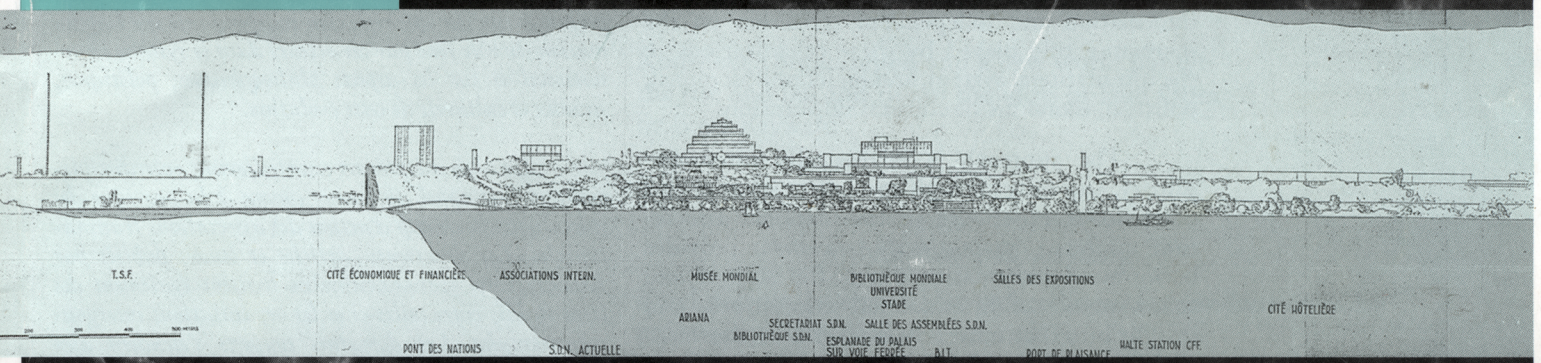
Special issue
Numéro Spécial

Transnational Associations

The review of the Union of International Associations



1-2/2003

L'œuvre de
Paul Otlet

Paul Otlet's
work

Revue trimestrielle
Janvier - Juin 2003
Bureau de dépôt Bruxelles X

Associations transnationales

La revue de l'Union des associations internationales

The Language of the World Museum: Otto Neurath, Paul Otlet, Le Corbusier

*by Nader Vossoughian**

*Doctoral candidate, Columbia University.
The author wishes to thank W. Boyd Rayward (University of Illinois at Urbana-Champaign) for his excellent editorial and research advice, as well as for his support. He also wishes to thank Friedrich Stadler (University of Vienna) for encouraging his work on Otto Neurath and for providing him with an intellectual context in Vienna that has been enriching both personally and intellectually. In Vienna, he is also most appreciative for the Gastfreundschaft of Elisabeth Nemeth (University of Vienna) and Volker Thurm-Nemeth. A significant debt is also owed to Matthew Specter (Duke) and Paul Ghils (Transnational Associations) for their editorial feedback. He is also indebted to archivists and research liasons Stéphanie Manfroid (Paul Otlet Papers, Mundaneum), Eric Kindel (ISOTYPE Archive, University of Reading), Evelyne Trehin (Fondation Le Corbusier, Paris), and Brigitta Arden (Rudolf Carnap Papers, University of Pittsburgh). He also thanks their respective institutions for allowing him permission to include the illustrations, diagrams, and photographs that appear in the article. For financial support, he wishes to thank the Austrian Exchange Service [Österreichischer Austauschdienst] and Columbia University's Graduate School of Architecture, Planning, and Preservation. At Columbia, he is particularly grateful to Dean Bernard Tschumi, Mary McLeod, and his dissertation sponsor Kenneth Frampton.

Transnational Associations **1-2/2003**, 82-93

By 1933, the Austrian Otto Neurath's Musuem of Society and Economy had opened satellite branches in Amsterdam, The Hague, London, Berlin-Kreuzberg, and Moscow. By 1933, Neurath had published his *Society and Economy* (1930) [Gesellschaft und Wirtschaft], *The Colorful World* (1929) [Die bunte Welt], *Technology and Humanity* (1932) [Technik und Menschheit], and *Pictoral Statistics according to the Vienna Method for Schools* (1933) [Bildstatistik nach der Wiener Methode in der Schule]. By 1933, Neurath was receiving visitors all over the world. By 1933, Neurath was traveling all throughout Europe and Asia. By 1933, Neurath was one year shy of leaving Vienna for good. National Socialism was gaining sway in Austria, and the Museum of Society and Economy in Vienna would become one its earliest casualties. This is not to say that all was lost, as in 1934 Neurath would be able to reestablish himself in The Hague, where he had only recently opened his International Foundation for Visual Education. Moreover, he was also taking his ideas about museums in new directions. In 1933, Neurath published a seminal statement in the progressive American social welfare journal *Survey Graphic* (a popularized version of its predecessor, the Pittsburgh-based journal of professional social work, *The Survey*), in which he made the bold (and somewhat grandiose) claim that the serial reproduction of modern museums could promote the democratization of culture in economic and cultural terms;[2] economically, Neurath reasoned, because Fordist, assembly-line production methods could help reduce costs incurred through the purchasing and displaying of exhibits; and culturally, he contended, because standardizing museums could foster a common sense of history and tradition world-wide. As Neurath remarked in the pages of *Survey Graphic*, "[t]o speak of the museum of the future is like speaking of the automobile of the future. Automobiles are manufactured in series and not produced one by one in a smithy."[3]

According to Neurath, just as he had perfected the standardization of museum displays during the 1920s – developing uniform standards for graphic representation, layout, and production – so too had he now reached a point where he was prepared to produce copies of his museum that he could disseminate all throughout the world. For him, the museum had become an increasingly ephemeral medium whose identity was no longer site-specific. Accordingly, he began to view the modern museum as a form of communication whose boundaries were no longer constrained by physical matter: "[j]ust as in Vienna the Department of Transformation has succeeded in securing complete unity of method," he wrote, referring to what would later be known as the Isotype or "International System of Typographic Picture Education," so our effort should be to create a similarly uniform method for all the museums of a country – yes, of the whole world. Only through a unified, planned, central control of all museums and educational institutions is it possible to lead the public from one museum to another with the greatest benefit to its education, and thereby to make the individual more and more familiar with the world in which he lives. Museums, exhibitions and periodicals might be regarded as three different means of education with the identical purpose of making him less afraid of the world in which he lives.[4]



Otto Neurath and Gerd Arntz. Axonometric study of a standardized museum space, c. 1938-1940.55 (Reproduced by permission from the Otto and Marie Neurath Isotype Collection, Department of Typography & Graphic Communication, The University of Reading, United Kingdon).

In order to realize his dream of a mechanically reproducible museum, Neurath began to work out, conceptually, "universal spaces," that is, exhibition halls that could be adapted to any geographical or cultural circumstance (Figures 1, 2).[5] He began

developing them in conjunction with the artist Gerd Arntz, whom he had met in 1926 and had been working with since 1928. On account of his contact with the German avant-garde (including, perhaps, the 1923 "*Prounen-raum*" studies of Lissitzky), Arntz, like Neurath, wanted to merge what objects *say*, semiotically speaking, with how they *appear*, in ontological terms. Arntz was a socialist concerned with making social reality accessible to the masses, and he sought accordingly to develop a visual idiom that could cast the plight of the working class in a dialectical light, that is to say, in relation to the larger economic "superstructure" of modern society. At the same time, Arntz wanted his work to be accessible and not overly abstract. His and Neurath's was thus a search for the primal beginnings of language (where "groups of people are truly represented by groups of people,"[6] as Arntz once put it), much as rationalist philosopher Leibniz had sought to achieve in his own work on the scientific origins of language. Arntz and Neurath sought to create "meta-Isotypes," that is, three-dimensional axonometric and two-dimensional elevation drawings that illustrated how, ideally, the graphic displays of the Museum of Society and Economy could to be standardized in space and time.

These representations, one of which appeared in Neurath's 1936 *International Picture Language* but have otherwise been buried in his archive, were important because they reflect Neurath's long-standing preoccupation with uncovering the *grammar* of three-dimensional reality, which is something he debated intensely with his friend and Vienna Circle interlocutor Rudolf Carnap from 1923 onwards. Carnap, who authored the *Logical Construction of the World* [Logischer Aufbau der Welt] in 1928, sought to theorize an ideal languange of philosophy, much as Neurath sought to theorize an ideal language of museum display. As Carnap would report in an October, 1928 letter to Neurath, "a logic, a method of concept building must be proposed [by someone] who has considered the fact that we are constantly confusing "crystals with dirt," who can propose rules for articulating scientific concepts and statements, so long as an "ideal language" does not exist."[7] Through mass standardization, Neurath believed he could help forge this new ideal language, if not for science then for society at large. He felt that the standardization of culture could help bring reason and rationality to the masses while also promoting global understanding.

What were the intellectual foundations of his quest for a "standardized" museum? Where did the impetus come from, intellectually speaking? What were some of the advantages to serially reproducing museums and how did this notion evolve from his earlier thinking? Although his relationship with Arntz was central, Arntz's input primarily came from his artistic ability, which refined the methods of the Museum of Society and Economy, as well as its world-wide image. Moreover, Arntz's left behind little in the way of an intellectual corpus that gives one the sense that he was an important conceptual instigator that helped further Neurath along. Second, Neurath's relationship with Carnap and the Vienna Cirle, though fruitful, dwelled largely on philosophical matters. Carnap was interested in popularizing scientific knowledge, but his early (pre-1933) correspondences with Neurath focused primarily on problems of language relating to the work of Mach, Poincaré, Bertrand Russell, and other eminent philosophers and scientists. Though Carnap was to give a series of lectures at the Bauhaus in 1929, even these presentations were largely theoretical, lacking concrete prescriptions and analyses.

In trying to account for Neurath's preoccupation with standardization and museums, a more compelling answer, I would argue, is to look at Neurath's relationship with the Belgian bibliographer and museum director Paul Otlet, whose efforts to consolidate the knowledge of the world into a single, common database paralleled Neurath's concern for democratizing the dissemination of culture and information. Otlet had founded his World Palace or "Palais Mondial" in 1910 with the intention of creating an international museum of world culture. In 1928, he initiated talks to create a great "World City [*Cité Mondiale*]" in Geneva, with assistance from Le Corbusier and his cousin Pierre Jeanneret. Neurath was inspired by the ambition and scope of Otlet's Wold City endeavor, and it undoubtedly exercised an indelible influence on him in terms of helping him elaborate further his thoughts on modern museums; Neurath wanted

I also wish to cite the continued support of my external advisor Detlef Mertins (University of Toronto).

2 An excellent background source on the history of Survey Graphic is Cara Finnegan, Social Welfare and Visual Politics: The Story of Survey Graphic. Available from http://newdeal.feri.org/sg/essay.htm.

3 Otto Neurath, "Museums of the Future," in Empiricism and Sociology, ed. Marie Neurath and Robert Stohne Cohen (Dordrecht: Reidel, 1973) 218.

4 Otto Neurath, "Museums of the Future," in Empiricism and Sociology, ed. Marie Neurath and Robert Stohne Cohen (Dordrecht: Reidel, 1973) 222.

5 There is great debate as to when Neurath and Artnz actually began experimenting with the design of standardized museums. The Otto and Marie Neurath Isotype Collection in Reading dates these studies to Neurath's latter years in Holland (approximately 1938-1940). I, however, would probably date their inception sooner (to as soon as 1935), given that Neurath had already published an elevation rendering of a "universal" museum space in his International Picture Language of 1936. See Otto Neurath, International Picture Language (Reading: University of Reading Department of Typography & Graphic Communication, 1980) 45.

6 Gerd Arntz, "Zur Methode des Gesellschafts- und Wirtschaftsmuseum in Wien," Arbeiterbildung in der Zwischenkriegszeit: Otto Neurath — Gerd Arntz. ed., Friedrich Stadler. (Vienna and Munich: Löcker Verlag, 1982). Originally published

in A-Z (1930)
7 "…eine Logik, eine Methode der Begriffsbildung aufgestellt werden mu_, die die Tatsache berücksichtigt, da_ wir stets Kristalle und Dreck gemischte vor uns haben, die also angibt, welche Forderungen an wissenschaftliche Begriffe und Aussagen zu stellen sind, solange die "ideale Sprache" nicht vorliegt." Rudolf Carnap. Letter to Otto Neurath, October 7, Rudolf Carnap Collection, University of Pittsburgh Library, 1928.
8 Otto Neurath, International Picture Language (Reading: University of Reading Department of Typography & Graphic Communication, 1980) 64.
9 For a more in-depth treatment of Otlet's life and career, see W. Boyd Rayward, "The Origins of Information Science and the International Institute of Bibliography/International Federation for Information and Documentation (FID)," Journal of the American Society of Information Science 48 (1997). Avail. online via http://alexia.lis.uiuc.edu/~wrayward/otlet/OriginsofInfoSci.htm; W. .Boyd Rayward, "The Case of Paul Otlet, Pioneer of Information Science, Internationalist, Visionary: Reflections on Biography," (1991). Avail. online via http://alexia.lis.uiuc.edu/~wrayward/otlet/PAUL_OTLET_REFLECTIONS_ON_BIOG.HTM; W. Boyd Rayward, "Introduction," International Organisation and Dissemination of Knowledge: Selected Essays of Paul Otlet, ed., W. Boyd Rayward (Amsterdam: Elsevier, 1990).
10 For a treatment of Geddes' contribution to the Paris World's Fair, see Philip Boardman, The



Paul Otlet's World Museum c. 1914 (Reproduced by permission from the Paul Otlet Archive, Mundaneum, Mons, Belgium).

to bring knowledge and rationality to the masses, and he recognized in Otlet's vision of a World Museum a means of achieving this ideal in the realm of cultural production: "[i]n our own day Paul Otlet (Palais Mondial, Brussels) is taking a step further," Neurath wrote in 1936. "His idea is the building of a '*cité mondiale*' for the organization of museums and the distribution of printed materials and pictures. He made a start to get together picture material from all countries. He has the desire to get museums of a new sort started in all countries: MUNDANEUMs, that is, museums of man's development."[8] In hindsight, Neurath probably mischaracterized Otlet's goals (the idea of standardizing museums throughout the world was more his dream than Otlet's), but Otlet nevertheless helped Neurath adapt his ideas about museums to the global arena, to consider how his philosophy about museums and visual communication could be executed on an international scale.

Otlet began the World Palace with exhibits drawn from the 1910 Brussels World's Fair. He started it with help from Henri La Fontaine, with whom he collaborated on the creation of a mammoth card catalog from 1895 onwards (the catalog boasted 1.5 million entries in 1897 and over 9 million by 1912).[9] The creation of the World Palace drew inspiration (if partially) from the Scottish naturalist and town planner Patrick Geddes, a figure who played a significant role in the World's Fairs of 1900 (Paris) and 1910 (Brussels). Geddes had himself had dreamed of creating a universal 'index museum to the world' during the last decade of the nineteenth century.[10] Otlet, like Geddes, believed that museums and exhibitions were forums for showcasing the unity of human knowledge, and he sought to create a microcosm of the world that he could nurture and cultivate in a single enclosed space. As Otlet wrote in 1914, "[the museum] tends to become a world in miniature, a cosmoscope that permits the viewing and understanding of man, society, [and] the universe."[11] At the World Palace, Otlet stressed uniformity and coherence ("it must be a museum of average types and standards,"[12] he wrote), and in the curating of displays he was partial to innovations in transportation and communication (e.g., the creation of canals, the postal service, the telegraph, the telephone, etc.). For Otlet, the world of communication represented the "glue" that brought the world ever closer together, much as Geddes' own intellectual forebearer, Friedrich Le Play, had believed that a statistically-based "science of culture" could bridge cultural differences between peoples in France and elsewhere.[13] Over the years, Otlet featured model airplanes and scientific tools and instruments, geographical maps and diagrams representing the earth and all its nations (Figure 3). There were vitrines laid out for the viewing of precious objects, and installations hung from all corners. There were projectors old and new, and gadgets drawn from the ages: microscopes, telescopes, navigation devices, and printing tools. Otlet organized exhibits geographically by nation or region and comparatively according to research methodology (e.g., historical, biological, or statistical analysis).

During the 1920s, Otlet increasingly came to came to see his World Palace as a public space that brought people and ideas of different nationalities together, as well as a place to consolidate and manage disinterested information. Post-1930, this would exercise a significant influence on Neurath, who shared Otlet's view that museums could serve social, as well as intellectual, ends. In 1924, Otlet drafted his first statements calling for the creation of a global 'Mundaneum' (also known as the *cité mondial*), which he believed should include a university, library, museum, and public gathering hall. Promoting public intercourse was important for him, as "[t]he repercussions of interdependence

can become too cramped, engenders violence, disorder, disastrous chaos… if the idea of organization does not carry with it coordination and does not sublimate interdependency to the point of solidarity."[14] In 1928, Otlet solicited concrete architectural proposals for the World City from Le Corbusier and his partner and cousin Pierre Jeanneret. Although Otlet would have had reason to select the Belgian Garden City designer Louis van Swaelmen (1883-1929) instead (van Swaelman had created a prototype World City outside Brussels), he decided upon Le Corbusier because of his international prestige and his previous involvement in the 1927 League of Nations competition.[15] Le Corbusier and Jeanneret had been disqualified from the competition, for reasons that many found dubious (they submitted printed rather than ink drawings), yet the project led to the publication of Le Corbusier's *Une Maison – un Palais* in 1928, which included a variation of their League of Nations scheme.[16] Though the Marxian arm of the architectural avant-garde (led by the Czech critic Karel Teige) denounced Le Corbusier and Jeanneret's League of Nations entry (they found it overly sculptural and metaphorical), moderate internationalists (Otlet included) embraced the scheme's poetic qualities despite its seeming departure from functionalist dogma: it integrated Le Corbusier's novel *pilotis*-based structural system, creating large, open spaces built of steel and reinforced concrete (the new materials of the day), but its grand entrance and picturesque gardens were reminiscent of Baroque palace architecture.

In their joint publication *Mundaneum* (1928), Otlet and Le Corbusier outlined their plans for the World City. Otlet stated that the project was to be built on the shores of Lake Geneva, consisting of "a scientific association, museum, library, university, and institute… Together, they assume the functions of research, documentation, discussion, collaboration, and teaching."[17] According to Otlet, the goal of the World City was to "have as its object the demonstration of the actual state of the world, of its mechanisms, complexity… the general problems that impose themselves upon the attention of a people and its citizens and its leaders."[18] Otlet did not spell out how anyone would actually *live* in the world city, but he did stress that its core buildings would house information about history, science, the arts, education, geography, and sociology: "The museum will have presentations of objects and collections of materials," Otlet wrote, "but its intention will be essentially to visualize ideas, feelings, [and] intentions that lie behind. It will be an "Idearium.""[19] Otlet stated that the World City would set bibliographical and documentary standards for the maintenance and preservation of cultures around the world and that it would act as a a meeting place to discuss and exchange political, social, and cultural ideas. Its mission resembled that of the League of Nations in that it sought to foster peace and security, but it differed in that its role was primarily to be cultural and intellectual. The World City was to maintain a network of relationships with regional museums and institutions from around the world, the majority of which would be beholden to uniformly applied guidelines.



Arial view of Le Corbusier and Pierre Jeanneret's proposed Mundaneum design. (Reprinted from Paul Otlet, *Mundaneum* (Brussels: L'Union des Associations Internationales, 1928).

In their design, Le Corbusier and Jeanneret sited a series of low-rise residential units along a garden-draped boulevard which opened onto a sports complex and the World City's campus proper (Figure 4, 5). Their public buildings, organized around the proposal's minor axis, featured wide-open plazas that allowed each structure to assert its distinct identity. They made provisions for docking and railway stations, an airport, highway, and extensive system of footpaths. Although in his conceptual schemas Otlet

Worlds of Patrick Geddes: Biologist, Town Planner, Re-Educator, Peace-Warrior (London: Routledge & Kegan Paul, 1978) 178-184; Pieter van Wesemael, Architecture of Instruction and Delight : A Socio-Historical Analysis of World Exhibitions as a Didactic Phenomenon (1798-1851-1970) (Rotterdam: 010 Publishers, 2001) 433.

11 "*Par leur moyen, il tend devenir un Monde en miniature, un Cosmoscope, permettant de voir et de comprondre l'Homme, la Société, l'Univers.*" Paul Otlet, *Le Musée International: Notice-Catalogue* (Brussels: Office Central des Assiciations Internationals, 1914) 7.

12"*Ce doit être un Musée des meilleurs types et des standards.*" Paul Otlet, *Le Musée International: Notice-Catalogue* (Brussels: Office Central des Assiciations Internationals, 1914) 7.

13 See Paul Otlet, Le Musée International: Notice-Catalogue (Brussels: Office Central des Assiciations Internationals, 1914) 9.

14"Les répercussions de cette interdépendance devenue plus 'étroite, engendreront désormais violence, désordre, chaos plus désastreux encore si l'idée d'organisation n'y vient apporter coordination et sublimer l'interdépendance elle-même jusqu'à la solidarité." Paul Otlet, Mundaneum (Brussels: L'Union des Associations Internationales, 1928) 3.

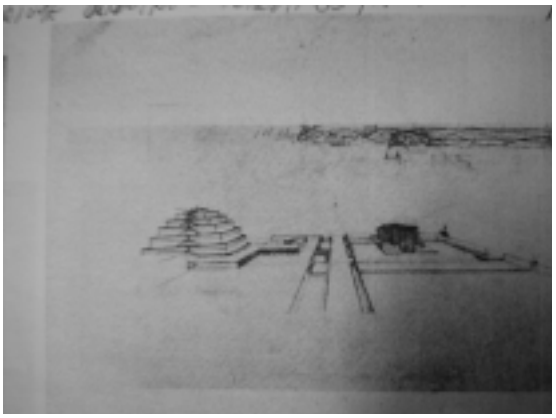
15 See Paul Otlet, Le Musée International: Notice-Catalogue (Brussels: Office Central des Assiciations Internationals, 1914); Kenneth Frampton, "The Humanitarian v. the Utilitarian Ideal," Architectural Design 38: 3 (1968).

16 Kenneth Frampton, Le Corbusier (New York: Thames & Hudson, 2001)

intended that the World City be conceived on an global scale (in relation to other intellectual centers world-wide), as well as on an architectural and regional level, Le Corbusier focused almost exclusively on the project's relationship to its immediate physical location. He made extensive provisions for automobile facilities and transportation infrastructure, but he entirely ignored larger-scale telecommunications issues, many of which were already being discussed by architects and planners during the 1920s. Instead, Le Corbusier and Jeanneret focused primarily on the planning of the World City "campus" itself, many of whose buildings looked more inward than outward. Indeed, the focal point of their design was the ziggurat-shaped World Museum ("[t]he terrain has its culminating point at the place of the World Museum," Le Corbusier wrote[20]), whose profile dominated the World City's skyline. Seemingly withdrawn from the world, unfolding, as Le Corbusier describes it, like a film "[in] slow motion," the World Museum was to narrate the history of mankind from its primal beginnings. As Le Corbusier commented,

This form is a triple nave that unrolls along a spiral. At the start of the spiral: on top, pre-historic times… then the first historical epoch. And descending the spiral, the following [historical epoch] and the next, the entirety of world civilization. History and archeology accumulate more and more documents. We learn more and more how man maintained himself through different periods of cultural organization. The diorama becomes more and more vast and more and more precise. The spiral enlarges its spiral, the space is augmented. The exhibition of objects in space and time provoke [one] like a clamor getting stronger and stronger. Everything is linked together; every act, crazy, egotistical, reckless, or disinterested, has its consequence. The map of the world gets larger, modifies, pounds like a… prize in a slow-motion cinema. What a lesson! [21]

Le Corbusier's World Museum symbolized both the end and beginning of history, bringing a new "globalized" order to fruition, as Otlet would have termed it, and inaugurating (symbolically speaking) a period of harmony and cooperation between the countries of the world.



Perspective View, World Museum. (Reproduced by permission from the Le Corbusier Archive, Fondation Le Corbusier, Paris, France).

It was to contain – as Le Corbusier reports — "statistics and iconographies, graphics situated throughout," as well as "images, scientific reconstructions… products natural and artificial, etc."[22] It was to be a testament to the emergence of a new "global" consciousness, one that transcended the nationalisms that defined the nineteenth century. For Le Corbusier, the World Museum was a gathering point for the world's citizens that brought together all aspects of culture and society into a single place, and allowed for the democratic exchange of ideas and beliefs at a neutral site. Above all, its helicoidal shape evoked the Biblical Tower of Babel.[23] In other words, Otlet and Le Corbusier sought to evoke the primal "origins" of culture, much like Neurath and Arntz later on in the 1930s. Faced with the fallout from the first World War – the antagonisms, the buried enmity, the fear of further conflict – Le Corbusier wanted to give nations a means by which to develop a common sense of history and tradition, and he and Jeanneret seized on the ziggurat form as a means of representing global unity. This was in the spirit of Le Corbusier's "purist" works, a stage in his career that ran concurrently with his work on the World City. For Le Corbusier, as well as for the painter Amédée Ozenfant (with whom he started the purist movement), purism was an aesthetic that restored unity to art and architecture, reviving Platonic geometries and ideal proportional systems. For Le Corbusier, the World City and its ziggurat-shaped World Museum

83-84.

17"*C'est l'Association scientifique, le Musée, la Bibliothèque, l'Université, l 'Institut. Ensemble ils assument les fonctions de recherche, de documentation, de discussion, de collaboration, d'enseignement.*" Paul Otlet, *Mundaneum* (Brussels: L'Union des Associations Internationales, 1928) 6.

18[His goal was to] "avoir pour objet une démonstration de l'état actuel du monde, de son mécanisme, compelex… des problèmes généraux qui s'imposent d'une manière permanent à l'attention des peuples et à leurs dirigeants." Paul Otlet, Mundaneum (Brussels: L'Union des Associations Internationales, 1928).

19"[Le musée] y aura présentation d'objets et d'ensembles matériels, mais le but essentiel sera de visualiser les idées, les sentiments, les intentions placés à l'arrière… Ce sera un"Idearium."" Paul Otlet, Mundaneum (Brussels: L'Union des Associations Internationales, 1928).

20 Paul Otlet, Mundaneum (Brussels: L'Union des Associations Internationales, 1928) 33.

21"Cette forme est une triple nef se déroulant au long d'une spirale : en haut, les temps préhistoriques et la représentation succincte – d'ailleurs saissante – que nous en avons. Puis les premières époques dites historiques. Et descendant la spirale, à la suite les unes des autres, toutes les civilisations mondiales. L'histoire et l'archéologie accumulant de plus en plus les documents. Nous savons de plus en plus comment l'homme s'est maintenu à travers les formes différentes de l'organisation et de la culture. Le diorama devient de plus en plus vaste et de plus en plus précis. La spirale agrandit son déroulement,

were but further iterations of the desire for absolute clarity and proportion, derived as they were from the Pythagorean Golden Section.

Inspired by the same spirit of pacificism and global peace, Neurath shared Le Corbusier's longing for peace and cooperation between nations. Like Le Corbusier, he also believed that appealing to "universal" systems of representation – whether pictoral graphics or Golden Sections – could help mend the world's differences on a cultural and social level. More than simply internationalists, however, the triumvirate Neurath, Otlet and Le Corbusier viewed human beings as *biological* animals whose faculties of perception were identical for everyone, regardless of ethnicity or belief. Indeed, increasingly over the course of the 1930s, Neurath would characterize his pictoral graphics as signs whose grammar and syntax was naturally suited to the "in-born" proclivities of the optic nerves. Similarly, from his early writings on purism onwards, Le Corbusier spoke of his abstract geometries in terms of their being projections of "primary sensations" native to human experience. As for Otlet, he considered himself an apologist of the empiricist philosophy of Herbert Spencer, August Comte, and the rationalist legal scholar Edmond Picard, and he believed passionately that the ordering of human knowledge could be conducted as rationally as the ordering of nature herself.[24]

Yet differences would also emerge in their work. Neurath, for one, was deeply inspired by the grandeur of Le Corbusier's World City design, but in his own collaborations with Otlet he began to emphasize the "decentralizing" and "decentering" tendencies exhibited by mass forms of communication, as well as by modern museums. In other words, while Le Corbusier conceived of the World Museum as a hermetically-sealed facility, Neurath interpreted Otlet's vision on a much more comprehensive scale. He wanted to dispense as much information as possible to as many people as possible. Le Corbusier picked up on the monasticism latent to Otlet's thinking, while Neurath spun out a more "public" interpretation of his work that made the undifferentiated masses its focal point, rather than the contemplative museum connoisseur. This effort to forge a "museum for the masses" was not new to Neurath. In Vienna, he was known to entice herds of strangers out of street cars and into his Museum of Society and Economy for a late-night tour (no doubt much public pleading was involved). He boasted, in addition, that two thousand visitors saw his museum daily, usually during quick coffee breaks from work. Nevertheless, Neurath gained a great deal from his exchanges with Otlet, particular with regard to standardization. In the World City, "[o]ne will collect and conserve objects," Otlet wrote, "but they will never have to be rare or precious, [as] copies and reproductions will suffice in backing up ideas".[25] In many regards, Neurath picked up on just this sentiment and put it to the furthest extreme. If you can reproduce an entire collection, why can't you copy entire museums, building included? As I hope to show, Neurath was to stress this vein of thinking in his own work, but only after engaging Otlet's ideas for an extensive period of time.

Neurath first visited Otlet at the World Palace in the summer of 1929. Neither of them spoke the other's language fluently (Neurath wrote in his native German, while Otlet, in French), yet they felt an immediate affinity that smoothed over any communications barrier. "I would like to repeat again," Neurath wrote in a letter date July 6th, immediately after his return from Brussels, "that the incredibly set-up of you museum, [your] tough chase after all-encompassing international plans made a deep impression on me. I would happily guess, provided we orient our workshops and scientific partnership toward doing quality work in the service of the future Mundaneum, that we would be able to give your plans a technically complete shape [*Gestalt*] and complement our own work."[26] A week later, Neurath forwarded Otlet the mission statement of his Museum of Society and Economy, which he had published in Vienna's *Österreichische Gemeinde-Zeitung* [Austrian Municipal News] in 1925.[27] In that 1925 document, Neurath asserted that there was an unspoken demand for social museums in contemporary culture, that is to say, institutions that could relate the importance of macro-social forces (the balance of trade between nations, for example) to the everyday life of the average worker. He lamented the then-prevalent tendency of equating museums with "curiosity cabinets" (i.e.,

la place augment. L'exposition des objets dans le lieu et le temps provoque comme une clameur de plus en plus forte. Tout s'enchaîne ; tous les actes fous, égoistes, téméraires ou désintéressés ont leur conséquence… La carte du monde grandit, se modifie, palpite comme une floraison prise au ralenti du cinéma. Quel enseignement !" Paul Otlet, *Mundaneum*, (Brussels: L'Union des Associations Internationales, 1928) 36-37.

22"…les statistiques, l'iconographie, les graphiques situent tout" ;"…les graphiques, les images transmises, les reconstitutions scientifiques, etc… [d]es produits naturels ou artificiels, etc."Paul Otlet, *Mundaneum* (Brussels: L'Union des Associations Internationales, 1928) 36-37.

23 For a treatment of the symbolic and cosmological significance of the World Museum, see Alfred Willis, "The Exoteric and Esoteric Functions of Le Corbusier's Mundaneum," *Modulus* (1980-1981).

24 Dario Matteoni and Giuliano Gresleri, *La Città Mondiale* (Venice: Marsilio Editori, 1982) 65.

25 "On collectionnera et on conserva des objets," he writes,"mais ils ne devront pas nécessairement être rares ou précieux, des copies et des reproductions étant suffisantes pour venir à appui des idées." Paul Otlet, *Mundaneum* (Brussels: L'Union des Associations Internationales, 1928) 10.

26"Ich möchte aber nochmals wiederholen," reported an emphatic Neurath in a July 6th letter, "da_ mir die gewaltige Anlage Ihres Museums, die zähe Verfolgung umfassender internationaler Pläne tiefen Eindruck auf mich gemacht hat. Ich

würde mich glücklich schätzen, wenn wir unsere auf Qualitätsarbeit eingestellten Ausstellungswerkstätten und die wissenschaftliche Arbeitsgemeinschaft dauernd in den Dienst des zukünftigen Mundaneums stellen dürfen, um Ihren Plänen technisch jeweils eine möglichst vollkommene Gestalt zu geben und um manches aus unserer Arbeit heraus zu ergänzen. Ich glaube, da_ unser Archiv für pictographische Erziehung und unser Archiv für Sozialstatistik manches enthalten wird, was Ihnen und Ihren Mitarbeitern zusagt." Letter from Otto Neurath to Paul Otlet, July 6, 1929, Paul Otlet Papers, Mundaneum.

27 Letter from Otto Neurath to Paul Otlet, July 6, 1929, *Paul Otlet Papers*, Mundaneum.

28 Otto Neurath, "Gesellschafts- und Wirtschaftsmuseum in Wien," Gesammelte Bildpädagogische Schriften. vol. 3. eds. Rudolf Haller and Robin Kinross. (Vienna: Hölder-Pichler-Tempsky, 1991) 2. Originally published in Österreichische Gemeinde-Zeitung. 2:16 (1925): 1-12

29 W. Boyd Rayward, "Introduction," International Organisation and Dissemination of Knowledge: Selected Essays of Paul Otlet, ed., W. Boyd Rayward (Amsterdam: Elsevier, 1990) 5.

30 World Federation of Education Associations: Third Biennial Conference, Geneva, Switzerland, July 25-August 4, 1929, 1929, Paul Otlet Papers, Mundaneum.

31 "Während des Kongresses des Weltverbandes der pädagogische Vereinigungen in Genf, Juli-August 1929, wurde am 31. Juli in einem Aussschu_ internationalen



List of listeners in attendance at Paul Otlet's August 2nd, 1929 World City presentation at the Union of International Associations meeting. Otto Neurath's name is third from the top. (Reproduced by permission from the Paul Otlet Archive, Mundaneum, Mons, Belgium).

places for housing strange and exotic objects), and he called upon like-minded socialists to embrace the use of mass media technologies (e.g., "models, films, slide shows, also illustrations, lectures, publications and all other appropriate means") in a museological context.[28]

Towards the end of July, in 1929, Neurath traveled to Geneva to hear Otlet speak at the annual meeting of the Union of International Associations, an organization Otlet started in 1910 with the aim of providing an "international framework for intellectual relations" for museums, universities, libraries, and intergovernmental organizations all throughout the world.[29] This two-day summit, which took place from the 2nd to the 3rd of August, ran in conjunction with the third biennial conference of the World Federation of Education Associations, where Otlet and his World Palace presented an exhibit entitled "Atlas of Civilization" between July 25 and August 5, 1929 (Figure 6).[30] That Neurath was eager to engage Otlet's ideas is attested to by the fact that he was among the first to enter his name among those who attended Otlet's World City presentation (Figure 7). Moreover, during the World Federation of Education Associations meeting, Neurath and Otlet publicly announced plans to begin to work on a series of book and exhibition projects. "During the Congress of the World Federation of Education Associations in Geneva, July-August 1919," Neurath later wrote, "in a July 31st board meeting of the international participants of the exhibition, at the suggestion of the World Association of People's Federations, under the auspices of Mr. Maurette, the department chief of the International Worker's Bureau, Director Otlet and Director Neurath decided to establish an institution which would have as its task the creation of an Atlas of World Culture."[31]

In October of 1929, Otlet and Neurath formalized this announcement by signing a joint protocol agreement which pledged extensive cooperation between their respective institutions. The agreement, tenable for a period of two years, was known as the "*Novus Orbis Pictus* N.O.P., Brussels, Geneva, Vienna Protocol." The acronym "N.O.P.," literally "*New Orbis Pictus*," was a reference both to the initials of Otlet and Neurath and to an early encyclopedic picture book by Johann Amos Comenius known as *Orbis Sensualium Pictus* (1658) (Figure 8). It called for the creation of an autonomous entity that would oversee relations between the Museum of Society and Economy and the World Palace. The N.O.P. was to be overseen by Anna Oderfeld and Lothian Small of the World Association of People's Federations [*Weltverband der Völkerbundlingen*], who were based in Geneva, but the core parties were still Otlet and Neurath themselves.

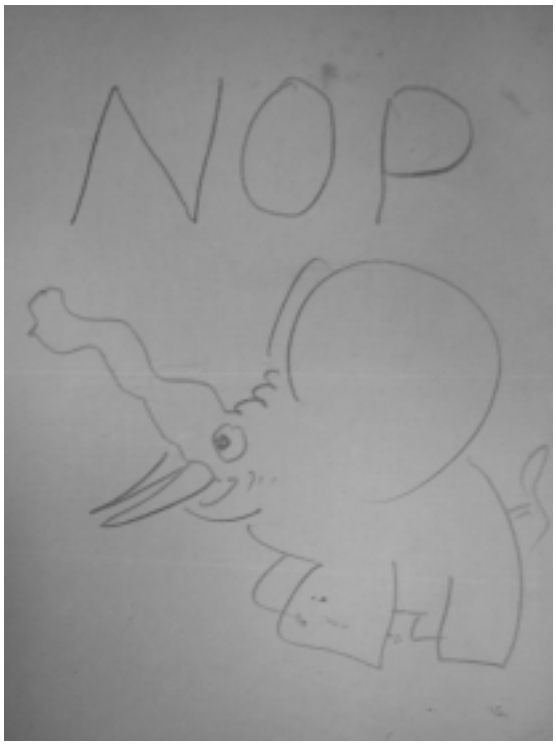
In effect, the mission of the N.O.P. was to campaign for the creation of a network of museums dispersed throughout the world and to publish a series of books on a range of subjects; specifically, a universal atlas containing geographical, climactic, social, and economic maps about all regions of the world and their histories; a "specialist atlas" for individual professions and targeted age groups; a world encyclopedia, with images and accompanying text; a children's book series, a children's newspaper, and an adult newspaper. The museums, on the other hand, known as Mundaneums, were to be standardized according to specifications drafted jointly by the Museum of Society and Economy and Otlet's World Palace. As stated in the statutes of the protocol agreement (which Neurath drafted, but with Otlet's blessings), "[t]he Institute "Novus Orbis Pictus," hereinafter called

"N.O.P.," seeks to promote enlightenment through pictures, in particular books and exhibitions." [32] The document adds,

The Atlas of World Culture "Novus Orbis Pictus" should be disseminated throughout the world, the material of the World Museum ("Mundaneum") copied in as many regional museums as possible. Thus the World Museum will consist primarily of reproducible pieces stuck together. The Institute will seek to collaborate with associations and learned organizations from all countries, in particular international organizations. Both creations of the N.O.P. have been established with the interest of consolidating scientific research, as well as spreading and democratizing knowledge and its instruments to disseminate social education throughout the world.[33]

Neurath and Otlet divided up their responsibilities as follows: while the Museum of Society and Economy was to look after resolving design issues – the construction and maintenance of exhibits, as well as overseeing publication of the atlas of civilization – the World Palace was to assume control of assembling, classifying, and organizing each project on a macro-level.[34] "What we from the Mu-So-Ec [Museum of Society and Economy] will contribute would be the method of pictoral statistics and the systematic cartographic execution [of projects], as well as the intensive wish to illustrate all chrono[grams], topo[grams], and quanto[grams] through copies, texts, etc.," Neurath wrote. "What the World Palace would be contributing would be a striving toward comprehensiveness and systematicity in the early stages of work, the abundance of objects, pictures, contemporary artistic expressions of all kinds, distinguishing text, and the wish to be as exacting as possible."[35] Neurath added that the World Palace would be expected to continue its work with Le Corbusier and Jeanneret on the World City in Geneva, and that this city, if built, would "anchor" and administer the dissemination of knowledge to individual Mundaneum institutes.

In the fall of 1929, Otlet visited with Neurath in Vienna, where he and his wife enjoyed the company of Neurath, his wife Olga Hahn, his collaborators at the Museum of Society and Economy, and officials from the Vienna municipal government.



Sketch by Otto Neurath. Acronym "NOP" refers both *to Novus Orbis Pictus* and the first and last initials of Otlet and Neurath. The elephant represents Neurath himself (it was a common way for him to sign his letters). (Reproduced by permission from the Paul Otlet Archive, Mundaneum, Mons, Belgium).

The two sought to build unity between their institutions, familiarizing themselves with the other's work. At the same time, they sought to solicit sponsorship from curators, museum directors, scientists, and politicians from all of the world.

One of their earliest allies was the American journalist, author, and curator Waldemar Kaempffert, who directed the Chicago Museum of Science and Industry between 1928 and 1931. Kaempffert was a science editor at The New York Times from 1927 to 1928, and again from 1931 onwards, and was instrumental in bringing Neurath's ideas to the United States during the 1930s. As Kaempffert maintained in his two-volume *Popular History of American Inventions* (1924), he believed (much like Nuerath) that the organization of large-scale, technologically-based systems of power was key to the democratization of knowledge and culture.[36] Kaempffert was very receptive to Neurath and the N.O.P., particular-

Teilnehmer der Ausstellung, über Anregung des Weltverbandes der Völkerbundlingen, unter dem Vorsitz des Herrn Maurette, Departementchef des Internationalen Arbeitsamtes, Direktor und Direktor Neurath die Einrichtungen eines Instituts übertrage, da_ die Schaffung eines Weltkmultur-Atlasses zur Aufgabe hat." Otto Neurath, Paul Otlet, Anna Oderfeld, and Lothian Small, "Novus Orbis Pictus" (NOP), Brüssel-Genf-Wien Protokoll, 1929, Paul Otlet Papers, Mundaneum.

32"Das Institut"Novus orbis pictus", im folgenden immer N.O.P genannt, ist dazu bestimmt, bildhafte Aufklärung auf jede Weise, insbesondere durch Veröffentlichlichungen und Ausstellungen zu unterstützen." Otto Neurath and Paul Otlet, Statuten des "Novus Orbis Pictus" NOP, Brüssel-Genf-Wien, 1929, Paul Otlet Papers, Mundaneum.

33"Der Weltkultur-Atlas"Novus orbis pictus" soll in möglichst vielen Ländern verbreitet werden, das Material des Weltmuseums ("Mundaneum") in möglichst vielen Landesmuseen kopiert werden. Daher wird das Weltmuseum vorwiegend aus reproduzierbaren Stücken zusammengesetzt werden. Das Institut wird die Mitarbeit von Vereinen und Gelehrten aller Länder, insbesondere die der internationalen Organisationen zu gewinnen suchen. Beide Schöpfungen des N.O.P. sind Einrichtungen im Interesse der Verbindung wissenschaftlicher Forschung, sowie der Verbreitung und Demokratisierung des Wissens und Instrumente zur planmäßigen Ausbreitung sozialer

ly with respect to the former's suggestion that forming a large-scale "museum cooperative" could help coordinate the dissemination of knowledge. "The idea that a unified supply of museums should exist, led us to the thought of building a museum cooperative," Neurath wrote, "whose technical work, inasmuch as it entails photocopies and other such work, could be carried out in Chicago (at your museum); inasmuch as it entails pictoral representations or certain building models, it could be done by us in Vienna, where the technical work of the N.O.P. is concentrated. As soon as I hear Otlet's position on these plans, I will make a more concrete offer to you. I cannot say anything definitive on behalf of the N.O.P. without Otlet."[37] Kaempffert relationship with the N.O.P. was more an intellectual kinship than anything, but nonetheless he did visit Neurath and Otlet on separate occassions in the fall of 1929. Moreover, in 1932 his Museum of Science and Industry hosted an exhibit about coal mining and manufacturing, which Neurath curated under the auspices of the Museum of Society and Economy.

In tandem with his hopes of creating a "rational" cooperative organization for museum curators and directors, Neurath and Otlet initiated talks with the International Rationalization Institute [*Internationales Rationalisierungs-Institut*], with whom they hoped to carry out a number of traveling exhibitions. Neurath also cultivated ties with the mayor of Magdeburg (in Germany), to whom he "suggest[ed]… the creation of a permanent museum,"[38] while Otlet courted authorities in Poznan, Poland. "We see the institution [the "*Poloneum*," Otlet called it] being established in the capital of Varsovie."[39] Otlet wrote to the Soviets with a proposal to build "regional museums and historical museums of civilization,"[40] while Neurath contacted the director of the *Vredes- en Volkenbondstentoonstelling* in the Netherlands. In 1930, Neurath and Otlet were visited individually by officials from the Museum of the City of New York and by the Committee on the Association of American Museums, both of which expressed interest in the N.O.P., and who pledged, in addition, to help support their aims.[41]

A further figure from whom Neurath and Otlet received great support was a Berlin-based political scientist Ernst Jäckh.[42] Jäckh was involved in the *Deutscher Werkbund*, which was formed in 1907 with the aim of enhancing the quality of German design and encouraging greater interaction between between the arts, industry, and society at large. Though in later years Neurath took objection to the Werkbund's tendency toward aesthetic formalism (its obsession with the "flat-roof aesthetic," as architect Josef Frank once called it), he identified with its efforts to apply principles of mass standardization in the realm of design, as well as the cooperative, communally-based philosophy on which the organization was based.[43] In 1929, Neurath took a leading role in forming the newly-formed Austrian Werkbund [*Österreichische Werkbund*] and also became a frequent contributor to the *Deutscher Werkbund's* theoretical journal *Die Form*.

In his own article in *Die Form*, Jäckh announced plans for an International Werkbund Exhibition ("*Die neue Zeit*" or "The New Era" it was to be called) in Cologne, and both Neurath and Otlet were inspired by the ambition and scope of the proposal. Jäckh called for an encyclopedic, *Gesamtkunstwerk*-like exhibition that would juxtapose the latest achievements in architecture, industry, economics, art, and science, seeking to furnish the spectator with a "bird's-eye" view of contemporary culture. "At no point has man become so dominant and yet so inconsequential as he has in our own times," Jäckh wrote. "Man is no longer the anthropocentric "mass of things," but rather a microbic quantum-atom in this vast universe."[44] Neurath and Otlet were moved by the spirit of rationality that inspired Jäckh's macrocosmic conception contemporary culture. As Neurath wrote in the pages of *Die Form*, "it makes sense that the *Werkbund* design brings to consciousness the "world picture" of our times, especially if it must be said that [this world picture] deals on many levels with logical and mathematical thought processes, that are not easy [to imagine], but still must be visualized for the visitor. Because it is characteristic of our times that many of our most meaningful intellectual achievements are playing themselves out in the arena of logic."[45] Due to a lack of funding, Jäckh's "New Era" Exhibition never came to

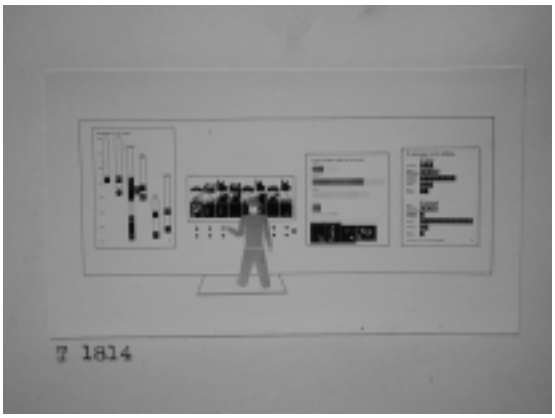
Bildung auf der ganzen Erde." Otto Neurath and Paul Otlet, Statuten des "Novus Orbis Pictus" NOP, Brüssel-Genf-Wien, 1929, Paul Otlet Papers, Mundaneum.

34 Otto Neurath, Paul Otlet, Anna Oderfeld, and Lothian Small, "Novus Orbis Pictus" (NOP), Brüssel-Genf-Wien Protokoll, 1929, *Paul Otlet Papers*, Mundaneum; Otto Neurath and Paul Otlet, Statuten des "Novus Orbis Pictus" NOP, Brüssel-Genf-Wien, 1929, *Paul Otlet Papers*, Mundaneum.

35"Was wir vom Ge-Wi-Mu [Gesellschafts- und Wirtschaftsmuseum] beisteuern, wäre die Methode der Bildstatistik und die systematische kartographische Durcharbeitung, sowie der intensive Wunsch, alle Chrono-Topo- und Quantogramme durch Abbildungen, Texte usw. zu illustrieren. Vom Palais Mondial hingegen wäre beizusteuern ein Streben nach umfassender Systematik in die Anfangsstadien der Arbeit, die Fülle von Objekten, Bildern, zeitgenössischen Kunstäußerungen aller Art, kennzeichnenden Text und der Wunsch, da_ dies alles aufs exakteste ausgeführt wird." Letter from Otto Neurath to Paul Otlet, July 6, 1929, *Paul Otlet Papers*, Mundaneum.

36 Arthur P. Molella, "Mumford in Historiographical Context," Lewis Mumford: Public Intellectual, eds., Thomas P. Hughes and Agatha C. Hughes (New York and Oxford: Oxford UP, 1990) 35-37.

37"Der Gedanke, da_ eine… Belieferung von Museen stattfinden soll, hat uns zu dem Gedanken geführt, eine Museumsgenossenschaft auf kooperativer Grundlage zu bilden, die ihre technische Arbeiten, soweit es sich



Otto Neurath and Gerd Arntz. Elevation rendering of a standardized museum space, c. 1938-1940.56 (Reproduced by permission from the Otto and Marie Neurath Isotype Collection, Department of Typography & Graphic Communication, The University of Reading, United Kingdon).

fruition, but his voice nevertheless did help the N.O.P align its aims with those of the *Deutscher Werkbund*, whose publications and meetings (it was hoped) would provide them with a further forum in which to voice their aims. "The plan to create an Orbis magazine," Neurath wrote in an October 23, 1929 letter to Jäckh, "an Orbis children's newspaper and eventyually a more rigorous journal… ought to overlap with your plan of having a "New Era" publication. Pending the agreement of Otlet, I would like to emphasize again that the unification of both [our] plans is something we should seriously consider."[46]

By the middle of 1930, the sense of optimism and hope that set the N.O.P. into motion was (unfortunately) all but abandoned. First, in December of 1929 the N.O.P. was restructured as two separate entities, which caused conflict between Neurath and Otlet. The N.O.P. was broken down into the Orbis Institute, which was charged with creating the world atlas of civilization, and the Mundaneum, which set about building regional museums and exhibitions. Neurath suggested the split because he was troubled by the cumbersome-sounding *Novus Orbis Pictus* acronym, and felt, moreover, that the N.O.P. needed a more streamlined image. For Neurath, the public's *perception* of the organization was of paramount importance, especially where publishing and fundraising were concerned. *Contra* Otlet, who sought to maintain distance from the vicissitudes of the market economy, Neurath embraced strategies of modern mass advertising. "All the objects would carry the unified name of Orbis, which has the advantage that we can introduce a copy written brand [*Schutzmarke*]!" Neurath explained. "It is psychologically better, if the object-brands are copyrighted! A kind of global corporation! Then there would be propaganda for individual objects – Orbis propaganda – and a propaganda for the assemblage of a visual totality – Mundaneum – propaganda!"[47] Although Otlet ratified the restructuring, he did so only hesitantly, sensing (correctly) that it represented a shift in priorities. "But I do continue to find it regrettable and confusing," he wrote in his journals, "that the duality of the name Orbis and Mundaneum was done."[48] As time wore on, Neurath paid increasing attention to the Orbis publications (for which his own Museum of Society and Economy was responsible), while the more challenging difficulties posed by the Mundaneum project (including the construction of the World City) were left (to a large extent) for Otlet to contend with.

A second factor that caused the N.O.P. to come to a quick and sudden halt was the stock market crash of 1929. Neurath and Otlet had hoped to receive philanthropic funding from American concerns like the Carnegie Foundation, and little of any of that was expected to materialize after the events of "Black Tuesday." As Neurath would report in a memo to Otlet, "[a]t the moment, I see the chances of the fight for the Mundaneum, which I am still prepared to carry out, not very practical. Stock market crash in the United States, in almost all countries."[49] Their correspondence continued through January of 1930, after which it petered off steeply, with sporadic exchanges over the following four years. Otlet and Neurath had planned a joint exhibition in the Museum of Society and Economy in the summer of 1930, but it remains uncertain (as far as the archival record is concerned) whether the project was ever carried out. They also continued to publish statements citing their work together, even if much of it had already been behind them. In 1931, Otlet published "The Visualization of Human Collaboration," where he discussed his World City plans in the context of his work with

um Maschinenkopien und gewisse andere Arbeiten handelt, bei Euch in Chicago durchführen könnte, soweit es sich um bildhafte Darstellungen, gewisse Baumodelle, handelt, bei uns in Wien, wo die technische Arbeiten des N.O.P. konzentriert werden. Sobald ich Otlets Meinung über diesen Plan kenne, werde ich Dir einen genaueren Vorschlag machen. Ich kann ohne Otlet für das N.O.P.-Institut nicht sendgültiges sagen." Letter from Otto Neurath to Waldemar Kaempffert, October 21, 1929, Papers of Paul Otlet, Mundaneum.

38"…schlagen… die Schaffung eines Dauermuseums in Magdeburg vor." Letter from Otto Neurath to Herr Oberbürgermeister der Stadt Magdeburg, November 29, 1929, Paul Otlet Papers, Mundaneum.

39 Otlet's complete statement, in French : "Nous voyons l'institution 's établir dans la capitale à Varsovie, confiée dans chacune de ses parties aux organismes qui ont créé les sections de Poznan ; placée sous une direction centrale, s'inspirant d'un plan de coordination, de sélection et synthèse." Paul Otlet, Journal No. 9— 1929.12.02, 1929, Paul Otlet Papers, Mundaneum.

40"des musées régionaux, des musées historiques de la Civilisation." Paul Otlet, Journal No. 10— 1929.12.24, 1929, Paul Otlet Papers, Mundaneum.

41 See Paul Otlet, Journal No. 14— 1930.04.28, 1930, Paul Otlet Papers, Mundaneum.

42 Letter from Otto Neurath to Ernst Jäckh, October 23, 1929, Papers of Paul Otlet, Mundaneum; Letter from Otto Neurath to I. Urwick, November 22, 1929, Paul Otlet Papers, Mundaneum.

Neurath's Museum of Society and Economy.[50] In addition, Neurath sought to revive the N.O.P. later on ("When will we finally begin work on the Atlas for Civilization?" he wrote in 1932), but their much-anticipated collaboration never got very far, not in practical terms As early as 1930, Neurath tried to include Otlet and the World Palace in producing *Society and Economy* (1930), a book he made containing one hundred oversized plates designed by the Museum of Society and Economy, but the organization that commissioned the project – the Bibliographical Institute in Leipzig – ultimately rejected the idea.

Nevertheless, the impact that Otlet had for Neurath's own career was dramatic, particularly in terms of how he helped Neurath reinvent his Museum of Society and Economy as an international body, both in theory as well as in practice. To speak first of Neurath's concrete endeavors, in 1931 Neurath began the Vienna Mundaneum [*Mundaneum Wien*], an institute whose mission was to oversee international traveling exhibits and exhibitions commissioned to the Museum of Society and Economy (Figure 9). It received little assistance from Otlet (not practically anyway), but he used the name nonetheless with Otlet's blessings. That year, Neurath also established the "Isostat Institute" in Moscow, which gave him a foothold in Soviet Russia. In 1932, the Museum of Society and Economy was donated permanent exhibition space by Amsterdam's *Museum van de Arbeit* and London's Association for Adult Education, and the following year Neurath opened the Hague Mundaneum (also known as the International Foundation for the Promotion of Visual Education by the Vienna Method).[51] In 1934, the Russell Sage Foundation helped Neurath open and coordinate Pictoral Statistics, Inc., which was based in New York.

In a theoretical sense, Otlet influenced the image and structure of the Museum of Society and Economy. He gave Neurath a new conceptual framework within with to think about his museum endeavors. The "decentralized" model that Neurath adopted during the 1930s – creating museums throughout the world, but with a central institution as their anchor — was a strategy he borrowed from Otlet. Moreover (and more importantly perhaps), Otlet helped Neurath shift the priorities of the Museum of



Flyer for the World Federation of Education Associations in Geneva (Reproduced by permission from the Paul Otlet Archive, Mundaneum, Mons, Belgium).

Society and Economy away from class-based concerns to communication- and linguistically-based issues. While during the 1920s the Museum was primarily concerned with the plight of the worker – with the gap, that is, that separated the haves from the have-nots, both intellectually and economically – during the 1930s Neurath came to see his mission increasingly as linguistic struggle, not an economic one. He was concerned more and more about the flow of information between nations rather than between classes. The most visible expression of this shift occurred in 1935, when when Neurath began to refer to his graphic methods collectively as the International System of Typographic Picture Education or 'Isotype', and as he became more enamored of the project of creating an International Encyclopedia of Unified Science.[52] That is to say, rather than using the more provincial-sounding 'Vienna Method of Pictoral Statistics,' which aligned Neurath's graphic techniques with a specific geographical location (namely Vienna), in 1935 Neurath began to redefine the image of his museum philosophy in a more global light. At the same time, he became more acutely aware of the

43 For a discussion of Neurath's involvement in the Deutscher Werkbund, see Margarethe Engelhardt-Krajanek, "Der Werkbundgedanke und seine Verbindung zum Wiener Kreis am Beispiel von Josef Frank," Konstruktion zwischen Werkbund und Bauhaus: Wissenschaft-Architektur-Wiener Kreis, ed., Volker Thurm-Nemeth (Vienna: Hölder-Pichler-Tempsky, 1998).; regarding Neurath's critique of the Deutscher Werkbund, see Otto Neurath, "Die internationale Werkbundsiedlung Wien als "Ausstellung"," Die Form 8 (1932).

44 "Zu keiner Zeit ist der Mensch so beherrschend gro_ d zugleich so verschwindend klein gewoden wie in unserer Zeit – der Mensch nicht mehr das anthropozentrische „Ma_ der Dinge," sondern ein mikrobisches Quantenatom des Weltalls. " Ernst Jäckh, "Idee und Realisierung der Internationalen Werkbund-Ausstellung "Die neue Zeit" Köln 1932," Die Form 4: 15 (1929) 406.

45"Es hat einen guten Sinn, da_ der Werkbundentwurf zur Einführung das Weltbild unserer Zeit zum Bewu_tsein bringt, wenn auch gesagt werden mu_, da_ es sich dabei vielfach um logisch-mathematische Denkprozesse handelt, die man nicht leicht, aber immerhin dem Beschauer anschaulich machen kann. Denn es ist für unsere Zeit kennzeichnend, da_ viele ihrer bedeutsamsten gedanklichen Neuerungen sich bereits im logischen Gebiet abspielen." Otto Neurath, "Die neue Zeit," Die Form 21 (1929) 136.

46 "Der Plan, eine Orbis-Magazin zu schaffen, eine Orbis-Kinderzeitschrift und eventuell ein strengeres Journal… dürfte sich in vielem mit Ihrem Plan

need to forge a common scientific language that reversed the trend of intellectual specialization, and which made made knowledge more accessible across national boundaries. As Neurath remarked in his *International Picture Language*, "[r]eading a picture is like making observations with the eye in everyday experience: what we may say about a language picture is very like what we may say about other things seen by the eye. For example: the man has two legs; the picture-sign has two legs; but the word-sign 'man' has not two legs."[53] The concept that Isotypes were 'natural', that is to say, intelligible to everyone regardless of nationality, was a conviction he first began to articulate in one of his many exchanges with Otlet, even though he first began to publicize this view during the mid-1930s. As Neurath wrote to Otlet in 1929, "we must have an international word for every mass of pictures! Quantogram works also with Teleki-Diagrams [*Tafeln*]! Pictogram? Also Pictocartogram, pictochronogram, pictoquantogram. Although I do not find these creations terrible charming. But chemical formulas are also just boring!"[54]

For Neurath, museums had to offer a transnational means of communicating, an Esperanto-like language as universal as the laws of nature. This view was something he only cultivated, as I've already noted, after coming into contact with Otlet, who introduced him to the concept of the World City. Although the two eventually parted ways, their mutual influence upon one another was undeniable. Architecturally speaking, Otlet's World City, the designs for which were prepared by Le Corbusier and Jeanneret, motivated Neurath to engage problems of communication posed by international bodies and institutions. Otlet also brought to Neurath's attention the need to formulate a strategy of "information sharing" that linked centers of cultural production ("culture capitals" such as the World City) to the outer-most edge of a society. While Le Corbusier identified an architectural solution to the problem, Neurath's subsequent work led him to explore graphic- and information-intensive solutions that relied heavily on mass reproduction. While Le Corbusier and Jeanneret were ultimately to propose a mammoth, seven-story helicoidal structure that honored the unity of all cultures, Neurath, through his graphic studies with Arntz, sought to celebrate the *interchangeability* of cultures, the fact that abstract types could substitute particular cultural traditions. Neurath's efforts to theorize "universal spaces" in the late 1930s were influenced by his exposure to Le Corbusier's work, which sought to forge a "universal" temple of culture. This quest for the Tower of Babel, for the origins of language, was an aspiration that the architect Le Corbusier shared with Neurath, but which would be mediated by Neurath's spirited (if short-lived) relationship with Paul Otlet.

einer Zeitschrift „Die neue Zeit" berühren. Vorbehaltlich der Zustimmung Otlets, möchte ich nochmals betonen, da_ eine Vereinigung der beiden Plänen ernsthaft ins Auge zu fassen wäre. " Letter from Otto Neurath to Ernst Jäckh, October 23, 1929, Papers of Paul Otlet, Mundaneum.

47"Alle Objekte wurden dann einheitliche den Orbis Namen führen, was auch den großen Vorteil hätte, dass wir eine einheitliche Schutzmarke einführen könnten! Es ist psychologisch besser, wenn die Objekte-Marke einheitlich ist! Eine Art Weltfirma! Dann Gäbe es eine Propaganda für Einzelobjekte – Orbit-Propaganda – und eine Propaganda für Zusammenstellungen als Schaugesamtheit— Mundaneum – Propaganda!" Letter from Otto Neurath to Paul Otlet, October 22, 1929, Paul Otlet Papers, Mundaneum, OP 100.

48"Mais je dois persister à croire regrettable et confusible la dualité de nom Orbis et Mundaneum était donné." Paul Otlet, Journal No. 7— 1929.11.20, 1929, Paul Otlet Papers, Mundaneum.

49"Börsenkrach in New York, Krisen in fast allen Ländern… Selbst der Orbis-Plan stösst auf große finanzielle Schwierigkeiten, obglich ich mit Hochdruck für ihn wirke." Letter from Otto Neurath to Paul Otlet, July 6, 1929, Paul Otlet Papers, Mundaneum.

50 See Paul Otlet, "Die Veranschaulichung der menschlichen Zusammenarbeit," Das werdende Zeitalter 10: 6 (1931).

51 Friedrich (ed.) Stadler, Arbeiterbildung in der Zwischenkriegszeit: Otto Neurath — Gerd Arntz (Vienna and Munich: Löcker Verlag, 1982), 246-249.

52 For a discussion of the Ernst Mach Society and its relationship to the International Encylcopedia of the Unity of Science, see Friedrich Stadler, The Vienna Circle: Studies in the Origisn, Development and Influence of Logical Empiricism (Vienna and New York: Springer, 2001) 356-371.

53 Otto Neurath, International Picture Language (Reading: University of Reading Department of Typography & Graphic Communication, 1980) 20.

54"Wir müssen für Mengenbilder usw. Ein besonderes internationales Wort finden! Quantogramm gilt auch von Teleki-Tafeln! Piktogramm? Also Pictokartogramm, Pictochronogramm, Pictoquantogramm. Obgleich ich diese Bildungen nicht übermäßig entzückend finde. Aber chemische Formeln sind ja auch langweilig!" Letter from Otto Neurath to Paul Otlet, October 22, 1929, Paul Otlet Papers, Mundaneum.

55 See note 5.

56 See note 5.