attempted to provide an introduction and overview of pictorial statistics by way of definition and description. This section (which will be dealt with in greater detail in Chapter 4) corresponds to the issue's twelve reproductions taken from the recently completed pictorial statistic atlas [FIGURE 83], *Gesellschaft und Wirtschaft*, on which Arntz, Alma, and Tschinkel collaborated. This section was also illustrated by two photographs of the installation of the Soviet pavilion at the 1928

Cologne “Pressa” exhibition, which for Alma, provided a model for the successful employment of avant-garde aesthetics in social education [FIGURE 84].¹⁶²

The second section of Alma’s essay, titled “Sociologische grafiek”—to which the rest of the reproductions correspond—discusses the “free” work of artists both involved in the design of pictorial statistics, as well as those affiliated with the larger circle of the Group of Progressive Artists (though Alma does not mention this affiliation by name). Alma describes a new “sociological graphic” art emerging “both at home and abroad,” whose practitioners—in addition to the author—include Arntz, Gómez, Krinski, Seiwert, and Tschinkel. “Sociological graphics,” Alma explains, “have the task of clarifying and explaining social conditions.”¹⁶³ In contrast to artists of the past half-century, however, whose works have also addressed social themes, the tendency represented by “sociological graphics” is not, according to Alma, “based on subjective motives.” Rather, “the personality of the artist is of secondary

¹⁶² In retrospect, the “Pressa” exhibition appears to have been an event of great consequence for both the Group of Progressive Artists, as well as for Otto Neurath. Both Peter Alma and Augustin Tschinkel became personally acquainted with Seiwert and entered the orbit of the Progressives circle through their involvement in the exhibition. Tschinkel, coincidentally, collaborated with Ladislav Sutnar on the design of a statistics display for the exhibition’s Czechoslovak pavilion, more than a year before beginning his work in statistical pictogram design in Vienna. Otto Neurath and El Lissitzky also met one another through their mutual participation in the exhibition, the latter having overseen the design of the Soviet pavilion. Sophie Lissitzky-Küppers, in her book on Lissitzky, maintains that this association later led to Neurath’s collaboration with Moscow-based *Izostat Institute*. See Sophie Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts* (Greenwich, Connecticut: New York Graphic Society, Ltd. 1968), 84-86. Further information on the *Izostat Institute* is included in this dissertation’s concluding chapter. For more on the general significance of the “Pressa” exhibition, see Jeremy Anysley, “Pressa Cologne, 1928: Exhibitions and Publication Design in the Weimar Period,” *Design Issues* 10, no. 3 (Autumn, 1994): 52-76.

¹⁶³ “De sociologische grafiek heeft tot taak, omtrent sociale toestanden voor te lichten en te preciseeren.” Alma, “Beeldstatistiek en sociologische grafiek,” *Wendingen* 11, no. 9 (1930): 7.

importance” within these works, “and should not merely serve as a motive for artistic expression.”¹⁶⁴

As was typical of all *Wendungen* issues, the story was largely told through the illustrations themselves. In addition to a selection of pictorial statistic charts, the issue contained more than twenty reproductions of prints and drawings. This survey of figurative constructivist graphics provided by the selected works reveals great stylistic diversity within the movement, demonstrating that the search for universal and collective forms did not, in fact, preclude individual differences in artistic temperament—despite the rhetoric of anti-individualism that prevailed in much of the artists’ writings. Seiwert’s image of a monolithic mass of near identical figures, with its rough execution and static composition, provides a stark contrast to Gómez’s woodcuts (reproduced in the opposite column on the same page), characterized by precise draftsmanship and dynamic formal arrangements [FIGURE 85].¹⁶⁵ At the same time, certain shared features become evident here as well, such as the use of cross-sections and compartmentalized compositions as a device to facilitate comparisons and sequential narratives. This approach, for example, is employed in both Alma’s *Geld* woodcut series, as well as in Vladimir Krinski’s drawings

[FIGURE 84]. In the work by the latter artist, here titled *Het Russische dorp in den*

¹⁶⁴ “Het spreekt vanzelf, dat de persoonlijkheid van den maker op het tweede plan dient te staan en dat het te behandelen onderwerp niet slechts als motief voor een kunstuiting dient.” Alma, “Beeldstatistiek en sociologische grafiek,” 7.

¹⁶⁵ The woodcuts come from Gómez’s 1930 publication *Dias de ira: 23 dibujos y poemas del terror blanco español* (Berlin: Internationale Arbeiter-Assoziation, 1930). For more on Gómez see the following two publications by Ursula Tjaden: *Das grafische Werk von Helios Gómez: eine Untersuchung zur politisch-engagierten Kunst Spaniens in den 20er/30er Jahren*, Beiträge zur Kunstwissenschaft 48 (Munich: Scaneg, 1993); and *Die Hülle zerfetzen: Helios Gómez 1905-1956, Andalusier, Künstler, Kämpfer* (Berlin: Elefanten, 1986).

loop der tijden [Russian Village over the Course of Time],¹⁶⁶ a cross section format divides the image into a sequential narrative, leading the eye from a scene in the lower section of the image, representing backwards peasant customs, superstitious ritual, and poverty, to a rational world in the upper part of the image, in which modern technology is deployed to address material needs. Another drawing by Krinski appearing on the same page, here titled *Oproep tot wetenschappelijke organiseering van den arbeid* [Call for the Scientific Organization of Labor], similarly divides and compartmentalizes the image according to horizontal and vertical axes, to compare and contrast manual (and inefficient) forms of labor with labor of a mechanized form. These works (which were also featured in many of the aforementioned publications) appear to have had a great impact on the members of the Group of Progressive Artists.¹⁶⁷

Alma uses this cross-section type presentation to similar ends in his *Geld* series [FIGURE 86]: his woodcut, *Meerwaarde* [Surplus], for example, illustrates in sequential terms the circuit of capital and the opportunities for expropriation that take place in this sequence; a second work in this series, *Rationalisatie* [Rationalization] (from which the *Wendingen* cover image is derived), uses the cross-section format to

¹⁶⁶ This drawing also appeared in *soziale grafiek* and *a bis z* under the title *Das alte und das neue Dorf* [The Old and New Village].

¹⁶⁷ In addition to the *Wendingen* issue, *a bis z*, *výtvarné snahy, naše cesta*, and *soziale grafiek*, Krinski's work, appeared in a book edited by Alma two years earlier, *Kultuur en wetenschap in het nieuwe Rusland: Artikelen door Nederlanders* [Culture and Science in the New Russia: Articles by Dutch Authors] (Rotterdam: V.H. van Staal, 1928). It is likely that Alma knew Krinski's work from his first trip to the Soviet Union in 1921; other members of the Group of Progressive Artists were likely exposed to his work through René Fülöp-Miller's richly illustrated and widely circulated book, *Geist und Gesicht des Bolschewismus: Darstellung und Kritik des kulturellen Lebens in Sowjet-Russland* (Leipzig: Almathea-Verlag, 1926).

illustrate the negative effect on the worker of cost-saving mechanization, as well as the response to this development from organized labor.

Wendingen is unique when compared to the other publications discussed here in that it did not conform to the ideas of the of “the new typography.” In contrast to *a bis z*, *výtvarné snahy*, *naše cesta* and *soziale grafik* (all of which utilized austere and functional layouts), *Wendingen*’s ornamental and decorative design appears more appropriate to the prewar era, with its echoes of *Jugendstil* and Arts and Crafts [FIGURE 87]: the typeface designed by Wijdeveld for the journal’s nameplate, for example, composed of thin lines and large blocks, echoes the geometric ornamentation that borders the pages and encloses the text and reproductions. While Wijdeveld had resigned as chief editor by the time of the pictorial statistics issue,¹⁶⁸ the journal retained his turn-of-the-century, Arts and Crafts inspired design. Furthermore, it differs from other publications in its unusual dimensions: its square format was based on the Japanese tatami mat proportion and, along with the occasional use of rice paper it employed a Japanese binding method, wherein pages were printed only on one side, folded, and hand-bound in block-book style using raffia.¹⁶⁹ In this sense *Wendingen* was more of a luxury item, and, for this reason, could not have been further from a publication like *soziale grafik*, which embraced

¹⁶⁸ Since 1925, the position of chief editor had been occupied by Henri Cornelis Verkrusen, director of the *School voor Bouwkunde, versierende Kunsten en Kunstambachten* [School of Architecture, Decorative Arts, and Arts and Crafts] in Haarlem. See Martijn F. Le Coultre, “A Remarkable Magazine,” in *Wendingen: A Journal for the Arts, 1918-1932* (New York: Princeton Architectural Press, 2001), 50.

¹⁶⁹ See Alston W. Purvis, “One Man’s Vision,” in *Wendingen: A Journal for the Arts, 1918-1932* (New York: Princeton Architectural Press, 2001), 8.

standardization and inexpensive production with the goal of maximizing accessibility.¹⁷⁰

Indeed, the contrast between the journal's design and the reproductions of the functional and relatively unadorned pictorial statistics charts is at first striking. The link between these two seemingly contradictory worlds—on the one hand: the world of the Progressives, the new typography, and pictorial statistics; and on the other hand: the world of *Wendingen* and the Amsterdam School—likely came through Peter Alma's connections to members of the journal's editorial board, with whom he had collaborated on previous projects.¹⁷¹

Aside from the stylistic discontinuity of the publication, the *Wendingen* issue is unique among the objects here under consideration in that it is one of the few documents in which these two seemingly separate areas of production—the *artistic* project of sociological graphics and the *scientific* project of pictorial statistics—are explicitly framed as parts of a unified effort (this aspect is explored at greater length in Chapter 4). Additionally, the *Wendingen* issue is a particularly rich historical document in the way it enriches our understanding of modernism generally, pointing to an alternative modernist narrative that accommodates traditional craft, figurative representation, and stylistic plurality. In this sense, *Wendingen* can be seen as a

¹⁷⁰ As Purvis comments: "Although *Wendingen* met the need for a revolutionary new direction in design after the First World War, its physical characteristics did not fully support this end. The use of high quality paper and hand binding invariably tied it more to the arts and crafts movement. The first issues caused much excitement, and although many saw it as a wave of the future, its extravagant use of decoration continued to clash with the international trend toward restraint and functionality. Although linked to the modern era, *Wendingen* had its foundations in the fin de siècle culture of nineteenth century Europe." See Alston W. Purvis, "One Man's Vision," in *Wendingen: A Journal for the Arts, 1918-1932* (New York: Princeton Architectural Press, 2001), 21.

¹⁷¹ For example, Alma and Henriette Roland Holst (the political activist and wife of the influential artist and *Wendingen* editor, Richard Roland Holst) were together coeditors for the book *Kultuur en wetenschap in het nieuwe Rusland: Artikelen door Nederlanders* (Rotterdam: V.H. van Staal, 1928).

particularly appropriate venue for both figurative constructivism and pictorial statistics, since both projects were hybrid in character: each embraced aspects of modernity while seeking to preserve a sense of historical continuity—whether through medium (in the case of figurative constructivist artworks) or through intellectual traditions (in the case of pictorial statistics, to be discussed subsequently).

Exhibitions

In addition to publications, exhibitions represented another vehicle by which the Progressives established their group identity. Seiwert and Hoerle had been active participants in exhibition circles within Cologne since 1919, when they first showed their work at the *Kölnischer Kunstverein* [Cologne Art Association], in conjunction with the first Cologne Dada exhibition there.¹⁷² Throughout the 1920s and early 1930s Seiwert and Hoerle regularly showed at this venue—both in numerous group shows and occasional solo exhibitions. They were joined there by Arntz in 1925 for a graphic art exhibition, and again in 1930 for the *Junge Deutsche Kunst* [Young German Art] exhibition. Other Cologne venues at which the Progressives exhibited included the *Kunstgewerbemuseum* [Museum of Applied Arts], the Richmod-Galerie, and Galerie Becker & Newman—the last of which regularly featured work by the Progressives between 1929 and 1931, including solo exhibitions for Seiwert and Arntz in 1929 and 1930, respectively. The *Graphikausstellung der Gruppe progressiver Künstler*—the last exhibition in which the artists of the group exhibited together under the name “Progressives”—opened here in October of 1931, before

¹⁷² See Kriebel, 221.

traveling in December to Saarbrücken, Frankfurt am Main, Stettin, Kaiserslautern and Wiesbaden.

Seiwert, Hoerle, and Arntz were equally active in Düsseldorf exhibition circles, and participated together in numerous group shows there throughout the 1920s and early 1930s, including the *Jahresausstellung der Rheingruppe* [Annual Exhibition of the Rhine Group] (September 1930), *Junge Deutsche Kunst* [Young German Art] (October-November 1930), and the *9x12* exhibition of the *Rheingruppe* (October 1931), all of which were held at the *Städtische Kunsthalle*. Additionally, the Rhineland-based members maintained strong ties with avant-garde circles in Berlin. In the autumn of 1922, Seiwert, together with Jankel Adler and Otto Freundlich, joined Berlin-based artists Stanislaw and Margarete Kubicki (1891-1984) and Raoul Hausmann in the *Internationale Ausstellung revolutionärer Künstler* [International Exhibition of Revolutionary Artists], establishing a key part of the network that would later form the larger circle of the Group of Progressive Artists. Subsequent Berlin exhibitions in which Seiwert and Hoerle participated include the widely attended 1925 and 1929 Jury-free Art Shows held at *Landes-Ausstellungsgebäude* in the *Lehrter Bahnhof*. By the end of the decade, in fact, Hoerle and Seiwert were showing nearly as frequently in Berlin as in Cologne, participating in five Berlin shows in 1930 alone.

The Progressives exhibited internationally as well, beginning in 1924, when works by Seiwert and Hoerle were featured in the *Société Anonyme* exhibition in New York, as well as the *Erste Allgemeine Deutsche Kunstausstellung der I.A.H.* [First General German Art Exhibition of the International Workers' Relief Program],

shown in Moscow, Leningrad and Saratov. Seiwert and Hoerle again participated in major international shows in 1926, including the International Exhibition of Modern Art at the Brooklyn Museum, and the Exhibition of Western Revolutionary Art in Moscow.¹⁷³ Arntz and Alma also participated in the latter exhibition, though Alma's official association with the Progressives began two years later, when he first came into personal contact with Seiwert and Hoerle through his attendance at the 1928 "Pressa" exhibition in Cologne. The Progressives' association with Alma led to further opportunities to gain international exposure, since Alma had long been involved in exhibition activities within the Netherlands.¹⁷⁴ It was through this association, for example, that Seiwert and Arntz were included with Alma in the second ASB exhibition (*architectuur, schilderwerk, beeldhouwwerk* [Architecture, Painting, Sculpture]) in 1929 at the Stedelijk Museum in Amsterdam,¹⁷⁵ and were joined there again in the following year by Hoerle, Tschinkel, Krinski and Gómez at the influential *Socialistische kunst heden* [Socialist Art Today] exhibition, sponsored by the *Socialistische Kunstenaarskring*.¹⁷⁶ While this exhibition was enormous in scope, including hundreds of artists (who, further, represented a multiplicity of trends), the grouping of these artists in the catalog's reproductions section again suggested a unified movement [FIGURE 88].

¹⁷³ See *Katalog vystavki revoliutsionnogo iskusstva Zapada* [Catalog of an Exhibition of Revolutionary Western Art] (Moscow, 1926).

¹⁷⁴ Alma had played a crucial role, for example, in bringing the *Erste Russische Ausstellung* [First Russian Exhibition] to the Stedelijk Museum in Amsterdam, following its premier showing in Berlin in 1922.

¹⁷⁵ See the exhibition catalog *ASB: 2de tentoonstelling architectuur schilderwerk beeldhouwwerk. 2–24 November, 1929, Stedelijk Museum* (Amsterdam, 1929).

¹⁷⁶ See the exhibition catalog *Socialistische kunst heden: Stedelijk Museum Amsterdam, 8 Nov.–8. Dec. 1930* (Amsterdam: Socialistische Kunstenaarskring, 1930).

The years from 1929 to 1931 (roughly corresponding to the time during which Arntz, Tschinkel, and Alma were together at the *Gesellschafts- und Wirtschaftsmuseum*), in fact, mark the peak period for the Progressives' exhibition activities. It was during this period that these artists exhibited under the name *Gruppe progressiver Künstler*, showing together in a variety of locations, ranging from Cologne to Kladno to Chicago. The *Gesellschafts- und Wirtschaftsmuseum* in Vienna itself provided yet another international venue—if a more informal one—in which the Progressives could exhibit collectively. In addition to work by Arntz, which Neurath had begun acquiring in 1926, the museum's collection by 1929 included work by Alma, Tschinkel, Seiwert, and Krinski.¹⁷⁷ While information about the exhibition of fine arts work at the museum is scarce, several announcements in contemporary sources describe the occasional exhibition of graphic art through the museum's affiliated *Internationale Institut für bildhafte Pädagogik* [International Institute for Visual Education].¹⁷⁸ In this context, the artworks would have been displayed alongside other visual aids and objects of educational significance, such as maps, photographs, and diagrams. Of all the aforementioned venues, the *Gesellschafts- und Wirtschaftsmuseum* would have been among the more effective vehicles in reaching a larger working-class audience, and therefore well suited to the Progressives' goals.

¹⁷⁷ Neurath's collection also included prints by such contemporaneous artists as George Grosz and Franz Masereel, and such earlier artists as William Hogarth, James Gillray, and Giovanni Battista Piranesi.

¹⁷⁸ "Aus dem Internationalen Institut für bildhafte Pädagogik, das dem Museum angegliedert ist, werden fallweise Bilder gezeigt, z.B. 'Soziologische Graphik,' Schwarzweißholzschnitte und Verwandtes." [Images, for example, "sociological graphics," black-and-white woodcuts, and things related are on occasion shown from the International Institute for Visual Education, which is affiliated with the museum.] Otto Neurath, "Das Gesellschafts- und Wirtschaftsmuseum in Wien," in *Gesammelte bildpädagogische Schriften*, ed. Rudolf Haller and Robin Kinross (Vienna: Hölder-Pichler-Tempsky, 1991), 194. Originally published in *Minerva-Zeitschrift* 7, nos. 9-10 (1931): 153-156.

Chapter 3: The Vienna Method of Pictorial Statistics

Rondom Rembrandt: An Example of Pictorial Statistic Representation

At the time of the closing of the *Gesellschafts- und Wirtschaftsmuseum* in Vienna in 1934, the Vienna Method of Pictorial Statistics had reached the mature phase of its development. In this year, the principal figures of the museum team—which included Otto Neurath, Marie Reidemeister, and Gerd Arntz—reconstituted themselves in The Hague as *The International Foundation for Visual Education*, and shortly thereafter changed the name of the Vienna Method to Isotype (an acronym for International System of TYpographic Picture Education). The characteristics of Isotype in its mature phase are well represented in charts made four years later by the foundation for the booklet accompanying its 1938 exhibition, *Rondom Rembrandt* [Around Rembrandt] [FIGURE 89].¹⁷⁹ In one of the charts comparing the types of subjects painted by Rubens and Rembrandt [FIGURE 90], rows of pictograms have been arranged under the two artists' names—each individual pictogram indicating five percent of each artist's total painterly production, and each row and pictogram-type corresponding to a different subject category. The categories include church altarpieces, biblical subjects not intended for churches, mythological and historical subjects, portraits, self-portraits, and genre and landscape. The coding and quantitative breakdown of each artist's output according to subject-type produced

¹⁷⁹ The exhibition, which was commissioned by De Bijenkorf department stores for its three branches in The Hague, Amsterdam, and Rotterdam, was intended to attract the public. See Marie Neurath and Robin Kinross, *The transformer: principles of making Isotype charts* (London: Hyphen Press, 2009), 57-58; see also Hadwig Kraeutler, *Otto Neurath. Museum and Exhibition Work: Spaces (Designed) for Communication* (Frankfurt am Main: Peter Lang GmbH, 2008), 163-171.

unique configurations that might be likened to footprints or silhouettes, immediately distinguishable from one another: while, for example, altarpieces comprise fifteen percent of Rubens' painterly production (indicated by three red altarpiece pictograms in the first row), Rembrandt produced none. Paintings representing biblical themes constitute an equal proportion (one fifth) of both artists' painterly output. While mythological and historical subjects comprise forty percent of Rubens' output (representing the greatest part of his production), they account for only five percent of Rembrandt's work. In contrast, portraits (at sixty percent) constitute the overwhelming majority of Rembrandt's painting, but only fifteen percent of Rubens' production. Finally, self-portraits comprise ten percent of Rembrandt's output, while for Rubens the number was not great enough to register at the five percent mark.

All of these comparisons, which together produce distinct profiles for each artist, are apparent to the viewer at the first glance. The longest row of pictograms in the Rubens register—composed of trident-pictograms, representing mythological and historical subjects—stands in contrast to the longest row in the Rembrandt register—composed of portrait-pictograms. The longest row within the Rembrandt register is longer than that in Rubens, suggesting that the latter's production was more evenly distributed in terms of subjects (with the greatest proportion equal only to two fifths) than the former (whose portraits constitute the overwhelming majority of his painting at three fifths). That such complicated and potentially confusing information can be absorbed and processed with such immediacy demonstrates the power of the pictorial statistic method as a communicative and analytical tool: what has, in the above

paragraph, taken several dense and rather dry sentences to explain is presented within this graphic chart in a lively, compelling, and intuitive manner.

Within the context of the exhibition and pamphlet, moreover, this chart served a larger narrative, illuminating some of the historical reasons behind these divergent artistic profiles: Rembrandt, working for a Protestant clientele in the Netherlands, would have produced no church altarpieces; for Rubens, working in Catholic-controlled Flanders, altarpieces represented a substantial part of his commissions. While biblical themes were important to both Catholic and Protestant patrons (and therefore comprise an equal proportion of both Rubens's and Rembrandt's production), mythological and historical subjects would have been desired by the aristocratic patrons of the former, and of less interest to bourgeois patrons of the latter. Rather, this bourgeois clientele preferred portraits reflecting their newly won status and prosperity, above images linking them with classical antiquity. In this manner, the different character of Rubens and Rembrandt's artistic production, along some of the reasons for those differences, are both suggested for a general audience through the pictorial statistic method.¹⁸⁰

There are, of course, limitations to the type of content that can be communicated through this method, as this example also makes clear. Generally, pictorial statistics express quantitative rather than qualitative relations: the method does not communicate anything about the artists' respective styles or techniques, for

¹⁸⁰ Franz Roh, in an article that appeared several years earlier in *Die Form*, anticipated that pictorial statistics might, in fact, have applications within the field of art history, providing "ein volles Bild von der wirklichen Verteilung der Stile und der wahren Wirkungsbreite großer Meister" [a full picture of the real dissemination of the styles and the true breadth of impact of the great masters]. See Roh, "Statistische Betrachtung geschichtlicher Zusammenhänge," *Die Form* 8, no. 5 (1933): 159.

example. Such limitations were intentional, for the pictorial statistic method was never intended to be comprehensive as a communicative tool, either as a substitute for verbal communication or even as the exclusive means of visual communication. Rather, this example illustrates the effectiveness of pictorial statistics in showing quantitative relationships and in facilitating judgments that might be made based exclusively on those relationships. However, the Isotype design team did also develop a range of strategies to present information that was not of a strictly quantitative nature. The chart depicting the lifespan of Rembrandt and his family members [FIGURE 91], for example, employed photographic reproductions of their portraits, painted by Rembrandt at different points in his life, accompanied by a color-coded timeline. In this way, the chart was able to combine information of a more abstract, schematic nature (phases in Rembrandt's career), with information of a more specific and concrete nature (pictures of individuals, stylistic developments). The color-coded division of Rembrandt's life was then applied to the chart on the adjacent page, illustrating the fluctuating number of Rembrandt's students and larger sphere of influence [FIGURE 92], during each of these phases.¹⁸¹ Nonetheless, the majority of Isotype charts produced before the Second World War were quantitative in nature—and the Rubens-Rembrandt chart is representative of these quantitative presentations at their most developed stage. For this reason, the Rubens-Rembrandt chart will be

¹⁸¹ The exhibition divides Rembrandt's life into four periods, beginning with his years in Leiden from 1626 to 1631 (represented in the chart by the color green); this was followed by his "first Amsterdam period" from 1632 to 1642 (coded red), during which he established himself as one of the leading painters of the city; his "second Amsterdam period" from 1643-1657 (indicated by blue), was characterized by both professional success and personal tragedy; the last period from 1658 to 1669 (brown), corresponds to Rembrandt's final years, characterized by bankruptcy and dwindling popularity.

useful in elucidating some of the basic features of the Vienna Method of Pictorial Statistics.

The Features of the Vienna Method

Beginning with the opening of the *Gesellschafts- und Wirtschaftsmuseum* in Vienna in 1925, Otto Neurath was continuously engaged in an effort to articulate the basic features and principles of the *Wiener Methode der Bildstatistik* [Vienna Method of Pictorial Statistics]. One of the first such articulations appeared as an article that same year in the *Österreichische Gemeinde-Zeitung*, titled “Presentation methods of the Gesellschafts- und Wirtschaftsmuseum.”¹⁸² In this article Neurath established (by implication) what is perhaps the only inviolable rule of the Vienna Method—a rule, which has at times been referred to as “the principle of quantities”; he later formulated the rule in this clear and concise way: “A sign is representative of a certain amount of things; a greater number of signs is representative of a greater amount of things.”¹⁸³ In the case of the Rubens-Rembrandt chart, one can count the four angel pictograms and recognize immediately that they constitute half the number of trident pictograms. One arrives at this information merely by counting, and one does not need accompanying written numbers to recognize that Rubens produced double the number of mythological and historically themed paintings as those with biblical themes.

¹⁸² Otto Neurath, “Darstellungsmethoden des Gesellschafts- und Wirtschaftsmuseums,” in *Gesammelte bildpädagogische Schriften*, ed. Rudolf Haller and Robin Kinross (Vienna: Hölder-Pichler-Tempsky, 1991), 18-27. The article originally appeared in the *Österreichische Gemeinde-Zeitung* 2, no. 16 (August 15, 1925): 18-23.

¹⁸³ Otto Neurath, *International Picture Language: The First Rules of Isotype* (London: Kegan Paul, Trench, Trubner & Co., Ltd., 1936), 73.

This founding principle, which insists that quantities be expressed through the *repetition of identical pictograms of the same size* rather than by *magnification* of pictograms, is the characteristic that distinguishes the Vienna Method from previous conventions for visualizing quantitative and statistical data. Representations that rely upon magnification to express quantity, which had by the early twentieth century become the established custom, required accompanying numbers to explain the comparison. In an article from 1930 in the journal *Die Form*,¹⁸⁴ Neurath juxtaposed a chart produced in the older method, showing rates of marriage over a certain period, with one of his own charts in the Vienna Method, in order to demonstrate the advantages of the latter approach [FIGURE 93]. Without the accompaniment of written numerals, viewers of the older chart with size-based pictograms would be unable to deduce, for example, that the number of marriages had decreased by ten percent between summer and fall 1925. The chart produced using the Vienna Method, by contrast, requires no accompanying numbers to see that between the periods before and during the First World War, marriages dropped by approximately twenty-five percent, or that in the period after the war, marriage rates nearly doubled. The viewer could arrive at this information merely by counting the pictograms. Furthermore, the Vienna Method chart makes clear that the comparison is between the *number* of marriages—and nothing else. The size-based pictograms, by contrast, could be misinterpreted as comparing the relative height of married couples.

In the years following his first articulation of the “principle of quantities” in 1925, Neurath formulated a variety of other rules, guidelines, and suggestions for the

¹⁸⁴ Otto Neurath, “Das Sachbild. 1: Bildhafte Pädagogik,” *Die Form* 5, no. 2 (1930): 29-36.

visual presentation of quantitative information, though most of these later elaborations would not carry the same degree of inviolability as the first principle. While Neurath never organized these various formulations into a definitive system, the Rubens-Rembrandt graphic and other similar charts allow us to list the most consistent features of pictorial statistics.¹⁸⁵ After quantification, one of the most prevalent features of pictorial statistic charts relates to *iconicity*: pictograms are connected to their referents on the basis of visual association—which is to say that they contain some visual element associated with the objects they denote. The purpose in this is to make the meaning of the charts more self-evident and more visually compelling. In some cases (a chart about world cereal and rice production, for example [FIGURE 94]), the correlation between pictogram and referent is more obvious. Other cases, such as the Rubens-Rembrandt chart, require contextual knowledge, as well as accompanying textual labels: to understand that the angel should refer to biblical subjects, for example, or that the trident should indicate mythology and history, would require some familiarity with the subject on the part of the viewer. Thus, within the iconicity requirement, there was a wide range of signification, ranging from forms with obvious and direct visual relationships to their referents, to those connected by more indirect associations—which is also to say:

¹⁸⁵ Even the descriptions offered by Otto Neurath in the 1936 publication *International Picture Language* with its subtitle, “The First Rules of Isotype,” do not really amount to a “system.” Aside from the inviolable “principle of quantities,” Isotype was informed by a flexible set of guidelines, which were applied on a case-by-case basis, constantly revised and adapted. In this sense, Isotype was more an approach than a rigid system. On “the question of a system,” see Robin Kinross, “Lessons of Isotype,” in *The transformer*, 103-107. Several authors have attempted to list and describe the principles of Isotype design. See, for example, Ellen Lupton, “Reading Isotype,” *Design Issues* 3, no. 2 (Autumn 1986): 47-58; and Frank Hartman, “Visualizing Social Facts: Otto Neurath’s ISOTYPE Project,” in *European Modernism and the Information Society: Informing the Present, Understanding the Past*, edited by W. Boyd Rayward (Burlington, VT: Ashgate Publishing Company, 2008), 279-293. While their specific terminologies differ, they are generally in agreement about the most consistent features, which I have enumerated in the following pages.

some pictograms were more universally recognizable and others were more culturally specific.

Rather than universal communication, however, the real advantage of iconicity was its facilitation of subject recognition and its tendency to stimulate curiosity. In contrast to bar graphs, pie charts, and curves—the subjects of which remain unclear until one reads the accompanying captions—the subjects of pictorial statistic charts are more quickly recognized. Neurath later demonstrated this point in his 1936 booklet, *International Picture Language*, by juxtaposing a traditional graph representing births and deaths with one produced according to the Vienna Method [FIGURE 95]. Not only was the subject immediately recognizable to the viewer; the pictures were themselves evocative and generated interest. As Neurath was also well aware, being able to skip the step of reading the caption could make all the difference in a culture of continuous distraction and rapidly decreasing attention spans. Indeed, pictorial statistics were designed to accommodate modern viewing habits, which, as Neurath described them, had been “spoiled by cinema and illustration.”¹⁸⁶ “If one wants to spread social-scientific education widely,” Neurath concluded, “one must use such means of presentation.”¹⁸⁷ More than this, iconicity was related to inclusiveness: while bar graphs, pie charts, and curves assumed a certain level of education, mathematical literacy, and comfort with scientific representations, pictorial statistics were intended to provide a level of accessibility and point of entry to those

¹⁸⁶ Otto Neurath, “Gesellschafts- und Wirtschaftsmuseum in Wien,” in *Gesammelte bildpädagogische Schriften*, ed. Rudolf Haller and Robin Kinross (Vienna: Hölder-Pichler-Tempsky, 1991), 1. This article originally appeared in the *Österreichische Gemeinde-Zeitung* 2, no. 16 (August 15, 1925): 1-12.

¹⁸⁷ Otto Neurath, “Gesellschafts- und Wirtschaftsmuseum in Wien,” 1.

who were not initiated in these more specialized types of reading. Finally, it was Neurath's hope that social education through an "international picture language" would help in cultivating a sense of shared identity and common interests among a diverse group of audiences. Neurath expressed this belief in the universality of the faculty of vision in his oft-repeated slogan: "Words divide, pictures unite."¹⁸⁸

With regard to the forms of the pictograms themselves, the design principles might be generally described in terms of *simplification*, *flatness*, *visual consistency*, *combinability*, and *divisibility*.¹⁸⁹ The goal of simplification was the expression of that which was essential and relevant to the subject of the chart. By Neurath's own account, the earliest pictorial statistic charts failed in this respect. Unlike the later charts produced under Arntz's direction (such as the Rubens-Rembrandt chart, which utilized pictograms produced by linocut), charts from 1925 (such as one depicting "Police interventions in Vienna") were produced entirely in pen and ink, and utilized a much more detailed type of depiction [FIGURE 96]. This more detailed approach, Neurath remarked in a later assessment, "detracts from the real theme of the chart: one becomes more interested in the individual cases" of the depicted figures "than in the statistical relations," which constitute the intended message of the chart.

Moreover, such detail "says more than one knows" about the subject: "If one knows nothing except 'arrests under the influence of alcohol,'" Neurath explains, "one must

¹⁸⁸ "Worte trennen, Bilder verbinden." Otto Neurath, "Bildhafte Pädagogik im Gesellschafts- und Wirtschaftsmuseum in Wien," in *Gesammelte bildpädagogische Schriften*, 205. This article originally appeared in *Museumskunde* 3, no. 3 (1931): 125-129.

¹⁸⁹ Other authors have employed similar terminologies in describing the features of pictorial statistic design. Frank Hartmann lists "sezialization," "iconicity," "clarity," and "consistency" as the principal design features, and Ellen Lupton mentions "reduction" and "consistency" as the key characteristics of Isotype pictograms. See Hartman, "Visualizing Social Facts: Otto Neurath's ISOTYPE Project," 286-287; and Lupton, "Reading Isotype," 54.

just make one type for it and repeat that, as often as the statistical information demands.”¹⁹⁰

Arntz’s constructivist approach to figuration, wherein figures were often described by means of standardized, geometric forms, pointed to a solution in this regard. This reduction, as Arntz has remarked, was facilitated by the woodcut medium in which he worked.¹⁹¹ It was at Arntz’s urging that the *Gesellschafts- und Wirtschaftsmuseum* adopted the similar technique of cutting pictograms from linoleum blocks, which allowed for their standardized reproduction, and facilitated their formal simplification. In evaluating the success of a pictogram’s simplification, Neurath formulated his principle of multiple glances:

A picture made according to the Vienna method shows at the first glance the most important aspect of the subject; obvious differences must be at once distinguishable. At the second glance, it should be possible to see the more important details; and at the third glance, whatever details there may be. A picture that has still further information to give at the fourth and fifth glance is, from the point of view of the Vienna school, to be rejected as pedagogically unsuitable.¹⁹²

Yet simplification also had to be balanced against several other competing demands: each pictogram would need to be different enough from one another, “so that there will be no doubt about their right name, when they are seen again.” At the same time, Neurath acknowledged, the pictograms must be uniform enough, “that they may be

¹⁹⁰ Otto Neurath, “Schwarzweissgraphik” in *Gesammelte bildpädagogische Schriften*, 51. English translation by Kinross, quoted in *The transformer*, 79. The article originally appeared in the *Österreichische Gemeinde-Zeitung* 3, no. 10 (May 15, 1926): 23-27.

¹⁹¹ Gerd Arntz, Manuscript of July 3, 1972, Otto & Marie Neurath Isotype Collection, University of Reading.

¹⁹² Otto Neurath, “Museums of the future,” *Survey Graphic: Magazine of social interpretation* 22, no. 9 (September 1933): 484.

put in lines like letters.” Finally, they have to be engaging enough, “that the on-looker will not get tired of seeing lines of the same signs.”¹⁹³

Arntz had already been working with simplified and reduced approaches to figuration in his woodcuts by the time at which he began his collaboration with Neurath; within the context of the work at the *Gesellschafts- und Wirtschaftsmuseum*, however, this approach had to be carried out in a much more systematic manner. Within his “free” graphics, Arntz had achieved this simplification through a variety of conventions, including the orientation of forms along vertical and horizontal axes, the reduction of forms to basic geometric shapes, and the presentation of objects and figures in frontal or profile views. Yet Arntz employed these conventions rather intuitively and inconsistently in his woodcuts; in pictorial statistic charts these conventions were applied much more rigorously. In addition to this geometrizing of forms, the depiction of figures and objects without perspective—that is, as two-dimensional shapes—aided in their simplification. This, again, represented a rather intuitive approach within the “free” work; within pictogram design, *flatness* became the norm.¹⁹⁴ Generally, the flat appearance of the pictograms served to better integrate them with the surrounding textual elements, and facilitated their arrangement and stacking in rows and columns.¹⁹⁵ These functions of composition and legibility were

¹⁹³ Otto Neurath, *International Picture Language*, 32.

¹⁹⁴ The exception to this rule can be found in objects whose recognition depends upon depiction in three-dimensions: a cylindrical oil barrel, for example, seen without perspective, might be difficult to distinguish from other rectangular-shaped pictograms.

¹⁹⁵ There were also conceptual reasons behind this demand for flatness. Reminiscing about his childhood encounters with illustrated books in his father’s library, Neurath states: “I have found, as have others, that children are mainly interested in clear visualization irrespective of the methods used to achieve this result. ‘Correct perspective’ puzzles them. I could not discover that there was any educational advantage in carefully drawn perspective of the orthodox kind. Why should one have to

also served by the pictograms' *visual consistency*, which, in this case, refers to their visual weight and density. Over the course of the Vienna Method's development, pictograms were increasingly designed to take up the same area and to have an approximately equal distribution of positive and negative space. The increased visual consistency of pictograms is evident, for example in charts illustrating social stratification in Vienna, produced before and after Arntz's arrival in 1928 [FIGURE 97]. Along with simplification and flatness, visual consistency was intended to facilitate reading, counting, and making comparisons between rows and columns. In this way, pictogram design shared with typographic design the goal of legibility. In both cases, the characters are designed with the intention of facilitating fluid reading and allowing for a maximum variety of compositional arrangements.

Combinability and *divisibility* represent two additional functions of statistical pictograms. The first term refers to the pictograms' capacity to be merged to form compound-signs. Neurath provided a demonstration in *International Picture Language* [FIGURE 98], wherein shoe and factory pictograms were combined to produce a pictogram for shoe-factory, and coal and worker likewise combined to produce coal-worker. Divisibility refers to pictograms' capacities for fractioning. This function was particularly useful in charts wherein an even number of pictograms requires an uneven division: in a chart from 1930, for example, depicting products controlled by monopolies [FIGURE 99], the set of ten pictograms representing world

draw things that are far away smaller than those which are close to? Orthodox perspective is anti-symbolic and puts the onlooker into a privileged position. Any picture in perspective fixes the point from which you look. I wanted to be free to look from wherever I chose. I liked any method which allowed me to use things of the same size, whether they were near or far away. I soon realized that map-making is one of the few techniques which does not use orthodox perspective. It therefore seemed to me more educational than other visual techniques." Otto Neurath, "From Hieroglyphics to Isotypes," *Future Books* 3 (1946), 93.

oil supplies (each indicating ten percent of world production) had to be divided at the 75-25 mark—thus requiring fractioned pictograms. In other cases, such as a chart representing the distribution of economic systems among world populations [FIGURE 100], fractioned pictograms were combined with compound pictograms. The hammer-pictogram, for example, representing craft-based economies, has been superimposed upon four and one quarter of the five “Indian” figures, indicating that artisanry and agriculture characterize the economies of 425 million South Asians. The remaining 75 million fall under either modern economies (indicated by the halved gear-pictogram) or “primitive” economies (indicated by the quartered bow-and-arrow pictogram). These last two characteristics of pictogram design (combinability and divisibility) were introduced under Arntz’s direction, and were largely contingent upon the abovementioned features that characterized his design approach. Indeed, the capacity for divisibility already appears as a possibility in some of his “free” graphics. The figures in his 1927 woodcuts *Bank* and *Warenhaus* [FIGURES 101, 102], for example, exhibit the half and quarter divisions that would later be required of statistical pictograms.

Beyond guidelines for the design of pictograms themselves, there were also rules for their arrangement within charts. Generally, charts were composed according to the conventions for laying out text—from left to right and top to bottom. Frequently, however, the pictograms themselves were composed along central axes, in order to facilitate comparisons both within and between different categories, thereby allowing for multiple readings of the information. The central axis arrangement in one of the charts from the *Rondom Rembrandt* booklet showing the

changing enrollments at Leiden University between the sixteenth and the twentieth centuries [FIGURE 103], for example, allowed comparisons between numbers of Dutch and foreign students (colored blue and red, respectively) within any period, as well as comparisons between the two groups and total numbers over multiple periods.¹⁹⁶ In a slightly more complicated chart from 1930 depicting “Migration movements in important countries” between 1920 and 1927 [FIGURE 104], the central axis composition allows comparisons between the population deficits and surpluses resulting within and between several countries. Thus, figures walking in the direction away from the country names at the left (indicating emigrants) begin from a central rather than left alignment; conversely, rows of figures walking in the direction towards the country names (representing immigrants) begin at the point below the right-most emigrant pictogram. In this way, rows of immigrants that pass the central axis indicate a population gain for the corresponding country; rows that fall short of the central axis reveal a deficit. While the populations of France, the US, and Argentina all increased with immigration between 1920 and 1927, Great Britain, Italy, and Germany all experienced more emigration than immigration. While Italy had the greatest number of emigrants, it also has a larger influx of immigrants than either Great Britain or Germany. Conversely, the US received the largest numbers of incoming people, but more people also left the US during this same period than Germany, France, or Argentina. Further comparisons could be made as well, based upon the reddish and blue lines beneath the rows of pictograms, indicating land or sea-based migration, respectively. Axial configurations, such as the ones described

¹⁹⁶ That the Rubens-Rembrandt chart aligns pictograms from the left rather than from the center can be explained by the nature of the comparison, for which a left-alignment was, in this case, more effective.

above, were in fact, a feature of the Vienna Method from the beginning, long before the aforementioned characteristics of the mature pictograms were themselves established.¹⁹⁷ In the early chart on police interventions, for example, this arrangement was already in use, allowing comparisons not only between the total interventions for each day of the week, but also between alcohol and non-alcohol related incidents.

These last described features of the Vienna Method, related to the composition of the charts and the arrangement of pictograms, are intimately bound with an aspect of the design process that Neurath termed “transformation.” This term was intended to “describe the process of analyzing, selecting, ordering, and then *making visual* some information, data, ideas, implications,”¹⁹⁸ and represented the stage in the design process between the gathering of raw data and its presentation in edited form as a graphic chart [FIGURE 105]. Thus, the selecting of published statistical data, the rounding of this data into even numbers, and the translation of this data into a pictorial sketch represent the task of the “transformer” (*Transformator* in German)—a position which, since the founding the of the museum in 1925, was principally filled by Marie Reidemeister. Along with questions regarding the organization of charts and arrangement of pictograms, decisions regarding their combination and or division would likewise have fallen under the authority of the transformer. While the aesthetic character of later pictorial statistics charts—that is, pictogram design and typographic conventions—was largely influenced by Arntz, the functional and conceptual

¹⁹⁷ Kinross, “Lessons of Isotype,” in *The transformer*, 80.

¹⁹⁸ Kinross, Preface to *The transformer*, 6.

character of the charts, as well as their narratives, owe as much to Marie Reidemeister's work in transformation as they do Neurath's conceptualizations. In this way, the design process was at all times a collective endeavor.

While the features of pictorial statistics described above together amount to a kind of pictorial grammar, the Vienna Method has been understood by scholars as constituting "a very weak language with a necessarily narrow range of application."¹⁹⁹ Indeed, Neurath was always unequivocal with regard to its communicative limitations: "the uses of a picture language are much more limited than those of normal languages. It has no qualities for the purpose of exchanging views, of giving signs for feelings, orders, etc."²⁰⁰ Neurath repeatedly emphasized that pictorial statistics were only "a helping language,"²⁰¹ and were not designed to replace written or verbal expression. Furthermore, these limitations were a deliberate aspect of the Vienna Method's design and, from Neurath's perspective, constituted the method's strength. Neurath, in fact, wrote his 1936 book, *International Picture Language*, entirely in Charles Kay Ogden's "Basic English"—a drastically reduced version of the English language, designed to avoid semantic ambiguity²⁰²—and he

¹⁹⁹ K.H. Müller, "Neurath's theory of pictorial-statistical representation," in *Rediscovering the Forgotten Vienna Circle*, ed. T.E. Uebel (Dordrecht-Boston-Lancaster: Kluwer Academic Publishers, 1991), 235.

²⁰⁰ Neurath, *International Picture Language*, 20.

²⁰¹ *Ibid.*, 17.

²⁰² Charles Kay Ogden (1889-1957), the English linguist and philosopher, developed BASIC (an acronym for British American Scientific International Commercial) with the aim of facilitating international communications and the teaching of English as a second language. Basic cut the English language's 200,000 words to a mere 850. This reduced vocabulary included 600 words for "things," 150 words for "qualities," and 100 "operators," comprised of verbs, adverbs, and prepositions. The year following the publication of *International Picture Language*, Otto Neurath wrote another booklet for the same series, *Basic by Isotype* (London: Kegan Paul, Trench, Trubner & Co., 1937), which, in

compared his pictographic language in this regard to Ogden's project: "in the same way as Basic English is an education in clear thought—because of the use of statements without sense is forced upon us less by Basic than by the normal languages, which are full of words without sense (for science)—so picture language is an education in clear thought—by reason of its limits."²⁰³

The Vienna Method, then, was designed to communicate only that which made sense from a scientific perspective. In this way, as commentators like Peter Galison and Kristóf Nyíri have noted, the Vienna Method was bound up with the *wissenschaftliche Weltauffassung* [scientific world view] of the Vienna Circle (of which Neurath was a member), and their project to purge metaphysical expressions from scientific discourse.²⁰⁴ For Neurath and the other members of the Vienna Circle, only science offered a universal basis for a common world culture: "Metaphysical terms divide—scientific terms connect," wrote Neurath in his 1933 paper *Einheitswissenschaft und Psychologie* [Unified Science and Psychology], echoing the earlier motto with which he promoted his visual approach to education.²⁰⁵ Neurath illustrated this point in another paper from the same year titled "Protokollsätze" [Protocol Sentences], explaining that scientific theories could be translated into any language, while the translation of many philosophical statements would require the

illustrating much of the Basic vocabulary, was intended "to give teachers an example of... good picture-teaching." See *Basic by Isotype*, 6.

²⁰³ Neurath, *International Picture Language*, 20.

²⁰⁴ See Peter Galison, "Aufbau/Bauhaus: Logical Positivism and Architectural Modernism," *Critical Inquiry* 16, no. 4 (1990): 709-52; and Kristóf Nyíri, "From Texts to Pictures: The New Unity of Science," <http://www.neha.nl/neurath/biblio.php> (accessed March 2, 2007).

²⁰⁵ "Metaphysische Termini trennen—wissenschaftliche Termini verbinden." Quoted in Nyíri, 50. In evoking his earlier slogan, "words divide, pictures unite," Neurath suggests an analogy between verbal language and metaphysics on the one hand, and science and pictures on the other.

introduction of “linguistic abuses” into other languages.²⁰⁶ Thus, in addition to its basis in the visual, the Vienna Method’s perceived universality was also derived from its scientific foundation.²⁰⁷

Despite Neurath’s many idealistic pronouncements about the universality of his international picture language, he was well aware that a commonly understood language could not in itself bridge differences and resolve conflicts between people. Civil wars, he pointed out, were evidence that common languages did not in themselves foster harmonious social and political relations.²⁰⁸ Thus, while the universal and international character of the pictograms has come to be seen as the most radical aspect of the Vienna Method—this has certainly become its most enduring legacy, evident in the ubiquitous wayfinding graphics in contemporary public spaces—the actual social radicalism of the method can, in fact, be situated in two other (related) aspects of the project: namely, in the attempt to unite separate and specialized branches of knowledge in a common visual mode of presentation; and in the intention to provide (by visual means) a wider, more mixed and generalized audience access to this diverse body of knowledge—thereby increasing the potential scope for their social and political engagement.

²⁰⁶ “Einstein’s theories are expressible (somehow) in the language of the Bantus—but not those of Heidegger, unless linguistic abuses to which the German lends itself are introduced into Bantu.” Quoted in Nyíri, 50.

²⁰⁷ As Nyíri (on p. 51) explains: “Neurath’s message” is that “clear thoughts can be expressed in simple language, and simple language can be translated into pictures. Unified science becomes possible once the language of science is purged of metaphysical terms; and anything that needs to be expressed within the framework of unified science can be communicated by a pictorial language.”

²⁰⁸ Otto Neurath, “Visual Education: Humanisation Versus Popularisation,” in *Encyclopedia and Utopia: The Life and Work of Otto Neurath (1882-1945)*, eds. Elisabeth Nemeth and Friedrich Stadler (Dordrecht: Kluwer Academic Publishers, 1996), 262.

While certain features and aims of the Vienna Method may have already been present as isolated cases in certain previously produced information graphics, Neurath's project represents the first systematic effort to develop these features along such rigorous and self-critical lines. Between 1925 and 1945, Neurath produced more than fifty published texts, including two full-length books, on the subject of visual education in general, and the Vienna Method of Pictorial Statistics in particular.²⁰⁹ Indeed, the idea that visual communication and information design constituted fields of study with their own histories, only emerged during this period. H.G. Funkhouser's "Historical Development of the Graphic Representation of Statistical Data," published by the journal *Osiris* in 1937,²¹⁰ represents one of the first attempts to chart this particular tradition within the larger history of information design. Funkhouser's history begins with William Playfair (1759-1823), "the father of the graphic method in statistics," whose *Commercial and Political Atlas* (1786) and *Statistical Breviary* (1801) are cited as the first publications to employ graphs in the representation of statistical data—though such graphic presentations remained abstract.²¹¹ The first instance of pictures in statistics, according to Funkhouser, occurs with Michael George Mulhall (1836-1900), whose *Dictionary of Statistics* (1883) employed pictographic representation, but still relied on magnification to express quantities

²⁰⁹ Otto Neurath's writings on visual education have been compiled as *Gesammelte bildpädagogische Schriften*, ed. Rudolf Haller and Robin Kinross (Vienna: Hölder-Pichler-Tempsky, 1991), the third of five volumes of his collected writings on philosophy, economics, and sociology.

²¹⁰ H. Gray Funkhouser, "Historical Development of the Graphical Representation of Statistical Data," *Osiris* 3, no. 1 (1937): 269-404.

²¹¹ Funkhouser, 273, 280-290.

[FIGURE 106].²¹² Neurath's work occupies an important place in Funkhouser's account,²¹³ though the inventor of the "quantification principle" is, in fact, identified as Willard C. Brinton (1880-1957), whose book *Graphic Methods for Presenting Facts* (1914) first suggested this method as an alternative to the magnification of pictograms or symbols [FIGURE 107].²¹⁴ Nonetheless, as Funkhouser notes, what distinguishes the Vienna Method from earlier approaches—including the quantitative one advocated by Brinton—is the project's scale, its systematic "development of a standard symbolism for the pictures and hieroglyphs," and its connection to the social mission of the *Gesellschafts- und Wirtschaftsmuseum*.²¹⁵

Otto Neurath and the Origins of the Gesellschafts- und Wirtschaftsmuseum

Even before the creation of the *Gesellschafts- und Wirtschaftsmuseum* in 1925 and the publication of his first essays on the Vienna Method of pictorial statistic presentation, Neurath had grappled with the problems of visualizing information for the purpose of social education.²¹⁶ Neurath's first practical experience with visual

²¹² Funkhouser, 346-348.

²¹³ Funkhouser even included a separate bibliography related to the Vienna Method, including publications of the *Gesellschafts- und Wirtschaftsmuseum*, Otto Neurath's theoretical writings, and contemporary critical appraisals of the method.

²¹⁴ Brinton's book was produced for the Engineering Magazine Company as part of their Industrial Management Library series. At the time of his death in 1945, Neurath's library contained a copy of Brinton's book, but, according to Kinross, this appears to have been acquired after his immigration to Britain in 1940. "It seems unlikely," Kinross states, "that Neurath would have seen Brinton's book in Vienna." Rather, the evidence suggests that Neurath arrived at his method independently, some ten years after Brinton. See Kinross, "Lessons of Isotype," in *The transformer*, 100.

²¹⁵ Funkhouser, 350-351.

²¹⁶ Indeed, Neurath traces his interest in visual communication to his early childhood. In his "Visual Autobiography," of which an excerpt was published in 1946, Neurath credited childhood encounters

education came in 1918, when he was appointed director of the *Kriegswirtschaftliches Museum* [Museum of War Economy] in Leipzig. It was in large part the subject of war economy that first stimulated Neurath's thinking about the visual presentation of social and economic information. Neurath had, in fact, long been interested in the subject of war economies—he began his study of economics and history at the University of Vienna in 1902, and in 1912-13 received a stipend from the Carnegie Endowment for International Peace to research the social and economic impact of the war in Balkan states.²¹⁷ Later, as head of the General War and Economics Section of the Scientific Committee for War Economy in the Austrian War Ministry (a position to which he was promoted from the Austrian Reserve Provisions Unit in 1916), Neurath was involved in the organization of exhibitions on the theme of war economies in Serbia and Hungary.²¹⁸ By this time, Neurath had produced a substantive body of literature on the subject of war economies, and was recruited to head the Leipzig Museum after his “repeated calls for a systematic

with picture books in his father's library as the source of his lifelong engagement with visual education. His father, Wilhelm Neurath (1840-1901), a professor of economics at the *Hochschule für Bodenkultur* [Agricultural Academy] in Vienna since 1889, had an extensive library, of which Neurath recalled: “the arrangement... helped my liking for books with pictures. As often happens, the large books, many of which contained pictures and maps, were kept on the tall bottom shelves.” In particular, Neurath singled out Alexander von Humboldt's *Cosmos*: “Here were deserts, mountains, clouds, seas, strange plants and unfamiliar animals, marvels of many sorts. This world, presented in delightful drawing and coloring, satisfied my longing for a cosmic view.” More than the aesthetic experience, however, Neurath remembers being impressed by the conceptual aspect of the visualization: “What I liked best were pictures with strong, simplified shapes and without too much elaborate detail. It did not matter if a picture was crude and even roughly drawn so long as it gave me information directly or forcefully.” Neurath, “From Hieroglyphics to Isotypes,” 93.

²¹⁷ Nancy Cartwright, Jordi Cat, Lola Fleck, and Thomas E. Uebel, *Otto Neurath: Philosophy between Science and Politics* (New York: Cambridge University Press, 1996), 20.

²¹⁸ Nader Vossoughian, *Otto Neurath: The Language of the Global Polis* (Rotterdam: NAI Publishers, 2008), 52.

science of war economics had caught the [museum's] founders' attention."²¹⁹ The museum had been founded the previous year by various German trade and agricultural associations, and differed from most traditional museums in that its collections included objects from everyday life and mass-culture; its displays were constructed with the aim of educating general audiences about "the entire economic life during war... the work of agriculture, industry, trade, handy-work, and transport."²²⁰ With an exhibition held at the museum in August 1918 on "World Blockade and War Economy," Neurath first employed techniques of visualization—"statistical tables and models"—in an attempt, as he explained, "to make as clear as possible to everyone how a peace economy gradually changed into a war economy, how the latter changed in turn, and was replaced by a new peace economy that was partly shaped by its predecessor."²²¹

With the end of the war in November 1918 and the revolution that followed, the Leipzig museum was dissolved. It was at this point that Neurath joined the Social Democratic Party and published a series of proposals for the socialization of the Saxon economy.²²² Between January and March 1919, Neurath was involved in talks with the successive revolutionary governments in Bavaria about the possibility of a joint action to coordinate socialization with the government of Saxony, and on March

²¹⁹ With the approval of the Austrian War Ministry, it was arranged that Neurath would divide his time between Leipzig and Vienna, retaining his position and continuing his work for the Scientific Committee for War Economy. See Cartwright et al., 20.

²²⁰ From a 1917 pamphlet by Rudolf Stegemann, one of the founders of the *Deutsches Kriegswirtschaftsmuseum*; translated by Nader Voussoughian and quoted in his book, *Otto Neurath: The Language of the Global Polis*, 51.

²²¹ Quoted in Cartwright et al., 20.

²²² See Cartwright, 45.

14, 1919, was invited by the Social Democratic-led government in Munich to head Bavaria's Central Economic Administration. Neurath remained in this position throughout the turbulent months that followed, during which the SPD government was ousted and a succession of council republics were established in its place.²²³

Neurath attempted to combine his political-economic activities with his earlier work in visual education when, following the collapse of the Bavarian Council Republic in May 1919, he briefly took a position with the Central Committee of the German Trade Union Association in Czechoslovakia as head of its training institute for factory council teachers. In a 1920 publication titled *Betriebsräte-Lehrerschule* [Factory Council Teachers' College],²²⁴ Neurath discussed the importance of visual aids in social education: "As far as possible the training college itself will provide such aids and continuously distribute them to the [workers'] council schools. Only some of the aids will be books; many surveys, tables, schemes will be derived from aspects of life that have not yet become literature."²²⁵ In Vienna, Neurath found further opportunities to pursue work along these lines—initially as General Secretary of *Forschungsinstitut für Gemeinwirtschaft* [Research Institute for Social Economy], which was established in 1920 "to lend theoretical and practical support" to the implementation of a socialized economy in Austria, and later as General Secretary for the *Österreichischer Verband für Siedlungs- und Kleingartenwesen* [Austrian

²²³ Shortly after the defeat of the second Council Republic on May 2, 1919 by right-wing militias, Neurath was arrested and convicted by the succeeding government of assisting high treason. He received a sentence of eighteen months imprisonment, but, through the intervention of then Austrian Foreign Secretary Otto Bauer, was instead deported to Austria. See Cartwright et al., 49-53.

²²⁴ Otto Neurath, *Betriebsräte-Lehrerschule* (Runge: Reichenberg, 1920), section B4.

²²⁵ Translated by Marie Neurath and quoted in Robin Kinross, "Otto Neurath's contribution to visual communication" (MPhil Thesis, University of Reading, 1979), 173.

Association for Settlement and Allotment Gardens], an organization dedicated to addressing Vienna's housing shortages and improving the standard of living among the working class.²²⁶ As a remedy to Vienna's housing crisis and poor living conditions, the association promoted cooperative housing, consisting of "simple terraced houses with connecting gardens and a communal house in the middle to serve as center and meeting point."²²⁷ In this strategy, the association was building on the efforts of the wartime *Siedlerbewegung* [settler movement], which had helped to relieve food shortages in Vienna by transforming unused land around the city into temporary vegetable gardens. After the war, the association, which was to be responsible for the planning and construction of this new housing, proposed the construction of a belt of this inexpensive cooperative style housing around Vienna. To this end, Neurath brought in several major modernist architects, including Adolf Loos, Josef Frank, Josef Hoffmann, Peter Behrens, Oskar Strnad, and Margarete Schütte-Lihotzky.²²⁸ In trying to cultivate public support for this program, the association launched an extensive educational campaign, providing lectures, courses, and exhibitions on subjects ranging from construction techniques to hygiene to gardening.

²²⁶ Cartwright et al., 60.

²²⁷ Ibid., 61.

²²⁸ These architects, especially Neurath's close collaborator, Josef Frank, were generally opposed to the large-scale apartment blocks, the *Gemeindebauten* [communal buildings], which ultimately came to dominate the Viennese cityscape in the later 1920s. See Eve Blau, "Isotype and Architecture in Red Vienna: The Modern Projects of Otto Neurath and Josef Frank," *Austrian Studies* 14 (1 October 2006): 232-234; and *The Architecture of Red Vienna, 1919-1934* (Cambridge, MA: MIT Press, 1999), 158-166.

In September 1923, the association held a major exhibition at the *Neues Rathaus*, informing the public about its activities and documenting its progress thus far through a variety of media, including plans, photographs, models, and diagrams. While the Vienna Method had not yet been conceived at this moment, diagrams like one depicting the “Roots of a settlement house” [FIGURE 108] already reveal the primacy of a pictorial presentation, as well as the tendency towards certain kinds of spatial configurations. This diagram, in charting the trajectories of the diverse set of materials and technologies that were utilized in the construction of a single settlement-type house, sought to demystify the production process. Thus, the diagram identifies at the construction stage twenty-seven products, which have passed through various phases of production and processing from their origins as raw materials. In illustrating these processes, this diagram reveals the critical function that Neurath envisioned for visual education: namely, to reveal the ways in which objects of the everyday environment are produced out of the social relations that exist between people.

The exhibition was a great success and, with the support of the municipal government, was subsequently given a permanent location at Parkring 12 (Wien I), where it was institutionalized as the *Museum für Siedlung und Städtebau* [Settlement and Town Planning Museum]. From this moment on, the activities of the Settlement and Allotment Association took place under the auspices of the museum. By the following year, however, it became clear that the cooperative housing movement would not survive, as the municipal government had decided to throw its support

behind large-scale mass-housing projects.²²⁹ Neurath realized that the museum would only remain relevant if it expanded its program to address a broader set of social and economic issues, and in 1924 proposed to the city councilor for finances that the *Museum für Siedlung und Städtebau* become the *Gesellschafts- und Wirtschaftsmuseum*.²³⁰

Beyond Neurath's own interests and political commitments, the *Gesellschafts- und Wirtschaftsmuseum* and its social-educational project must also be seen as the product of a particular set of circumstances—both specific to interwar Vienna and with roots in the prewar history of Austrian Social Democracy. Social and cultural education had, in fact, played a central role in the development of the political left in Austria since the period of Habsburg monarchy's liberalization in 1860s, when workers were granted the right to openly gather in cultural associations.²³¹ While political organizations were still banned under the monarchy, these associations could serve as an alternative to direct political action. The numerous *Bildungsvereine* [educational associations] that emerged in Vienna at this moment, which provided workers with a variety of cultural amenities, including institutions like libraries and theaters, and activities such as courses and lectures, were meant to emphasize the virtues of self-improvement and learning. Ultimately, this strategy aimed to cultivate a unified and disciplined workers' movement that would be prepared for collective political action when the opportunity arose. Even after the legal establishment of the

²²⁹ See Blau, *The Architecture of Red Vienna*, 158-166.

²³⁰ Cartwright, et al., 63.

²³¹ See Anson Rabinbach, *The Crisis of Austrian Socialism: From Red Vienna to Civil War, 1927-1934* (Chicago: University of Chicago Press, 1983), 8.

Social Democratic Workers' Party of Austria in 1889, *Bildung* [cultivation] remained a central component of the movement's strategy, and the *Bildungsvereine* were incorporated into the organizational structure of the party.²³²

The earlier strategy of *Bildungspolitik* appeared to have been validated when, after the proclamation of the Austrian Republic on November 12, 1918, Vienna emerged as the only major European capitol in which a Socialist party held absolute power. However, following the party's realization by the spring of 1919 that plans for socialization were not economically viable and that power at the national level was unattainable, "Austrian Social Democracy retreated from the contest for state power by building a political and cultural bastion in Red Vienna."²³³ From this moment on, the Social Democrats pursued their program of reform only at the municipal level, putting all of their energies into making the city of Vienna a showcase for Social Democracy through the extension of social services, the introduction of adult education, and the implementation of an extensive housing program. The creation of the *Gesellschafts- und Wirtschaftsmuseum* and its social-educational mission should be understood as part of the Social Democrats' continued strategy of *Bildungspolitik*. The museum, as Neurath described it in an article that appeared in the official paper of the Viennese municipal government, was legally constituted by municipal decree as a *Verein* [association], so that other interested groups would be able to participate in its development. In addition to the *Gemeinde Wien* [the municipality of Vienna], funding for the museum was provided by a variety of other representative institutions,

²³² Rabinbach, *The Crisis of Austrian Socialism*, 16.

²³³ *Ibid.*, 7.

including the *Wiener Arbeiter- und Angestelltenkammer* [Vienna Chamber of Works and Salaried Staff], the *Gewerkschaftskommission* [Organization of Trade Unions], and the *Sozialversicherungsinstitute* [Social Insurance Institutes].²³⁴

The Gesellschafts- und Wirtschaftsmuseum and Its Activities

The *Gesellschafts- und Wirtschaftsmuseum* opened on January 1, 1925, in the exhibition space at Parkring 12, previously utilized by the *Museum für Siedlung und Städtebau*. Along with sections devoted to *Arbeit und Organisation* [Work and Organization], *Lebenslage und Kultur (Sozialhygiene und Sozialpädagogik)* [Life Circumstances and Culture (Social Hygiene and Social Education)], the Settlement and town planning museum now became one of three departments at the expanded museum. The museum also continued to occupy the former offices of the *Verband für Siedlungs- und Kleingartenwesen* at Moeringgasse 7, though they relocated to a district town hall at Kal Borromäus-Platz 3 at the end of the year.²³⁵ Neurath's article in the *Österreichische Gemeinde-Zeitung*, announcing the museum's establishment, describing its structure, and articulating its mission, is worth quoting from at length, since it establishes the centrality of visual media within the museum's work.

According to the article, the mission of the *Gesellschafts- und Wirtschaftsmuseum* was, above all, "to show Austria to the Austrians." As Neurath explained:

Every Viennese will get to know more systematically, more simply, and more vividly than through newspaper articles and lectures, what his municipal

²³⁴ Otto Neurath, "Gesellschafts- und Wirtschaftsmuseum in Wien," 3.

²³⁵ Kinross, "Otto Neurath's contribution to visual communication," 21-22.

government—for which he is indeed jointly responsible—has so far accomplished and what is still impending. Here the housing shortage and its abatement will be shown; the struggle against tuberculosis, alcoholism, venereal diseases... will present themselves as visual relationships.²³⁶

From the very beginning, then, the visual component was viewed as inseparable from the museum's social-educational mission. For Neurath, effectively communicating information related to social and economic subjects meant being able to reformulate these issues in terms of “visual relationships.” But representing social and economic phenomena in visual terms was no easy task:

One can build models of human hearts and can demonstrate the pumping process in detail. But how should one show the processes within the social body, the changes in class structure, the circulation of money and goods, the activities of banks, the correlation between income and tuberculosis, between birth figures and mortality rates? Here models and graphic presentations are also possible. But they require far more distancing from reality; that is to say, they place greater demands, both on the person who conceives them, as well as on the viewer.²³⁷

Thus, in order to communicate something as abstract as the statistical relations between health and income, such representations would, on the one hand, have to be rather “distant from reality”; on the other hand, they would still have to be engaging and seductive enough to draw in viewers and hold their attention. In achieving this

²³⁶ “Jeder Wiener wird systematischer, einfacher und anschaulicher als durch Zeitungsartikel und Vorträge kennen lernen, was seine Gemeindeverwaltung, für die er ja mitverantwortlich ist, geleistet hat, was ihr noch zu leisten bevorsteht. Hier wird die Wohnungsnot und ihre Bekämpfung gezeigt werden, der Kampf gegen Tuberkulose, Alkoholismus, Geschlechtskrankheiten, Fürsorgeeinrichtungen aller Art werden als etwas Zusammenhängendes dem Auge sich darbieten.” Otto Neurath, “Gesellschafts- und Wirtschaftsmuseum in Wien,” 5.

²³⁷ “Man kann Modelle des menschlichen Herzens bauen und den Pumpvorgang im einzelnen demonstrieren. Wie aber soll man die Vorgänge innerhalb eines Gesellschaftskörpers zeigen, die Veränderungen der Klassenschichtung, die Zirkulation des Geldes und der Waren, die Tätigkeit der Banken usw., die Zusammenhänge zwischen Einkommen und Tuberkulose, zwischen Geburtenziffer und Sterblichkeit? Auch hierfür sind Modelle möglich, graphische Darstellung. Sie erfordern aber weit mehr Entfernung von der Wirklichkeit, das heißt, sie stellen an den, der sie ausdenken soll, und an den Beschauer größere Anforderungen.” Ibid., 1.

combination and balance between distance and engagement (or “abstraction and empathy,” to borrow Worringer’s famous formulation), modernist aesthetics and mass culture offered a model:

Modern man has been spoiled by cinema and illustration. He receives a great part of his education in the most pleasurable ways, in part during his leisure time, through visual impressions. If one wants to spread social-scientific education widely, one must use such means of presentation. The modern poster shows us the way!²³⁸

Despite these pronouncements, the museum’s embrace of modernist aesthetics and mass media was, in fact, somewhat gradual in its development. Much of the work produced by the museum in its first two or three years of existence, was actually rather antiquated—both at the technical as well as aesthetic level. It was only after the artistic department was put under the direction of Gerd Arntz in 1928, that the museum actually began to pursue the same “means of presentation” as the “the modern poster.” And even during the peak years of Neurath’s collaboration with the international avant-garde,²³⁹ the application of new technologies was always approached in a rather measured way. For Neurath, mass media and modernist aesthetics were a means to an end. Thus, while Neurath was supportive of modernism generally, he was always wary that modernist or machine aesthetics would become

²³⁸ “Der moderne Mensch ist durch Kino und Illustration verwöhnt. Einen großen Teil seiner Bildung empfängt er in angenehmster Weise, zum Teil während seiner Erholungspausen, durch optische Eindrücke. Will man gesellschafts-wissenschaftliche Bildung allgemein verbreiten, so muss man sich ähnlicher Mittel der Darstellung bedienen. Das moderne Reklameplakat zeigt uns den Weg!” Neurath, “Gesellschafts- und Wirtschaftsmuseum in Wien,” 1.

²³⁹ In addition to Arntz, Alma, and Tschinkel, several other figures connected to international avant-garde movements passed through the museum between 1928 and 1930. Some, like El Lissitzky, simply came to visit; others, including the designers Willem Sandberg and Jan Tschichold, as well as the then Bauhaus students Heinz Allner and Lotte Beese, came to study the Vienna Method or collaborate on projects with the museum. See Christopher Burke, *Active Literature: Jan Tschichold and New Typography* (London: Hyphen Press, 2007), 119; see also Kinross, “Otto Neurath’s contribution to visual communication,” 27.

fetishized and seen as ends in themselves. This was, indeed, his criticism of movements like the *Neue Sachlichkeit* in design, where it seemed that machine forms were not, in fact, always utilized for the sake of function—as was often claimed—but were actually employed for the sake of form.²⁴⁰ This was an argument frequently made by the architect Josef Frank, who collaborated with Neurath on exhibition design at the *Gesellschafts- und Wirtschaftsmuseum*. He argued that many modernist designers, in their obsession with newness and their desire for a complete break with tradition, risked throwing out the baby with the bathwater, forfeiting the hard-won knowledge and solutions that were the product of historical continuity within disciplines.²⁴¹

Nonetheless, the *Gesellschafts- und Wirtschaftsmuseum* did, in fact, constitute a revolution in museum practices in at least two ways.²⁴² The first such aspect relates to the display of objects designed for mechanical-reproducibility in mind. In contrast to the “museums of the past,” which were “cabinets of curiosities and rarities,” wherein “monetary-value and scarcity of single show-pieces played a fundamental role” in collection policies the modern museum “works with less refined means [*mit derben Mitteln*].”²⁴³ These include, “graphic presentations, pictures, models, films, slides, as well as illustrations, lectures, publications, and all otherwise appropriate

²⁴⁰ See Blau, “Isotype and Architecture in Red Vienna,” 242.

²⁴¹ *Ibid.*, 248.

²⁴² For a thorough analysis of the impact of the *Gesellschafts- und Wirtschaftsmuseum* on later museum practices, see Kraeutler’s recent study, *Otto Neurath. Museum and Exhibition Work: Spaces (Designed) for Communication* (Frankfurt am Main: Peter Lang GmbH, 2008).

²⁴³ Neurath, “Gesellschafts- und Wirtschaftsmuseum in Wien,” 2.

means.”²⁴⁴ The second aspect concerns the museum’s attitude towards its audience. The visitors to older museums “timidly shuffled past various lances, swords, helmets, tattered flags, busts, autographs,” which were “arranged decoratively, speaking more to *feeling* than to *understanding*.”²⁴⁵ The modern museum, by contrast, would be “a teaching museum,” designed to be accessible for any audience, regardless of the degree of specialized knowledge or familiarity with a subject:

The point is not to assemble sentimental objects, but rather to form a collection of instructive pictures, models, etc., in such a manner that they are a systematic whole, a real course of instruction for anyone who, without preparation, wants to concern himself with social or economic questions.²⁴⁶

For Neurath, presenting social and economic information as “a systematic whole” meant structuring the material in terms of a unified historical narrative, and situating local and contemporary issues in world-historical context. Thus, Neurath explained:

The Museum will have to reach out beyond Austria and Vienna, in order to show the making of Austria within the framework of world historical development. The past is here exclusively a means by which to understand movements of the present. This Museum should highlight purely factual changes within collective social life—how people have organized production in ever-new organizational forms, how they have provided for housing, nourishment, clothing, education, amusement, science, and construction; to what extent they have succeeded, and how different groups have participated in work and human development; *reality* as a whole should be presented, in its sorrows and joys. All that is from the past is here, above all, a prerequisite, because the museum is devoted to the *present* and its *transformations*.²⁴⁷

²⁴⁴ Neurath, “Gesellschafts- und Wirtschaftsmuseum in Wien,” 2.

²⁴⁵ *Ibid.*, 2.

²⁴⁶ “Nicht darauf kommt es an, gefühlsbetonte Gegenstände zu vereinigen, sondern darauf, die Sammlung der instruktiven Abbildungen, Modelle, usw., derart zu gestalten, dass sie ein *systematisches Ganzes* ist, ein wirklicher *Lehrgang* für *jeden*, der *ohne Vorbereitung* sich mit gesellschaftlichen oder wirtschaftlichen Fragen beschäftigen will.” *Ibid.*

²⁴⁷ “Das Museum wird aber über Österreich und Wien hinausgreifen müssen, um das Werden Österreichs im Rahmen der weltgeschichtlichen Entwicklung zu zeigen. Die Vergangenheit ist hier

To this end, Neurath formulated a chronological program, which each of the museum's three departments would follow. The chronology was divided into two broad periods: "Historical development until the end of the World War" and "The present period since the World War." The first category was further subdivided into "Geological and geographic foundations," "General information and animal societies," "Non-European civilizations," and "European civilizations,"—the last of which was further subdivided into "Mediterranean culture," "Feudal-guild period," "Bourgeois-capitalist period," and "World War." The second division, "The present period since the World War," was also subdivided by a similar geographical scheme, which progressed from global to local, consisting of "Non-European civilizations," "European civilizations," "Austria," and "Vienna." This chronology and its subdivisions determined the structure of the museum's exhibitions as well its publications.

In addition to Otto Neurath, who served as the museum's director, the initial members of the museum's team included the bookkeeper, Josef Jodlbauer, and Marie Reidemeister, who directed the museum's *Abteilung für Transformation* [Department of Transformation]. By the time of Arntz's arrival in 1928, the museum had also

ausschließlich ein Mittel, die Bewegungen der Gegenwart zu verstehen. Dies Museum soll rein sachlich Veränderungen im gesellschaftlichen Zusammenleben aufzeigen, wie die Menschen in immer neuen Organisationsformen die Produktion organisierten und für Wohnung, Nahrung, Kleidung, Bildung, Vergnügungen, Wissenschaft und Erbauung sorgten; in welchem Ausmaß ihnen das gelang, wie die verschiedenen Gruppen an Arbeit und menschlicher Entfaltung beteiligt waren, an Leiden und Freuden, soll die *Wirklichkeit* als Ganzes vorführen. Alles Vergangene ist hier vor allem Voraussetzung, denn das Museum ist der *Gegenwart* und ihren *Wandlungen* zugewendet." Neurath, "Gesellschafts- und Wirtschaftsmuseum in Wien," 5.

assembled an extensive working team.²⁴⁸ By this point the museum offices had been moved out from the locations that they had earlier occupied, and were relocated to several rooms above the *Zentralsparkasse* (Central Savings Bank) at Ullmannstrasse 44. As a supplement to the original exhibition space at Parkring 12, the museum also opened up a second branch at Am Fuchsenfeld, and—from December 1927 until its closing in 1934—utilized an exhibition space in the *Volkshalle* of the *Neues Rathaus*, provided by the *Gemeinde Wien*.²⁴⁹

Beyond exhibitions held within the museum's own venues, the *Gesellschafts- und Wirtschaftsmuseum* contributed visual materials to approximately thirty major outside exhibitions—both local and international—during its nine years of existence, beginning with the *Hygieneausstellung* in Vienna in 1925. Other important exhibitions included the *GeSoLei* exhibition in Düsseldorf (1926),²⁵⁰ the *Wien und die Wiener* exhibition in Vienna (1927), the *Pressa* exhibition in Cologne (1928), *Wohnungs- und Städtebau Kongress* in Paris (1928), *Wohnung und Siedlung* in Linz (1929), the *Werkbundausststellung* in Vienna (1930), the *Internationale Ausstellung für Wohnungswesen und Städtebau* in Berlin (1931), the *Internationale*

²⁴⁸ This team included the German Friedrich Bauermeister who, like Reidemeister worked as a “transformer,” and who had worked with Neurath first in Bavaria and later in the Association for Settlement and Allotment Gardens; draftsmen included the Swiss graphic artist Erwin Bernath, and the Viennese artists Erich Meixner, Walter Pfitzner, and Fritz Jahnel; the Viennese architect Edith Matzalik, who had earlier been in charge of lettering and technical drawing, later took over the task of cutting the pictogram-designs into linoleum blocks. Other members included the bookbinder Josef Scheer (who constructed the museum's charts), and Rudolf Modley (who, employed at the museum as a tour guide, later played a critical role in popularization of the Vienna Method in the US).

²⁴⁹ Kinross, “Otto Neurath's contribution to visual communication,” 24.

²⁵⁰ The GeSoLei exhibition (an acronym for *Gesundheitspflege, soziale Fürsorgung, Leibesübungen* [Health Care, Social Welfare, and Physical Education]) was held in Düsseldorf from May 8th to October 15th, 1926. The international exhibition was among the largest in Germany during the years of the Weimar Republic. See *Kunst, Sport, und Körper: 1926–2004: Ge So Lei* (Weimar: VDG, Verlag und Datenbank für Geisteswissenschaften, 2004).

Hygieneausstellung in Dresden (1931), the *International Industrial Relations Institute Congress* in Amsterdam (1931), and the *World Association for Adult Education* in London (1933).²⁵¹

Publications represented another important vehicle for the dissemination of the museum's work. Over the course of *Gesellschafts- und Wirtschaftsmuseum's* first years, several issues of the the *Österreichische Gemeinde-Zeitung*, an official publication of the *Gemeinde Wien*, were devoted to the museum's work, beginning with a special issue in the summer of 1925. Over the course of the next two years, numerous articles featuring the museum's information graphics appeared in this newspaper, including more than ten essays by Neurath describing both the museum's activities and the principles of the Vienna method, and several more by other members of the museum team, including Marie Reidemeister and Friedrich Bauermeister. Additionally, information graphics by the museum illustrated articles by city officials and experts writing on a variety of topics, ranging from education reform to health insurance policy to public housing initiatives.

After 1927, *Das Bild*, a journal associated with the Austrian school reform movement and published by the Social-Democratically controlled *Deutscher Verlag für Jugend und Volk*, began allotting four pages in each issue of its monthly publication to the museum's work. Between 1927 and 1930 the museum contributed more than thirty articles to *Das Bild*, on subjects ranging from the incorporation of visual aids in the school curriculum to the principles of the Vienna Method to exhibitions at the museum. In 1931, after the monthly contributions to *Das Bild*

²⁵¹ For a complete list of exhibitions in which the *Gesellschafts- und Wirtschaftsmuseum* participated, consult Kinross, "Otto Neurath's contribution to visual communication," 202.

ended, the museum began to publish its own journal, initially named *Fernunterricht* [Distance Learning] and later renamed *Bildstatistik*. Between 1931 and 1933 eleven issues of the journal were published, each devoted to a different theme, ranging from geographic subjects (India, Spain, France, Britain, China) to global economic themes (world economic planning, the world economic crisis).

Other publications to which Neurath and Reidemeister regularly contributed essays during these years—and through which they propagated the work of the museum and the principles of Vienna Method—include *Die Quelle*, a school reform periodical; *Die Aufbau*, a journal of the cooperative housing movement; *Kulturwille*, a journal the workers' movement; and *Arbeit und Wirtschaft*, a journal of the Austrian trade unions. Art and design journals, such as *Die Form*, the journal of the *Deutscher Werkbund* [German Work Federation] (to which Neurath made frequent contributions), represented another important vehicle in the dissemination of the Vienna Method. In addition to those aforementioned journals in which the Progressives published related articles (*a bis z*, *výtvarné snahy*, and *Wendingen*), publications such as the Dutch architectural journal, *De 8 en Opbouw*, also carried richly illustrated contributions by Neurath and Alma.²⁵² Other associates of Neurath,

²⁵² Peter Alma, "Beeldstatistiek," *De 8 en Opbouw* 3, no. 19 (1932): 189-190; Otto Neurath, "Beeldstatistieken van het Gesellschafts- und Wirtschaftsmuseum te Weenen," *De 8 en Opbouw* 3, no. 19 (1932): 191-194; "Internationale Centrale voor Beeldpaedagogie in Holland," *De 8 en Opbouw* 5, no. 19 (1934): 159-160. This journal, published since 1928, was the combined project of the Amsterdam architectural organization "De Acht" and the Rotterdam-based architects' group "Opbouw." See Pieter Bratinga, *Influences on Dutch Graphic Design 1900-1945* (Otterloo: AGI, 1986), 6.

such as Franz Roh and Jan Tschichold, also advocated for the Vienna Method through a variety of professional journals.²⁵³

The museum also produced a series of pamphlets, beginning with its 1927 exhibition guide, *Bildstatistik*,²⁵⁴ and followed by an additional five booklets over the next two years, which addressed themes ranging from agriculture to organized labor and adapted the museum's exhibition displays for reproduction in black-and-white print media.²⁵⁵ The museum's first major color publication, *Die bunte Welt: Mengenbilder für die Jugend* [The Colorful World: Quantitative Pictures for Young People],²⁵⁶ was undertaken in 1928 in collaboration with the Viennese publisher Artur Wolf, who approached the museum that year with the proposal to produce a children's book using the Vienna Method. Employing some fifteen colors and containing thirty-seven illustrations, *Die bunte Welt* was the museum's most elaborate publication to date, aiming through its rich illustrations to make the subjects of history, geography, and current world events engaging for school children (see discussion on pages 132-134 and accompanying illustrations). The book loosely

²⁵³ See Jan Tschichold, "Statistics in Pictures: A New Method of Presenting Facts," *Commercial Art* 11, no. 63 (1931): 113-117; and "Neue Formen der statistischen Darstellung," *Graphische Berufsschule* 3 (1931-32): 26-28; also published in *Typographische Monatsblätter* 4, no. 2 (1936): 37-39; see also Franz Roh, "Statistische Betrachtung geschichtlicher Zusammenhänge," *Die Form* 8, no. 5 (1933): 159. In addition to the articles written by members and associates of the museum team, assessments of the museum's work from these years by outside reviewers can also be found in a wide variety of publications, including the *New York Times* and *Survey Graphic*. For a list of contemporaneous reviews see the bibliography in *Graphic communication through ISOTYPE*, 47.

²⁵⁴ *Bildstatistik. Führer durch die Ausstellungen des Gesellschafts- und Wirtschaftsmuseums in Wien* (Leipzig: Verlag des Dürerbundes, Schlüter & Co., 1927). The guide was published to coincide with the opening of the new exhibition space in the *Volkshalle* of the *Neues Rathaus*.

²⁵⁵ In 1928 the museum produced four such in-house publications: *Entwicklung von Landwirtschaft und Gewerbe in Deutschland*; *Die Gewerkschaften*; *Der Kreis Calau* (commissioned by the Wohlfahrtsamt (welfare office) of Calau); and *Zur Weltwirtschaft*. These were followed in 1929 by *Mengenbilder und Kartogramme*.

²⁵⁶ *Die bunte Welt: Mengenbilder für die Jugend* (Vienna: Artur Wolf Verlag, 1929).

followed the departmental structure of the museum itself, moving from a long view of history, which examined the development of populations, cultures, and economic forms over the course of millennia, to themes connected with modernity and the impact of the First World War. Only eight of the book's forty-seven pages are devoted to text. The rest of the book consists of pictorial statistic charts, which illustrate and elaborate upon the brief textual interludes that occur approximately every five or six pages.

The museum's largest and most extensive undertaking, however, came the following year, when the *Bibliographisches Institut* in Leipzig (a major reference book publisher) approached the museum about producing a work to mark its one-hundredth anniversary.²⁵⁷ Neurath saw in this opportunity "a chance to review and rework his method for international use" and produce a work "that could be distributed on the international market."²⁵⁸ The result was a monumental historical atlas, titled *Gesellschaft und Wirtschaft*,²⁵⁹ consisting of one hundred large-format charts printed on loose-leaves, largely reworked from earlier publications such as *Die bunte Welt* (1929), and *Die Gewerkschaften* (1928), as well as from earlier exhibitions such *Wien und die Wiener* (1927).²⁶⁰ Again, the atlas's structure largely corresponded to the program of the museum itself as described in Neurath's aforementioned article, beginning with global geography and population distribution,

²⁵⁷ Nikolow, 263.

²⁵⁸ Ibid.

²⁵⁹ *Gesellschaft und Wirtschaft. Bildstatistisches Elementarwerk* (Leipzig: Bibliographisches Institut AG, 1930).

²⁶⁰ Nikolow, 265.

and proceeding to cover specific economic and political developments—while progressing from ancient to modern civilizations. In his introduction, Neurath described the atlas as “a new *Orbis Pictus*,” referencing the picture-book encyclopedia for children, published in the mid-seventeenth-century by the educator Comenius.²⁶¹ Another historical reference is to be found in the work’s subtitle, “pictorial statistic elementary work,” which refers to a 1787 children’s textbook by the educational reformer Johann Bernhard Basedow.²⁶² In evoking these historical precedents, Neurath not only expressed his hopes for the atlas’s impact, but also sought to situate his work within the Enlightenment tradition that viewed learning as central to the improvement of the human condition.²⁶³

While *Gesellschaft und Wirtschaft* has come to be seen as culmination of the museum’s publishing activities, the museum did produce two further publications in the years before closing in 1934—both issued in conjunction with the *Deutscher Verlag für Jugend und Volk*, which had previously published *Das Bild*. The first of the two works, titled *Technik und Menschheit* [Technology and Humankind],²⁶⁴ was essentially a continuation of *Gesellschaft und Wirtschaft*. Composed of three separate portfolios—each consisting of eight charts—*Technik und Menschheit*, was printed in the same format as *Gesellschaft und Wirtschaft*, but dealt with more specialized

²⁶¹ *Gesellschaft und Wirtschaft*, 103.

²⁶² As Nikolow notes (275), Basedow’s *Elementarwerk*—illustrated with copperplate engravings by the printmaker Daniel Chodowiecki—set the standard for the production of encyclopedias and textbooks in Central Europe during the latter period of the Enlightenment.

²⁶³ *Gesellschaft und Wirtschaft* was, in fact, distributed widely within German and Austrian schools in the years immediately following its publication. See Nikolow, 275.

²⁶⁴ *Technik und Menschheit. Bilder des Gesellschafts- und Wirtschaftsmuseums in Wien*. I. Die Maschine; II. Die Elektrizität; III. Der Verkehr (Vienna; Leipzig: Deutscher Verlag für Jugend und Volk, 1932).

themes (machines, electricity, and transport) in greater depth than its predecessor. The second publication, *Bildstatistik nach Wiener Method in der Schule* [Pictorial Statistics in the Vienna Method in Schools],²⁶⁵ was Neurath's most extensive and in-depth discussion of pictorial statistics to date. Building on the articles that had previously been published in the school reform journal, *Das Bild*,²⁶⁶ this book was intended for teachers and educators who sought to integrate visual education more effectively into the classroom.

The Development of the Vienna Method

While later publications like *Gesellschaft und Wirtschaft* or *Technik und Menschheit* bear little resemblance to the earliest pictorial statistic charts, many of the conceptual features that characterize the Vienna Method in its mature phase (such as the use of pictures rather than abstract symbols, the expression of quantities through repetition rather than magnification, and the use of axial arrangements) were already present from the beginning. Unlike the later pictorial statistic charts, however, which utilized pictograms produced by linocut and text produced by metal type, the earliest charts were produced entirely in pen and ink, and utilized approaches that might be described as more “naturalistic” or “illustrative.” While early charts, such as that in 1925 depicting “Police interventions in Vienna” [FIGURE 96], indicated a direction to pursue, Neurath was not yet satisfied with the technique. In his aforementioned article of the following year, expressing reservations about the initial approach, he

²⁶⁵ Otto Neurath, *Bildstatistik nach Wiener Methode in der Schule* (Vienna; Leipzig: Deutscher Verlag für Jugend und Volk, 1933).

²⁶⁶ Kinross, “Otto Neurath’s contribution to visual communication,” 41.

conceded that the attempt to “enliven the graphics” through detailed rendering was, in fact, counterproductive since it “detracts from the real theme of the chart”: namely, the number of arrests. Neurath’s comment here is worth repeating again: “If one knows nothing except ‘arrests under the influence of alcohol,’ one must just make one type for it and repeat that, as often as the statistical information demands.”²⁶⁷ The repetition convention thus arose from the realization that the essential content of this chart (and most others produced by the museum) was quantity—the number of arrests—rather than the physical characteristics of those arrested, or the nature of their crimes. While Neurath quickly reached the conclusion that repetition of identical pictograms would be the best way to express quantity, it still took some time to implement this principle, since it was feared that repetition might make the charts boring: “There was at first a certain timidity to be overcome,” Neurath recalled, “before being able to repeat.”²⁶⁸

Another important and related task was the design of pictograms that better lent themselves to counting. After all, the figures in the early chart could actually be counted; their forms and arrangement, however, do not facilitate *easy* counting. The inclusion of exact numbers at the ends of the picture-rows, used in this early chart to facilitate the quantitative comparison, was, in fact, discontinued in later charts. Neurath soon concluded that it was easier to remember even, rounded numbers,

²⁶⁷ Neurath, “Schwarzweissgraphik” (1926). English translation by Kinross, quoted in *The transformer*, 79.

²⁶⁸ *Ibid.*

arrived at through the process of counting symbols, than to remember the precise numbers written in the margins.²⁶⁹

Following the realization about the greater need for repetition and simplification, the pendulum swung to the other extreme. This is evident in the charts that were subsequently produced for the *Gemeinde Wien* and shown at the *GeSoLei* exhibition in Düsseldorf in May 1926, wherein figures cut from paper were employed in combination with color to designate particular qualities. A chart illustrating insurance coverage among workers in Vienna [FIGURE 109], for example, employed a single, uniform pictogram to indicate a certain number of wage earners (in this case, each figure indicates 250,000). Colored backgrounds were then employed to indicate the type of coverage: blue indicates employer-provided private coverage; orange, public coverage for state employees; green, state-regulated agricultural insurance programs; and grey, uninsured. While this chart did achieve greater clarity through the reduction of forms than had earlier charts, quantification was still relatively difficult. It is not immediately apparent, for instance, that there are three times as many workers in private plans as in public plans.

The *GeSoLei* exhibition would, in fact, prove to be a turning point in the development of pictorial statistics, since Neurath's involvement in the exhibition brought him into contact with Gerd Arntz, who was then exhibiting work at several Düsseldorf venues. The critic, photographer, and art historian, Franz Roh (a long-time

²⁶⁹ Or as Neurath formulated the idea: "Es ist besser, sich vereinfachte Mengenbilder zu merken, als genaue Zahlen zu vergessen. [It is better to remember simplified quantitative pictures, than to forget exact numbers]." Otto Neurath, "Das Gesellschafts- und Wirtschaftsmuseum in Wien," in *Gesammelte bildpädagogische Schriften*, 192. The article originally appeared in *Minerva-Zeitschrift* 7, no. 9/10 (1931): 153-156.

friend of Neurath), was the first, in 1926, to suggest the suitability and potential application of Arntz's work for Neurath's pictorial statistic project and appears to have arranged the first meeting between them. Roh shared Neurath's assessments regarding the inadequacy of the solutions so far developed for pictorial statistics and, in an article for *Das Kunstblatt*, suggested Arntz's stylistic approach as a potential improvement: "Where it would be necessary to find figures for the graphic presentation of colored symbols for industry or any new visual statistic," Roh wrote, "as they have tried with sensuous (yet not always flawless) stylization in the Austrian economic hall at Gesolei, one could consider [Gerd Arntz]." ²⁷⁰

The ideological and theoretical underpinnings of Arntz's figurative constructivist work would likely have had some appeal for Neurath (who, after all, had himself played an important role in the council movement in Munich and the self-management movement in Vienna). However, it was, above all, the functional aspect of the figurative constructivist style—that is, its potential application in the design of standardized statistical pictograms—that was paramount in his decision to recruit Arntz for the project. For Arntz's formal approach already corresponded to Neurath's demand that educational pictures eliminate extraneous detail and provide the most important information within the viewer's first few glances at the picture. ²⁷¹

²⁷⁰ "Wo es nötig wäre, Männer für Darstellung graphisch farblicher Symbole der Industrie oder jener neuen Anschaulichkeitsstatistik zu finden, wie sie der österreichische Wirtschaftssaal der Gesolei mit sinnlich noch nicht immer einwandfreier Stilisierung erstrebte, wäre bereits dieses noch jungen Menschen zu gedenken." Franz Roh, "Zur jüngsten niederrheinischen Malerei," *Das Kunstblatt* 10 (1926): 365.

²⁷¹ It is precisely here, in Neurath's emphasis upon immediate visual recognition, that Roth sees a divergence between the artistic project of the Cologne Progressives and the social-scientific project of pictorial statistics. In her catalog, *Painting as a Weapon* (123), Roth asserts that Seiwert and Hoerle's later paintings, as well as the painted woodblocks that Arntz produced throughout the 1920s, were intended by means of their carefully worked surfaces to foster close examination and sustained visual

Furthermore, the duplication of forms and their ordered arrangement in rows and columns—features characteristic of pictorial statistic charts—were already recurring motifs in Arntz’s own woodcuts.²⁷²

Upon meeting Arntz in 1926, Neurath invited him to work for the museum,²⁷³ though Arntz did not relocate to Vienna to begin his full time employment there until September 1928.²⁷⁴ Even before Arntz’s arrival in Vienna, however, the museum’s graphic team had begun to conform in their pictogram designs to figurative constructivist conventions derived from Arntz’s woodcuts, which Neurath had begun collecting and making available to the museum team since his first meeting with

engagement. She maintains, furthermore, that this kind of slow looking, in which the viewer’s attention is directed to the painterly process and to subtleties of the medium, runs counter to the aesthetic experience provided by pictorial statistics—the latter having been designed to accommodate the distracted types of viewing characteristic of mass audiences, whose visual sensibilities had been impoverished by the “optical impressions” of film and advertisements. Roth’s argument, which seems to apply less in the case of the Progressives’ woodcuts and linocuts, may help to explain the privileging of graphic works as illustrations for those articles by Alma, Tschinkel, and Neurath that emphasized the links between figurative constructivism and pictorial statistics (which will receive closer examination in the next chapter).

²⁷² As Arntz later recounted their first meeting: “Neurath zeigte besonderes Interesse für die Art meiner Arbeiten, in denen gleiche Figuren in horizontalen Schichten und vertikalen Reihungen dargestellt sind, so beispielsweise bei *Ruhe und Ordnung*.” [Neurath showed particular interest in those works, wherein identical figures were presented in horizontal registers and vertical sequences, as with *Ruhe und Ordnung*, for example.] See Arntz, *Zeit unterm Messer*, 21.

²⁷³ There appears to be some ambiguity in the accounts regarding which works by Arntz were decisive in Neurath’s decision to hire him. In Arntz’s account from 1988, he recalls that Neurath and Roh had together seen his painted woodblocks, rather than his prints, which were then exhibited in the *Große Kunstausstellung Düsseldorf*, dates of which coincided with the *GeSoLei* exhibit. See Arntz, *Zeit unterm Messer*, 21. The catalog for this 1926 exhibition identifies these works as *Straße* (1926) and *Mitropa* (1926). Michael Twyman, however, referencing a “conversation with Gerd Arntz in 1982,” asserts: “Arntz is on record as having stated that it was [the] particular print [*Ruhe und Ordnung* (1926)] that led Neurath to persuade him to undertake ISOTYPE work and eventually join the team in Vienna.” See Twyman, “Observations on ISOTYPE Symbols and their Varied Applications,” in *Neurath. Zeichen*, ed. Jeff Bernard and Gloria Withalm (Vienna: Österreichische Gesellschaft für Semiotik/Institut für Sozio-Semiotische Studien, 1996), 163.

²⁷⁴ Prior to this moment, according to Kees Broos’ account, the museum lacked the necessary funding to offer Arntz a full-time position. See Broos, “Bildstatistik: Wien – Moskau – Den Haag 1928-1965,” in Bool and Broos (1976), 49.

Arntz in 1926.²⁷⁵ Additionally, Arntz collaborated with Neurath in the interim period by means of post, sending sketches for particular pictograms (though these sketches have not survived).²⁷⁶

When Arntz at last arrived in Vienna in September 1928, the museum was nearing completion of its first full-color publication, *Die bunte Welt*. Stylistically, this book occupies a position between the earlier stages of pictorial statistic design and its mature phase, which would characterize the work produced after 1930. Much of *Die bunte Welt* had been designed prior to Arntz's arrival in September of 1928, but his hand is evident in the design of the book's cover [FIGURE 110] and in a few of the charts, such as those illustrating marriage statistics and automobile production. As revealed by the cover design, Arntz brought the language of the international modernism to the museum: the division of the cover into asymmetrical sections, separated by bars of varying thickness, evokes conventions associated with *De Stijl*, Constructivism, and the "new typography" movement. The pictograms on the cover also reflect Arntz's distinct ability to produce figures that are simple and schematic, without lapsing into a rigid geometry. This can be seen in the figure holding a Korean flag at the right: despite its simplicity, there is a level of nuance in the draftsmanship that provides it with a sense of fluidity and life. The depiction of the African figure in

²⁷⁵ As Arntz recounts: "Man hatte unter meinem Einfluss die anfänglichen Scherenschnitte mit denen man die Anschauungstafeln beklebte inzwischen durch Linoleumschnitte ersetzt... Die angewendeten Figurensymbole waren schon stark orientiert nach den Vorbildern entnommen aus den Holzschnitten, die Neurath in seiner Begeisterung, einen Zeichner gefunden zu haben der seinen Intentionen entsprach, ab 1926 von mir gekauft hatte." [Under my influence the initial paper-cutouts, which were pasted on the viewing panels, were now replaced by linocuts... The applied figure-symbols were already heavily oriented towards the prototype, taken from the woodcuts, which Neurath, in his enthusiasm to find a draftsman who corresponded to his intentions, had purchased from me since 1926.] Gerd Arntz, Manuscript of 3 July 1972, Otto & Marie Neurath Isotype Collection, University of Reading.

²⁷⁶ See Arntz, *Zeit unterm Messer*, 22.

the combined frontal and profile view (a formula inspired by ancient Egyptian hieroglyphs) is less typical for Arntz; this device of combined views is generally absent from both his woodcuts as well as his pictogram designs. That he incorporated this device in the cover suggests an attempt to bridge the pre-existing designs with his own approach, and thereby achieve an overall unity in the book's design.

The book's first illustration [**FIGURE 111**] representing the "five groups of the world,"²⁷⁷ also shows certain characteristics typical of Arntz, despite the fact that it appropriates pictograms likely designed prior to Arntz's arrival—again demonstrating Arntz's attempt to force a continuity between his approach and the previous one. This becomes clear in a comparison, for example, between this illustration and the population chart from which the figure-types are taken [**FIGURE 112**]. The illustration tries to establish an evenness of line between the different figures, as well as with the buildings in the background describing the settings for each group. Other details, such as the thicker legs for the South Asian figure (colored reddish-brown and wearing a turban) or the slight bend at the knee in the figures representing "red" and "white" groups, introduce a fluid and dynamic quality into the figures, which in the chart appear rather stiff. The combined frontal and side view presentation, which still used in these figure-types, is generally abandoned in later publications produced entirely under Arntz's direction.

Charts such as *Automobilebestande der Erde* [**FIGURE 113**] and *Eheschliessungen in Deutschland* [**FIGURE 114**], are examples in which Arntz appears to have had more control. These charts appear to be more directly derived

²⁷⁷ The terminology and classifications of the book reflect the historical moment of its production: world populations are rather crudely divided into five main groups—"whites, reds, blacks, browns, and yellows."

from the forms developed in his earlier woodcuts [FIGURES 115, 116, 117, 118, 119]. Woodcuts such as *Vornehme Straße* (1924), *Mitropa* (1925), *Die Ordnung* (1926), and *Hotel* (1927)—as well as works produced later, like *Oben und unten* (1931)—feature similarly schematized automobiles. The gray-tone cityscape background in the automobile chart also reflects features typical of Arntz’s graphic work: the even outline, the alternation between opacity and transparency, and the use of grid-based patterns and windows as rhythmic elements can also be seen in these earlier prints. Arntz’s distinctive hand is even more apparent in the chart showing fluctuating rates of marriage in Germany between 1911 and 1926. The conventions here used to represent the female figure—the comparatively curved body and legs that end in points—also appear in earlier woodcuts by Arntz [FIGURES 120, 121, 122, 123], such as *Schauensfenster I* (1925), *Spiegel* (1925), and *Bank* (1927). In his woodcut *Warenhaus* (1927), the transparent elevator lift at the top center of the image features men’s and women’s legs represented identically to those in the chart. Charts like *Altersaufbau* [FIGURE 124], on the other hand, reflect the pre-linocut, scissors-based method of production, which characterize the charts prior to Arntz’s arrival.

Die bunte Welt also reflects the introduction of some conventions associated with the “new typography,” a movement then in a still early phase of its development.²⁷⁸ Paul Renner’s *Futura* type [FIGURE 125], which was adopted by the museum as its official typeface in the year of *Die bunte Welt*’s publication, was

²⁷⁸ This movement corresponded to other developments in modern design in its demand that function (rather than aesthetic considerations) dictate form, and in its embrace of mechanical reproduction and standardization. Jan Tschichold emerged as one of the movement’s most important spokesmen with the 1928 publication of his book, *Die neue Typographie*, which, among its numerous prescriptions, advocated the use of sans-serif type as “the only one in spiritual accordance with our time.” See Jan Tschichold, *The New Typography: A Handbook for Modern Designers*, trans. Ruari McLean (Berkeley: University of California Press, 1995), 73.

one of the few sans-serif types to receive the praise of the new movement's main spokesman, Jan Tschichold, who described *Futura* as “[making] a significant step in the right direction.”²⁷⁹ The impetus to adopt Renner's *Futura* may have, in fact, come from Tschichold himself, who briefly collaborated with Neurath around this time.²⁸⁰ Arntz, whose responsibilities at the museum included typographic design as well as the design of pictograms, was well acquainted with the principles of the “new typography” movement.²⁸¹ Besides the influence of Tschichold, Arntz would have also absorbed ideas about typography from Seiwert, several of whose designs were actually included in Tschichold's book [FIGURES 126]. In addition to the use of Renner's sans-serif typeface, publications such as *Die bunte Welt* exhibit features of the “new typography” in the asymmetrical layouts, the use of open or negative space, and the incorporation of heavy rules to emphasize textual elements [FIGURE 127].

This shift, which coincided with Arntz's arrival, becomes particularly clear when comparing the title page of *Die bunte Welt*—as well as the front and back covers of the 1929 Kärnten exhibition guide [FIGURE 128]—with publications produced just prior to Arntz's arrival, such as the 1928 pamphlet on the “Development of agriculture and business in Germany” [FIGURE 129], which still employed symmetrical layouts, and hand-drawn letters. Nonetheless, the Vienna

²⁷⁹ Tschichold, *The New Typography*, 74.

²⁸⁰ Tschichold had, since 1926, taught alongside Renner at the *Meisterschule für Deutschlands Buchdrucker* in Munich, and in 1929 was offered a position at the *Gesellschafts- und Wirtschaftsmuseum*, which he declined on account of financial considerations. See Burke, *Active Literature: Jan Tschichold and New Typography*, 120. Neurath's involvement with Tschichold was likely brought about through their mutual friend, Franz Roh, who had previously arranged the meeting between Neurath and Arntz. Roh, who was also based in Munich, collaborated with Tschichold around this time on the publication *Foto-Auge* (Stuttgart: Wedekind, 1929).

²⁸¹ According to Kinross, Arntz's copy of Tschichold's book is inscribed with the date 1928, the year of its publication. See Kinross, “Otto Neurath's contribution to visual communication,” 28.

Method can only be said to have reached near-maturity with the publication of the *Gesellschaft und Wirtschaft* atlas. While certain earlier stylistic conventions still persisted in this work—and while the idiosyncratic character of individual artists’ hands had not yet been entirely subordinated to a single style—*Gesellschaft und Wirtschaft* reflected the new level of aesthetic unity that had been achieved under the leadership of Gerd Arntz, and which he would continue to refine and standardize in the coming months and years.

Gesellschaft und Wirtschaft has often been referred to as an “atlas,” on account the numerous maps (or, more accurately, cartograms), which constitute more than half of its one hundred charts. Some of the cartograms feature a small map alongside the pictorial statistic chart (as in the example of the chart showing world cereal and rice production), but the majority of them superimpose statistical pictograms on top of the map projections themselves. In fact, some of the publication’s most important formal and conceptual innovations took place within the realm of cartography, under the guidance of the renowned cartographer Karl Peucker (1859-1940), who Neurath brought in to oversee this aspect of the work. Peucker employed a variety of different projections—as well as innovative croppings and orientations—in order to illustrate a wide range of historical and contemporary themes. The book’s final chart provided an overview of the thirteen different types of maps featured throughout [FIGURE 130], with an accompanying explanation in the appendix. The projection chosen most often for the atlas, Neurath explains, is “Eckert’s equal-area planisphere,” which, as a “sinusoidal projection,” avoids the

distortions of the more commonly used Mercator map,²⁸² in which Africa and South America appear to be equal in size to the much smaller Greenland. Neurath and Peucker, in fact, designed a chart to demonstrate the distorting character of the Mercator projection [FIGURE 131], which was reproduced in Neurath's article of the same year, "Das Sachbild" [The Factual Picture]. The use of Eckert's projection rather than Mercator's, in this sense, corresponds to the Vienna Method's principle of expressing quantities through repeating pictograms of the same size, rather than through their magnification, in that both the equal-area projection and the equal-sized pictograms were meant to avoid the potential misreadings created by distortions of scale. Other inventive cartographic devices include the shift from a northern to a north-western orientation in the maps depicting the eighth-century Arabian empire [FIGURE 132], which, Neurath explained, better served to illustrate the outward expansion of power from the Arabian peninsula.²⁸³ In contrast to maps like this one, however, in which pictograms are distributed across the map in order to show the geographic location of densely populated areas, maps depicting the corresponding expansion of the geography and populations of individual cities [FIGURES 133, 134], separated the individual rows of pictograms from the maps themselves. Writing later about the experience designing these city maps, Marie Neurath recalled:

how I sat beside [the draftsman] Hans Thomas as he worked on the map of Rome and, street for street, said to him: keep, or leave out. The surviving

²⁸² *Gesellschaft und Wirtschaft*, 103.

²⁸³ *Gesellschaft und Wirtschaft*, 103. Marie Neurath later wrote: "[Otto] Neurath had many new projections drawn, always equal area, which were appropriate for our quantitative presentations. He ordered world maps with different meridians in the center, in order to see the world in different perspectives. For the Arabian Empire he wanted a map in which Arabia stood in the middle like a pillar and the conquered areas spread out to the sides like wings." See Marie Neurath, "Wiener Methode and Isotype: my apprenticeship and partnership with Otto Neurath," in *The transformer*, 41

pattern of the ancient streets had to be clearly visible in medieval and modern Rome.²⁸⁴

Marie Neurath's description highlights the critical role that selection and omission played in the "transformation" process, both with regard to cartographic design in particular, and the design of pictorial statistic charts generally.²⁸⁵ Otto Neurath was always emphatic with regard to this point, which he viewed as a fundamental feature of the Vienna Method:

A good teacher is conscious that only a certain amount of knowledge will be kept in mind. So he puts into his picture only what is necessary. He is of the opinion that a simple picture kept in memory is better than any number of complex ones which have gone out of it.²⁸⁶

Beyond cartographic innovations, *Gesellschaft und Wirtschaft* solidified the overall aesthetic conventions (including the further standardization of many of the pictograms and the typographic devices) that Neurath's future pictorial statistic publications would follow. The stylistic unity and cohesiveness that was achieved under Arntz's direction becomes especially clear in comparing the charts representing "Peoples of the world" in *Die bunte Welt* and *Gesellschaft und Wirtschaft* [FIGURES 135, 136]. In their frontal orientation, the pictograms in *Gesellschaft und Wirtschaft* appear sturdier, more streamlined and simplified. Their outlines are more evenly and consistently drawn, and their proportions have been coordinated with one another to achieve a visual equality. Also, the figures fill out their allotted space more evenly than in earlier versions, which allows for greater possibilities of combination with

²⁸⁴ Marie Neurath, *The transformer*, 44.

²⁸⁵ Neurath, in fact, compared the work of the transformer to that of the cartographer. See Nikolow, 262.

²⁸⁶ Neurath, *International Picture Language*, 28.

other pictograms. This becomes clear in the revised chart for “Religions of the World.” In *Die bunte Welt* entirely new pictograms were invented for each religion, each one vastly different from the other [FIGURE 137]. The same chart in *Gesellschaft und Wirtschaft* by contrast, utilizes the same pictograms as the “Peoples of the world” charts, merely superimposing religious symbols [FIGURE 138].

The advantages that come with the adoption of compound pictograms are also apparent in a comparison of the charts representing the “Development of economic systems” from the two respective publications. The pictograms representing economic systems in the chart from *Die bunte Welt* [FIGURE 139] are set as background forms (the gear wheel represents modern industry-based economies; the hammer, traditional craft-based economies; and the bow and arrow, “primitive” economies based on hunting, gathering and basic farming), above which the rows of figures are superimposed. But these superimpositions obscure the pictograms for economic systems. Additionally, the background drawings, intended to link the economic systems with different cultural and geographic settings, tend to clutter the chart. The solution reached in *Gesellschaft und Wirtschaft* was to eliminate this aspect from the chart showing chronological development [FIGURE 140], and design a second chart, “Economic systems of the world,” connecting economic systems with cultural groups [FIGURE 141]. Here again for the third time, the pictograms depicting cultural groups are reused in combination with the standardized pictograms for economic systems to form new compound pictograms.

The charts representing “World auto supply” [FIGURES 142, 143] give additional insight into the refinement of pictorial statistic conventions between 1928

and 1930. Three features are noteworthy in these charts. The first two features concern the *Führungsbilder* (literally “guide pictures”—the thematic pictorial bands that often run along the upper part of the charts) and the axial arrangement. Where the earlier version in *Die bunte Welt* included two *Führungsbilder*, set as backdrops for the two rows of cars and indicating the part of the world car supply belonging to the US, the later version—on account of its central axial composition—was able to move the *Führungsbild* to the top of the image and to avoid the redundancy of the two backdrops. Through this compositional realignment (which represents the design work of the “transformer”), the overall image is opened up and allows for an easier comparative reading. In a third development, also meant to facilitate counting and comparison, the automobile pictograms have been given frontal orientation in the later version, while the stacking of cars has been abandoned altogether. Beyond considerations of countability, however, the frontal orientation of the cars may also be seen as an aesthetic strategy: in their turn towards the direction of the viewer, the car pictograms become more engaging as images.

Gesellschaft und Wirtschaft was a monumental undertaking, and completing the book in time for its scheduled publication required an increase in resources and a significant expansion of the museum team. To this end, the *Bibliographisches Institut* provided the museum with a generous budget; a wide range of specialists, including several more artists, were brought in to help complete the work. Peter Alma and Augustin Tschinkel, both of whom had only come into the Progressives’ circle in the previous year, joined the team in Vienna during the summer of 1929, having been

recommended to Arntz by Franz Wilhelm Seiwert.²⁸⁷ Together with older members of the museum team, such as the artist Erwin Bernath, the three members of the Group of Progressive Artists designed (and redesigned) a vast assortment of pictograms. The pictograms and charts for *Gesellschaft und Wirtschaft* were produced under Arntz's artistic direction, but the vast scale of the project and the limited time allotted for its production did not allow for systematic control over all aspects of the production. The result was a publication that still does not possess the thorough and complete stylistic unification that later pictorial statistic charts would exhibit. The figural pictograms, for example, still exhibit a variety of stylistic conventions [FIGURE 144].

It was only after the completion of *Gesellschaft und Wirtschaft* when, as Marie Neurath recalled, "there was more leisure," that "[Otto] Neurath sat down with Arntz and started a systematic review of the symbols, their interrelation and combination."²⁸⁸ The museum's next major work, *Technik und Menschheit*, reflects this further systematization and refinement of the Vienna Method. The publication, a set of three portfolios, each containing eight charts printed on loose-leaves, exhibits continuity with *Gesellschaft und Wirtschaft* in its physical format and overall aesthetic, but addresses a narrower and more specialized range of themes (machinery, electricity, and transportation). In addition to reflecting the further refinement of the Vienna Method, however, *Technik und Menschheit* also illustrates the method's flexibility and adaptability. The chart describing "Manpower in the transport of a heavy object" [FIGURE 145], for example, introduces perspectival arrangements of

²⁸⁷ See Arntz, *Zeit unterm Messer*, 24.

²⁸⁸ Marie Neurath, *The transformer*, 44.

the figure groups, in order to suggest their spatial relationship to the objects being moved.

Furthermore, *Technik und Menschheit* incorporated several photographic images—something uncharacteristic for pictorial statistics. While photography did play a relatively important role as visual aids in the museum’s displays, the medium was generally considered unsuitable for pictorial statistic representation, since, as Neurath argued, “one cannot photograph social facts.”²⁸⁹ That is to say, while one could photograph a particular instance—an individual arrest, for example—one cannot photograph a trend or fluctuation in arrests over a period of time. Neurath therefore favored drawn symbols over photographs in the representation of “social facts,” for the same reason he favored schematic pictograms over detailed drawings. Exceptions are to be found only in the rare charts that deal with comparisons of a qualitative nature, rather than comparisons of quantities or geographic distributions. The chart describing the differences between first and third class carriages [FIGURE 146], for example, utilized photographs in order to illustrate contrasts in material comfort. In another illustration from *Technik und Menschheit*, depicting specific instances of the application of electrical power—rather than trends in its application—photographic images were also seen as the logical choice [FIGURE 147]. Such charts demonstrate the variety and adaptability of the museum’s work in visual education.

²⁸⁹ Neurath, “Visual Education: Humanisation Versus Popularisation,” 291-92.

Concluding Remarks

The work of the *Gesellschafts- und Wirtschaftsmuseum* in visual education—above all, the pictorial statistic project—can be seen as the outcome of several intersecting trajectories. Certainly, the project is unthinkable without Otto Neurath's unique vision: the work largely stemmed from his professional activities, political commitments, and longstanding personal interests. At the same time, Neurath was always emphatic about the collective character of the project, and in this light, the contributions of Gerd Arntz as draftsman and Marie Reidemeister as transformer were equally critical to the project's realization and success. Additionally, larger modernist trends exerted considerable influence on the project's principal designers, whose ideas were developed through interactions and exchanges with an international network of cultural and intellectual figures from a vast array of disciplines. Finally, it is important to emphasize that the Vienna Method was initially developed to meet a set of needs specific to interwar Vienna and was sustained until 1934 through the support of the Social Democratic Workers' Party of Austria, which embraced the museum's work as part of its strategy of *Bildungspolitik*.

Towards the end of the 1920s, however—as the precarious position of Social Democracy in Austria became increasingly apparent—Neurath realized that the long-term viability of his project could only be secured through international support. To this end he began taking steps to expand the museum's operations internationally, establishing partnerships, consultancies, and parallel organizations in a variety of locations including Moscow, Berlin, Brussels, Amsterdam, The Hague, London, and New York (developments which will be discussed in the concluding chapter). That

the work of the museum was so successfully adapted outside Vienna can be attributed to several factors, including the internationalist outlook of the Vienna Method's designers, the increasingly international character of the subjects they treated, the flexibility of the design approach, and the modernist aesthetic that characterized its formal presentation. In this way, the museum's work stood apart from the aesthetic conservatism and cultural specificity that generally characterized the Social Democratic *Bildungsvereine* in Vienna.²⁹⁰ In addition to Neurath's contacts with policymakers and connections within the academic community, the Vienna Method was dispersed through channels and networks maintained by members of the international artistic avant-garde. The next chapter will examine the part played by the international avant-garde in the dissemination of this method; it will further consider how the pictograms' designers—Arntz, Alma, and Tschinkel—viewed the Vienna Method, both in relation to the modern movement generally, and in relation to their own “free” work in particular.

²⁹⁰ See Anson Rabinbach, “Red Vienna: Symbol and Strategy,” in *The Austrian Socialist Experiment: Social Democracy and Austromarxism, 1918-1934* (Boulder: Westview Press, 1985), 190.

Chapter 4: Sociological Graphics and Pictorial Statistics

Figurative Constructivism at the Gesellschafts- und Wirtschaftsmuseum

Beyond their role as source material for pictogram design, figurative constructivist artworks were themselves exhibited at the *Gesellschafts- und Wirtschaftsmuseum* in Vienna. In 1929 Arntz executed a large-scale painting for the *Volkshalle* in the *Neues Rathaus* (where the museum had maintained an exhibition space since 1927), wherein he presented Viennese society as an architectural cross-section [FIGURE 148].²⁹¹ The painting, titled *Sozialarbeit der Stadt Wien* [Social Work in the City of Vienna], depicted subjects relevant to the museum's educational program, and illustrated accomplishments of the municipal government. The construction of large-scale workers' housing blocks dominates the center of the painting and serves as a compositional hub around which are organized images of amenities related to education (such as kindergartens), welfare (school lunches), health (dental care), and recreation (public parks and pools). The painting in this way illustrated the social policy of "Red Vienna," of which the *Gemeindebauten*

²⁹¹ This work, titled *Sozialarbeit der Stadt Wien* [Social Work in the City of Vienna], was lost after the museum's closing in 1934. It was the only wall painting ever executed by Arntz (though murals were a significant medium for several members of the Progressives circle, including Seiwert, Hoerle, and much later for Alma). See Peter Hielscher, "Die Wandbilder der 'Progressiven,'" in *Politische Konstruktivisten: die "Gruppe progressiver Künstler" Köln* (Berlin: Neue Gesellschaft für bildende Kunst, 1975).

[communal building projects] were the crowning achievement, and to which many aspects of working class social life were connected.²⁹²

A small space within the painting (in the lower left center, adjacent to the construction scaffolding) is also allocated to the subject of settlement housing and garden allotments, indicated by the one-storey building and small fenced-in yard [FIGURE 148b]. By this moment apartment block construction had long since superseded such small-scale housing schemes, but the theme would have been an important one for the museum: in its earliest incarnation as the *Museum für Siedlung und Städtebau*, it had been an advocate of this latter type of housing. Additionally, depictions of city infrastructure—bridge construction, modern public transportation, street lighting—occupy the periphery of the image, all linked through a cross-section style of presentation, which echoes the construction scaffolding at the painting’s center. Arntz had previously used this cross-section device in woodcuts like *Ruhe und Ordnung* (1926) [FIGURE 149], where disparate settings and social contexts (work, leisure, residential) were brought together into a single architectural structure. This type of presentation was also employed by the museum in charts, such as the one Arntz designed for the 1929 “Carinthia exhibition,” showing the scope of functions for the Chambers for Workers and Employees [FIGURE 150].

In addition to the cross-section presentation, Arntz’s painting also evokes the conventions of pictorial statistic charts through the standardization of the figure-types. The three figures at the left side of the painting stand for the lower, middle, and upper classes, as indicated by variations in their respective uniforms [FIGURE 148c]: the worker, at the far left is unadorned, in a plain shirt with his left arm

²⁹² See Rabinbach, “Red Vienna: Symbol and Strategy,” 187-193.

outstretched and holding a single coin; to the right stands a figure in identical pose, but adorned with a bowler hat and suit jacket—a petite bourgeois—his arm in the same position but holding a medium sized money bag; the third figure retains the same pose and proportions but wears, in addition to the suit jacket, a vest and top hat, and holds a bigger money bag—a member of the haute bourgeoisie or the aristocracy.²⁹³ These standardized figures function in a manner similar to statistical pictograms: they are like paper-dolls, repeatable armatures, upon which costumes can be attached and slight modifications can be made to differentiate identical figures and change their meaning.

In depicting themes relevant to the museum's work, and in referencing the programs of the Viennese municipal government (which largely financed the museum's projects), Arntz's painting thus served to link figurative constructivism with both the museum and the socially progressive agenda of the city. There were, it should be noted, significant differences between the position taken by Arntz (and the other Progressives), who expressed support for the revolutionary workers' council movement, and that of the Viennese Social Democrats, who advocated a program of "revolution through reform." Nonetheless, the social-educational mission of the museum itself and its origins in Neurath's own efforts to promote self-management programs among the Viennese working class had great appeal for Arntz.²⁹⁴ Moreover,

²⁹³ Hielscher interprets this as a reference to the city's progressive income tax policy. In any case, the three figures point to the theme of income distribution and wealth inequality—one of the subjects treated in the museum's pictorial statistic charts. See Hielscher, "Die Wandbilder der 'Progressiven,'" in *Politische Konstruktivisten* (1975).

²⁹⁴ Years later Arntz would comment on this tension between his sympathy for the museum's program and his skepticism about the administered state socialism of Vienna: "The working [of] this institute fitted quite definitely into my political vision. It was above all the enlightenment on social relationships in which I could give shape to my ideas. Only I was a bit more revolutionary, more to the

the link between figurative constructivism and Vienna was reinforced in the following year when Arntz's painting was reproduced in the Progressives' journal *abis z* and in the *Wendingen* issue devoted to "sociological graphics and pictorial statistics"—appearing within the latter as a large-scale reproduction on the first page. In these contexts, the image of Arntz's painting served to connect the work of the *Gesellschafts- und Wirtschaftsmuseum* with the international artistic current designated by the terms "figurative constructivism" and "sociological graphics."

Figurative constructivist prints and drawings were also represented within the museum's collection. In addition to Arntz's woodcuts, Neurath also collected graphic work by other members of the Group of Progressive Artists, including Alma, Tschinkel, and Seiwert. As an expression of the themes that these artworks shared with pictorial statistic representations, Neurath and several members of the Progressives circle began at this time to describe figurative constructivist prints and drawings as "sociological graphics."²⁹⁵ In several articles Neurath praised the

left than the socialists in Vienna. I was at the time for a real overthrow of society." Quoted in Max Danser, Interview with Gerd Arntz, *Pulchri* 8, no. 3, 1980. Typed manuscript (translated from the Dutch into English by Marie Neurath) in the Otto and Marie Neurath Collection, University of Reading.

²⁹⁵ The term appears to have been introduced by Neurath in 1930 in an article in *Die Form*, the journal of the *Deutscher Werkbund* [German Work Federation], which featured a reproduction of Arntz's woodcut *Bank*, from his *Zwölf Häuser* series. See "Das Sachbild. 1: Bildhafte Pädagogik," *Die Form* 5, no. 2 (1930): 34. Alma and Tschinkel quickly followed suit, employing the term in several articles published that same year. See, for example, Alma, "Beeldstatistiek en sociologische grafiek," *Wendingen* 11, no. 9 (1930): 3-7; and Tschinkel, "Zobrazení množství a kolektivní tvary: k výběru ze sbírky sociologické grafiky sociologického a hospodářského musea ve Vídni" [Quantitative Pictures and Collective Form: A Selection of Sociological Graphics from the Sociological and Economic Museum in Vienna], *výtvarné snahy* 11, no. 8 (1930): 136-137.

Progressives for their collective vision, and on occasion used the museum as a venue to promote their work.²⁹⁶

Likewise, the artists viewed their relationship with the museum as an opportunity to publicize and exhibit their work, and reach a still greater audience. Tschinkel, for example, in an article about the museum in the Czech arts journal *výtvarné snahy*, made a point to mention the museum's "collection of sociological graphics, from which exhibitions are occasionally staged."²⁹⁷ A follow-up article in this same journal on the subject of figurative constructivist prints and drawings carried the subtitle, "A selection of sociological graphics from the Sociological and Economic Museum in Vienna," again emphasizing the anticipated partnership between the Group of Progressive Artists and the museum.²⁹⁸ Perhaps the most significant articulation of this partnership came in the form of an announcement that appeared in the November 1930 issue of the Progressives' journal, *a bis z*, describing the creation of a new "Department of sociological graphics" at the museum, with the goal of "connecting the museum's work to the most progressive formal and critical artistic creation of our time."²⁹⁹ While this department was likely a relatively informal

²⁹⁶ In an article from 1931 Neurath describes the occasional exhibition of "sociological graphics and black-and-white woodcuts" within the museum-affiliated *Institut für bildhafte Pädagogik* [Institute for Visual Education]. See Neurath, "Das Gesellschafts- und Wirtschaftsmuseum in Wien," in *Gesammelte bildpädagogische Schriften*, 192-196. The article originally appeared in *Minerva-Zeitschrift* 7, nos. 9/10 (1931): 153-156. In other essays from this period, Neurath describes his own efforts to "apply the media of visualization in the field of social progress" as "fortunately coinciding with the efforts of a few graphic artists, which apply simplified human and object forms, mainly to depict social conditions." See Neurath "Isotype en de graphiek," *De Delfer* 9, no. 2 (Delft 1934): 17-29.

²⁹⁷ Tschinkel, "Práce Sociologického a Hospodářského Musea ve Vídni" [The Work of the Sociological and Economic Museum in Vienna], *výtvarné snahy* 11, no. 5 (1929): 81.

²⁹⁸ Tschinkel, "Zobrazení množství a kolektivní tvary," 136-137.

affair, these repeated references suggest that the collaboration between Neurath and the Progressives was soon conceived in broader terms than just the design of charts and pictograms—even if this remained the primary and most enduring aspect of their collaboration.

Pictorial Statistics in Avant-garde Publications

While their work designing pictograms for the *Gesellschaft und Wirtschaft* atlas left less time for Arntz, Alma, and Tschinkel to pursue their independent artistic production, these years of collaboration in Vienna did in fact mark the most fruitful period for the dissemination of their earlier graphic work—mainly in the form of avant-garde publications. Additionally, all three artists utilized these publications to explain and promote the work of the *Gesellschafts- und Wirtschaftsmuseum*, in some cases drawing parallels between the museum’s work and their own artistic projects.³⁰⁰ Between 1929 and 1930 all three artists produced essays for avant-garde journals in their respective languages, elucidating the principles of the Vienna Method, reproducing examples of charts, and considering the relationship between the free and applied work. One of the first such articulations, an essay by Tschinkel, appeared in

²⁹⁹ “Der Gründer und Leiter des Gesellschafts- und Wirtschaftsmuseums in Wien hat in seinem Bemühen, der Arbeit des Museums die Verbindung zum fortschrittlichen, formalen und kritischen Schaffen unserer Zeit zu geben, dem Museum eine Abteilung ‘soziologische Grafik’ angegliedert. [The founder and director of the Gesellschafts- und Wirtschaftsmuseum in Vienna, in his efforts to connect the work of the museum with formally and critically progressive artistic creations of our time, has incorporated a department of ‘sociological graphics.’]” In *a bis z 2*, no. 12 (November 1930): 46.

³⁰⁰ The most emphatic suggestions of this nature came from Alma and Tschinkel. See, for example, Alma, “Beeldstatistiek en sociologische grafiek,” *Wendingen* 11, no. 9 (1930): 3-7; Tschinkel, “Zobrazení množství a kolektivní tvary,” *výtvarné snahy* 11, no. 8 (1930): 136-137; and “Statistik und Kollektivform,” *a bis z 2*, no. 13 (January 1931): 51. See also Arntz, “Bewegung in Kunst und Statistik,” *a bis z 1*, no. 8 (May 1930): 29.

1929 in the major Czech arts journal, *výtvarné snahy* [FIGURE 151].³⁰¹ In his essay, Tschinkel briefly summarized the aims of the *Gesellschafts- und Wirtschaftsmuseum*, and then described the method's distinctive features, as well as its advantages over traditional methods of graphical representation of quantitative data. With regard to pictogram design, Tschinkel emphasized Arntz's leading role, describing "the matter-of-fact, constructive expression of symbols, legends, and tables" as "essentially the work of the artist Gerd Arntz and the design department under his supervision."³⁰² In contrast to the essays by his colleagues, however, Tschinkel's discussion dealt more broadly with the museum itself, describing the museum's utilization of a wide variety of visual aids beyond pictorial statistic charts, including models, metal wall-panels and maps with magnetic signs, lanternslides, and photographs—some examples of which are reproduced in the article [FIGURE 152]. Additionally, he mentions the museum's "archive for pedagogical pictures" where "sociological graphics" are occasionally exhibited. Figurative constructivist prints and drawings from the museum's collection was the subject of a follow up article some months later, wherein Tschinkel considered some of the shared aims that linked his "free" and applied work (as will be discussed below). These two essays, however, represent the Prague-based journal's only coverage of the work of the *Gesellschafts- und Wirtschaftsmuseum*.

³⁰¹ Tschinkel, "Práce Sociologického a Hospodářského Musea ve Vídni," *výtvarné snahy* 11, no. 5 (1929-30): 81.

³⁰² "...že věcně konstruktivní tvarový výraz značek, nápisů a tabulek je v podstatě dílem malíře Gerta Arntze a jím řízeného oddělení pro návrhy." Tschinkel, "Práce Sociologického a Hospodářského Musea ve Vídni," 82.

By contrast, the Cologne-based journal and official “organ” of the Group of Progressive Artists, *a bis z*, carried more sustained coverage of the museum’s work. During the course of its three-and-a-half year run (from October 1929 to February 1933), it featured the work of the *Gesellschafts- und Wirtschaftsmuseum* on five separate occasions (along with passing references in other issues).³⁰³ Images of the museum’s work first surfaced in the journal’s May 1930 issue [FIGURE 153], accompanying an essay titled “Bewegung in Kunst und Statistik” [Movement in Art and Statistics], wherein Arntz offered his reflections on the changing social roles that painters and statisticians (or more accurately, information-graphic designers) would play, as society underwent political transformation. Here Arntz describes the painter and statistician as caught in a transitional historical moment. Both at present still serve the interests of the current social and economic order. But as the work of painters and statisticians produces an increasingly self-conscious picture of these interests, their work, Arntz claims, should lead to the realization that the current order could not continue:

...the clearer a thing is articulated, the more clearly it proves that in the end it only has meaning to the extent that it is directed towards the general public; and the more this meaning is refined through its good form, the more it urges towards the transformation of its position within contemporary life. This is the case as well with statistics.³⁰⁴

³⁰³ For reproductions and articles discussing the museum’s work see issues no. 8 (May 1930), no. 9 (July 1930), no. 13 (January 1931), no. 28 (November 1932), and no. 29 (December 1932); for additional references to the museum see issues no. 12 (November 1930) and no. 22 (February 1932).

³⁰⁴ “...je klarer eine Sache ausgearbeitet umso klarer erweist sie, dass sie am Ende nur in der Anwendung für die Allgemeinheit ihren Sinn hat und umso offener dieser Sinn durch ihre gute form wird, umso mehr drängt sie zur Umwälzung ihrer Stellung im heutigen Leben. Bei der Statistik ist es auch so.” Arntz, “Bewegung in Kunst und Statistik,” *a bis z* 1, no. 8 (May 1930): 29.

While at present, Arntz laments, painting and statistics can only observe, describe, and analyze contemporary social conditions, ultimately these analyses should generate an active demand for social change. Arntz's position here was surely meant to evoke Marx's critique of philosophy—that it has only ever interpreted the world, when its goal should really be to change the world—though it also echoes the title of Franz Seiwert's 1924 linocut, "Erkenntnis der Welt treibt zur Änderung der Welt" [Awareness of the World Drives the Transformation of the World] [FIGURE 33]. In cultivating this greater awareness and more effective powers of observation, developments in modern art, according to Arntz, were leading the way, and set an example for visual education:

The work in nascent instructional media is a task that can be carried out with the experience of painting in the last years. The development of the means provides ever more possibilities for greater versatility in its use and further leads from mere observation to the vital demand for change...³⁰⁵

While Arntz's rather abstract discussion made no direct mention of the *Gesellschafts- und Wirtschaftsmuseum*, the accompanying illustrations made clear that the questions he tried to address with this essay had arisen from his work at the museum. The illustrations, which included two pages from the recently published *Gesellschaft und Wirtschaft* atlas, an image of Arntz's painting for the *Neues Rathaus*

³⁰⁵ "Die Arbeit an den darniederliegenden Belehrungsmitteln ist eine Aufgabe, die mit den Erfahrungen der Malerei der letzten Jahre durchgeführt werden kann. Die Ausbildung der Mittel gibt immer mehr Möglichkeit zur Benutzung in großer Vielseitigkeit und führt weiter von der bloßen Konstatierung, zur lebendigen Aufforderung zur Änderung..." Arntz, "Bewegung in Kunst und Statistik," *a bis z* 1, no. 8 (May 1930): 29. It is curious that Arntz employs the term "painting" in his discussion, rather than "art," "designing," or "printmaking," since he generally used these latter terms in reference to himself; in speaking of his limited painting production, described himself as a "Sunday painter." See Arntz, *Zeit unterm Messer*, 29.

Vienna, and Seiwert's linocut *Feierabend* [Quitting Time],³⁰⁶ served to indicate both formal and iconographic points of overlap between these two types of work [FIGURES 153, 154]. Additionally, the charts chosen from the atlas for reproduction (one showing changing proportions of workers over several decades in different sized commercial enterprises in Germany, and the other illustrating the number of strikes and factory lockouts over the previous decades in Germany, France, and England),³⁰⁷ would have had particular resonance for the creators and readership of *a bis z*: the iconography featured in these charts—the worker-types, the saw-tooth rooftops, and factory smokestacks—had long been persistent features within figurative constructivist artworks, as can be seen in Seiwert's linocut, reproduced on the following page at the end of Arntz's essay.

Arntz did address the work of the museum directly and in more concrete terms in a second essay published in the journal's next issue, which was accompanied by further examples of the museum's pictorial statistic work [FIGURE 155].³⁰⁸ After summarizing some of the basic features of the Vienna Method—the expression of quantity through repetition, the simplification of forms, the utilization of “a clear typography,” and the function of the thematic guide pictures (Arntz calls them “Einführungsbilder”)—Arntz's discussion turns to the social significance of the museum's work. “What must then be considered,” he writes, “is the extent to which

³⁰⁶ This work had earlier served as the cover image of *Die Aktion* 15, no. 11 (1925), and was later used as the cover image for the booklet *soziale grafik* (Kladno, 1932). The print was also included in the 1934 compilation, *f. w. seiwert – gemälde – grafik – schriften* (1934), published in Prague by Arntz and Tschinkel. The work, which was produced in 1922, is misdated as it appears in *a bis z*.

³⁰⁷ See *Gesellschaft und Wirtschaft*, 85, 88.

³⁰⁸ See Arntz, “Zur Methode des Gesellschafts- und Wirtschaftsmuseums in Wien,” *a bis z* 1, no. 9 (July 1930): 34.

the different subjects and especially the representation of the developing social struggles would transform the method itself, which is currently applied in a certain democratic ‘objectivity.’”³⁰⁹ With this last comment regarding “democratic ‘objectivity’”—by which Arntz seems to imply political neutrality—a fundamental difference between Arntz (as well as the other members of the Group of Progressive Artists) and Neurath becomes apparent. While for Neurath, the Vienna Method’s perceived neutrality constituted its strength, Arntz seems to have viewed this same feature with skepticism. Arntz concludes his discussion with the implication that the method’s emancipatory potential might be better realized outside the Social Democratic institutional framework in which it is currently made to operate: “But, one can only repeat that a start has been made, and the further application and development of the method depend not least upon anyone who uses it to mobilize the transforming process of our worldview.”³¹⁰

Shortly after the first appearance of the museum’s work in *a bis z*, an issue of the Amsterdam-based journal *Wendingen* appeared, devoted to the combined themes of “pictorial statistics and sociological graphics,” and featuring an essay on the subjects by Peter Alma. The essay is divided into two short sections, each corresponding to the two themes. In the first section (on pictorial statistics), Alma follows the example of his colleagues, defining the Vienna Method, explaining its

³⁰⁹ “Es müsste dann untersucht werden: [...] wie weit die verschiedenen Gebiete und besonders die Darstellung sozialer Kämpfe umformend wirken würde auf die Methode selbst, die jetzt in einer gewissen demokratischen ‘Objektivität’ angewandt wird.” Arntz, “Zur Methode des Gesellschafts- und Wirtschaftsmuseums in Wien,” 34.

³¹⁰ “Es sei nur wieder gesagt, es ist ein Beginn und die weitere Anwendung und Ausbildung hängt nicht zum wenigsten von demjenigen ab, der sie benutzt zu einer Aktivierung des Umbildungsprozesses der Weltauffassung.” Arntz, “Zur Methode des Gesellschafts- und Wirtschaftsmuseums in Wien,” 34.

principles, describing the uses to which the method is put and its advantages over other methods of statistical representation. The second section of Alma's essay (on sociological graphics) defines some of the features of figurative constructivism and considers some of the aims and concerns that this artistic movement shares with the pictorial statistic project. In contrast to Arntz's essay on "art and statistics," which positions painting at the forefront of cultural change, Alma privileges science—specifically, sociology—as the example to follow: "Sociology as a science is relatively young, but already it has many practitioners. In art it has made relatively little appearance."³¹¹ Sociological graphics, Alma asserts, represent the exception here. Just as "the sociological chart depicts the life, interactions, shifts and contradictions among social groups," writes Alma, in reference to pictorial statistics, "the movements of the masses, wealth-poverty, labor-capital, rural and urban life, the conflicts arising from the contradiction of class interests, are the main sources from which sociological graphic artists take their data."³¹² What distinguishes sociological graphics from other socially oriented artistic tendencies, Alma notes, is the depiction of a mass-subject, rather than an individual one: "there are only few," he writes, "who have discovered that the mass has its own life."³¹³

³¹¹ "De sociologie als wetenschap is van betrekkelijk jonge datum, maar heeft reeds vele beoefenaars. In de kunst is zij nog betrekkelijk weinig tot uiting gekomen." Alma, "Beeldstatistiek en sociologische grafiek," 3.

³¹² "De sociologische grafiek beeldt het leven, de wisselwerkingen, verschuivingen en tegenstellingen der sociale groepen uit. [...]Het bewegen der massa, rijkdom-armoede, kapitaal-arbeid, het leven op het land – in de steden, de conflicten, die uit de belangentegenstellingen der klassen ontstaan, zijn de hoofdbronnen, waaruit de sociologische grafiker zijn gegevens put." Alma, "Beeldstatistiek en sociologische grafiek," 3.

³¹³ "Niet de individu, maar de massa spreekt hier in de eerste plaats en het zijn er nog maar weinigen, die ontdekt hebben, dat de massa een eigen leven heeft." Ibid.

Alma's comparisons are illustrated by an extensive selection of examples: twelve pages from the recently completed *Gesellschaft and Wirtschaft* atlas (which appear to have been selected both for the diversity of conceptual and stylistic approaches they represented, as well as for their thematic variety) [FIGURE 156], and twenty-one prints and drawings to represent sociological graphics. One of the shared features, which becomes especially evident in the comparison, is the centrality of social typologies within the two types of production. Alma's *Acht portretten* series of 1929 (reproduced here in its entirety) and Arntz's *Zwölf Häuser der Zeit* of 1927 (of which four prints were included) both exemplify this typological approach, wherein, as Alma asserted, a mass subject—rather than an individual one—is shown. In these print series, figures generally function as symbols for professions, distinguished from one another only by their respective uniforms and compositional placement. In Arntz's *Stadion* [Stadium], for example [FIGURE 157], figures are distributed within the arena's seating according to type: the upper echelons of society—military officials, politicians, business elites and their wives—occupy the front tiers; behind them, in greater numbers but with fewer distinguishing characteristics, sit the masses, indicated only by their workers' caps and fedoras. This typological approach is even more pronounced in *Acht portretten* [FIGURE 158]. There is some irony in the title, given the contrast between the connotations of individuality associated with portraiture and the series' reduction of individual figures to symbols for their respective professions. In this case the categories are limited to professions associated with power, wealth, and authority: military official, government minister, diplomat, banker, priest, lawyer, judge, and jailer.³¹⁴

³¹⁴ Images of a bishop and a pensioner were added to the original eight "portraits" in 1931, which were

As the accompanying reproductions from *Gesellschaft und Wirtschaft* reveal, the classification of society according to profession was also a central feature within pictorial statistic charts. The chart depicting “social stratification in Vienna” is exemplary in this regard [FIGURE 159].³¹⁵ This graphic presents a cross-section of society organized according to profession, charting developments between the eighteenth and twentieth centuries. By classifying the population of Vienna along professional lines, industrialization’s social impact becomes immediately evident: certain professional categories, such as nobility, clergy, and itinerant workers appear to have dropped out (or at least constitute such a small proportion of the population that they no longer register), replaced by new categories such as industrial workers and government administrators. Most notably, the proportion of laborers (colored red and implicitly defined within the context of the chart as people working for someone else, rather than those self-employed) appears to have increased from less than half of the population in 1700 to more than two thirds in the present, with the vast majority employed by the industrial sector. Seen through this typological lens, figures in both sociological graphics and pictorial statistic charts thus become collective protagonists, expressing class relations in a way that individual actors could not—or would be less effective in so doing.

then published in the following year by the *Socialistische Kunstenaarskring* [Socialist Artists’ Circle] as a small ten-part accordion-format booklet titled *Kapitalistische orde* [Capitalist Order]. Like Arntz’s *Zwölf Häuser*, the logic behind the chosen categories is not entirely clear. Conspicuously absent are some of the figures frequently vilified in other works by these artists, such as industrialists, police officers, and party functionaries.

³¹⁵ Figures that were colored in red in the original version [FIGURE 159] are re-presented in black in the black-and-white reproduction in *Wendingen* [FIGURE 156], while figures originally colored blue appear in the latter as grey.

Figurative Constructivism, Pictorial Statistics, and Collective Form

In depicting this collective subject—both within figurative constructivist artworks and pictorial statistic charts—form was always a central concern for the Group of Progressive Artists. Tschinkel addressed this concern specifically in an article titled “Statistics and Collective Form,” which appeared in the thirteenth issue of *a bis z* (accompanying an announcement of the publication of the *Gesellschaft und Wirtschaft* atlas).³¹⁶ For pictorial statistic charts, which, Tschinkel explains, aim “to present social and economic conditions in a concise and generally understandable manner... serial and standard forms prove to be the most suitable.”³¹⁷ Tschinkel illustrated his point by means of an analogy between the design of pictograms and typefaces, where—in the case of the latter—the standardization of forms facilitate collective recognition and use. “An ‘a’ is all the more an ‘a,’” writes Tschinkel, “the more it corresponds to its standard form, and it is less an ‘a’ the more personally it is adorned.”³¹⁸ Beyond modern typeface design, however, Tschinkel also locates models of collective expression in the arts of antiquity. Invoking Egyptian and Assyrian relief carvings, as well as Byzantine mosaics, Tschinkel observes how in these examples masses are depicted by “long rows of forms, each like the other,” wherein “unique

³¹⁶ Tschinkel, “Statistik and Kollektivform,” *a bis z* 2, no. 13 (January 1931): 51.

³¹⁷ “Der Zweck der statischen Tafeln ist, in knapper und gemeinverständlicher Weise gesellschaftliche und ökonomische Verhältnisse darzustellen. [...] Serien- und Standardformen erweisen sich als die entsprechendsten für Zwecke, die ebenfalls eine Angelegenheit des Kollektivs sind.” Ibid.

³¹⁸ “Ein a ist umso mehr ein a, je mehr es seiner Standardform entspricht, und es ist umso weniger ein a, je persönlicher es sich zierte.” Tschinkel, “Statistik and Kollektivform,” 51.

differences are not individual, but refer to distinctions of class and status.”³¹⁹

Tschinkel remarks that the Vienna Method shares with these earlier examples the convention of depicting quantities through repetition of forms; at the same time, Tschinkel notes, pictorial statistics forego the hierarchical expressions that were typical of these earlier works, whereby “a god or master is greater in proportion.” This, Tschinkel explains, comes from the requirements of an exclusively quantitative representation, which “develops a corresponding form for itself.” Echoing Neurath’s earlier discussion of the earliest, pre-schematic pictorial statistic charts, Tschinkel concludes: “The more [this form] is pushed towards a schematized type, the more precisely it establishes what should be said, and the less it should allow room for the possibility of subjective interpretation.”³²⁰

This article, which appeared in the January 1931 issue of *a bis z*, was actually an abbreviated version of his second article for the journal, *výtvarné snahy*, which had appeared during the previous year. In its original version, illustrated with artworks said to come from the collection of the *Gesellschafts- und Wirtschaftsmuseum*, Tschinkel went on to draw parallels between the museum’s work and figurative constructivist graphics. The accompanying reproductions, Tschinkel explains, “should help to elucidate the insight that certain purposes and themes require

³¹⁹ “Auf ägyptischen und assyrischen Reliefs sehen wir lange Reihen von Gestalten, eine wie die andere, vorkommende Unterschiede sind nicht individuelle, sondern Klassen- und Standesunterschiede. Ähnliche Reihungen auf byzantinischen Mosaiken und bei den Exoten.” Ibid.

³²⁰ “Der Zweck schafft sich seine eigene, ihm entsprechende Form, die umso mehr zum schematisierten Typus drängt, je genauer feststeht, was gesagt werden soll, und je weniger der subjektiven Deutungsmöglichkeit Spielraum gelassen werden soll.” Ibid.

corresponding expressive forms.”³²¹ In the case of “social graphics,” these themes are described in terms of “the human being, the individual as part and member of society; the individual as antithesis to the multitude; the masses as such and the masses as a historical factor.”³²² Again Tschinkel compares the depiction of the masses in this new art to ancient precedents, wherein repeating, undifferentiated forms often served to represent entire populations or groups. “But for the first time in our pictures,” writes Tschinkel, “these masses become conscious themes and tendencies.”³²³

Tschinkel’s remark is reminiscent of Alma’s aforementioned claim, that sociological graphics reflect the realization “that the mass has its own life.” For Tschinkel, as well as for Alma, the schematization of forms was the critical feature that overlapped with pictorial statistics and distinguished sociological graphics from other socially oriented tendencies, such as the social realism of Hans Baluschek or the “Verism” of George Grosz. These other, more popular tendencies (which Tschinkel characterizes as “belonging formally to bourgeois, sentimental, picturesque ‘poor people art,’”³²⁴ and Alma describes as “still too under the spell of the traditions of naturalism and individualism”³²⁵) also sought to cultivate a collective political consciousness, but

³²¹ “Sie soll... die Erkenntnis erläutern helfen, dass bestimmte Zwecke und Themen ihnen entsprechende Ausdrucksformen erfordern.” Tschinkel, “Das Mengenbild und die Kollektivformen: Zur Auswahl aus der Sammlung soziologischer Graphik des Gesellschafts- und Wirtschaftsmuseums in Wien,” German translation of the original Czech text, “Zobrazení množství a kolektivní tvary,” *výtvarné snahy* 11, no. 8 (1930): 136-137; typed manuscript in the *Historisches Archiv der Stadt Köln*.

³²² “Das Thema dieser Kunst ist: der Mensch, der Einzelne als Teil und Mitglied der Gesellschaft, der Einzelne als Gegensatz zur Menge, die Masse als solche und als historischer Faktor.” Ibid.

³²³ “Aber erst auf unseren Bildern werden diese Massen zu bewussten Themen und Tendenzen.” Ibid.

³²⁴ “...die naturalistische Richtung, die formal teilweise zur bürgerlich-sentimentalen, malerischen ‘Armeleutekunst’ gehörte...” Tschinkel “Die Kunst des Maschinezeitalters.”

³²⁵ “Over het algemeen is men nog te veel beneveld door de tradities van naturalisme en individualisme.” Alma, “Beeldstatistiek en sociologische grafiek,” 7.

largely relied on traditional pictorial strategies in order to foreground narrative content. In contrast to these tendencies—Tschinkel uses the terms “Tendenzkunst” and “Proletkult”—“the tendency [in sociological graphics] is not based on literal content alone, but rather, above all, on form.” Indeed, it is the emphasis on form, Tschinkel notes, “that is fundamental and decisive” in figurative constructivism.³²⁶ To this end, Tschinkel explains, figures in social graphics are depicted with a serial quality similar to that employed in pictorial statistics, wherein differences indicate social rather than individual characteristics: “attention is not paid as to whether one is shaved or not, how many wrinkles he has in his face, or how many calluses he has on his hands.”³²⁷

The issue of collective form was again raised in a later issue of *a bis z*, this time in relation to the concept of the portrait, which according to the critic Carl Oskar Jatho, “requires a creative reevaluation... in order to make a portrait-art that is spiritually suited to a time in which the need for physiognomic and milieu-faithful memory values can be satisfied by a decent photographer.”³²⁸ The “traditional personality-painting,” associated by Jatho with such names as Max Liebermann, is no

³²⁶ “Wobei die Tendenz (und das ist wesentlich und entscheidend) nicht allein wörtlichen Inhalt, sondern vor allem der Form beruht.” Tschinkel, “Das Mengenbild und die Kollektivformen.”

³²⁷ “In den aufgezeigten graphischen Beispielen wird nicht darauf geachtet, ob jemand rasiert ist oder nicht, wie viel Falten er im Gesicht, wie viel Schwielen an den Händen.” Ibid.

³²⁸ “Es bedarf einer schöpferischen Umwertung des Porträts Begriffs, um Porträtkunst in geistiger Weise brauchbar zu machen für eine Zeit, die ihren Bedarf an physiognomischen und milieugetreuen Erinnerungswerten durch den anständigen Fotografen decken kann.” Carl Oskar Jatho, “Zur Problematik des Porträts,” *a bis z* 3, no. 28 (November 1932): 110.

longer adequate; “in the cultural space of the present,” he remarks, it can only produce “the semblance of life.”³²⁹ By contrast, Jatho continues:

Wherever artists today think in terms of detaching depicted people from their isolation and arbitrariness, they allow them to appear as a reference at large in the world. [...] Superseding the private apotheosis of the individual, ever more noticeably, is an art of social interpretation, an art of contact, of relationships, of connections of the individual with the human and cosmic events.³³⁰

In this new “social art” [*Gesellschaftskunst*], Jatho concludes, “the individual only serves as the expression of a collective whole.”³³¹

The essay is illustrated by two reproductions [**FIGURE 160**]³³²—a selection of Arntz’s pictogram “types” created for the *Gesellschafts- und Wirtschaftsmuseum*, and a portrait of a shepherd from August Sander’s photographic album, *Antlitz der Zeit*.³³² Jatho makes no direct mention of either image—which suggests that Seiwert, the journal’s editor, had chosen and arranged the accompanying illustrations. Initially, the contrast between the two images is striking: Arntz’s faceless and schematized figures have been purged of all but the most generally descriptive features; by contrast, an unmistakably individual countenance looks out from Sander’s photograph, his likeness captured in minute detail. The juxtaposition between pictogram and

³²⁹ “Die übliche Persönlichkeitsmalerei, das beweisen geschätzte Namen, wie Liebermann, führt im Kulturraum der Gegenwart nur noch ein Scheinleben.” Ibid. Max Liebermann (1847-1935) was a renowned and successful painter in Germany, who is best known for his portraits. As one of the founders of the Berlin Secession in 1898, he was a prominent figure within the late nineteenth-century German avant-garde; by the time of Jatho’s essay in 1932, however, he had served for more than a decade as president of the Prussian Academy of the Arts, and was regarded by younger generations as hopelessly antiquated.

³³⁰ “Wo heute Künstler so denken, lösen sie den darzustellenden Menschen aus seiner Vereinzelung und Zufälligkeit heraus und lassen ihn als Bezugswert erscheinen im Allgemeinen der Welt. [...] An die Stelle privater Ich-Verherrlichung tritt, immer deutlicher bemerkbar, eine Kunst sozialer Sinnggebung, eine Kunst der Berührungen, der Beziehungen, der Verknüpfungen des Einzelwesens mit dem menschlichen und kosmischen Geschehen.” Ibid.

³³¹ “...das Einzelwesen [dient] nur noch als Ausdruck für ein gemeinschaftliches Ganzes.” Ibid.

photograph calls to mind Neurath's comments about the suitability of the former and the inadequacy of the latter for the purposes of statistical representation—that “one cannot photograph social facts.”³³³ But Seiwert did not set these images up in entirety in opposition; rather, they were likely chosen for their common typological approach to human representation—each work demonstrating an approach suitable to its specific medium, and pointing towards a “creative reevaluation of the portrait-concept.”

Sander's *Antlitz der Zeit* (published in 1929 as the intended first installment of a larger project to create an encyclopedic documentation of German society) was organized in terms of seven social groups, which, according to the publisher, “correspond to the existing social order.”³³⁴ The groups were arranged in a social narrative, beginning “with the peasant, the earthbound man,” and progressing “through every social stratum and every walk of life up to the highest representatives of civilization, and then... back down all the way to the idiot.”³³⁵ While later commentators have pointed out the essentially conservative and hierarchical worldview underlying this social narrative,³³⁶ contemporaneous critics praised the

³³² *Antlitz der Zeit: Sechzig Aufnahmen deutscher Menschen des 20. Jahrhunderts* (Munich: Kurt Wolff, 1929). August Sander was himself a member of the Progressives circle, and had photographed most of group's Rhineland-based members as part of his *Menschen des 20. Jahrhunderts* [People of the Twentieth-Century] project. While Seiwert, Hoerle, Arntz, Freundlich, Kubicki, and other members of the Group of Progressive Artists all sat for portraits, Jankel Adler—identified only by his profession, “painter”—was the only group member's portrait to be featured in *Antlitz der Zeit*.

³³³ Neurath, “Visual Education: Humanisation Versus Popularisation,” 291-92.

³³⁴ Quoted in Walter Benjamin, “Little History of Photography,” in *Walter Benjamin: Selected Writings, Vol. 2: 1927-1934* (Cambridge, MA: Belknap Press, 1996), 520.

³³⁵ *Ibid.*

³³⁶ See Benjamin Buchloh, “Residual Resemblance: Three Notes on the End of Portraiture,” in *Face-Off: The Portrait in Recent Art* (Philadelphia: Institute of Contemporary Art, 1994), 56.

work for its perceived scientific approach and socially progressive character. Alfred Döblin, for example, called Sander's approach "comparative photography," drawing a parallel with "comparative anatomy," which helps us "achieve an understanding of the nature and history of the physical organs."³³⁷ Walter Benjamin, meanwhile, described Sander's work as "a training manual" in "the ability to read facial types"—"a matter of vital importance" in a time of "sudden shifts of power."³³⁸

Seiwert, in a review of *Antlitz der Zeit für a bis z*, was slightly more measured in his praise.³³⁹ While "taking an affirmative position with regard to Sander's work generally," he writes, "one would yet wish for a sharper and clearer sociological formulation in reference to some of the classification."³⁴⁰ His cautiously expressed reservations seem to hinge upon the narrative aspect of the classification. "The goal here," writes Seiwert, "should be an herbarium of human existence: place, year, activity."³⁴¹ Ideally, he asserts, the work should describe "class order" [*Klasseneinordnung*] in a manner akin to Marx's *Capital*. To this end, Seiwert cited a passage from the text's foreword, justifying the broad brushstrokes with which "landlords" and "capitalists" had been painted, and describing these individuals as

³³⁷ Alfred Döblin, "Faces, Images, and Their Truth," Introduction to *Face of Our Time* (Munich: Schirmer/Mosel Verlag, 1994), 13.

³³⁸ Benjamin, "Little History of Photography," 520.

³³⁹ See Seiwert, "Fotobücher," *a bis z* 1, no. 6 (March, 1930): 22. Seiwert's commentary on *Antlitz der Zeit* is also accompanied by reviews of Roh and Tschichold's *Foto-Auge* and Werner Graeff's *Es kommt der neue Fotograf*—all of which appeared in the same year.

³⁴⁰ "Stellen wir uns so zu der Arbeit Sanders an sich vollkommen bejahend, so möchte man in Bezug auf die Einordnung teilweise eine schärfere und klarere soziologische Formulierung wünschen." Seiwert, "Fotobücher," 22.

³⁴¹ "Hier müsste das Ziel sozusagen ein Herbarium menschlichen Daseins sein: Standort, Jahr, Tätigkeit." Seiwert, "Fotobücher," 22.

relevant “only in so far as they are the personification of economic categories, bearers of particular class relations and interests.”³⁴²

This seems to have also been the motivation behind Alma’s *Acht portretten* [Eight Portraits] [FIGURE 69], partially reproduced in *a bis z* under the title *Die Ordnung der Welt* [The Order of the World]. The woodcut series exhibits certain parallels with Sander’s (much larger) work and would seem to have also anticipated Jatho’s call for “a creative reevaluation of the portrait concept.” Alma’s “portraits” represent what Jatho called “an art of social interpretation,” in that figures appear not in isolation but within their social contexts—they are depicted within their institutional settings, in their uniforms with their accoutrements and subordinates. In this they share certain characteristics with the images in Sander’s *Antlitz der Zeit: his Kohlenträger* [Coal Carrier] portrait, for example, reproduced in an earlier issue of *a bis z* [FIGURE 161], depicts the subject at work with the clothing and implements of his profession. Such portraits represented a departure from the photographic traditions of the nineteenth-century, which—as Benjamin noted in his “Little History of Photography” essay—had uprooted and isolated the individual by framing him within artificial studio settings.³⁴³

In an earlier essay in *Die literarische Welt* on the subject of “collectivist art,” Benjamin significantly noted a parallel between this narrative practice, which recovers the individual from isolation and entrenches him in a larger social context,

³⁴² “Klasseneinordnung, wie sich aus dem Satz von Marx ergibt, den wir folgen lassen: ‘aber es handelt sich hier um die Personen nur, soweit sie die Personifikation ökonomischer Kategorien sind, Träger von bestimmten Klassenverhältnissen und Interessen.’” Ibid.

³⁴³ Benjamin, “Little History of Photography,” 515.

and the science of statistics.³⁴⁴ In Benjamin's parallel, the "type" (within film and photography in particular) functions as the pictorial equivalent to statistical data. In illustrating this point, Benjamin evokes Eisenstein's film *Battleship Potemkin*:

Potemkin was made consistently with a sense of collectivism. [...] The antagonist must of course conform to the collective character of the mutinous masses. It would have made absolutely no sense to have juxtaposed it to differentiated individuals. The ship's doctor and captain must be typical characters. They must be types drawn from the bourgeoisie. [...] Nothing is more helpless than the appeal to individual cases. [...] Certainly many facts exist which only obtain their meaning, their contours, if they are recovered from isolated observation. These are the facts with which statistics deal. That a Mr. X takes his own life in March rather than April may be of little consequence in terms of his individual fate. But it would be extraordinarily interesting if one were to learn that the annual suicide curve attains its maximum in that month.³⁴⁵

This hypothetical Mr. X—the individual whose significance becomes apparent only when considered in a mass context—also appears in texts by both Alma and Tschinkel in 1930, at the height of their involvement with Neurath, as well as in later texts by Neurath himself.³⁴⁶ "We are interested in worker X," Alma explains in his essay for *Wendungen*, describing the features of sociological graphics, "not for his private life but as a social driving force in a factory with 15,000 workers who are

³⁴⁴ Walter Benjamin, "A Discussion of Russian Filmic Art and Collectivist Art in General," in *The Weimar Republic Sourcebook*, ed. Anton Kaes et al. (Berkeley: University of California Press, 1994), 625-629. First published as "Eine Diskussion über russische Filmkunst und kollektive Kunst überhaupt," *Die literarische Welt* 3 (March 11, 1927): 7-8.

³⁴⁵ Benjamin, "A Discussion of Russian Filmic Art and Collectivist Art in General," 627.

³⁴⁶ "The sign 'man,'" Neurath wrote in his description of pictogram design requirements, "has not to give the idea of a special person with the name XY, but to be representative of the animal 'man.'" Otto Neurath, *International Picture Language: The First Rules of Isotype* (London: Kegan Paul, Trench, Trubner & Co., Ltd., 1936), 33. Neurath makes an exception for the representation of individual figures in the teaching of history, where "it may be necessary to give the picture of a special person in a teaching picture—that is not at all out of harmony with the rules of picture language."

jointly producers and class warriors.”³⁴⁷ Likewise, “the personal interests of a factory owner do not interest us, but the fact that the goods he produces have an important place in the world order, thereby becoming a source of power and making him a ‘socially’ influential man.”³⁴⁸

Tschinkel echoed this sentiment when, in a later essay, he stated that sociological graphics should not prompt the response: “Ah, this figure is remarkably similar to Herr X.Y.!” Rather, they should “allow the recognition: this person is the product of his relationships and of his time.” This, Tschinkel noted, “is the true reality that one must see.”³⁴⁹ In depicting this “true reality,” the question of form was paramount for the Progressives, and it was “machine forms and standard forms” in particular that, according to Tschinkel, were most appropriate in this regard.

Tschinkel illustrated this point in another essay for *a bis z* titled “Tendenz und Form,” accompanied by large selection of representative graphic works, several of which depicted factory scenes [FIGURE 162]. “The picture of the factory,” Tschinkel wrote of these works, “shows individual people as really constituent parts of an operation, which the employer can calculate numerically, like other inventory.”³⁵⁰ The factory

³⁴⁷ “Het privé leven van den arbeider X. die in een fabriek met 15000 man werkt, heeft onze belangstelling niet, maar gezamenlijk zijn medewerkers, als producent en klassenstrijder wordt X. een sociaal-drijvende kracht. De “massa” geeft hier de doorslag.” Alma, “Beeldstatistiek en sociologische grafiek,” 7.

³⁴⁸ “De persoonlijke liefhebberijen van een eigenaar van een warenproductie een belangrijke plaats in de wereldhuishouding inneemt en daardoor een machtsfactor wordt, maakt hem tot een “sociaal” invloedrijk man.” Ibid.

³⁴⁹ “‘Ach, diese Figur ist dem Herrn X.Y. auffallend ähnlich!’ Aber alle Dargestellten lassen erkennen: der Mensch ist das seiner Verhältnisse und seiner Zeit. Das ist die wahre Realität, die man sehen muss.” Tschinkel “Die Kunst des Maschinezeitalters.”

³⁵⁰ “Das Fabrikbild zeigt Einzelmenschen als wirkliche Bestandteile eines Betriebes, die der Unternehmer zahlenmäßig kalkulieren kann, wie anderes Inventar.” Tschinkel, “Tendenz und Form,” *a bis z* 2, no. 12 (November 1930): 45.

workers in the accompanying reproduction of Seiwert's linocut, *Die Fabrik*, do in fact appear like "constituent parts" of the factory operation: their bodies are integrated into the machinery so that their potential movements seem governed by the wheels and belts that frame their bodies, and their facial features have been replaced with the same printed numbers that appear on the surfaces of the factory machinery. Indeed, these workers could literally be "calculated numerically" by an employer. "To show this fact," Tschinkel wrote, "is more important than illustrating wrinkles and drops of sweat."³⁵¹ The notion that workers had been reduced to calculations on a balance sheet, was expressed even more forcefully in Seiwert's ink drawing of 1924, *Die Menschen fallen—die Profite steigen* [People Fall—Profits Rise], which was reproduced on the last page of the same issue [FIGURE 163]. Significantly, this work was re-titled *Statistik* [Statistics] when, two years later, it was reproduced in the booklet *soziale grafik*.

Figurative Constructivism in the 1930s

Gerd Arntz, especially in later statements, always maintained a clear distinction between his "free" work in woodcut and linocut, and his applied work for the museum in pictorial statistics. "Compared with the free work," he wrote in 1980, "the applied things are a kind of compromise."³⁵² This is not to say, however, that the free and applied work was unconnected for Arntz, or that there was no reciprocal influence. In a 1982 essay, Arntz discussed the practical relationship between the two

³⁵¹ "Das zu zeigen ist wichtiger als Runzeln und Schweißtropfen." Ibid.

³⁵² Danser, Interview with Gerd Arntz in *Pulchri* 8, no. 4 (October 1980).

types of production, describing his encounter with Neurath in 1926, and his subsequent full-time employment at the museum after 1929, as “a great stroke of luck,” in that, above all, it provided him with “a steady income at a time of widespread unemployment.”³⁵³ Additionally, employment at the museum afforded Arntz the possibility to produce woodcuts on social themes that he felt compelled to address but from which, he believed, he could never have earned a living—given both the politically radical character of his prints, and the lack of enthusiasm in the market for such work.³⁵⁴ Finally, Arntz describes the impact of Neurath himself on the artist—how Neurath’s “multifaceted personality of Otto Neurath opened [him] up to new points of view regarding the past and the present,” and how “the set of problems related to pictorial statistics enriched [his] attitude towards the environment.”³⁵⁵

Beyond the practical relationship between the museum work and the free work, woodcuts and linocuts produced by Arntz in the period after joining the museum reveal a reciprocal influence as both types of work engaged common pictorial problems. Woodcuts like *Fabrikbesetzung* [Factory Occupation] (1931) or *Krise* [Crisis] (1931) [FIGURES 164, 165], for example, share with statistical pictogram design [FIGURE 166] an increasingly ordered approach in the

³⁵³ “Rückblickend erwies sich die Begegnung mit Otto Neurath in Düsseldorf im Jahre 1926 für mich ein großer Glücksfall. Erstens brachte mir das Interesse Neuraths an meinen grafischen Arbeiten von 1929 an in Wien eine Tätigkeit in der Bildstatistik und ihren Randgebieten und somit eine feste Lebensgrundlage in der Zeit großer Arbeitslosigkeit ein.” Arntz, “Otto Neurath, ich und die Bildstatistik,” 32.

³⁵⁴ “Zweitens erhielt ich die Möglichkeit, in meiner eigenen Arbeit des Holzschnittes, von der ich nie leben konnte, das machen zu können, wozu mich die politische Zuspitzung der Zeit vor dem Zweiten Weltkriege anregte, fast zwang.” Ibid. Elsewhere Arntz has stated: “I have had the satisfaction that my work [for the museum] was socially useful and that at the same time I could express my social criticism in my free work.” See Danser, Interview with Gerd Arntz in *Pulchri* 8, no. 4 (October 1980).

³⁵⁵ “Drittens bereicherte die Problematik der Bildstatistik meine Einstellung zur Umwelt: Im besonderen wurden mir durch die vielseitige Persönlichkeit Otto Neuraths neue Gesichtspunkte über Vergangenheit und Gegenwart eröffnet.” Gerd Arntz, “Otto Neurath, ich und die Bildstatistik,” 32.

representation of clusters of figures, evident in the gathering masses of workers depicted at the images' lower right corners. In comparison with the depiction of crowds in earlier prints, such as *Spartakusbund* (1926), *Politische wirtschaftliche Einheitsorganisation* (1927), or *Tag der Freiheit* (1927) [FIGURES 167, 168, 169], the images of the masses in later works exhibit both a far greater degree of unity and clarity, and far less decorative patterning. Later prints like *Fabrikbesichtigung* [Factory Inspection] (1935), *Alle macht aan de arbeidersraden* [All Power to the Workers' Councils] (1935), *Für's Vaterland* [For the Fatherland] (1936) and *Streik* [Strike] (1936) [FIGURES 170, 171, 172, 173], in addition to revealing more ordered and interlocking arrangements of figure-clusters, also employ pictograms in a more rhetorical, self-conscious manner. This is to say that depicted objects are understood within these works to function as pictograms. In contrast to an earlier work such as *Tag der Freiheit* (1927) [FIGURE 169], for example, wherein the image of the factory sits on the horizon in realistic scale to the objects in the foreground, the factories in *Alle macht aan de arbeidersraden* and *Für's Vaterland* are to be understood exclusively as symbols rather than as concrete, inhabitable buildings; for this reason they are drawn in an even more reduced manner without any indication of relative location. The figures on the upper deck of the bus in *Streik* even hold miniature buildings representative of their affiliated institutions, which, as Arntz notes, are taken directly from pictorial statistic designs.³⁵⁶

Beyond the employment of pictograms themselves, several later prints by Arntz also recall the compositional arrangements of pictorial statistic charts, as well

³⁵⁶ "Aus der Bildstatistik kommt der kleine Fabrik, die der Fabrikant auf dem Schoß hat." Arntz, *Zeit unterm Messer*, 101.

as their visualizations of quantities through repeating rows and columns. *Krieg* (1935) [FIGURE 174], for instance, utilizes a layout similar to charts from *Gesellschaft und Wirtschaft* [FIGURE 175], depicting the relative sizes of historically opposing armies. The material resources expended in battle (aircraft and tanks), along with the number of human casualties (here represented by skulls), are depicted in *Krieg* by in a central, dividing column, where the skulls are neatly ordered in pyramid arrangement. Similar devices are employed in *Für's Vaterland*: a line of soldiers, whose interlocking arrangement again recalls the rows of soldiers in pictorial statistic charts on modern armies [FIGURES 176, 177], march forth from the factory to the battlefield as if products from an assembly line conveyor belt, ending in neatly ordered rows of cemetery crosses.

Devices from pictorial statistic charts were employed even more explicitly in some of Peter Alma's later works. His 1936 anti-war poster *De oorlog maakt de man* [War Makes the Man] [FIGURE 178], utilizes pictograms similar to those in earlier pictorial statistic charts, and arranges them in rows and columns to express the quantity of casualties. The influence of pictorial statistic charts is also evident in Alma's monumental wall paintings for Amstel station in Amsterdam, commissioned in 1938 and executed in the following year [FIGURE 179]. Certain features, such as the evolution of train engine designs and the map of the world illustrating railroad track coverage [FIGURE 180], are adapted directly from charts on the development of the railroad in *Gesellschaft und Wirtschaft* [FIGURE 181] and *Technik und Menschheit*. Other details, such as the rendering of cityscapes along the painting's

lower edge [FIGURE 182], also appear to borrow conventions from these publications [FIGURE 183, 184].

Augustin Tschinkel's prints and drawings from after 1930 also appear to exhibit the influence of pictorial statistic chart design. Works like *Bürgerliche Ordnung* [Bourgeois Order] (1930), *Anbetung des goldenen Kalbes* [Worship of the Golden Calf] (1932), and *Kohle* [Coal] (1932) [FIGURES 185, 186, 187] feature figures arranged in rows and columns, and utilize social typologies, wherein class and profession are expressed through uniforms and symbols. Tschinkel's print *Kohle* even uses the device derived from pictorial statistics, in which symbols are superimposed figures. More so than his two colleagues, Tschinkel also became increasingly interested in the pictorial origins of writing and the historical development of symbols in different cultures—an interest he shared with Otto Neurath. In the later 1930s, Tschinkel produced a series of books related to these themes, published by the state graphic art school in Prague, in which he was given the opportunity to apply his modernist design approach to subjects of ancient and early history—thereby suggesting a continuity and unity within his modern project and the larger history of visual communication [FIGURE 188].³⁵⁷

Concluding Remarks

The relationship between figurative constructivist graphics and pictorial statistic design may best be understood as one in flux. At the outset, the connection

³⁵⁷ See *Symbol, rebus, písmeno* [Sign, Rebus, Letter] (1937), *Gotické a renesanční filigrány* [Gothic and Renaissance Filigree] (1938), *O zobrazení slunce* [Sun Imagery] (1940). All were published in Prague by Státní grafická škola [State Graphic Art School], though, in the case of the 1940 publication, the school was under the control of the Nazi occupation.

appears to have been merely practical: many of the forms that Arntz and the Progressives had developed already satisfied Neurath's requirements—or at least pointed towards formal solutions—in their tendency towards reduction and standardization. But as the *Gesellschafts- und Wirtschaftsmuseum's* increased activities brought other members of the group to Vienna (who in turn began to promote the pictorial statistic project in their own publications and saw in the museum an opportunity to promote their “free” work), the connection was increasingly framed in terms of shared values. One such value was the belief in art's communicative and social-educational function—wherein education was conceived in interactive rather than passive terms. In achieving this end, both projects sought to create strategies of presentation that would communicate social content at the broadest level possible, and provide to audiences new analytical tools with which to reflect upon social issues that affected them. Above all, it was in their intention to appeal to a mass audience at an intellectual level that both projects most clearly reflect the shared belief that the general population possessed the ability to draw well-informed conclusions and participate responsibly in a democratic society. However, as the Group of Progressive Artists dissolved after 1933, and the character of pictorial statistics began to shift away from its earlier engagement with local audiences and towards the standardization of its symbols for international use, the earlier excitement over the two projects' potential connections began to abate. By the mid-1930s, Alma and Tschinkel appear to have backed away from the claim made earlier in their writings, that sociological graphics and pictorial statistics represented two fronts in

the same struggle.³⁵⁸ The short-lived period of their collaboration in Vienna, from 1929 through 1930, represents the high-water mark for this notion.

³⁵⁸ The short essay in a 1935 pamphlet advertising Alma's private pictorial statistic design studio was largely taken from the first section of his *Wendingen* essay, wherein Alma had first defined and described the Vienna method for a Dutch audience. Significantly, this updated text omits the earlier version's references to Neurath and—perhaps more importantly—references to pictorial statistics' anticipated social and political functions.

Conclusion

The Fate of Figurative Constructivism

Soziale grafik, which appeared in 1932, was the last publication to bring together work by this international network of artists at such a scale. The Progressives' journal, *a bis z*, published its last issue in February of the following year, a month before the collapse of the Weimar Republic. With the National Socialist seizure of power in Germany in 1933 and the subsequent defeat of the Social Democratic government in Vienna in February 1934, Czechoslovakia took on an increasingly important position in the promotion of both figurative constructivist art and pictorial statistics. As “an act of protest against the powers of reaction” in Germany—but also as a commemoration of their friend who had died during the summer of 1933—Arntz and Tschinkel published an anthology of Seiwert's art and writings in Prague in 1934 [FIGURE 189], mostly collated from *a bis z* and *Die Aktion*.³⁵⁹

Although Arntz, Alma, and Tschinkel continued to work intermittently in a figurative constructivist idiom, the loss of the movement's base in Germany—along with the death of its main spokesman, Seiwert, in the summer of 1933—spelled out the end for the Group of Progressive Artists.³⁶⁰ As the decade progressed and the

³⁵⁹ See *f. w. seiwert – gemälde, grafik, schriften*, eds. Gerd Arntz and August Tschinkel (Prague, 1934).

³⁶⁰ While Hoerle's early stylistic contributions were crucial for the development of a figurative constructivist style, he ultimately played a less prominent organizational role within the group (when compared to Seiwert). Hoerle does not appear to have maintained close contacts with the members in Vienna (as Seiwert did), and, at the time of his death in 1936, had long since moved away from figurative constructivist tendencies in his own work.

political situation on the continent continued to deteriorate, international ties became increasingly difficult to maintain and the possibilities for artistic collaboration in the form of publications and exhibitions quickly dried up. Arntz, Alma, and Tschinkel did participate together in one last group exhibition in Amsterdam in 1936—an anti-fascism-themed exhibition titled *De Olympiade onder dictatuur* [Olympics under Dictatorship] (for which the acronym D.O.O.D. ominously spelled out “death” in Dutch), organized to coincide with the Berlin Olympics [FIGURE 190].³⁶¹

Arntz, Alma, and Tschinkel tried to remain active as artists through the remaining years of the decade, though each survived primarily on commercial work (which largely involved the design of pictorial statistic charts). Beginning in 1932 Alma appears to have briefly discontinued his “free” artistic work altogether, devoting himself instead to pictorial statistic work—initially as member of Neurath’s team in the Soviet Union, and ultimately as an independent practitioner in the Netherlands. He resumed artistic projects again in 1936, but for the remainder of the decade limited his production to oil painting and public murals. When he took up printmaking again after the war, he had adopted a more expressionist-derived idiom.

Tschinkel’s artistic production, from the late-1920s through the mid-1930s, was fairly evenly divided between graphic and painterly work, though very few

³⁶¹ See the exhibition catalog *De olympiade onder dictatuur (D.O.O.D): tentoonstelling: sport, kunst, wetenschap, documenten*. Amsterdam, 1936; see also Peter Hofland, et al. *Die Olympiade unter der Diktatur. Rekonstruktion der Amsterdamer Kunstolympiade 1936: Kunst im Widerstand* (Berlin: Stadtmuseum Berlin, 1996). Alma was one of the exhibition’s organizers, and contributed a series of drawings entitled *Fascistische terreur* [Fascist Terror] that included the aforementioned work, featuring amputee symbols in an arrangement evoking pictorial statistic charts. Tschinkel was the only artist included from Czechoslovakia, however—with nine works in the exhibition—he was one of the best-represented artists there. A woodcut by Arntz (who now worked and exhibited under the pseudonym “Dubois”), which was critical of the Nazi regime, created some controversy when German officials intervened to have it removed from the exhibition.

original paintings—and only a fraction of his original work in general—survived the Second World War. Following the end of his contract at the *Gesellschafts- und Wirtschaftsmuseum*, and his return to Prague in 1931, Tschinkel became increasingly active as a graphic designer and book illustrator—as well as a teacher—and worked in this capacity into the first years of the war. Tschinkel’s postwar painting, which might be described as a hyper-illusionistic strain of surrealism, bears little resemblance to the figurative constructivist idiom in which he had worked during the interwar years.

Living in The Hague after 1934, Arntz continued for a time to produce politically committed graphics, many of which were reproduced in the Dutch left-communist publication, *De Arbeidersraad* [Workers’ Council] [FIGURE 191]. After 1936, however, the politically oriented works grew increasingly fewer, with only a couple explicitly political images produced in 1938. By 1939, with the outbreak of war, Arntz had turned to classical subjects from Greek mythology [FIGURE 192] and eighteenth-century French literature. Of the three members of the Group of Progressives Artists who had together collaborated in Vienna, only Arntz resumed a version of figurative constructivism in the postwar period—at this point working exclusively in linocut. This later version, however, exhibits little of the austerity, rigor, and formal economy that had characterized the earlier work.

Pictorial Statistics Beyond Vienna

Beginning around 1929, the *Gesellschafts- und Wirtschaftsmuseum* became increasingly engaged in exporting of its work internationally. This was motivated, in

part, by the realization that—given Vienna’s uncertain political fate—the future development of the museum’s work would depend upon a network of international support. Key to the internationalization of the museum’s operations was the standardized approach that it had developed, not only with regard to the Vienna Method itself, but also as it related to exhibition display and the utilization of reproducible media. Because the museum’s displays were designed for mass reproduction, the same exhibitions could exist simultaneously in multiple locations [FIGURE 193].³⁶² An illustration from Neurath’s 1936 treatise, *International Picture Language*, visualizes the way in which standardized and reproducible media could be effectively adapted and reconfigured for display in varying locations [FIGURE 194].

This premise of reproducible exhibitions had been implicit since the museum’s inception and had been developed over the years through the museum’s contributions to international venues; however, an official organization was founded in 1932 named the *Mundaneum Wien*, specifically to oversee the internationalization of the museum’s operations and the wider distribution of the museum’s displays.³⁶³

This organization served as the hub for the museum’s international branches

³⁶² See Otto Neurath, *International Picture Language*, 69-73. See also Hadwig Kraeutler, *Otto Neurath. Museum and Exhibition Work: Spaces (Designed) for Communication* (Frankfurt am Main: Peter Lang GmbH, 2008); and Nader Vossoughian, “The Modern Museum in the Age of its Mechanical Reproducibility: Otto Neurath and the Museum of Society and Economy in Vienna,” in *European Modernism and the Information Society: Informing the Present, Understanding the Past*, ed. W. Boyd Rayward (Burlington, VT: Ashgate, 2008), 241-255.

³⁶³ The Mundaneum’s creation was announced in several publications including *a bis* z 3, no. 29 (December 1932): 116. The name “Mundaneum” was, in fact, coined by one of Neurath’s collaborators, the Belgian author and bibliographer Paul Otlet; between 1910 and 1934, Otlet worked in Brussels to create an “international museum of world cultures” and a centralized repository that would function as “a ‘collective brain’ for organizing and disseminating knowledge on a worldwide basis.” See Charles van den Heuvel, “Building Society, Constructing Knowledge, Weaving the Web: Otlet’s Visualizations of a Global Information Society and His Concept of a Universal Civilization,” in *European Modernism and the Information Society*, 127-153. See also Vossoughian, *Otto Neurath: The Language of Global Polis*, 96-110.

established over the following year in Amsterdam, London, and New York,³⁶⁴ and coordinated activities with other international organizations, including the *Izostat Institute* in Moscow, where members of the museum team were invited in the previous year to serve as consultants.³⁶⁵

The *Izostat Institute* was founded in November 1931 following a decree two months earlier from the Council of Peoples Commissars that established the Vienna Method of Pictorial Statistics as the official visual-educational technique for “all state, cooperative, trade union and other social organizations” in the Soviet Union.³⁶⁶ The main purpose of the institute was the production of state propaganda, directed at both domestic and international audiences [FIGURE 195, 196]. Publications of the institute charted the Soviet Union’s economic progress relative to other nations, with particular emphasis on the policies of the first and second Five Year Plans. Between 1931 and 1934 several members from the core team of *Gesellschafts- und Wirtschaftsmuseum*, including Otto Neurath, Marie Reidemeister, Gerd Arntz, and

³⁶⁴ These branches were established in cooperation with other institutions. In Amsterdam, the Economisch-Historische Bibliotheek hosted the Dutch branch. The London branch was set up at the offices of the World Association for Adult Education. The New York branch had offices at the Russell Sage Foundation. Neurath was connected to the later organization through his involvement in the International Industrial Relations Institute, for which he had designed charts in 1929. See Kinross, “Otto Neurath’s contribution to visual communication,” 34.

³⁶⁵ Kinross has suggested that the creation of the *Mundaneum* as a formal organization was prompted, in part, by this invitation from Moscow in the previous year to assist in the development of the *Izostat Institute*. This appears to be confirmed by an announcement about the *Mundaneum* in *a bis* 3, no. 29 (December 1932), describing the central task of its Vienna branch as the training of Soviet designers.

³⁶⁶ Reported in the *Moscow Daily News* (March 25, 1933): 3. Quoted in Kinross, “Otto Neurath’s contribution to visual communication,” 37. Sophie Lissitzky-Küppers has suggested that El Lissitzky, who had been in contact with Neurath since 1928, initiated this later collaboration with Moscow. See Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts* (London: Thames and Hudson, 1968), 86. According to Marie Neurath, the invitation “followed from reports back to Moscow from the Soviet embassy in Vienna.” See Kinross, “Otto Neurath’s contribution to visual communication,” 37.

Peter Alma spent extended periods to the Soviet Union training the staff of the *Izostat Institute* in the Vienna Method.

The work produced by the *Izostat Institute* varies widely in its quality. Works such as *Aviacija i vozduchoplavanie* [Aviation and Floatation] (1934) [FIGURE 197] exhibit a high degree of sophistication, reflecting the close involvement of the museum team. Other works do not meet Vienna Method standards, either due to misapplication of the method's principles or through their stylistic deviation from the Vienna aesthetic. In the case of charts from some earlier publications, which employ abstract symbols, line graphs, cluttered backgrounds, and naturalistic illustrations [FIGURE 198], the deviations may have been a function of the designer's autonomy from the Vienna group's oversight, or lack of coordination within the overall operation. In later works, however, violations of the Vienna Method reflect a conscious shift in policy [FIGURE 199]. As Arntz recalls:

The final decree of 1933 regarding art and artists' associations now also had repercussions for the *Izostat Institute*. We were asked why our figures have no faces. "Facelessness" was an objectionable approach for the Party. Also the "western," constructivist, "decadent" design was no longer in line with the now mandated "Socialist realism." The discussions with the management that followed allowed for the drawing of samples with figures that appeared more "Russian." After our contract expired, it did not take long before the "Vienna Method" was supplanted by another design approach.³⁶⁷

The irony, of course, as Arntz points out, is that the Soviet criticism mirrored that of the National Socialists: "Really [it was] the same criticism that we received after the

³⁶⁷ "Der endgültige Ukas von 1933 über Kunst und Künstlervereinigungen hatte nun auch seine Auswirkungen auf das Isostat-Institut. Warum unsere Figuren keine Gesichter hätten, wurde gefragt. 'Gesichtslosigkeit' war eine bei der Partei unerwünschte Einstellung. Auch die 'westliche,' konstruktivistische, 'dekadente' Formgebung lag nicht mehr auf der Linie des jetzt vorgeschriebenen 'Sozialistischen Realismus.' Es folgten einige Diskussionen mit der Direktion, die Proben mit mehr 'russisch' anmutenden Figuren anfertigen ließ. Nach Auslaufen unseres Vertrages sollte es nicht mehr lange dauern, bis die 'Wiener Methode' ihr Ende fand am Isostat eine andere Formgebung maßgebend wurde." Arntz, *Zeit unterm Messer*, 35.

civil war in Austria. There it was said that our style was not true enough to the homeland. It must be more folk art, and not so international.”³⁶⁸ Thus, later *Izostat* works attempt to employ more “naturalistic” pictorial symbols, in keeping with the state-sanctioned socialist realist aesthetic. Ultimately, however, the characteristic repeating pictograms were gradually supplanted by bar graphs and pie charts since, as Arntz notes:

Statistical symbols are like numerical symbols, they must be kept strict. [The Soviet designers] have well understood this, and that is why in the long run they went back to bar graphs and curves, with photos or a bad drawing in addition, so that one could see what the subject matter was.³⁶⁹

This approach, however—which combines abstract representations with naturalistic illustrations—only partially characterizes the *Izostat* album designed by El Lissitzky for the New York World’s Fair in 1939 [FIGURE 200].³⁷⁰ Indeed, this work (which, at one hundred statistical charts and an additional fifty pages of photomontage and text, ranks among the largest pictorial statistic publications ever produced) still employed the Vienna Method’s original principles in a number of its charts [FIGURE 201]. Nonetheless, the pictograms (designed in the best tradition of the Vienna Method by Alexander Grigorovich, who had trained with Arntz in Moscow) were offset by illustrations in the “socialist realist” style.

With the termination of the Vienna-team’s contract in Moscow in late 1934 and the closing of the Vienna museum earlier that year, Otto Neurath, Marie Reidemeister, and Gerd Arntz (along with several members of the museum’s core

³⁶⁸ Max Danser, Interview with Gerd Arntz, *Pulchri* 8, no. 4 (October 1980).

³⁶⁹ Ibid.

³⁷⁰ *USSR: An Album Illustrating the State Organization and National Economy of the U.S.S.R.* (Moscow: Scientific Publishing Institute of Pictorial Statistics, 1939).

team), moved to The Hague, where the Dutch branch of the *Mundaneum* had been relocated during the previous year. The Hague branch of the *Mundaneum* was soon superseded by a new organization, the *International Foundation for Visual Education*, though the two organizations existed side by side through 1935, sharing the same address, with the former covering local Dutch language projects and the latter responsible for internationally commissioned work [FIGURE 202].³⁷¹

The Foundation's first major international projects were the two Basic English books—*International Picture Language* (1936) and *Basic by Isotype* (1937)—produced for the British publisher Kegan Paul's Psyche Miniature Series. Commissions for these books had come from the series' editor and inventor of Basic English, C.K. Ogden, with whom Neurath had already begun collaborating during the Vienna Period.³⁷² It was at this moment as well, that Marie Reidemeister devised the name "Isotype" (a "not entirely satisfactory" acronym for "International System of Typographic Picture Education") to supplant the now anachronistic term "Vienna Method"—inspiration for which, she recalls, actually came from Ogden's BASIC acronym (British American Scientific International Commercial).³⁷³ The English derivation of the acronym reflected the increasingly western orientation of the

³⁷¹ Some of the first projects came from organizations based in The Hague, such as the International Industrial Relations Institute and the Vredeshuis [Peace House]; later projects, such as the Rondon Rembrandt exhibition, came from the *Bijenkorf* department store chain. Throughout The Hague years, *Trio* printers collaborated with the foundation, issuing publications and providing them an exhibition space. See Ferdinand Mertens, *An Idealist in The Hague: Otto Neurath's Years in Exile* (The Municipality of The Hague, 2007); see also Marie Neurath, *The transformer*, 47-61.

³⁷² As Kinross notes, Ogden shared with Neurath and the Vienna Circle "the same belief in clarity of communication achieved through a reduced and constrained vocabulary, the same belief in the importance of communication across languages and cultures." Kinross, "Otto Neurath's contribution to visual communication," 43.

³⁷³ Marie Neurath, *The transformer*, 47.

Foundation's new projects, as the rise of fascist and totalitarian regimes precluded the possibility of continued work in Central and Eastern Europe.

Through the remaining years of the decade, the most important commissions came from the United States. Neurath had, in fact, been cultivating connections in the U.S. since the beginning of the decade, when, in 1931, the *Gesellschafts- und Wirtschaftsmuseum* began contributing work to the Museum of Science and Industry in Chicago. Neurath made further inroads through his involvement with the International Industrial Relations Institute (IRI) and the Russell Sage Foundation: a trip to the U.S. in 1933, sponsored by the latter organization, led to the establishment of the New York branch of the *Mundaneum* that year.³⁷⁴ Additionally, Neurath's frequent contributions to the New York-based magazine *Survey Graphic* between 1932 and 1937, helped to gain exposure for his group's work [FIGURE 203].

The first substantial project to come out of the U.S., however, was for the New York-based National Tuberculosis Association, which in 1936 commissioned an extensive series of posters and an accompanying booklet for a traveling exhibition [FIGURE 204]. The Foundation produced a similar poster series for the New York City Department of Health in 1939 [FIGURE 205]. Additional commissions came in 1937 from the Chicago publisher Compton for its illustrated children's encyclopedia [FIGURE 206], and soon after from the New York publisher Alfred A. Knopf for "an Isotype picture book," *Modern Man in the Making*, which appeared in 1939.

Neurath and his team, which by this point had been reduced to only Reidemeister and Arntz, were given complete freedom in the writing and designing of the book. It was decided that the book would address the broad range of themes to

³⁷⁴ Kinross, "Otto Neurath's contribution to visual communication," 35.

which Neurath had devoted his career, which could be summarized in terms of modernity's costs and benefits to humanity. In contrast to earlier pictorial statistic publications in which charts and text were kept separate, *Modern Man in the Making* integrated the two [FIGURE 207]. More than this, the book differs from much of the earlier pictorial statistic work in the reduced division of labor behind its production—the effect of which, Marie Neurath later described, produced a level of unity and integration that was unique:

My transformation responsibilities did not now end just with the graphic presentation, but extended to its arrangement with the text on the page; I was also much involved in the gathering of material. We now just had Arntz for graphic design, which helped the unity of the whole book.³⁷⁵

Indeed, it is on account of this work's unity and total vision that some commentators have described *Modern Man in the Making* as the culmination of Neurath's entire pictorial statistic project.³⁷⁶

With the German invasion of the Netherlands in May 1940, Neurath and Reidemeister fled to England where, following a period of internment as “enemy aliens,” they were reunited in February 1941 and married shortly thereafter. They resumed their work at this time, establishing the Isotype Institute in June 1942, which employed teachers and pupils from the Oxford School of Art to work in the style of Arntz (who had elected to remain in the Netherlands). Throughout the immediately ensuing years the institute collaborated with the British documentary filmmaker, Paul Rotha, producing films with animated Isotype graphics, commissioned by the British

³⁷⁵ Marie Neurath, *The transformer*, 59.

³⁷⁶ See, for example, Robin Kinross, “The Work of Otto Neurath in Visual Communication,” *Fundamenta Scientiae* 5, no. 2 (1984): 196.

Ministry of Information on a variety of subjects ranging from public health to the war effort. After Otto Neurath's death in 1945, Marie Neurath continued the institute's work in visual education for more than two decades, producing educational children's book series on a variety of subjects, ranging from natural history to applied science to world history.³⁷⁷

While the invention and initial applications of pictorial statistics were all carried out by organizations led by Otto Neurath, several independent actors emerged in 1930s to make significant contributions to the dispersal and popularization of the method—though all of these figures had some connection to Neurath. Among the earliest independent practitioners was the graphic designer Willem Jacob Henri Berend Sandberg (1897-1984), who, during 1927, visited the *Gesellschafts- und Wirtschaftsmuseum* and studied under Neurath the then still-evolving Vienna Method. Soon after his return to Amsterdam, Sandberg published a pamphlet elucidating the principles of the Vienna Method and advertising his own independent practice, titled *Het verleden in egyptische reliefs, het heden in statistich beeld* [The Past in Egyptian Reliefs, the Present in Statistical Pictures] [FIGURE 208]. Sandberg received commissions for pictorial statistic charts from a number of government institutions including the State Insurance Bank, the Labor Councils, the Economic Information Service, and the Postal Service—as well as from the Stedelijk Museum, for their 1928 exhibition on “Work for the Disabled.”³⁷⁸

³⁷⁷ Between 1947 and 1971 the London publisher Max Parrish produced over eighty titles in eight different series, the majority of which were authored by Marie Neurath. For a complete bibliography see *Graphic communication through ISOTYPE* (University of Reading, 1975).

³⁷⁸ W.J.H.B. Sandberg, Ad Petersen, and Pieter Brattinga, *Sandberg: een documentaire* (Amsterdam: Kosmos, 1975).

Another significant figure in this regard was Peter Alma, who, after a period supervising the Kharkiv branch of the *Izostat Institute*, returned to Amsterdam in 1934 to set up his own pictorial statistic design studio. Alma's pictorial statistic commissions in this period were generally commercial in nature [FIGURE 209]. In a pamphlet from 1935 advertising his practice, Alma listed among his clients the municipal government of Amsterdam, the port of Rotterdam, and A.V.R.O. (the General Association of Radio Broadcasting in the Netherlands). Arntz (having remained in The Hague after 1940) carried out work of a similar nature—though at a much larger scale—for the *Nederlandse Stichting voor Statistiek* [Dutch Foundation for Statistics], the successor organization to Neurath's *International Foundation for Visual Education*. Initially, this organization collaborated with the Dutch governmental body, the *Centraal Bureau voor de Statistiek* [Central Bureau for Statistics], producing annual publications on population and economy [FIGURE 210]; during the postwar year period, however, its work turned increasingly to “market and opinion analysis.”³⁷⁹

In contrast to the generally corporate and commercial applications in the Netherlands, pictorial statistics in interwar Czechoslovakia were employed in an educational context. This was largely the achievement of Augustin Tschinkel, who, having returned to Prague in 1931 to take a position as a book designer with the state publisher, worked over the ensuing years to introduce the Vienna Method of Pictorial Statistics into the Czechoslovak state school system. His greatest achievement in this regard was the 1935 publication, *Malá vlastivěda* [Little Civics Reader] [FIGURES

³⁷⁹ See Broos, “Bildstatistik: Wien – Moskau – Den Haag 1928-1965,” in Bool and Broos (1976).

211, 212]—an elaborately and elegantly designed atlas of Czechoslovak history and geography, largely modeled after the *Gesellschaft und Wirtschaft* atlas, on which he had worked five years earlier.³⁸⁰ Co-designed with Ladislav Sutnar and printed by the state publisher, *Malá vlastivěda* ranks—alongside *Gesellschaft und Wirtschaft* and *Modern Man in the Making*—as one of the great pictorial statistic works of the era.

Within the United States, pictorial statistics were employed in a wide variety of areas, ranging from public health campaigns to market analysis to textbook design. While Neurath's work was important in this regard, his former employee, Rudolf Modley, played an even greater role in the dissemination and popularization of the method in America. Prior to his immigration to the U.S. in 1930, Modley had worked in varying capacities at the *Gesellschafts- und Wirtschaftsmuseum* in Vienna. After a period of employment at the Museum of Science and Industry in Chicago, Modley established the New York-based Pictograph Corporation (initially named Pictorial Statistics, Inc.), which, over the ensuing decade produced materials for a wide range of clients including such government agencies as the Department of Agriculture, the Office of Education, the Interior Department, the Social Security Board, and the Works Progress Administration; and such publications as *The New York Times*, *Time Magazine*, *The Nation*, *The New Republic*, *Fortune*, and *Survey Graphic*, to name only a few [FIGURES 213, 214, 215].

While organizations such as the *Isotype Institute* in London, the *Nederlandse Stichting voor Statistiek* in The Hague, and the *Pictograph Corporation* in New York continued (to varying extents) to produce material over the subsequent years and

³⁸⁰ *Malá vlastivěda* (Prague: Státní nakladatelství, 1935). Compiled and edited by Ladislav Sutnar; written by Bedřich Mendl; maps and illustrations by Augustin Tschinkel.

decades, postwar production generally did not match that of the prewar period—either with regard to the scale of the projects, the rigor of the method, social aspirations, or aesthetic sophistication. As bar graphs and pie charts came to dominate graphic representations of quantitative data in the postwar period, the function of statistical pictograms shifted increasingly from the representation of quantities to the illustration of themes—that is to say, from a method to a style. This is evident in the later pictograms designed by Arntz for the *Nederlandse Stichting voor Statistiek* [FIGURE 216], which lack the “typographic” rigor of the prewar pictograms and only awkwardly fulfill most basic function of pictorial statistics: the expression of quantity through the repetition of identical forms.

Appendix: Artists' and Designers' Biographies

Peter Alma

(b. Medan, Sumatra, 18 January 1886; d. Amsterdam, 23 May 1969)

After his father's death in 1888, Peter Alma's family relocated from the Dutch East Indies to the Netherlands, and settled in The Hague. Following his studies from 1904 to 1906 at The Hague's *Koninklijke Academie voor Beeldende Kunsten* [Royal Academy of Fine Arts], Alma traveled to Paris, where he remained until the outbreak of the First World War. Here he continued his training as a painter at the Académie Humbert (where artists such as Georges Braque and Marie Laurencin had also previously studied). Alma's earliest paintings incorporate features derived from Impressionism and Pointillism; however, by 1912—after having made the acquaintance of Fernand Léger, Diego Rivera, and Piet Mondrian—his work had begun to show the influence of Cubism. During his years in Paris, Alma began exhibiting his work in major international venues. His paintings were included in the famous 1912 Sonderbund exhibition in Cologne, and he exhibited with the *Indépendants* in Paris as well as with the *Moderne Kunstkring* in Amsterdam. After returning to the Netherlands in 1914, Alma became an active member within the artistic circle that later established *De Stijl*. His work at this time consisted largely of landscape motifs, and reflected this group's tendency towards geometric abstraction. However, as Alma's longstanding leftist political convictions intensified with the Russian Revolution in 1917, he began to distance himself from the formalist concerns

of the artists of *De Stijl*, and sought to introduce themes of a more explicit social and political character into his work. Inspired by the revolutionary wave that engulfed Central Europe in 1918 and 1919, Alma joined the Dutch Communist Party (of which he remained a member until 1932), and aimed to bring his artistic activity into the service of the revolution. To this end he worked increasingly in woodcut and ink drawings after 1920, since graphic media was more perceived to be effective in reaching a broader audience than painting, and better suited for reproduction in the leftist publications (such as *De Tribune*) to which he contributed illustrations throughout the decade. In 1921 Alma traveled to Moscow to attend the congress of the Third International with Dutch Communist Party delegates Henriette Roland Holst (1869-1952) and David Wijnkoop (1876-1941). There he became familiar with the latest artistic developments then being carried out within Soviet avant-garde circles; and, he made the personal acquaintance of such artists as Wassily Kandinsky, Kasimir Malevich, Vladimir Tatlin, and El Lissitzky. In 1923, Alma played a crucial role in bringing the seminal *Erste Russische Ausstellung* [First Russian Exhibition] to the Stedelijk Museum in Amsterdam, following its premier showing in Berlin late in the preceding year. Alma was again instrumental in bringing a major exhibition of international artists to the Stedelijk Museum in 1930, when he collaborated with the Amsterdam-based *Socialistische Kunstenaars Kring* [Socialist Artists' Circle] to produce the exhibit, *Socialistische kunst heden* [Socialist Art Today], in which several members of the Group of Progressive Artists participated. Alma had become involved with the Progressives two years earlier, after meeting Franz Wilhelm Seiwert at the *Pressa* exhibition in Cologne in 1928. It was through his connection to

the Progressives that Alma was recruited in 1929 to work at the *Gesellschafts- und Wirtschaftsmuseum* in Vienna, where, over the course of the following two years, he designed pictograms for the museum's 1930 *Gesellschaft und Wirtschaft* atlas, as well for subsequent publications. Between 1931 and 1934 Alma was intermittently employed at the *Izostat Institute* in Moscow (and its affiliate branch in Kharkiv), where, alongside several other members of the *Gesellschafts- und Wirtschaftsmuseum*, he trained soviet designers in the Vienna Method of Pictorial Statistics. Following his return to Amsterdam in 1934, Alma set up his own independent pictorial statistics design firm, producing material for commercial organizations and local governmental agencies. During the previous period in the Soviet Union, and in the immediately ensuing years after his return to Amsterdam, Alma appears to have briefly discontinued his "free" artistic work altogether, devoting himself exclusively to pictorial statistic work. He resumed artistic projects again in 1936, but for the remainder of the decade limited his production mainly to painting. From the late 1920s through the late 1950s, Alma painted murals in public buildings throughout Amsterdam and The Hague, beginning in 1928 with a commission to paint a frieze in the reading room of one of Amsterdam's public libraries. His most well known murals are those commissioned in 1938 and executed the following year for Amstel station. After the Second World War, Alma returned to printmaking for the first time since 1931. In these works, Alma adopted an expressionist-derived idiom, which departs significantly from the figurative constructivist style of his prewar prints. Furthermore, these works no longer contain the political themes that were so prevalent in his earlier work.

Gerd Arntz

(b. Remscheid, 11 December 1900; d. The Hague, 4 December 1988)

Following a half-year of military service in 1918 (during which his field artillery unit saw no combat), and a brief period of employment in his father's Remscheid iron works, Gerd Arntz moved to Düsseldorf in the autumn of 1919. There he began his artistic training under the instruction of the painter Lothar von Kunowski. Inspired by the revolutionary activities of the workers' movement in Düsseldorf, Arntz participated in demonstrations against the Kapp-Putsch in 1920, and became active within Düsseldorf's politically radical artistic circles. While attending discussion-evenings of the *Aktivistenbund* in Düsseldorf, Arntz made the acquaintance of Polish-born artist Jankel Adler (1895-1949), who in turn introduced Arntz to the politically likeminded Cologne artists Franz Wilhelm Seiwert and Heinrich Hoerle. Arntz would only have intermittent contact with Seiwert and Hoerle over the subsequent four years; however, after a two-year period in Hagen, and coincident with his return to Düsseldorf in 1924, he became closely involved with them. Arntz produced his first woodcuts in 1920, initially working in an expressionist-influenced style. Gradually, however, he came to incorporate geometric forms and pictographic symbols that emulate aspects of Seiwert and Hoerle's graphic work. In 1925 he was given his first one-man show at *Der neue Buchladen* in Cologne, for which Seiwert designed the catalog and wrote a short essay. The following year he participated alongside Seiwert and Hoerle in numerous group exhibitions in a variety of national

and international venues, and continued to exhibit with these artists—as well as with other members of the Progressives circle—over the course of the next decade. It was at one such group exhibition in 1926 in Düsseldorf that Otto Neurath first saw Arntz's work, leading to a collaboration that would last fourteen years. In the two years between Neurath's discovery of Arntz and the latter's move to Vienna in 1928, Arntz became increasingly engaged with leftist publications, contributing to both the Berlin-based *Aktion* and the Frankfurt-based *Proletarische Revolution*. Furthermore, in these years, during which Arntz collaborated with Neurath intermittently and from afar, he produced his best-known series, *Zwölf Häuser der Zeit* [Twelve Houses of the Times]. While Arntz's graphic production was interrupted during his first years working at the museum in Vienna, these years mark the height of his activity as a painter: twelve of Arntz's fourteen oil paintings were produced between 1928 and 1931. Following his return to woodcut in 1931, Arntz gave up painting and devoted himself again exclusively to printmaking. From 1931 to 1934 Arntz divided his time between Vienna and Moscow, working as head of the graphics department at the *Gesellschafts- und Wirtschaftsmuseum* in Vienna, and serving as a consultant for Neurath's team in at the *Izostat Institute* in Moscow. With the termination of the Moscow contract in 1934, and the closing of the Vienna museum, Arntz fled with Neurath, Marie Reidemeister, and other museum team members to The Hague. There the members of the Vienna museum reconstituted themselves as the *International Foundation for Visual Education*, which operated until the outbreak of the Second World War. After Neurath and Reidemeister's forced emigration in 1940, Arntz went to work for the newly founded *Nederlandse Stichting voor Statistiek* (NSS) [Dutch

Foundation for Statistics], and collaborating there until his conscription into the German army in 1943. Arntz was stationed in Normandy in the summer of 1944, where he briefly served in the German army as a truck driver before surrendering to the French resistance. Following his release in 1946 from military prison, he returned to his family in The Hague and resumed working for the NSS, designing new pictograms for them until his retirement in 1965. Of the three Progressives who had together collaborated in Vienna, only Arntz resumed a version of figurative constructivism in the postwar period—at this point working exclusively in linocut. This later version, however, exhibits little of the austerity, rigor, and formal economy that had characterized the earlier work.

Heinrich Hoerle

(b. Cologne, 1 September 1895; d. Cologne, 3 July 1936)

During his studies at the *Kunstgewerbeschule* [School of Arts and Crafts] in Cologne in 1912, Heinrich Hoerle first met some of the artists with whom he would eventually collaborate in the “Stupid” group, including Angelika Fick (1899-23) and her brother Willy Fick (1894-1970). Around this time Hoerle became acquainted with the personalities and trends of the Rhineland art world, mostly through his attendance of discussions at the Café Luna (a gathering place for Cologne avant-gardes). He also became involved with circle around the Berlin-based journal *Die Aktion*, and in 1917 began contributing politically satirical prints and drawings to the journal. Hoerle was

drafted into the German army in 1917, and sent to the front as a telephone operator. While suffering no physical injuries himself, he was deeply affected by the experience, and took as the theme for much of his subsequent work the physical and psychological traumas experienced by wounded veterans returning from the front. In the summer of 1919 Hoerle married Angelika Fick and together they moved into an apartment, which quickly became a center of artistic activity. Known by Cologne's avant-garde artists as the *Dadaheim*, the Hoerles' apartment served as a studio, a gathering place, and a publishing house. Here Hoerle published his lithograph series, *Die Krüppelmappe*, as well as print portfolios by Seiwert, Angelika Hoerle, and Max Ernst. Along with these artists, Hoerle was part of the circle of the *Gesellschaft der Künste* [Society of Arts], founded in November 1918 by Karl Nierendorf as a branch of the Berlin-based *Arbeitsrat für Kunst* [Workers' Council for Art]. Hoerle designed the emblem for the organization's publication, *Der Strom* [The Current], in which he advertised the print series published out of the *Dadaheim*. When Nierendorf's *Gesellschaft der Künste* held an exhibition in the Cologne Kunstverein, a split occurred between those more populist and politically committed members of the group (which would ultimately form the "Stupid" group), and those (like Ernst) more drawn to the anarchic spirit of Dada. While Hoerle initially tried to operate in both camps, over the subsequent year he moved closer to artists like Seiwert, who viewed Dada as politically ineffectual. This shift towards a more activist, politically oriented artistic practice coincided with a stylistic shift in Hoerle's work, as he adopted a geometric approach to figuration that would later earn the name "figurative constructivism." The "Stupid" group's activities at the *Dadaheim* ended abruptly in

1922 when Angelika Hoerle contracted tuberculosis. Heinrich Hoerle, fearing infection, abandoned Angelika at this point, who died in the following year. Heinrich Hoerle, in fact, suffered his own attack of tuberculosis in 1925, and ultimately succumbed to the illness in 1936. The years between 1920 and 1923 mark the most prolific period for Hoerle's graphic work, after which he turned increasingly to easel painting. His work from these years also had the greatest influence on the artistic development of his peers in the Group of Progressive Artists, many of whom adapted his geometric, automaton figures to their own versions of figurative constructivism. Hoerle's paintings from the later part of the decade depart significantly from the figurative constructivist character of his earlier graphic works, incorporating, by contrast, an illusionist approach more characteristic of Surrealist painting. While Hoerle followed a stylistic path distinct from his fellow Progressives, he remained closely involved with them, participating in group-shows throughout the 1920s and early 1930s, and contributing to many of the same periodicals. When the group's journal, *a bis z*, first appeared in 1929, Hoerle was listed (along with Franz Wilhelm Seiwert and Walter Stern) as one of the editors. Hoerle briefly returned to working in a figurative constructivist manner again at this time, producing what is likely his best-known work, the 1930 painting *Denkmal der unbekanntten Prothesen* [Monument to the Unknown Protheses]. Hoerle's work underwent yet another shift in 1932, following a falling out with Seiwert, at which point Hoerle substituted wax-pigment for oils, and began employing a pointillist technique in his paintings. Hoerle continued to work in this manner until shortly before his death in 1936; however, following the ascension of the National Socialist government, he was unable to

exhibit his work publicly. A painting by Heinrich Hoerle, along with work by fellow Progressive Otto Freundlich (1878-1943), was included in the 1937 Nazi-sponsored Degenerate Art Exhibition.

Marie Neurath (née Reidemeister)

(b. Brunswick, 27 May 1898; d. London, 10 October 1986)

Marie Reidemeister became the first permanent member of the *Gesellschafts- und Wirtschaftsmuseum*'s design team in March of 1925, just two months after the museum's opening. She had completed her studies earlier that year in Göttingen, where she had trained to become a teacher, specializing in mathematics and physics—though she also maintained a long-standing interest in visual art.

Reidemeister had visited Vienna in September of 1924 on a student trip, and was first introduced to Otto Neurath at this time through her brother, the mathematician Kurt Reidemeister. Initially her duties were administrative, but as the museum began contributing to larger scale exhibitions (such as the 1926 *GesoLei* exhibition in Düsseldorf) Reidemeister became increasingly involved in the design of the displays themselves—compiling statistical data and making decisions about their spatial arrangement within the charts. This activity later came to be known as the work of “transformation,” and by the time the museum was producing its major publications (such as *Die bunte Welt* in 1928), Reidemeister had become the head “transformer.” Reidemeister was among the members of museum's core-team, who (along with Otto

Neurath, Gerd Arntz, Peter Alma and others) traveled to Moscow between 1931 and 1934 to help with the development of a soviet institute for pictorial statistic education, known as the *Izostat Institute*. Following the termination of this collaboration with Moscow, and the subsequent closing of the *Gesellschafts- und Wirtschaftsmuseum* in Vienna, Reidemeister immigrated to The Hague in April of 1934 along with Otto Neurath and Gerd Arntz. Together they formed the core team of the museum's reconstituted operations, working under the name of the *International Foundation for Visual Education*. As a reflection of the increasingly western orientation of the Foundation's new projects, Reidemeister devised the name Isotype (an acronym for "International System of Typographic Picture Education") to supplant the now anachronistic term "Vienna Method of Pictorial Statistics." The last Isotype project on which Reidemeister, Neurath, and Arntz worked together as a team was the 1939 publication *Modern Man in the Making*—a book which, in its broad range of themes, summarizes the previous fifteen years of her collaboration with Neurath at the *Gesellschafts- und Wirtschaftsmuseum* and, subsequently, at the *International Foundation for Visual Education*. With the German invasion of the Netherlands in May 1940, Reidemeister fled to England with Neurath, where, following a period of internment as "enemy aliens," they were reunited in February 1941 and married shortly thereafter. Together they resumed their work at this time, establishing the Isotype Institute in Oxford in June 1942. After Otto Neurath's death in 1945, Marie Neurath moved to London where she continued the institute's work in visual education for more than two decades, working with a host of collaborators on a broad range of projects. Together with the London publisher Max Parrish, she produced

numerous educational book series on subjects ranging from natural history to applied science to world history, generating more than eighty titles between 1947 and 1971. Following her retirement in the early 1970s, Marie Neurath began working to preserve the legacy of her and her late husband's work in visual education. To this end, she collaborated with the students and faculty at the University of Reading's Department of Typography and Graphic Communication to establish the Isotype Collection, where materials representing nearly fifty years of design work are housed today.

Otto Neurath

(b. Vienna, 10 December 1882; d. Oxford, 22 December 1945)

Otto Karl Wilhelm Neurath was born the first of two sons to Getrud Kaempfert (1847-1914) and Wilhelm Neurath (1840-1901), a professor of economics at the *Hochschule für Bodenkultur* [Agricultural Academy] in Vienna since 1889. Otto Neurath's lifelong interest in economics appears to have stemmed from early discussions with his father, and in 1902, after a brief period studying mathematics and physics at the University of Vienna, he decided to pursue the subjects of political economy, history, and philosophy. In 1906 he received his doctorate at the School of Philosophy of the Friedrich-Wilhelms-Universität in Berlin, having submitted a dissertation on the subject of commerce, trade, and agriculture in antiquity. He returned to Vienna in 1907 to accept a position teaching political economy at the

Neue Wiener Handelsakademie [New Vienna Business Academy]. With the outbreak of the First World War, Neurath was drafted into the Austrian army and, after a period of service, was appointed head of the General War and Economics Section of the Scientific Committee for War Economy in the Austrian War Ministry. Two years later, in 1918, Neurath was hired as director of the *Kriegswirtschaftliches Museum* [Museum of War Economy] in Leipzig, where he gained his first practical experience in designing materials for visual education. After the end of the war, and the subsequent dissolution of the Leipzig museum, Neurath was invited by the Social Democratic-led government in Munich to head Bavaria's Central Economic Administration. Neurath remained in this position throughout the turbulent months that followed, during which the SPD government was ousted and a succession of council republics was established in its place. With the defeat of the final council republic in May 1919, Neurath was arrested and convicted of assisting in high treason—but later released to Vienna through the intervention of the Austrian government. In Vienna, Neurath served as General Secretary for the *Österreichischer Verband für Siedlungs- und Kleingartenwesen* [Austrian Association for Settlement and Allotment Gardens], an organization dedicated to addressing Vienna's housing shortages and improving the standard of living among the working class. In connection with this organization, Neurath created the *Museum für Siedlung und Städtebau* [Settlement and Town Planning Museum] in 1923, which two years later he expanded to become the *Gesellschafts- und Wirtschaftsmuseum* [Museum for Society of Economy]. Here, in collaboration with a team that included Marie Reidemeister and, later, Gerd Arntz, Neurath developed a unique approach to visual

education, initially called the Vienna Method of Pictorial Statistics and later known as Isotype. Following the closing of the *Gesellschafts- und Wirtschaftsmuseum* in Vienna in 1934, Neurath fled to The Hague where, together with his collaborators Reidemeister and Arntz, he continued his work in visual education. In addition to his projects at the *Gesellschafts- und Wirtschaftsmuseum* (and its later incarnation as the *International Foundation for Visual Education* in The Hague), Neurath was a member of the Vienna Circle—an association of philosophers generally linked by their commitment to logical positivism—and served as the main author for the group's 1929 manifesto.

After his immigration to The Hague, Neurath was a central figure within the Unity of Science movement, which represented a continuation of the Vienna Circle's earlier work. Together with other exiled members of the group, Neurath edited the first monograph of the *International Encyclopedia of Unified Science*, published in the U.S. in 1938. Along with Marie Reidemeister, Neurath fled to England in May of 1940, just after the German invasion of the Netherlands. Following a period of internment, Neurath and Reidemeister reunited and married in February 1941. The following year they resumed their work in visual education, establishing the Isotype Institute in Oxford, where they employed teachers and pupils from the Oxford School of Art to work in the style of Arntz (who had elected to remain in the Netherlands). Throughout the immediately ensuing years the institute collaborated with the British documentary filmmaker, Paul Rotha, producing films with animated Isotype graphics, commissioned by the British Ministry of Information on a variety of subjects ranging from public health to the war effort. At the time of Neurath's death in December

1945, he was at work on host of projects, including designs for community housing in the city of Bilston, a “visual history of mankind” book series, and a “visual autobiography.” This last project, which Neurath completed just before his death, has only now (in 2010) at last appeared in print.

Franz Wilhelm Seiwert

(b. Cologne, 9 March 1894; d. Cologne, 3 July 1933)

Between 1910 and 1913, Seiwert attended the *Kunstgewerbeschule* [School of Applied Arts] in Cologne, where he produced his first works in woodcut and sculpture. When the First World War broke out in 1914, Seiwert was exempt from service on account of the x-ray burn to his head that he had sustained in his childhood, from which he suffered lasting complications throughout his life. Dismayed at the inhumanity and senseless destruction of the war, Seiwert became increasingly radical in his political views. He would find likeminded peers in the intellectual circle around Franz Pfemfert’s Berlin-based literary journal, *Die Aktion*, and in 1917 began contributing graphic works to the publication. Around this time Seiwert also met the Polish-born artist Jankel Adler, who would later serve as an important link between Seiwert and artists outside of Cologne—among them, Gerd Arntz in Düsseldorf and Stanislaw Kubicki (1889-1943) and Margarete Kubicka (1891-1984) in Berlin. By 1918 Seiwert had also forged connections with the Cologne artists who would soon comprise the “Stupid” group, such as Heinrich and

Angelika Hoerle, Anton Räderscheidt (1892-1970) and Martha Hegemann (1894-1970), as well as with those who would later join him in the Group of Progressive Artists, such as Hans Schmitz (1896-1977) and Otto Freundlich. In the period just after the war, most of these artists were broadly involved in the city's avant-garde scenes, contributing to publications and exhibitions connected with the Dadaist circle around Max Ernst as well as with Karl Nierendorf's *Gesellschaft der Künste* [Society of the Arts]. When early in 1920 a schism began to form between these two camps, Seiwert and his colleagues in the "Stupid" group distanced themselves from Cologne Dada—a movement they deemed politically ineffective. In seeking to reach a mass-audience with his radical political message, Seiwert (along with other members of the group) turned to graphic media in the years between 1919 and 1923—working primarily in woodcut and linocut. During this period, Seiwert published several portfolios of his prints through presses associated with the radical political journals to which he contributed. Seiwert also joined or collaborated with several political organizations at this point, including the revolutionary council AAU-E (*Allgemeine Arbeiter Union – Einheitsorganisation*) [General Workers' Union – Unitary Organization], to whose publications he contributed articles and artworks, and the *Internationale Arbeiter-Hilfe* [International Workers' Aid], for which he designed graphic works. These years, which mark the high point of Seiwert's graphic production (after 1923 his focus shifted increasingly to easel painting), also coincided with a stylistic transformation, as Seiwert moved away from his earlier expressionist-derived idiom and began working in a style that he would later characterize as "figurative-constructive." Around this time Seiwert also began to produce what

would become a prolific body of political-theoretical texts, many of which were published over the ensuing years in such journals as *Die Aktion* and the *Sozialistische Republik*, and later (between 1929 and 1933) in the Progressives' own journal, *a bis z*. This last publication, which featured more than 27 articles and 20 artwork reproductions by Seiwert, established Seiwert as the central figure and leading spokesman of the Group of Progressive Artists. Many of these articles and artwork reproductions were collected in an anthology published in Prague by Seiwert's colleagues Gerd Arntz and Augustin Tschinkel, the year following Seiwert's early death in 1933.

Augustin Tschinkel

(b. Prague, 3 August 1905; d. Cologne, 1 May 1983)

From 1921 to 1924 Tschinkel studied at Prague's School of Applied Arts, where he met his longtime collaborator, the designer Ladislav Sutnar. Sutnar, who was appointed director of the children's puppet theater at the Workers' Academy in Prague in 1924, hired Tschinkel that same year to design stage sets. At this same time, Tschinkel began contributing graphic works to a variety of publications, including the Czech puppetry journal, *Loutkář* [Puppeteer], and the German literary journal, *Die Aktion*. It was through the latter publication that Tschinkel had first become acquainted with the work of Franz Wilhelm Seiwert two years earlier—an encounter that would prove critical to Tschinkel's artistic development. Tschinkel

only became personally acquainted with Seiwert years later, when, in 1928, he accompanied Sutnar in Cologne to collaborate on the displays for the Czech pavilion at the *Pressa* exhibition. This meeting brought Tschinkel into the orbit of the Group of Progressive of Artists, and over the course the following four years he became a frequent contributor to the group's journal, *a bis z*, as well as becoming a regular participant in national and international exhibitions featuring group members.

Tschinkel also proved to be an important link between the Group of Progressive Artists and avant-garde circles within Czechoslovakia. Reproductions of the Progressives' graphic works proliferated in Czech publications throughout the early 1930s, and exerted a significant influence on the Czech artists' group *Linie*, with whom Tschinkel exhibited later in the decade. It was through his connection to the Group of Progressive Artists, that Tschinkel was invited to Vienna to work at the *Gesellschafts- und Wirtschaftsmuseum*. Between the summer of 1929 and the end of 1930, Tschinkel worked with Gerd Arntz and Peter Alma in the museum's graphic department, designing pictograms for the museum's *Gesellschaft und Wirtschaft* atlas, and learning the principles of the Vienna Method of Pictorial Statistics.

Tschinkel published Czech-language articles at this time, explaining and promoting the work of the museum in his homeland. Following his return to Prague in 1931 to take a position as a book designer with the state textbook publisher, Tschinkel worked to introduce the Vienna Method into the Czechoslovak state school system. His greatest achievement in this regard was the 1935 publication, *Malá vlastivěda* [Little Civics Reader]. Produced in collaboration with Sutnar, this elaborately and elegantly designed atlas of Czechoslovak history and geography was largely modeled after the

Gesellschaft und Wirtschaft atlas on which he had worked years earlier. Alongside his design work for the state textbook publisher in Prague, Tschinkel was hired in 1936 as a drawing instructor at the Prague State School of Graphics, where Sutnar had served as director since 1933. Between 1936 and 1940 Tschinkel published a series of books through the school press treating themes connected to the history of visual communication. Additionally, Tschinkel authored numerous articles during these years on a wide variety of related themes, ranging from children's book illustration to the history of typography. Many of these articles appeared in the journal, *Československý kreslíř* [Czechoslovak Draftsman], for which Tschinkel served as typographic designer from 1938 through 1939. In 1941, Tschinkel was forced out of his positions at the State School of Graphics and the state textbook publisher by the German occupation, and was left unemployed for the remaining years of the war. Tschinkel continued to struggle in the years immediately after the war. Ultimately, he found employment with a map publisher in Salzburg in the mid-1950s, where he remained for the next decade. In 1964 Tschinkel moved to Germany, where he was hired as an anatomical draftsman at the University of Cologne. Tschinkel's artistic production in the postwar decades, which may be described as surrealist, has very little in common with his figurative constructivist work of the interwar years, much of which was destroyed during the war.

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