

# Mapping the Modern City: Otto Neurath, the International Congress of Modern Architecture (CIAM), and the Language of Urban Planning (1931-1935)

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For most of us, CIAM IV is best known as the place where the “Athens Charter” was first drafted. It was a meeting that helped popularize Le Corbusier’s “four functions” – the idea that a city could be reduced to four basic programs, namely work, recreation, housing, and transportation. But the congress was also important for another reason, namely it stimulated a conversation about how best to visualize the modern city in the global age. CIAM, as we know, was an international organization from the start. Its members hailed from over thirty countries. Although its official languages were German and French, many of CIAM’s members, especially those coming from the United Kingdom or Spain, spoke neither fluently. CIAM’s constituencies derived from a variety of backgrounds, and in order to derive a common means by which to study the modern city, its members were obliged to develop a common graphic idiom. This paper explores the nature of this graphic idiom and the discussions that it generated.

(Figure 1) Of critical importance for our purposes is the figure of Otto Neurath. Who was Otto Neurath? Otto Neurath was a museum director, philosopher, and sociologist. In 1925, he started the Museum of Society and Economy in Vienna, which over the next decade became world-famous for its “International System of Typographic Picture Education,” a system for popularizing social and economic facts (Figure 2, 3). Neurath was a socialist, someone who was deeply suspicious of the modern museum’s fetishization of the object, and he devoted his career to finding ways of democratizing the flow of knowledge and information and rationalizing the means by which people communicated. This was in order to stimulate in the working class a concept of class identity, one that caused a rethinking of the self in collectivized terms.

In 1931, Neurath met Cornelis van Eesteren, who at the time was in Berlin planning the 4th international CIAM congress.<sup>1</sup> Like Neurath, van Eesteren had a strong interest in visual communication. In 1923, van Eesteren produced a series of axonometric studies in collaboration with the Dutch artist Theo van Doesburg that appeared in Paris’ Galerie de l’Effort Moderne. These “counter-constructions” consisted of colored planar geometries suspended in space. They stressed a non-perspectival, abstract representation of architectonic form.<sup>2</sup> After 1928, van Eesteren was also the chief city planner for Amsterdam, where he developed a series of extension plans devised to help manage urban growth.

Upon their meeting in Berlin, Van Eesteren invited Neurath to assist him in assembling materials for the “Functional City” congress. For van Eesteren, the congress was to constitute a collective and systematic look at 34 cities from all around the world, focusing on each area’s social, economic, and functional character. It was to be a preliminary analytical study of the modern metropolis, laying the groundwork for future interventions. It was inspired by a notion of “comparative city planning [vergleichende Städtebau],” which rested on the idea that the study of urban morphology gave the planner insight into the unchanging essence of the contemporary city. Following Theodoor van Loohuizen, with whom he collaborated in the Amsterdam Public Works Department,<sup>3</sup> as well as the Scott Patrick Geddes, who coined the adage “survey before plan,” Van Eesteren insisted that scientifically juxtaposing patterns of growth and development, functional organization, geography, climate, history, society, and other such elements could help the student of urbanism in identifying points of weakness in the modern city, and to locate areas needing reform.<sup>4</sup> As van Eesteren

writes,

In order to furnish a comprehensive view and to allow for comparison, there is a need to learn about... similarly structured cities in other countries. This overview of the total development [Gesamtentwicklung] is gradually becoming a need of every architect and every population that seriously deals with problems of city planning. This project is rooted in the universal understanding of the world [universale Auffassung], which is very much connected to the development of architecture today. Until now, there were very weak approaches for achieving this kind of overview. If at all, one could... achieve insight into the functions and conditions of life of various cities. For this area, of which we will give the name comparative city planning [author's emphasis], we need first an analysis of existing cities according to a unified method (according to identical methods, use of identical symbols, and identical colors for identical functions).<sup>5</sup>

In his published guidelines for the Functional City meeting, Van Eesteren stipulated that all participating countries produce photographs, texts, and maps of each city they analyzed.<sup>5</sup> He called for "aerial views of the characteristic elements of the city and its environment."<sup>7</sup> He wanted maps (three of them for each city in total) illustrating the four functions and their interactions in the city. He and his Dutch colleagues produced and distributed three prototype maps of Amsterdam in order to clarify their intentions. They also drew up a legend featuring 52 graphic symbols, many of which had been inspired by Neurath's methods. (Figures 4, 5, 6, 7)

The Functional City congress was held between July 29th and August 14, 1933. (Figure 8) The first and the last three nights of the meeting took place aboard the S.S. *Patris II*, which set sail from Marseille. Attendees at the event included Sigfried Giedion, Rudolf Steiger, Werner Moser, Le Corbusier, Pierre Chareau, Fernand Léger, Charlotte Perriand, Wells Coates, László Moholy-Nagy, van Eesteren, Giuseppe Terragni, José Luis Sert, Alvar Alto, Fred Forbat, and Helena and Szymon Syrkus. Neurath

attended with Marie Reidemeister, his later wife and chief "transformer" at the Museum of Society and Economy (Figure 9, 10, 11, 12). The cities that the delegates examined included Brussels, The Hague, Zurich, Barcelona, Dessau, Detroit, Warsaw, Madrid, Stockholm, Paris, Verona, Como, Oslo, Frankfurt, and Cologne.<sup>8</sup> For the most part, they all adhered to the requirements outlined by van Eesteren. There were two exceptions, both of which reflected internal ideological differences within CIAM itself. One exception the Swiss contribution, which was headed by Rudolf Steiger. (Figure 13) In Map I of Zurich, Steiger included two sectional drawings that showed statistically and pictorially population density figures in relation to both physical elevation and functional zoning. In contrast to van Eesteren's prototype maps, they treated the city as both a quantitative and physical entity, juxtaposing quantitative and topographical forms of information.

A second and even more pronounced exception among the presentations were the maps the Germans produced for the city of Dessau. In addition to the three primary maps that van Eesteren had asked for, this work included a meticulously documented "explanatory report" ["erklärender Bericht"] about Dessau's geological, climatological, historical, social, and economic composition in historical context. (Figure 14, 15) Graphically speaking, it included a combination of text, photographic montage, maps, and drawings. It was a radical departure from the other CIAM studies in that it emphasized Dessau's social and economic context over its programmatic or geographical composition.

What was Neurath's response to these presentations? In a keynote address delivered in Greece, Neurath was rather critical of what he saw. Although he appreciated the efforts the Swiss and German delegates had made as far as integrating statistical research methods into their work, he was taken aback by the literalism with which his methods had been adopted, especially by the Dutch. "This is the first time that cities have been successfully displayed in a way that is designed in a uniform fashion," Neurath began. "However, the signs that are employed do not appear to be complete. The abstractions that have been agreed upon are not eloquent enough for the public at large." Neurath continues:

We have elaborated in Vienna a pedagogical method based on the visualization of images obtained according to the Vienna Method [and] presented in the following fashion:

On first view, we should absorb information about the most major points, on second view the accessory things, and on third view the incidentals. If on the fourth view we learn something more, one can assume that the image is insufficient. This method that we have applied notably to statistics [states that] a larger quantity of objects is represented by a larger quantity of eloquent symbols.<sup>9</sup>

Neurath underscored the fact that the Museum of Society and Economy had always been committed to serving the average spectator, to educating the masses and de-formalizing scientific and statistical information. He contrasted this emphasis on affect, receptivity, and accessibility with CIAM residual attachment to the notion of the “master-planner,” the idea that the future of the city should be left in the hands of trained, autonomous professionals. As Neurath commented, “we consider ourselves the executive agent of the spectators. In order to do this, it is necessary to simplify and eliminate things: he who makes the better choice will be the better pedagogue.”<sup>10</sup>

Toward the end of his presentation, Neurath showed a number of slides in order to illustrate his remarks more vividly. (Figure 16) The first slide he showed was titled “Men Living on a Square Unit of Space in Towns.” He used this image to emphasize the importance of making a clear didactic statements and not distracting the viewer with excessive details. Neurath had the following to say:

I present here the density of inhabitants in the great cities of the world. The cities are represented by the medallions, for example Paris by the Eiffel Tower and Notre Dame, London by the Thames Bridge, etc., etc. One sees in the squares brick and black figures. On first view one notices that in the Anglo-Saxon cities there are fewer inhabitants per 100 square meters than in

Central Europe. I do not enter into considerations about knowing whether there is a dwelling with one or two floors determines this situation.<sup>11</sup>

Neurath was especially concerned by the descriptiveness of van Eesteren’s maps, the fact that they assumed a notion of place that was metaphysical and non-quantifiable. In contrast to van Eesteren’s philosophy of comparative city planning, which saw each city as an organic totality, he proposed a method of urban analysis that took the city to be a node in a larger constellation of ratios and relationships: “I think that we could have been able to the quantity of studies done at this congress through similar schemas [to the ones I’ve shown] rather than through the plan and through geographical maps.”<sup>12</sup> Neurath continues: “The principle of ‘Mono-culture,’ which the capitalist economic order has hinted at, could still be built out further. A single area in the colonial Orient is enough to cover the global demand for rubber. Why new cotton plantations when the plantations of India or the United States are sufficient? India can provide jute. Central Africa, cocoa. South America, coffee. So could we also concentrate sugar in one or just a couple of different areas.”

CIAM’s reaction to Neurath’s lecture was somewhat negative. For one, Laszlo Moholy-Nagy and van Eesteren soon took objection to Neurath’s starkly empirical understanding of the city. As Moholy-Nagy put it, “We cannot establish a universal intellectual attitude or cultural standard from one vantage point only, such as cognition by means of logic, or the sciences, nor indeed from the arts exclusively. In order to form a comprehensive attitude to existence, we must start simultaneously from emotion and cognition.”<sup>13</sup> Second, Moholy-Nagy and Van Eesteren objected to Neurath’s strongly pedagogical emphasis. If for Moholy-Nagy the graphic arts offered the subject a means by which to explore and unleash new modalities of experience, for Neurath they served as a conduit through which to popularize and de-formalize scientific facts. As van Eesteren later wrote to Moholy-Nagy,

I am truly happy that you participated in the congress, not only because you made a pretty film and took the pretty photos

that we still plan to see, but above all because you participated so actively in the Congress events. This only proves that at our Congresses non-architects also need to participate... In particular, what has stayed in my mind is how intensely you debated Neurath – in which you, very correctly, always integrated the psychological and the human into the discussion; had you not, we would have definitely fallen victim to Neurath's rather limited system.<sup>14</sup>

Where does this bring us? First, for van Eesteren and Moholy-Nagy the modern city was an amalgam of both site-specific and universal conditions. The idea that the modern city was an object or artifact was still something to which they adhered. For Neurath, on the other hand, the modern city was primarily a social and economic phenomena, by which I mean that it represented a system of facts rather than a sovereign artifact; a constellation of quantities rather than a discrete object. Neurath wanted to reconcile the world's population to a common economy and society in kind. He stressed the normative over the exceptional, the world over the city. He inaugurated a new way of reading that was premised on the subject's ability to grasp ratios, relationships, and contingencies rather than objects, places, and "things." Indeed, one wonders whether his insights weren't in many respects profoundly ahead of their time. In many of the discussions we've been having over the past two days, we have been exploring how new technologies have transformed the means by which architectural problems are addressed. The contribution I would like to make to this conversation is to raise the question of whether the very means by which we "read" the global does not assume the very phenomena we seek to understand. My view is that a shift has occurred in modernity, a shift that moves from artifact-based reading to fact-based reading. That is to say, we grasp the world increasingly from the outside in rather than from the inside out; we assume a concept of what we cannot see in order to define what we can. Globalism is an abstract that we explain by way of further abstractions. Neurath's example bears this point out to the extent that he dispenses with the idea that the modern city could be represented as a unified spatial plane, one that relies on object-driven understandings of scale and place. While Van Eesteren attempted to maintain an idea of the

city as a closed system, if he saw the city as something that could be reduced to the four basic functions, Neurath challenged us to consider whether the goals of modernist urbanism were not in fact driven by informational, rather than formal, concerns. That is to say, is it not possible that the idea of the global could itself be a convention? If so, what are the political stakes implied? My contention would be that in answering this question, we cannot forgo the possibility that "the global" might be a concept that further obscures something that we already don't understand. Although I don't think Neurath would have agreed with this diagnosis, I do think that his polemics against CIAM can help give us perspective on challenges intrinsic to the project of imagining the global.



Figure 1. Otto Neurath (left); Cornelis van Eesteren (right).

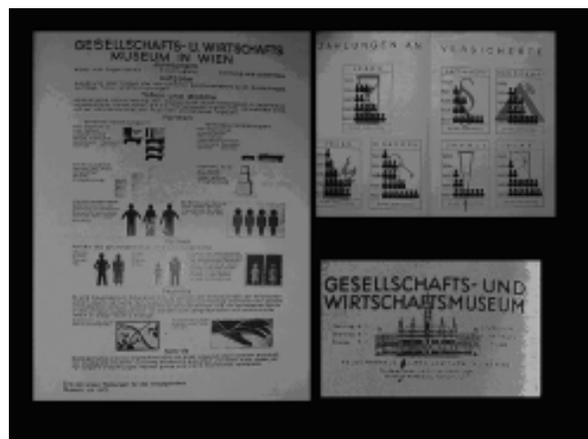


Figure 2. Poster for the Museum of Society and Economy (left); information graphic of the Museum of Society and Economy (right, top); letterhead of the Museum of Society and Economy (right, bottom).

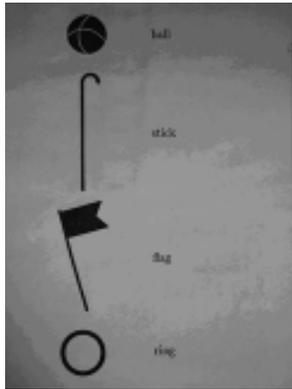


Figure 3. Otto Neurath, examples of ISOTYPES, 1936. (Source: Otto Neurath, *International Picture Language* (Reading: University of Reading Department of Typography & Graphic Communication, 1936, 16).



Figure 6. Map of Amsterdam at 1:10,000 scale, by Dutch CIAM delegation; intended as prototype for the Functional City congress. (Source: Martin Steinmann, ed. CIAM (Congres Internationaux d'Architecture Moderne): *Dokumente 1928-1939*. Basel: Birkhauser, 1979.)

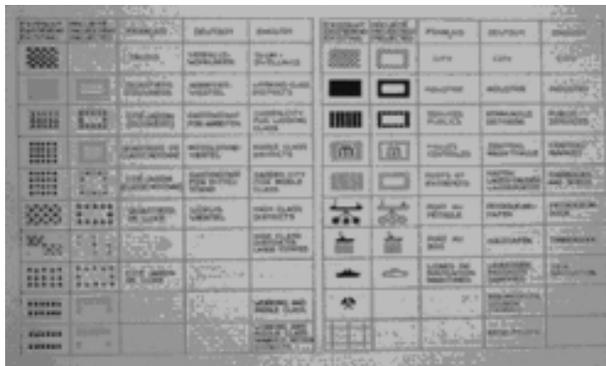


Figure 4. Graphic symbols intended for Functional City congress. (Source: Martin Steinmann, ed. CIAM (Congres Internationaux d'Architecture Moderne): *Dokumente 1928-1939*. Basel: Birkhauser, 1979.)



Figure 7. Map of Amsterdam at 1:50,000 scale, by Dutch CIAM delegation; intended as prototype for the Functional City congress. (Source: Martin Steinmann, ed. CIAM (Congres Internationaux d'Architecture Moderne): *Dokumente 1928-1939*. Basel: Birkhauser, 1979.)

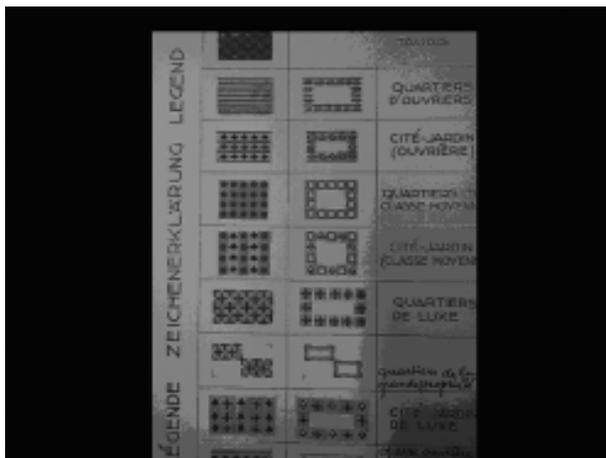


Figure 5. Detail of graphic symbols intended for Functional City congress. (Source: Papers of Cornelis van Eesteren, Netherlands Architecture Institute, Rotterdam)



Figure 8. Poster, Functional City Congress, Athens (1933). (Source: Papers of Cornelis van Eesteren, Netherlands Architecture Institute)



Figure 11. Neurath having a conversation with Alvar Aalto (center) and László Moholy-Nagy (right). (Source: Papers of CIAM, ETH Zurich).



Figure 9. Cornelis van Eesteren presenting analytical maps of the city of Amsterdam to CIAM delegates. (Source: Papers of CIAM, ETH Zürich)

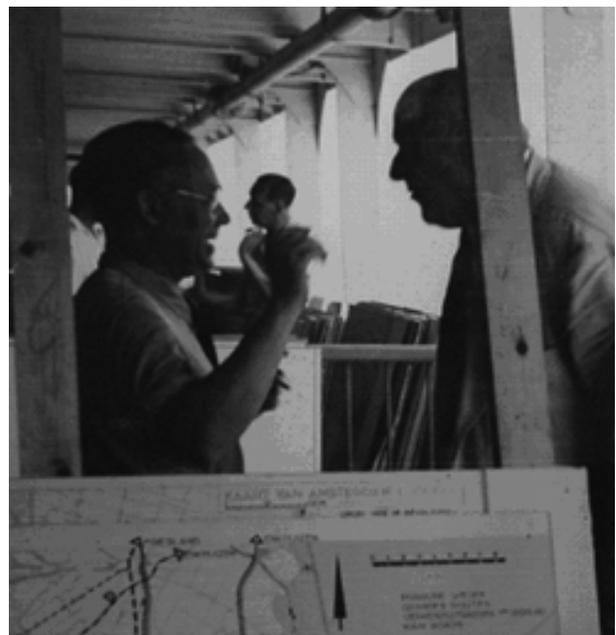


Figure 10. Sigfried Giedion speaking to Otto Neurath (Source: Papers of Cornelis van Eesteren, Netherlands Architecture Institute, Rotterdam)



Figure 12. Image of CIAM delegates at congress-wide meeting. Neurath is the bald gentleman sitting at the right. (Source: Papers of Cornelis van Eesteren, Netherlands Architecture Institute, Rotterdam)

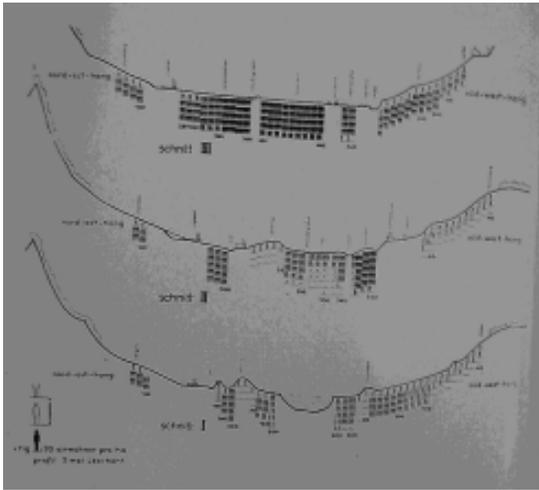


Figure 13. Swiss CIAM Delegation, Sectional view of population density in Zurich, 1933. (Source: G.A.T.E.P.A.C. "Conclusiones del IV Congreso Internacional del C.I.R.P.A.C. sobre la Ciudad Funcional." A.C.: Documentos des Actividad Contemporanea 3: 12 (1933): 12-42)

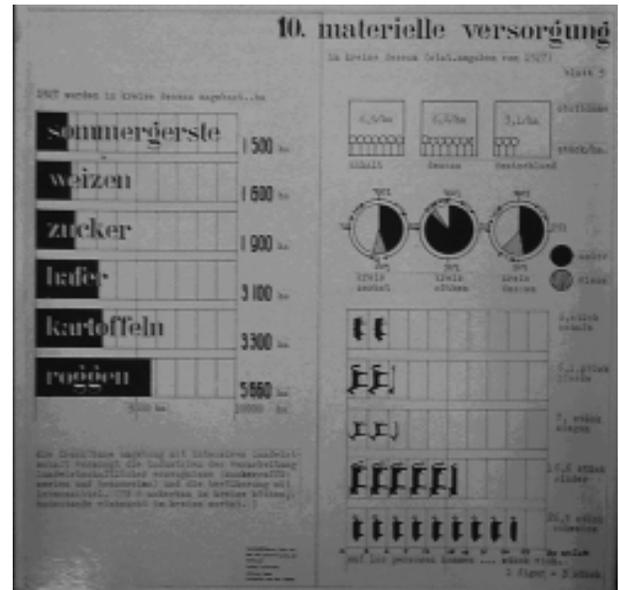


Figure 15. German CIAM Delegation, Study of the city of Dessau, 1933 (Source: Papers of Cornelis van Eesteren, Netherlands Architecture Institute, Rotterdam)



Figure 14 German CIAM Delegation, Study of the city of Dessau, 1933 (Source: Papers of Cornelis van Eesteren, Netherlands Architecture Institute, Rotterdam)

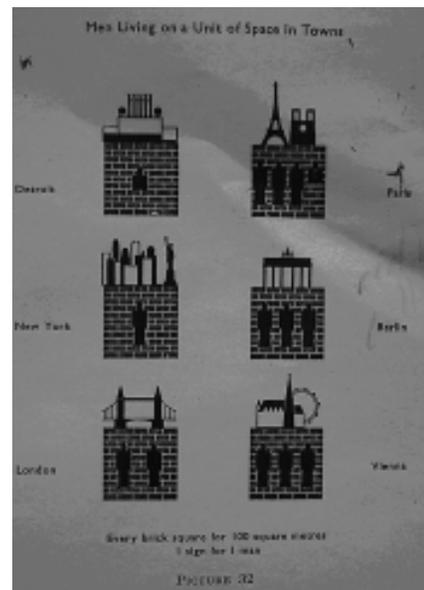


Figure 16. Museum of Society and Economy, "Men Living on a Unit of Space in Towns." Image included in Neurath's August 3, 1933 paper at "Functional City" CIAM congress in Athens (Source: Otto Neurath, International Picture Language (Reading: University of Reading Department of Typography & Graphic Communication, 1980, 54)

## NOTES

1. For a background to Van Eesteren's life and work, see Franziska Bollerey, "Cornelis van Eesteren, A Close-up," *Urbanismo*: 8 (1989). For a discussion of Van Eesteren's work at the Amsterdam Public Works department, see Mariette van Straalen, "Empirical Urban Analysis: The Collaboration between Van Eesteren and Van Lohuizen," *Daidalos* 69/70 (1998/1999); Vincent Van Rossem, "Amsterdam's General Extension Plan," *Planning Amsterdam: Scenarios for Urban Development (1928-2003)* Rotterdam: NAI Publishers, 2003). For a discussion of Van Eesteren's impact post-World War II, see Bart Lootsma, "Reality Bites: The Meaning of Research in the Second Modern Age," *Daidalos*: 69-70 (1998-1999).

2. Regarding Van Eesteren's work with Van Doesburg, see Paul Overy, *De Stijl* (London: Thames and Hudson, 1991) 172-175.

3. See Mariette van Straalen, "Empirical Urban Analysis: The Collaboration between Van Eesteren and Van Lohuizen," *Daidalos* 69/70 (1998/1999). See also Volker Welter, *Biopolis: Patrick Geddes and the City of Life* (Cambridge: MIT P, 2002).

4. Martin Steinmann, ed. *CIAM (Congres Internationaux d'Architecture Moderne): Dokumente 1928-1939*. Basel: Birkhauser, 1979. 114.

5. "Schon aus Gründen der Übersicht und der Vergleichsmöglichkeit bestand seit langem das Bedürfnis außer der Organisierung der eigenen Stadt und ihres Einzugsgebietes, auch die ähnlich strukturierter Städte in anderen Ländern kennen zu lernen. Dieser Überblick über die Gesamtentwicklung ist allmählich ein Bedürfnis jedes Architekten und jeder Behörde geworden, die sich ernsthaft mit städtebaulichen Problemen abgibt. Begründet liegt dieses Verlangen in der universalen Auffassung, die der heutigen Architekturentwicklung eigen ist./ Bis jetzt lagen aber nur schwache Ansatzpunkte für einen derartigen Überblick vor. Wenn überhaupt, so konnte nur durch persönliches Einzelstudium Einblick in die Funktionen und Lebensbedingungen der verschiedenen Städte gewonnen werden. Für dieses Gebiet, für das wir als Ganzes den Namen VERGLEICHENDER STÄDTEBAU vorschlagen möchten, brauchet es allererst eine Analyse bestehender Städte nach einheitlicher Methode. (Gleicher Maßstab, Anwendung gleicher Zeichen und gleicher Farben für gleiche Funktionen)." Cornelius van Eesteren, "Prospekt für die Funktionelle Stadt," *Papers of Cornelius Van Eesteren*, Netherlands Architecture Institute.

6. José Luis Sert had the following to say about the guidelines that Van Eesteren set for CIAM IV; the emphasis of course was on normification and standardization: "The significance of [these] analytical stud[ies] [was] that... for the first time, a universal basis for the com-

parison of cities was established. All plans were designed on the same scale and interpreted by the same symbols, so that slum areas, traffic problems, concentrations of population, location of industry, and other phases of urban life, in communities of widely differing character and in different nations and continents, could really be compared." José Luis Sert, *Can our Cities Survive?* (Cambridge: Harvard UP, 1942) 6.

7. Internal Memorandum of the International Congress for Modern Architecture," 1931, *Papers of Cornelius van Eesteren*, Netherlands Architecture Institute.

8. Eric Paul Mumford, *The CIAM Discourse on Urbanism, 1928-1960* (Cambridge: MIT Press, 2000) 81.

9. "Nous avons élaboré à Vienne une méthode de pédagogie basée sur la visualité l'image obtenue d'après la " méthode de vienne " se présente de la façon suivante : " Le premier regard nous renseigne sur les points capitaux, le second sur les phénomènes accessoires, le troisième sur les incidents. Si le quatrième nous apprend encore quoique ce soit, on peut affirmer que l'image est insuffisante. Cette méthode, nous l'avons appliquée notamment sur la statistique. Une plus grande quantité d'objets est représentée par une plus grande quantité de symboles éloquentes. " Otto Neurath, "L'Urbanisme et Le Lotissement du Sol en Représentation optique d'Après la Méthode Viennoise," 1933, *CIAM Papers*, Eidgenössische Technische Hochschule (ETH), Zurich, Switzerland.

10. "Nous nous considérons comme des agents exécutifs des spectateurs. Pour ce faire il est nécessaire de simplifier bien des choses et même d'en éliminer : celui qui saura faire le meilleur choix sera le meilleur pédagogue. " Otto Neurath, "L'Urbanisme et Le Lotissement du Sol en Représentation optique d'Après la Méthode Viennoise," 1933, *CIAM Papers*, Eidgenössische Technische Hochschule (ETH), Zurich, Switzerland.

11. "Je présente ici la densité d'habitation dans les grandes villes mondiales. Les villes sont caractérisées par des médallons, p.e. Paris par la Tour Eiffel et Notre Dame, Londres par le Pont sur la Tamise, etc., etc. On voit sur des carrés figurant la brique des figurines noires. A première vue on constate que dans les villes anglo-saxonnes il y a par 100 m<sup>2</sup>, moins d'habitants que dans les villes d'Europe centrale. Je n'entrerai pas dans des considérations pour savoir si le fait de l'habitation sur un seul ou sur deux étages détermine cette circonstance. " Otto Neurath, "L'Urbanisme et Le Lotissement du Sol en Représentation optique d'Après la Méthode Viennoise," 1933, *CIAM Papers*, Eidgenössische Technische Hochschule (ETH), Zurich, Switzerland.

12. "Je pense que nous pourrions mieux représenter une quantité de faits étudiés à cet congrès par des schémas semblables, plutôt que par des plans et des cartes géographiques. " Otto Neurath, "L'Urbanisme et Le Lotissement du Sol en Représentation optique d'Après la

Methode Viennoise," 1933, CIAM Papers, Eidgenössische Technische Hochschule (ETH), Zurich, Switzerland.

13. Laszlo Moholy-Nagy, "New Film Potentialities," Moholy-Nagy. ed., Krisztina Passuth. (London: Thames and Hudson, 1982) 320

14. "ich bin wirklich sehr froh darüber, dass du den congress mitgemacht hast, nicht nur weil du einen schönen congress-film gemacht hast und den schönen fotos die wir noch zu sehen bekommen werden, aber vor allem weil du an der congressarbeit so aktiv teilgenommen hast. Von neuem hat es sich bewiesen, dass an unserm congres

auch uns nahestehende nicht –architekten teilnehmen müssen. Besonders ist mir in erinnerung geblieben wie activ du an der besprechung mit Neurath teilgenommen hast – worin du immer das menschliche und psychologisch richtig wirkende in der diskussion nach vorne gebracht hast, sonst wären wir sicher zu viel dem etwas begrenzten system Neurath's zum opfer gefallen." Letter from Cornelis van Eesteren to László Moholy-Nagy, September 4, 1933, Papers of CIAM (Congres Internationaux d'Architecture Moderne), Institut für Geschichte und Theorie der Architektur, ETH Zürich (Switzerland).