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OTTO NEURATH'S ATLAS "SOCIETY AND ECONOMY": DESIGN, CONTENTS, AND CONTEXT

Hisayasu Ihara[1]

[1]**Faculty of Design, Kyushu University, Fukuoka, Japan, ihara@design.kyushu-u.ac.jp**

Abstract:

In this study, primary sources were used to discuss the design, contents, and context of the atlas created by Otto Neurath, the "Society and Economy." By analyzing sketches, notes, and other sources, it is clear that the makers of the "Society and Economy" attempted to standardize not only the atlas's symbols, but its entire design, including its colors, maps, format, and typography. Next, by analyzing the organization of its contents, we will see that the atlas reflects Neurath's philosophical ideas. The most important context for considering the atlas comes from Neurath's collaboration with Paul Otlet on their encyclopedic "Atlas of Civilization" project. Neurath saw his "Society and Economy" atlas as being the first step in realizing the "Atlas of Civilization." In regard to the points mentioned above, the "Society and Economy" can be said to an important work that became the cornerstone for Neurath's future activities.

Keywords: Otto Neurath, Atlas "Society and Economy", Graphic Design

1. INTRODUCTION

The Museum of Society and Economy (*Gesellschafts- und Wirtschaftsmuseum* – hereafter abbreviated as GWM), which served as Neurath's base for both the formulating and putting into practice of his visual

education system (the "Vienna Method of Pictorial Statistics") was officially founded in January 1925 and closed in February 1934. The actual activities which took place there over these nine-plus years can be separated into two major periods with 1930 serving as the dividing point. During the period from 1925 to 1930, the GWM's activities centered on exhibitions helping Vienna's municipal government to publicize its housing movement, public health policies, and attempts at organizing labor. However, after 1930 with the creation of branch chapters and affiliate organizations in various countries the GWM's activities became international. The creation and publishing of the "Society and Economy" (published in 1930) was an important undertaking which can be seen as the turning point between these two periods.

The "Society and Economy" is known as the most meticulously constructed large size publication to have been based on the Vienna Method. But, that is not its only significance. For an organization such as the GWM, which had been serving full-time as the local government's semi-official exhibition service, the atlas was a project which came with relatively few constraints, being commissioned by the Leipziger Bibliographisches Institut.

There was also one other pivotal event which coincided with the atlas's production. This was Neurath's encounter with the renowned Belgian internationalist, Paul Otlet. As a result, the "Society and Economy" was made in conjunction with Neurath and Otlet's collaboration of the "Atlas of Civilization."

In regard to the points above, the "Society and Economy" is a work that deserves special attention in order to understand Neurath's thinking and design ideas during that period. This paper discusses the background, design, and contents of the "Society and Economy" making use of the materials from *The Otto and Marie Neurath Isotype Collection* (held by the University of Reading's Department of Typography and Graphic Communication) and *The Paul Otlet Archive* held by the Mundaneum.

2. THE MAKING OF THE ATLAS

2.1. ORIGIN

The idea for publishing the atlas was first brought to the GWM by the Leipziger Bibliographisches Institut. It was originally part of a larger project celebrating the Institut's 100th anniversary. While it is not clear exactly how or when the GWM was commissioned by the Institut, the Institut is believed to have been interested at that time in publishing comprehensive works that presented a "new way for reality." (Sarkowskii 1976: 142) [1]

Since the sketch [2] for the "Society and Economy" dated "April 12th, 1929" still exists in the Isotype Collection, it can be assumed that work on the atlas began in the spring of 1929 at the latest. Also,

according to a statement by Neurath that appears in the beginning of the atlas, it was published in August of 1930 even though it had originally been scheduled for publication in March of that same year.[3] However, the truth is the atlas was still receiving its initial proofreading in Leipzig in March of 1930 and for some reason the publication date must have been delayed until August.[4] In any case, it took over a year to create the atlas.

The commission to make the atlas was a golden opportunity for the GWM. It just so happened that the GWM had started expanding its operations in 1927 and in 1928, had embarked on the publication of teaching materials. While it can already be seen to some extent in their first pamphlet, "Development of Agriculture and Commerce in Germany" (1928) and their first book in color, "Colorful World" (1929), in terms of their publishing activities, the GWM's aim was to create visual teaching materials from an international and historical perspective. Thus, the atlas came to be their first real attempt at creating such a work.

2.2. ESTABLISHING ORGANIZATIONAL CONTROL [5]

With the securing of outside funds, a large-scale team like never before was put together in order to create the atlas. The team was organized as follows.

1) Team of Experts

The expert in ancient history was Robert Bleichstein, the statistician, Alois Fischer, geography, Karl Peucker, and the art historian, Dr. Schwieger. Neurath called this group "The Academy."

2) Design Team

The design team centered around the artist Gerd Arnz from Düsseldorf, who officially became a member of the museum's staff in January 1929. Working alongside Arnz were Augst Tschinkel from Czechoslovakia and Peter Alma from the Netherlands. Further, on May 27th of that same year, Neurath delivered an address to the Bauhaus which led to two of its associates, Lotte Stam-Beese and Heinz Walter Allner, lending a hand to the atlas's production as well. The typographer, Jan Tschichold, also worked at the museum for a short period that year.

3) Transformers

A team called the "Transformers" was also created at this time. Their job was to mediate between the academicians and designers mentioned above so that they could coordinate their work more smoothly. Marie Reidemeister and Friedrich Bauermeister were the key players in this role.

The person most responsible for assembling these teams was Neurath himself. He was in charge of the big picture, involving himself in everything from selecting the themes and choosing the statistics to overseeing the design of the symbols. Thus, from its design to its contents, the atlas in many ways became a reflection of his vision.

3. DESIGN STANDARDIZATION

The main challenge in terms of the design of the "Society and Economy" lay in the quest for standardization. I will now give a brief outline on this subject.

3.1. SYMBOL DESIGN AND COLORS

Neurath's group referred to symbols as "signatures" and the most dramatic changes to occur on the design front were in terms of the designing of these symbols. The answer to the problem of standardization was sought through the atlas's design. Arnz's molding shapes became the patterns for standardizing the atlas's design and were shared by other designers. Arnz's introduction of the use of linocuts in order to make "signatures" is also well known to have been another important contribution towards standardization.

Two sketches showing Arnz's process in designing symbols still exist at the Isotype Collection. From the first sketch (Fig.1), we can tell he started off by making a preliminary drawing in pencil on tracing paper that he then inked over. On a second sheet of tracing paper (Fig. 2), which contains multiple "signature" design sketches, there appear notations thought to be written by Neurath. For example, a question mark has been written next to the design for the wool symbol (Fig.3), and the symbol for the hydropower has been overwritten in red with the symbol for electricity (Fig. 4). In their final versions, the symbol for wool has been modified making it easier to understand, and the symbol for the hydropower has the symbol for electricity attached to it. The sketches demonstrate how designs underwent modifications through a process of consultation with Neurath.

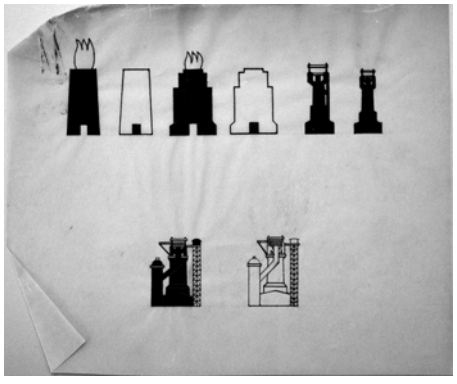


Figure 1: Sketch of inked symbols.
Isotype Collection, University of Reading

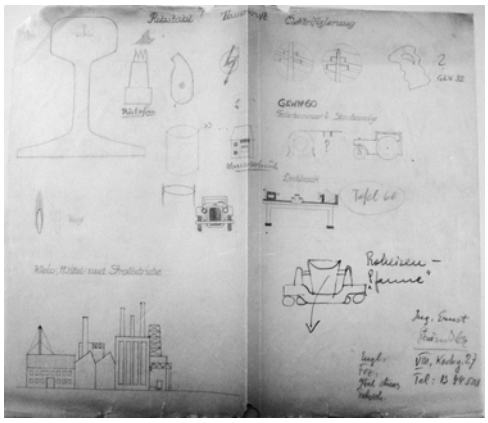
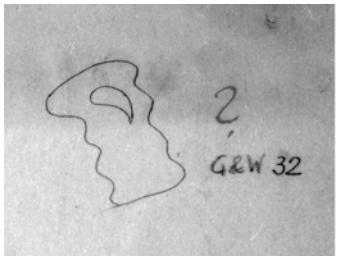


Figure 2: Sketch of symbols drawn in pencil.
Isotype Collection, University of Reading



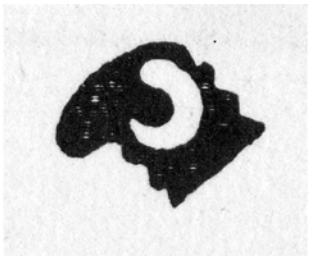


Figure 3: (Left) Sketch of wool symbol with a question mark. (Right) The symbol appeared on the atlas.
Isotype Collection, University of Reading

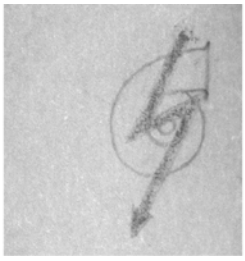
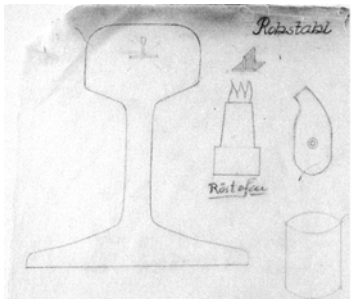




Figure4:(Left) Sketch of hydropower symbol overwritten in red with the symbol for electricity, (Right) The symbol appeared on the atlas. Isotype Collection, University of Reading



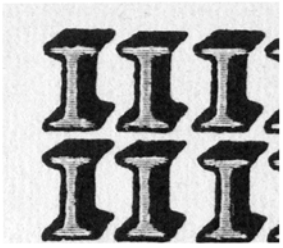


Figure 5: (Left) Sketch of rawsteel symbol, (Right) The symbol with perspective, which appeared on the atlas.
Isotype Collection, University of Reading

A testament to this trial and error design process survives in the form of a typescript entitled "guideline notes (Gründsätzliches zur Methode)." [6] For example it's written that the use of perspective should be avoided as much as possible, but a symbol in Arnz's sketches reveals the trial and error process (Fig. 5). It's the symbol for steel that appears as a rail and has been attempted both in cross-section and with perspective. Such work leading up to the final design of the symbol was practiced in the creation of the atlas.

Just as they did with the symbols, they also looked towards standardizing the colors. While the atlas overall seems quite colorful, in reality the number of colors was limited to just eight (blue, green, yellow,

orange, red, brown, black, and gray) along with supporting colors to show map features such as the oceans. The juxtaposition of gray with chromatic colors was used to particular effect throughout the atlas. That is to say, gray was used for secondary background elements or "guide pictures (Führungsbilder)," while chromatic colors were used for the more important elements. From amongst these, green, blue, and red were the most basic colors. Their allocation to symbols was provided for based on Neurath's own interpretation of their conventional meaning. For example, primitive cultures and economies were green, antiquated cultures and economies were blue, and modern cultures and economies were red. According to the guideline notes, the differences between green, blue, and red clearly specified negative and positive meanings. While the colors do not retain consistent meanings throughout the atlas, we can tell that considerable efforts were made to provide for their meanings to the extent that it was logically possible.

3.2. MAPS

From amongst all the plates GWM produced, the atlas was most clearly characterized by its world maps. Plates and figures dealing with the world economy and colonial problems came to the fore starting in 1928 and the question of systematic map notations became a new problem for the museum during this time. It was the geographer, Peucker's, involvement that brought about a solution. Peucker was one of Austria's leading geographers who was well known for establishing modern coloring and shading techniques for exceptionally realistic relief maps (Kretschmer 1988).

Peucker's collaboration with the museum probably began in 1928. He made two major contributions. The first was the establishment of a map projection for world maps in plates focusing on statistics. The second was providing an effective coloring method to show elevations. With regards to the first, since statistical charts were used to compare quantities, Neurath wanted to eliminate distortion as much as possible. In order to do this Peucker only used an isometric view (as typified by the Mercator projection) for the areas around the equator, and then used an Eckert Projection (which creates relatively little distortion in terms of area) for the bulk of the map. The technique itself became one of atlas's subjects and is explained in detail in a colored plate appearing on page 100.

Peucker's second contribution, his coloring method for showing elevations, can only be found in the atlas on a single plate showing the distribution of ancient Central American culture. For this plate, Peucker's "physiologic" coloring design method based on the principle of advancing and retreating colors was used for showing elevations. Many of the original sketches for this plate can still be found at the Isotype Collection (Fig. 6), indicating that Neurath attached considerable importance to the technique.

As can be seen above, the atlas's map representations were made based on expert geographic techniques that either made the maps more scientific or lent them greater objectivity.

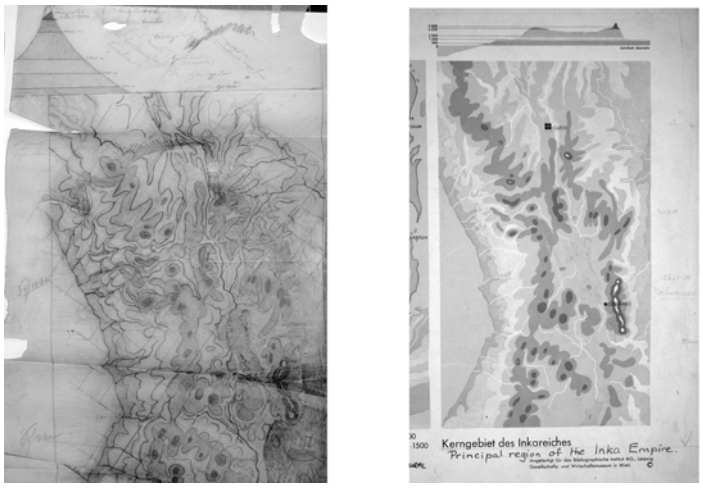


Figure 6: (Left) A drawing by Peucker, (Right) "Principlal region of the Inka Empire" appeared on the atlas. Isotype Collection, University of Reading

3.3. FORMAT

The world maps also played an important role in determining the atlas's format. When work first began on the atlas, they had to keep in mind that it was intended for display as well. Thus, the atlas's production work was made the size of exhibition panels. At the time, it was strictly established that the size of the exhibition panels first had to conform to the production of the atlas. The two limiting conditions were the size of the world map, and the size of the ready-made polywood panels used for the exhibition panels (Kinross 1979: 67). For the world map, a reduced scale of 1:50 million was adopted, translating into a size of 80cm x 40cm.[7] These world maps were printed and then used as cut-outs that were affixed to panels. On the other hand, the size of the ready-made polywood boards was 126cm x 189cm so the panels were selected to be 63cm X 94.5cm (61cm by 92.5cm without the frame). This size, which was roughly one fourth the area of the original board, was considered to be a good layout size for the world maps and thus became the standard size for the exhibition panels. Neurath noted another advantage to this size. The 94.5 to 63 relationship was a 3 to 2 ratio, which made it easy to combine exhibition panels of different sizes.

The results above dictated that the standard size for the atlas were to become 30.5cm x 46cm, roughly half the size of the dimensions used for the exhibition panels(without the frame). At these dimensions, the reduced scale for the atlas's world maps became 1:100 million and the total size of the map became exactly 20cm x 40cm. The standard size of the text/image area was set at 24cm x 40cm (Fig. 7).

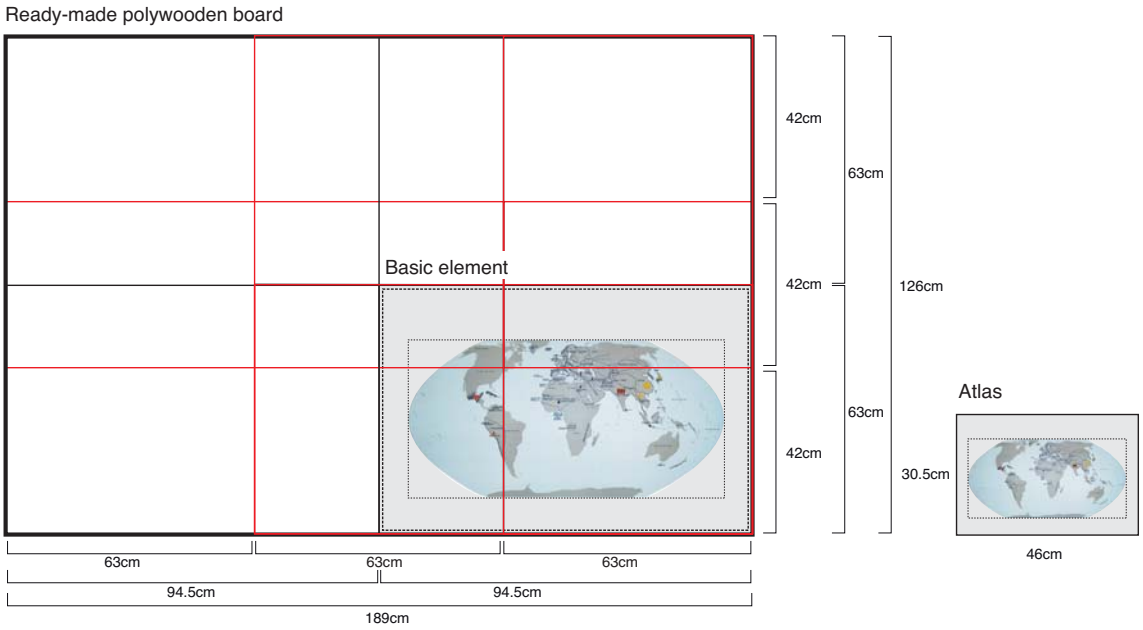


Figure 7: Diagram showing the relationship between panel format and atlas format

As for other aspects, the overall layout shows a strong affinity towards the "New Typography" from that age. For the typeface, Futura was used throughout the entire work. In adopting these elements, the atlas reflects many cutting-edge design forms from that period. As shown above, through the making of the atlas, Neurath's group struggled to find a uniform and systematic design for everything from symbols to maps and format.

4. CONTENTS ORGANIZATION

The atlas was composed of 100 separate sheets with figures (including two containing explanatory notes and legends) and 30 pages of text. Therefore, in principle, the reader could freely combine the sheets and compare various figures with one another. However, on the other hand, Neurath stressed that the atlas should be a new encyclopedia that could be read in and of itself. [8] In fact, the atlas was not organized as a collection of mechanically chosen statistical data, but rather its structure was based on a certain narrative structure.

In terms of the overall structure, the 98 pages were broken up into roughly 2 chapters. Pages 1 to 21 dealt with history from before the modern age and the rest of the pages dealt with the modern age. The pre-modern chapter began with a look at ancient history, focusing on Ancient Mesopotamia, Ancient Egypt, and the Roman Empire followed by the Medieval Arab world, the Mongolian Empire, India, the Far East, Ancient American culture, and Germany. Next, the Great Powers, Britain, France, Russia, and the United States, portraying their colonial expansion between the 16th Century and the modern age as part of the rise of capitalism were dealt with.

All the maps in this first chapter, for example the ones for the Roman Empire and the Mongolian Empire, have their data laid out right on the map. We see how ancient cultures were scattered across the world and their geographical expansion. In contrast to the modern era chapter (pages 22 on) that devotes itself primarily to statistical charts based on the Vienna Method, in the historical chapter, it's the people and cities scattered across the vast earth, food, and industrial output that receive the most attention.

The chapter on the modern era begins with a statistical chart titled "World Power" that compares the populations of various countries around the world. While the diagram shows each country's share of the population, the people are portrayed by human-shaped symbols coming in five colors (white, brown, yellow, black, and red) with five different types of outfits and hats. Each color corresponds to a particular group of people. White is used for people mainly of European ancestry, brown for people of mainly Middle Eastern or Indian ancestry living from Morocco to East India (Indonesia), yellow for people living in China, Japan, and the highlands of India, black for black people and people of mixed black-white ancestry, and red for Mestizos (people of mixed Spanish-American Indian ancestry) and American Indians. The intricate relationships between countries, colonies, and ethnic groups are made clear through the use of these symbols.

The chapter continues with sections on peace (p.24), war (pp.25-28), political systems (pp.29-30), a global economic survey of world output and consumption (p.31), and the utilization of global production centers (pp.32-35). Pages 36 to 62 deal with the "Global Economy," covering 26 points including food, energy, natural resources, and output. From pages 63 onwards, the atlas deals with topics such as cities and demographics (along with demographic shifts), social structures, and labor organizations. Finally, the atlas concludes by comparing the growth of certain economic forms with religious development.

Incidentally, a Neurath's letter in the archives at the Mundaneum indicate that as of November 1929, the atlas had a three-part structure.[9] According to those records, the atlas began with a "General Foundation" chapter followed by a chapter on "Development Up Until the Great War." The atlas then concluded with a chapter on "Development Since the Great War (Until 1930)." The "General Foundation" chapter had 3 pages: a page on "Vegetation of the World," a page on "World Map," and a page on "Underground Resources and Who Owns Them." The second chapter was 25 pages long and included more historical events than were dealt with in the final version. In the final version, the "General Foundation" chapter was dropped and there are fewer pages dealing with developments prior to the modern era, while the chapter dealing with the modern world was expanded.

If we compare the structure of the November 1929 version with that of the final version, we find that many items (and groups of items) were rearranged. As can be seen below, the rearranged pages were especially concentrated towards the end (Fig. 8 and Table 1).

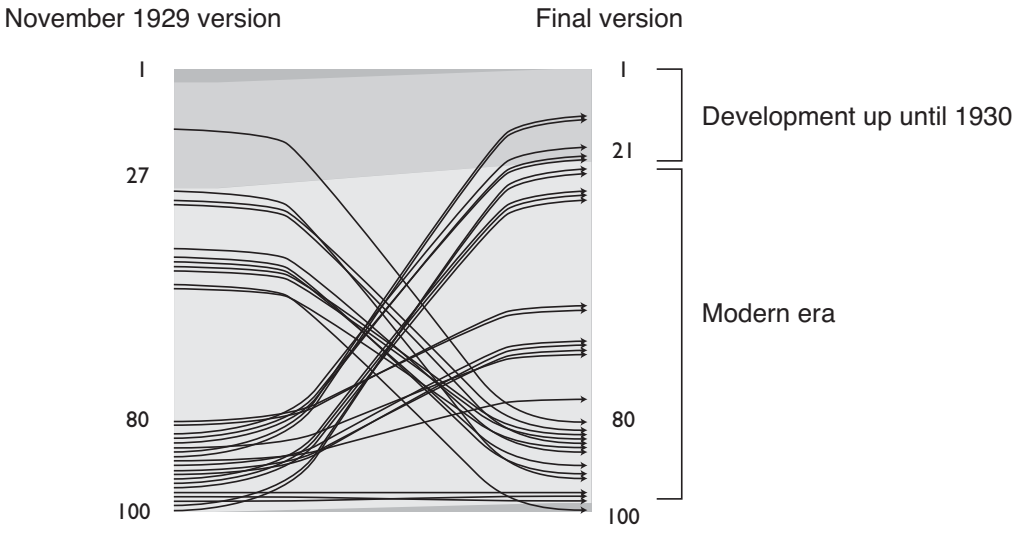


Figure 8: Change of position of the last 20 plates between November 1929 version and final version

Table 1: Order of the last 17 plates in November 1929 version and their position in final version

Order of the last 17 plates in November 1929 version		Each page number of the plates rearranged in final version
83	Population of the British Empire	18
84	Population of the United States	21
85	Population of the Russian Empire	20
87	India and the Far East: Population	11
88	India and the Far East: Population of Cities	12
89	Ethnic Migration Issues	75
90	Foreign Capital and Dissimilation	62
91	Great Power Finances	
92	Foreign Debt and German Reparations	63
93	Military Strength Prior to the War, and Present	28
94	Forms of European Government	29
95	Parliamentary Systems in 1930	30
96	World Ethnic Groups	96
97	World Religions	98
98	World Economic Patterns	97
99	League of Nations	24
100	World Powers	23

In the November version, matters relating to colonies are located on pages 83-88 and the section on post-World War I military and political organization can be found on pages 92-94. The subject headings for the final plates (the ones relating to the League of Nations and World Powers) are completely different from those in the final version. This structure makes the atlas more political in nature and strongly hints at problems relating to colonial politics, and the heading for the League of Nations would appear to emphasize the important role the organization held at that time. However, in its final structure, the atlas ultimately ended with a chart comparing economic and religious forms. What is the significance of these changes? If the November version was more political in nature, as a result of these changes, what was emphasized instead? In order to understand this we have to read the text.

The series of statistical charts comparing the "Development of Economic Patterns and the Growth of Religions" suggests some sort of common trend that could be found in both economic and religious development. In the expository text, Neurath offers his views on this trend writing, "Links between freer peoples have enabled economic, technical, and scientific development. (Neurath 1930: 125)," That is to say, first in the religious realm, that unlike primitive religions limited to small tribes, the formation of the theological religions, Buddhism, Judaism, Christianity, and Islam played key roles in unleashing such development. Neurath tried to find this same role within the economic realm. He especially sought to find it in the "modern economic pattern," which was one of the three economic pattern types he created (the others types being the "primitive economic pattern" and the "ancient culture economic pattern").

The three economic patterns were represented in the statistical charts by the symbols of a bow and arrow, a hammer, and a gear respectively. However, these symbols did not indicate simple classifications of hunting, manual industry, and modern industry. On the first page of explanatory text, it's indicated that these three economic patterns were intended as comprehensive, multifaceted broad based concepts characterizing multiple phenomena simultaneously, including forms of propagation, construction, technology, and production (Neurath 1930: 104).

Accordingly, the atlas's final plate, "Economic Forms of the World," can be seen as playing the symbolic role of summarizing and expressing the atlas's theme of human civilization and its development, and literally doing so through colorful images. In fact, Neurath attached particular importance to how the modern economic pattern was assessed. We know this because at the end of the text, Neurath had written the following prophetic conclusion (Neurath 1930: 125).

> Christianity came out of an ancient culture. The modern economic pattern will not lead to new religions; it will lead to the rise of a "Scientific World Conception (Wissenschaftliche Weltauffassung)" and atheism.

The term "Scientific World Conception," used here was one Neurath invented himself in connection to his promotion of a philosophical trend at that time known as "logical empiricism." The term has simply

been applied here in the conclusion. It's no coincidence. It just so happened that in September 1929, the Vienna Circle, of which Neurath was a central member, was raising its flag at the First Conference on the Epistemology of the Exact Sciences in Prague and had distributed a pamphlet to mark the occasion. The title of the pamphlet was "The Scientific Conception of the World - The Vienna Circle" and it was to become the group's manifesto. The atlas included messages directly linked to the tenets of logical empiricism that Neurath was championing in tandem with the atlas's production.

5. THE ATLAS: "SOCIETY AND ECONOMY" AND THE "ATLAS OF CIVILIZATION"

5.1. AN ENCOUNTER WITH OTLET

In the summer of 1929, with work on the atlas well underway, Neurath had the good fortune of meeting Paul Otlet.[10] Otlet was well known both for his attempts to compile a universal bibliography and for conceiving the Mundaneum.

In July 1929, Neurath visited Otlet's World Palace (Palais Mondial). This meeting was to spark an intense exchange between the two men lasting until January of 1930. They had each found a kindred spirit and what united them was the making of their atlases. Believing he needed educational materials with an international point of view in order to cultivate universalists, Otlet attempted to develop visual materials such as photographs, films, and diagrams. For that purpose, in 1927, Otlet established the International Bureau of Education and the Committee for Educational Materials, and in 1928, he proposed the creation of an Atlas of Civilization (Atlas de la civilization universelle). The atlas was intended to be a comprehensive presentation on the course and the current state of civilization. It was to be "a collection of handy, comparable and combinable mobile sheets" which made use of etchings, charts, pictorial cuts, diagrams, and graphs designed to portray the phenomenon of all the nations and their respective peoples and cultures in the most effective manner (Otlet and Oderfeld 1929: 2).

Otlet's plans for the "Atlas of Civilization" were exhibited in 1929 at the "International Education Exhibition" that ran in conjunction with "The Third Biennial Conference of the Congress of the World Federation of Education Associations." According to a New York Times article on the conference, the purpose was "education for international peace," and there were close to 2000 educators in attendance.[11] The exhibition that was held at the same time had the main object of "the Interdependence of the world." Another reporter wrote as follows: "Or the adult finds subjects which he never heard of in his school days, such as "Great Moslem empires of Africa in the sixteenth century" given the same space as the American Civil War in the graphic charts of the comprehensive and the objective "atlas of civilization" of the Belgian Professor, Paul Otlet."[12]

It just so happened that the GWM was displaying museum materials at this same exhibition and Neurath was quick to perceive that both Otlet's and the GWM's work were mutually complementary.[13] Thus, a motion was adopted at the exhibition's international committee member meeting held on July 31 during a conference of the Congress of the World Federation of Education Associations in Geneva. The motion, based on a proposal by the Education Associations, called on Otlet and Neurath to establish a research institute for the purpose making the "Atlas of Civilization." They named the institute "NOP (Novus Orbis Pictus)" and began work on the project. It was agreed that Otlet would provide the subject matter while the GWM would take on all technical matters related to its production.

5.2. COLLABORATION

What kind of effect did Neurath's collaboration with Otlet have on the "Society and Economy" ? As previously mentioned, work on the "Society and Economy" was well underway by this time, so there was probably little change as to its overall direction. However, we can be sure that with the boost and new significance the "Atlas of Civilization" received through the collaboration, that the goal of standardizing the design of the "Society and Economy" became even more important. This was true because standardized graphics were indispensable in order to realize a large scale project such as the "Atlas of Civilization."

Sketches thought to have been drawn at the time of Neurath and Otlet's discussions, hint at the keen interest both men had in standardization. The sketches contain what appear to be diagrams explaining world map contours and format, and for showing elevations. Neurath must have used the sketches during his discussions with Otlet in order to explain his design ideas for the ongoing "Society and Economy" project.

The following comment made by Neurath is also worth noting. [14]

> What we from the Ge-Wi-Mu [GWM] will contribute would be the method of pictorial 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 pictures, texts, and so forth.

Chronograms, topograms, and quantograms were standardized diagrams that respectively showed time, space, and quantity. The concepts represented more fundamental standards of classification for the atlas' charts and diagrams without the use of conventional terminology. These abstract classification concepts can also be seen as reflecting the two men's principle of wanting to describe the atlas through a more universal design language.

5.3. THE ATLAS AS ENCYCLOPEDIA

The protocol of NOP dated October 11th envisioned a wide expansion of publishing operations which, in addition to the "Atlas of Civilization," called for the publishing of a lexicon, an atlas lexicon for young people, newspapers, and so forth. Further, the atlas was to be divided into a "General Atlas" and "Special Atlases" specific to each country. The General Atlas, which referred to the "Atlas of Civilization," was to be an enormous 60 volume atlas with each volume consisting of 100 illustrated sheets. Contents wise, the "Atlas of Civilization" was to consist largely of two sections. The first 12 volumes were to be an introduction to the natural sciences, focusing on the earth's features, heavenly bodies, and living things. The rest of the 48 volumes were to be the "Social and Life Order" section, which would deal with topics such as religion and art history, society and economy, the structure of the world, technology and man, the history of pictograms and symbols, and the history of logic and math, and so forth.[15]

In addition, as an opening shot, the plan called for the publishing of the following 8 volumes within the first two year period: 1. The Development of the Human Race Taking Into Account Geographical Conditions, 2. The Development of Global Structures, 3. The Development of Sorcery and Technology, 4. The Development of Social Hygiene, 5. Modes of Living (housing, clothing, etc.), 6. Education, Entertainment, and Sports (The Development of Social Order), 7. The Development of World View, and 8. The Development of Pictographs (including the history of letters).[16]

As described above, the "Atlas of Civilization" was truly an encyclopedic publishing project, and Neurath wanted his "Society and Economy" to be a part of it. In fact, Neurath approached the Bibliographische Institut with the idea while also searching for a publishing company to publish English and French editions[17]. In the end, with the onset of the Great Worldwide Depression in October 1929, neither of these was to be. However, Neurath did not abandon his ambitions. At the beginning of the "Society and Economy," he appeals for help in his collaboration with Otlet, writing that he "seeks any suggestions that will contribute to the improvement, furthering, and continuation of this work." (Neurath 1930: 101)

6. CONCLUSION

The Atlas: "Society and Economy" was completed with an attempt to systematically standardize not only symbols, but all of the atlas's separate representational elements including its colors, maps, format, and fonts. Thereafter, the system was used in a consistent manner undergoing few subsequent changes. Readers of the atlas could freely arrange the sheets illustrating a multitude of socio-economic phenomenon. At the same time, in its overall order, the atlas reflected a narrative structure and could be read as an appeal for Neurath's philosophy of a "Scientific World Conception."

By participating in the planning stages of Otlet's encyclopedic "Atlas of Civilization," Neurath hoped his "Society and Economy" would become the launching pad for the realization of that project. Although the "Atlas of Civilization" never came to be, the "Society and Economy" was a harbinger of the International Encyclopedia of Unified Science, which Neurath would later propose as part of the future Unity of Science Movement.

As can be seen above, the "Society and Economy" achieved a standardization of design language. At the same time, as a visual encyclopedia reflecting Neurath's ideas, it can be called an important media that was to become the cornerstone for Neurath's future activities.

NOTES:

1 I also owe Nikolow (2005) a debt for this information.

2 This sketch is entitled "Sovijetunion 1930", drawn by Alois Fischer (Isotype Collection, 3.1/?).

3 Letter from Otto Neurath to Paul Otlet, January, 3, 1930, Papers of Paul Otlet.

4 Letter from Otto Neurath to Paul Otlet, March, 18, 1930, Papers of Paul Otlet.

5 Description in this section is based on Kinross (1979: 27).

6 Isotype Collection 3.1/4, On the detail of this notes, see Kinross (1979: 64-83).

7 Letter from Otto Neurath to Paul Otlet, November, 3, 1930, Papers of Paul Otlet.

8 ibid.

9 Letter from Otto Neurath to Paul Otlet, November, 20, 1930, Papers of Paul Otlet.

10 On the detail of the total collaboration between Neurath and Otlet, see Vossoughian (2003).

11 "Teachers of World Gather at Geneva", New York Times, July, 27, 1929.

12 "Geneva Blossoms with Conventions", New York Times, August, 4, 1929.

13 See "Das Bild", 6 Jr. H.9, 1929,176.

14 Letter from Otto Neurath to Paul Otlet, October, 14, 1929, Papers of Paul Otlet.

15 Letter from Otto Neurath to Paul Otlet, October, 18, 1929, Papers of Paul Otlet.

16 ibid.

17 Letter from Otto Neurath to Paul Otlet, January, 3, 1930, Papers of Paul Otlet.

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7-8. Drawn by the Author.

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