

Rondom Rembrandt and Beyond:
On Otto Neurath's Isotype Contributions
to Visual Communication and
Museum Learning

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In the interwar years of the 20th century, the philosopher, sociologist, and economist Otto Neurath (Vienna 1882–Oxford 1945) gained international recognition for his (r)evolutionary approaches to employing museums and exhibitions as instruments of enlightenment and empowerment. Neurath, convinced that in what he called the ‘Era of the Eye’ visual means would provide powerful and egalitarian modes of communication, wrote in 1925:

[M]odern man is conditioned by the cinema and a wealth of illustrations. He gets much of his knowledge during leisure hours in the most pleasing way through his eyes. If one wants to spread knowledge, one should use means similar to modern advertisements.¹

Neurath founded and directed the *Gesellschafts- und Wirtschaftsmuseum* (GWM, Social and Economic Museum, 1925–1934), part of the new structures to help carry through the socialist politics of the Red Vienna. Neurath's key innovation in this context was the Vienna Method/Isotype,² a method to systematically think about and prepare predominantly visually structured informational settings, for which he introduced the expression ‘visual language’. Isotype-work—in its full visionary scope—would mean carefully designed, ‘orchestrated’ settings for communication (museum, exhibition, film, book, wall-chart, etc.) using ‘collages’ of graphic, pictorial and other representations (text, image, object, media) in international cooperation for visual education.

In Vienna, and later in the Netherlands (The Hague, 1934–1940) and in England (1940–1945; Oxford, Isotype Institute from 1942) Neurath worked with a (changing) interdisciplinary team of experts—a fact he always underlined. Among others, there were well-known figures such as Gerd Arntz (1900–1988), the GWM's graphic designer, and Josef Frank (1885–1967), the museum's architect. From 1925 onwards, Marie Neurath (1898–1986) worked in the GWM-team. She became the principle 'transformer' (trustee of the public, audience advocate), a decisive position in the Isotype team, and she was also instrumental in the preparation of *Rondom Rembrandt* (Around Rembrandt, 1938).³

For quite obvious reasons—one being Neurath's forced departures, but also the ephemeral quality of, and lack of archival structures for museographic materials—evidence of the museum and exhibition work is scarce. Still, the concepts and circumstances behind *Rondom Rembrandt* are reliably documented. Important primary materials of this art-sociological visualisation are held at the Isotype Collection of the University of Reading.⁴

In the last decades there has been considerable interest in Isotype, with discussions mostly concerning questions of graphic communication and design.⁵ The concepts, and broader implications of Isotype, as exemplarily evidenced in museum and exhibition work,⁶ had remained outside the focus. Pictograms, employed all over the world, indeed are the easy to reproduce and successful 'trade-mark' of Neurath's. An exploration of Isotype work restricted to the graphic and diagrammatic applications and not exploring the museum and exhibition work, however, does not offer comprehensive treatment of Neurath's socially relevant 'tools for thinking'.

More recently, the diverse 'turns' (pictorial, spatial, medial), as well as globally apparent pressures and problems (issues of economy and ecology, rise of nationalism and fundamentalism, lack of education and literacy) and new opportunities (availability of internet technology and visual media) have pointed at the relevance of, and (help to) re-establish interest in Neurath's work with the visual and visual communication.

Today 'the museum' is discussed as part of the social institutions which (together) are systems of order that perpetuate, preserve, and legitimise codes and practices (material and immaterial) of a collectivity. Even in economically oriented debates, the arts and culture today are seen as most important, as social glue—giving the foundations for everything else in society. In this,

[T]he function of the museum [...] is to provide us with a central arena of sociability, [...] the agora, the common place.⁷

Museum and exhibition work constitutes culturally created and culturally vested methods which involve power-linked narratives.⁸ Their active and passive uses are learnt in performative acts. The very moment of actually experiencing the (predominantly visually structured) museum/exhibition presentations is defined by the meeting of the (mix of; often incompatible) 'narratives' developed in the (institutionalised, anonymised) cultures, and the preconditions brought in by the individual (learner/user).⁹

In this context, Neurath's Isotype museum and exhibition work, with coordinated thematic programming, and based on close attention to what was happening in the actual visits, excelled in several still (r)evolutionary and relevant features: Exhibitions were shaped so as to open access for the population at large and provide 'a common language'. Isotype proposals were geared at traditionally underserved museum audiences, at empowering and engaging them actively in practical politics—in a truly democratic effort breaking up the usual museum hierarchies. Work was carried out in a team (including scientists, technicians, designers, educators), the processes were monitored in order to produce meaningful offerings, useful tools, as well as integrated procedures of self-reflexivity (of the institution). This overall attitude was embodied in the key position, the transformer, responsible for choosing relevant information, and an appropriate and attractive visual language.

Neurath was not interested in merely ritual and affirmative use of social institutions, such as museums and exhibitions. The Isotype enterprise involved not only targeted use of subject expertise, newest technologies and structures, but also new and egalitarian concepts. This was connected to Neurath's democratic quest to 'develop and employ a conception of *knowledge as an instrument of emancipation*',¹⁰ and was meant to treat problems bewilderingly apparent in the turbulent first half of the twentieth century. Neurath's progressive museum work—serving the entire society—just as his philosophy, was inextricably linked to pedagogical theory, to the social sciences, and political thought. Neither these larger topics, nor the prevailing conditions of that historical time and era, among others the decisive practical politics in the Red Vienna, are treated here.¹¹

First in this essay, I briefly explore Neurath's notions of visual education, visual language, and learning, and introduce Isotype, authoritatively

described in Neurath's *Bildpädagogische Schriften* and in the précis exposition *International Picture Language* (1936).¹² Next, using the art-related exhibition *Rondom Rembrandt* as a practical example of 'picturing social facts',¹³ and with a focus on audience orientation and audience development—central museological concerns—I enlarge on the Isotype approach. Here, applications of Isotype strategies in the preparation of pictorial statistics and pictorial charts are examined in more detail. As *Rondom Rembrandt* proposed new aims for museum work, and new practices for discussing art topics, part of this essay also touches on basic issues concerned with art museum work. With this, in a second strand, I implicitly argue that today's 'museum'—a specific conceptual framework, a shaped social tool, and designed interface (i. e. pictured social fact), which at the same time also functions as a shaper of social facts—is still being challenged by Neurath's Isotype work.

More than Meets the Eye: Otto Neurath's Concern with 'Visual Language' and 'Visual Argumentation'

Neurath often referred to the overriding importance of the visual in the tools used for the communication processes he sought to provoke. His advice is proverbial: 'A picture says more than a thousand words', 'What can be shown with the help of a picture should not be said by words', or 'words divide, pictures unite'.¹⁴ Neurath emphasised that scientists using the most advanced techniques for discussing work-results were doing so in optical representations, with photographs to render visible sound waves, astronomical phenomena, the spectres and structures of crystals, to trace the behaviour of ants, of children. Such factual visual rendering of a specific given situation was what Neurath called 'optical protocols'. Also three-dimensional models, with possibilities of change, enlargement, re-assembling, for example the globes employed in astronomy or geography, formed part of what Neurath called 'pictorial education'.¹⁵

Propagating the use of visual education and visual aids, and pointing at their potential, Neurath stated:

School has to take note of omnipresence of pictures, if the effect of the street is not to become overruling. [...] The schools like all old organisations are rooted in the past—pictures are for those without education.¹⁶

Neurath's and his team's work of the 1920s was meant for the 'uneducated masses', for those without academic skills, such as reading and writing, and no time and/or energy left after a long day's work hours. According to Neurath, the diagnosis was clear: Factual information should preferably be conveyed visually, informative pictures (using pictograms/symbols as the basic element) and models should be part of a comprehensive and universally applicable Isotype approach.

However, what Neurath ultimately aimed at with the use of the visual was not the quick and 'effortless' transfer of information—although a key moment—most important was its potential for procuring egalitarian learning opportunities. As Neurath explained in the 1940s, education should not only concern the delivery of knowledge. He wrote:

The social pattern which permits more than one opinion etc. is the 'democratic pattern'. The transfer of the scientific attitude is not mainly concerned with knowledge but also with the creation of certain habits, sincerity of research and integrity of arguing. That implies not only thinking of how to pass examinations but also of deliberating on various possibilities of arguments, in short, how to become 'meditative' on certain subjects.¹⁷

This kind of learning entailed: To analyse observations, develop a concept by taking into account many diverse aspects and integrating diverging viewpoints, to look at human interdependencies. Neurath aimed at an open approach/attitude, respecting a democratic principle, which lies in the potential to modify and to negotiate. He also wanted to secure that prejudices should not gain the upper hand, and excluded any claims for absolute truth. He held visual means to be especially well suited for this endeavour, more democratic, open for diverse readings, not dependent on book learning.

Visual education leads to internationalisation much more than word education. One can use the same visual arguments connected with explanatory words in various languages, even with various remarks on the same visual material. Visual education is related to the extension of intellectual democracy within single communities and within mankind, it is an element of international social planning and engineering.¹⁸

Neurath explained that it was the social settings, as experienced in the GWM's exhibitions, the active use of factual information offered, the language

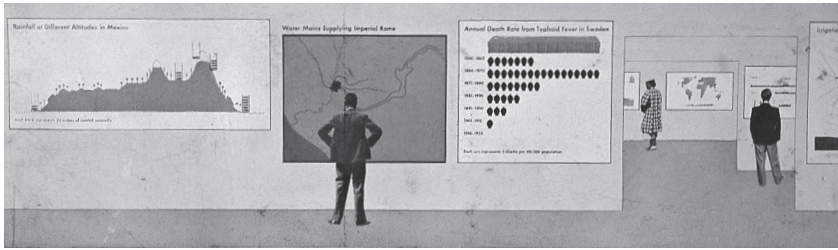


Fig. 1 **Photograph of mock up exhibition situation, c. 1938,**
I.C. N 2003, Isotype Collection, University of Reading.

developed in the comparisons, and the exchange of views, which were decisive for the transfer of such an attitude. The practical museum and exhibition work—covering a period of roughly twenty-five years—was crucial for the development of Isotype, its scope and variety.¹⁹

In order to clearly link the ‘what, why, who and how’, audience orientation had already become a key factor in the GWM’s work in Vienna. For this, the *transformer* was introduced—the expert ‘knowing exactly what potential visual resources there are to solve any given problem of presentation [...] of translating the scientific specialist’s intentions into visual reality.’²⁰

The transformer guided the GWM-team to make sure that the latest educational and scientific findings were acted upon, that the visualisations would be attractive, ‘speak’ to, and convey the exhibition content, engage the users, and make them use the information.²¹ The exhibition development processes were monitored, and the results were evaluated and discussed to improve future work (Figs. 1 and 2). This Isotype-methodology provided for the self-reflective attitude necessary to deliver effective and ‘visually enticing’ environments. These concerns were shared with the users.

As a didactic and pedagogic approach, Isotype would not only require the close observation of the visually organised messages, but entail active analysis of the ‘optical protocols’ by the learners, the use of the arguments developed in discussions, and sometimes practical application of their own Isotypes (charts, displays made by the learners).²² In the charts, both message and possible interpretability were basically formulated. However, formulated so as to make the user integrate them into existing concepts. Aesthetic experience,

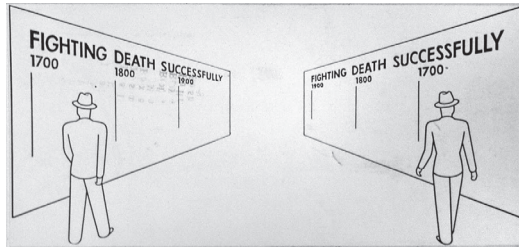


Fig. 2 Chart showing 'contradicting directions' in exhibition design: direction of reading vs. direction of walking, c. 1938, I.C. N 1992, Isotype Collection, University of Reading.

activities of direct observation (apprehension, contemplation), and a situation of discourse developed from that, should not be circumvented.

Neurath's *Bildpädagogische Schriften* do not contain a systematic exploration of the concepts visual, visuality, visual education, communication, or visual argumentation. These terms generally relate to complex competencies such as decoding, consuming and creating visual messages, ranging from very conventionalised everyday uses (e.g. traffic signs) to the visual media as individualistic and artistic categories conveyed in complex structures of visual/image-arrangements (e.g. painting, image, picture, stage set, film, exhibition, collage; using tone, colour, composition to create a story, atmosphere, emotion).²³ Although it is well known that the visual is not as clear and clean as a word-/text-based language, several characteristics of 'language' are found: communicative potential, parts and arrangement-structures, Saussurean langue/parole contexts, diachronic and synchronic aspects, etc. Neurath often described the Isotype museum work (aims, methodology) in the context of visual education (*Bildpädagogik*). Also in *International Picture Language—The first rules of Isotype* (1936) museums and exhibitions are treated prominently, especially in the part 'Grouping Pictures With Other Things' (pp. 65–73).²⁴ Museums and exhibitions figured as constitutive elements in the plans for the Mundaneum, an international support-network for integrated visual education started in nucleus version in the early 1930s, and were repeatedly referred to in Neurath's manuscripts of the 1940s, 'Visual Education', and 'Visual Autobiography'.²⁵

In addition to the 'auxiliary' verbal languages (as BASIC)²⁶, Neurath saw 'Isotype as a visual language' which had to perform a different task, that of

‘conveying visual arguments and visual information [...] to reach [...] the masses spread over the surface of the earth’.²⁷

The full use of the rules of the ISOTYPE system will make a complete change in our ways of teaching. [He saw it as a] guide to deeper knowledge and to science, without the danger which is so frequent in education by words: that of taking note only of details and seeing nothing of the general view. If the general view is given by teaching pictures, it will be kept in mind.²⁸

In 1942, in a letter to Julian Huxley (1887–1975) Neurath again put forward these utopian ideas. He wrote:

Visual Education can be made much more “neutral” than education by means of words. For international purposes therefore, Visual Education is a proper tool. [...] Experience taught us, that [...] People usually enter exhibitions, look at charts, less hesitantly than they would read periodicals of a different “faith”. Another point: You may look at pictures without particular efforts.²⁹

These plans with a global scope did not develop further. Otto Neurath died in December 1945.

When discussing Neurath’s use of the concept ‘pictorial/visual language’, several basic assumptions cannot be overlooked: Neurath repeated time and again that the ‘pictorial/visual language’ was not a (normal) language, was not to be understood without supplementing words from a natural language:

What we have to do with here, however, is a picture language, which is not able to give the story by itself, but only with the help of a normal language.³⁰

This refers to the text-elements (necessary to clarify the potential factual statements of the pictogram-arrangements) providing the momentum for the visually observable ‘arguments’ to be performed in language interpretations—the diverse actualisations by the users (verbal comments, deductions).

The ISOTYPE picture language is not a sign-for-sign parallel of a word language. It is a language, which may be put into words in different ways. The units of the picture language have different senses (HK: meaning) when they are in different positions.³¹

It is not possible to give a word for every part of such a picture or a statement for every group of parts.³²

Propagating Isotype as a visual language for supporting an argument (in a lecture, school teaching, notice boards, shop windows, newspaper illustrations, brochures, slide-presentations, etc.) Neurath implied using all media available for visually presenting information (photographs, films, books, posters, exhibitions, museums, etc.), referring to all in sum as the ‘orchestrated’ tools for visual information and communication, and explained:

Some of the visual devices have mainly to serve as entertainment, advertisement or propaganda. Others have systematically to bring over some habits and attitudes from one group of the population to another—mainly from the older to the younger generation—in a rather argumentative way. This kind of transfer may be called “visual education”.³³

Pointing at a fundamental phenomenological orientation of visual education, Neurath underlined that visual education enforces a more human approach than education through writing, as it deals with things that are within everyone’s grasp:

[It] is neutral and satisfies the feeling of having knowledge in common, which in turn implies having a medium in common, international, neutral, etc.³⁴

Symbols are not very dependent upon any fashion. Therefore they are not only international but also as it were, “inter-tempera”.³⁵

For international purposes, a stringent system of conventions would be needed for creating a common atmosphere for people with different languages, occupations, and outlooks, as ideas had to be communicated and transferred over time, space, and cultures.³⁶

This work of Neurath’s had already begun at the GWM in Vienna. Besides the transformer methodology, the Isotype-approach offered a range of visual materials characterised by the pictorial statistics, the Isotype Exhibition Technique for ‘visual argumentation’³⁷, and a set of ‘Rules to keep in Mind’ concerning the structural organisation of exhibitions (with chapters, redundancy). The principles and procedural rules of Isotype-designs were

routinely documented and systematically developed to render best-suited visual statements. Thus, established best practice influenced the production of the next task at hand, producing a complex pictorial *language* in a semiotic approach,³⁸ which allowed for both continuity and flexibility.

The practical organisation and didactic support needed to spread this encompassing Isotype approach is echoed in the composition of the kits for the GWM's travelling exhibitions. These consisted of a series of charts with pictorial statistics (produced in a modular system), a manual with instructions for how to place and mount them (arrangement and overall structure, intended viewing position, organisation of information), and the support materials, such as booklets and slides for working with visitor-groups.

In short, everything [was] *geared towards quick orientation and easy retention of information.*³⁹

The 'Isotype Exhibition Technique' pointed out 'rules' for the visualisations, and for relating to the interests of the users more generally (among others): *express in words only what cannot be visualized, avoid monotony, aim to satisfy varied interests, avoid overcrowding, unify charts and models, emphasize experiences of daily life.* Neurath's basic 'rule' in this context reads:

A picture made according to the Vienna method shows at first glance the most important aspects of the subject; obvious differences must be at once distinguishable. At the second glance, it should be possible to see the more important details; and at the third glance, whatever details there may be. A picture that has still further information [...] is from the point of view of the Vienna school, to be rejected as pedagogically unsuitable.⁴⁰

The charts (pictorial elements, captions) had to be as clear in their 'visual statements' that these 'three steps' were sufficient to allow for various processes of observing, decoding, and recombining specific visually conveyed 'information'. Pictograms and images used were without renderings in perspective, without hues or special reference to the optical of colours. But colour coding, and the 'tactile' qualities of lines and outlines were purposefully employed.

For Otto Neurath 'reading' a well-prepared Isotype chart was as easy as counting, grouping, and measuring—but had to be learned:

Fig. 3

Two charts: the development of the University of Leiden and of the population of Amsterdam, spread (pp. 2 & 3 from the booklet *Rondom Rembrandt*), I.C. 3/2, Isotype Collection, University of Reading.

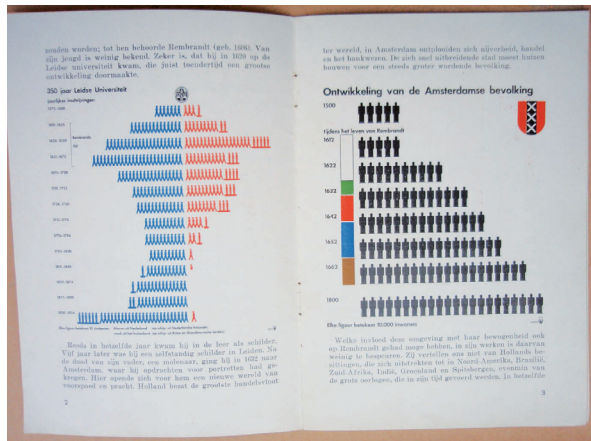
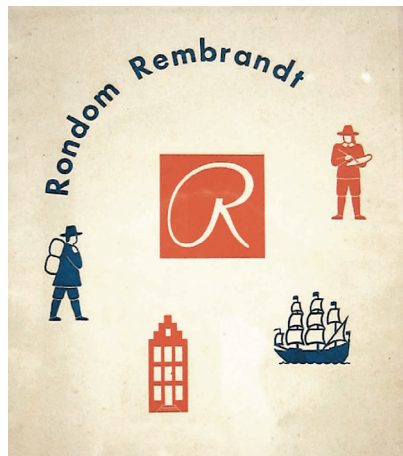


Fig. 4

Rondom Rembrandt, title page for the exhibition booklet, leporello-dummy (assembled between 1938 and 1946?), I.C. 2029, Isotype Collection, University of Reading.



[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.⁴¹

The chart 'Development of Amsterdam' and the title page from the *Rondom Rembrandt* exhibition (cf. figs. 3, 4), and a New Year's greeting card (fig. 5) provide good examples for different Isotype applications and the visual language.

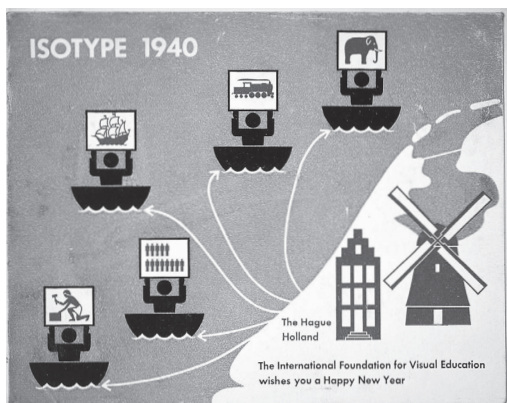


Fig. 5

Isotype -
New Year's greeting of 1940,
 I.C. MS 1091 5/18 T 300,
 Isotype Collection,
 The University of Reading.

The 'Development of Amsterdam', basically a 'classical' pictorial chart, uses symbols (pictograms), a guiding image⁴² (evoking a context necessary for the intended interpretation—here the coat of arms of Amsterdam), very little text (establishing that each of the man symbols represents ten thousand inhabitants), and is organised in vertical (time) and horizontal (amounts) axis/coordinate.

The title page of the exhibition-booklet (fig. 4) shows a different combination of text (two words) and five pictograms: the characteristic signature-like 'R' (used for Rembrandt, and for his artwork), the silhouettes of a man with palette and paintbrush (painter), of a man with backpack (migrant), two silhouettes a 'Dutch' house (home, living) and a sailing-ship (commerce); the last two also used in the New Year's greeting card (evoking other interpretations).

Also the New Year's Greeting, 'ISOTYPE 1940' (fig. 5) combined symbols, 'like words', with text elements (the heading; three words for the location: 'The Hague Holland'; and the sentence: 'The International Foundation for Visual Education wishes you a Happy New Year'). The visual arguments are rendered in the customary clear-cut imagery of Isotype, without painterly quality in the visual elements or composition. These symbols, partly also used in other interpretational contexts, e.g. in the *Rondom Rembrandt* charts, help to formulate other statements here. Most conspicuously the 'logo' of Isotype (the 'figure holding a chart') is repeated five times. For this specific purpose 'put' in 'boat'-shapes 'going' in different directions, it holds up charts with symbols representing Isotype work, i. e. evoking the range of subjects treated by the International Foundation for Visual Education. There 'are': a worker

(stone-mason, inspired by an Egyptian hieroglyph); elements of pictorial statistics; a sailing-ship (commerce); a locomotive (traffic); an elephant (evocative of Neurath's 'pictorial signature'); an outline map of, and two symbols for 'living' in the Netherlands (silhouettes representative of a 'Dutch' house and of a windmill).

This incomplete and rough description—not mentioning e.g. colour, proportions or composition—clearly demonstrates how cumbersome a (necessarily not exhaustive) 'translation' of the visual message into words is, whereas the image is 'open-ended', and in its totality instantly given to the viewing capacity of the observer. Neurath often discussed these questions and propagated Isotype—visual education—as one possibility among others:

Frequently it is very hard to say in words what is clear straight away to the eye.

It is unnecessary to say in words what we are able to make clear by pictures.

[...] Education has to put the two together, and a system of education has to see which language is best for which purposes.⁴³

Isotype charts employed communicative elements from the linguistic and the pictorial, the text and image repertoires,⁴⁴ and delivered a controlled, inter-medial configuration for synoptic observing—rather than merely picture- or word-based, and/or temporally consecutive information. The potential for diverse interpretational approaches and the informative content developed was decided by the connections elicited from the users, not based on (previously internalised) knowledge of a subject or disciplinary systematic. This meant that conclusions about the meanings of the information presented were largely left to the viewers, as they actively had to study the information and seek relationships—a natural activity for scientists which was to be evoked also from the newly initiated users—confident, curious, and positive in a 'club atmosphere'. Thus an Isotype exhibition was a dynamic, and process-oriented tool for argumentation where the verbalizations were delivering different 'meditations' and not finite conclusions.

The aim was not to deliver a product in legible signs, but to engage the users to actively 'read' (observe and combine) the visually conveyed facts, to argue a case from the information delivered, sensitive for and respectful of other viewpoints. The aim was to foster enfranchisement and empowerment, a tolerant and meditative 'attitude'.

In *Random Rembrandt*, for example, the user was not told what was ‘to be seen’ in the works of Rembrandt, or about the complex research system and terminology used by art historians. Rather the exhibition provided opportunities to relate to the works of the ‘legendary’ Rembrandt on everyday terms. This enabled the user to establish confidence, to take the time, look, see, learn vocabulary, find out about possible categorisations and concepts, compare, meditate, and talk about the experience. Neurath coined a specific term for such a sense-based and egalitarian approach. He called it ‘humanising’, as opposed to a paternalistic ‘popularising’.⁴⁵ The exhibition *Random Rembrandt* provides an exceptional and ‘condensed’ example for how this Isotype-approach was applied for treating art-related matter.

The Art-Related Exhibition *Random Rembrandt*

Random Rembrandt produced in Holland in 1938, was revolutionary in several aspects. Focussed on audience orientation, addressing hitherto underserved audiences, it proposed new approaches for engaging with art: There were new topics, a new type of venue, and a new funding scheme.⁴⁶ Taken together and taken seriously, these had/have the potential to challenge established traditions of art history and conventional museum work. Neurath circumscribed the underlying socially/educationally founded rift like this:

There are people who are interested in Rembrandt’s paintings, drawings, etchings etc. [... They] may enter a museum or buy a book [...]. There are others, who heard of Rembrandt, are interested in the famous man, like some of his pictures, but do not know how to come into closer contact with him.⁴⁷

Random Rembrandt was meant for those ‘others who [had] heard of Rembrandt’. As Neurath wrote:

In The Hague, Rotterdam, and Amsterdam we set up exhibitions in department stores. They were visited by thousands of people who ordinarily would not have gone to a museum.⁴⁸

These unusual locations underlined the effort to provide egalitarian opportunities for seeing pictures (art works) and for thinking and talking about them as

something other than ‘holy relics’. It made the act of ‘going to exhibitions’ easy and part of everyday concerns, a possible ‘cultural habit’ for the man and the woman ‘in the street’. In the same vein, the key visuals used in *Rondom Rembrandt* pointed at practical measures relating to the visitors’ life-circumstances (production and consumption of goods, transport processes, commodity-features of specific historical times, Rembrandt’s family and influence in society). This overall theme is beautifully ‘enacted’⁴⁹ in the title page to the accompanying exhibition booklet (fig. 4). The synchronic method and Isotype methodology as had been applied to practical subject matter in the GWM’s previous work (health, housing, social and economic development) was used to conceptualise Rembrandt’s life and time. In argumentative and visual language-like technique of presentation it made ‘the *hero* approachable’.⁵⁰

Neurath did not try to directly change the classical art museums, but made use of museum displays. Rembrandt’s works, as would have been known to everyone in 1938 in Holland, were on show in the Rijksmuseum in Amsterdam and the Mauritshuis in The Hague, while the exhibition was held at the ‘Bijenkorf’.⁵¹ Thus the originals in the traditional museum collections seem to have provided the specialised disciplinary context.

Rondom Rembrandt was mainly organised with pictorial charts and made extensive use of photographic reproductions (of artworks).⁵²

As a whole it showed how an interest in the arts and an understanding of a certain historical period could be developed by combining a well-arranged, language-like technique of presentation.⁵³

Not presupposing specialist knowledge or vocabulary, *Rondom Rembrandt* did not primarily refer to customary categories of art appreciation, such as painterly achievements or æsthetic qualities in Rembrandt’s works. In a social historical perspective it embedded the artist, his work and innovations in the changing circumstances—economic, technical, and social—of his time (figs. 6, 7, and 8).

The ‘language-like’ Isotype features included: a coherent system for exhibition layout, design of individual elements (charts with pictorial statistics), arrangements of photographs (reproductions of paintings) and maps, colour-coding, interactive games. Pictograms (quantities) were used for: Rembrandt’s works, (artistic) genres, pupils/artists, students, goods, or commerce. In some occurrences (arranged in rows/groupings of amount pictures) these ‘asked’ for

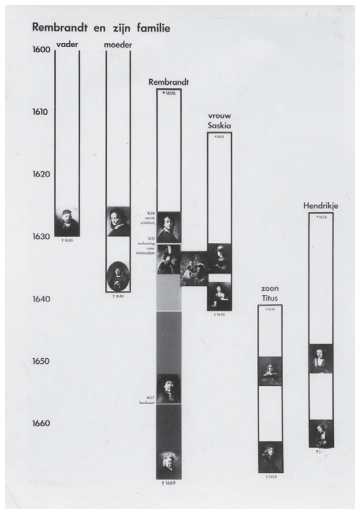


Fig. 6

'Rembrandt and his family', (chart from the exhibition *Rondom Rembrandt* using photographs), (1938), I.C. T 1698, Isotype Collection, University of Reading.

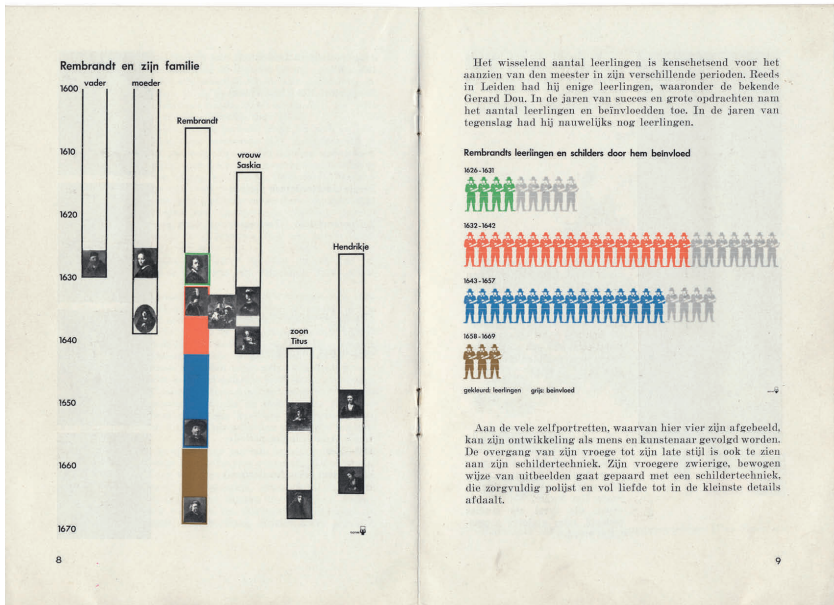


Fig. 7 'Rembrandt and his family' and 'Apprentices and painters influenced by Rembrandt', spread (pp. 8 & 9 from the booklet *Rondom Rembrandt*), (1938), I.C. 3/2 -15, Isotype Collection, University of Reading.

Fig. 8

'What was paid for a painting by Rembrandt', chart for the exhibition *Rondom Rembrandt*, leporello-dummy (assembled between 1938 and 1946?), I.C. T 1703, Isotype Collection, University of Reading.

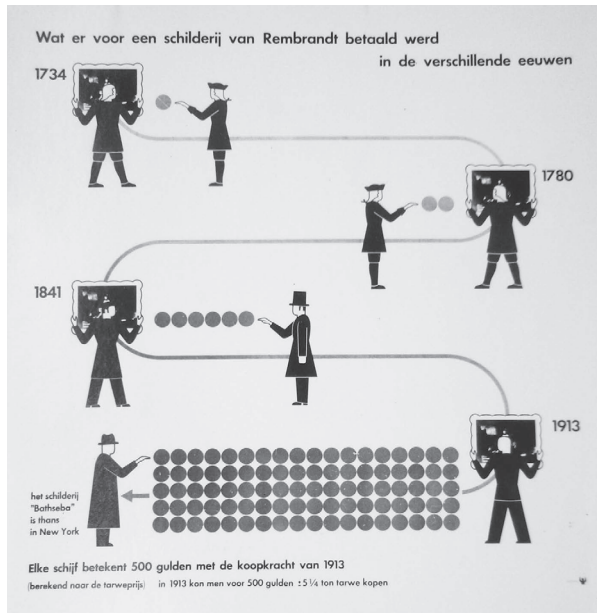


Fig. 9

'300 Years University of Leiden' (Detail). Chart from the booklet, I.C. 3/2., Isotype Collection, University of Reading.



counting, e.g. number and placements of (Rembrandt's works in museums), economies (Rembrandt's, art-market, general), population (of Amsterdam, Leiden), or students (which showed 'at one glance' how distant Rembrandt's time was; cf. fig. 3). Lead images established a clear visual connection—for example the Dutch interiors (reproductions of paintings by other artists) to the respective social backgrounds of commissions for Rubens vs. Rembrandt (fig. 18).

Some practices of the specific discipline art history were also employed for the *Rondom Rembrandt*-presentations. These concerned observational skills (comparing, rating) and aimed at establishing a concept of chronology and stylistic development for Rembrandt's oeuvre.

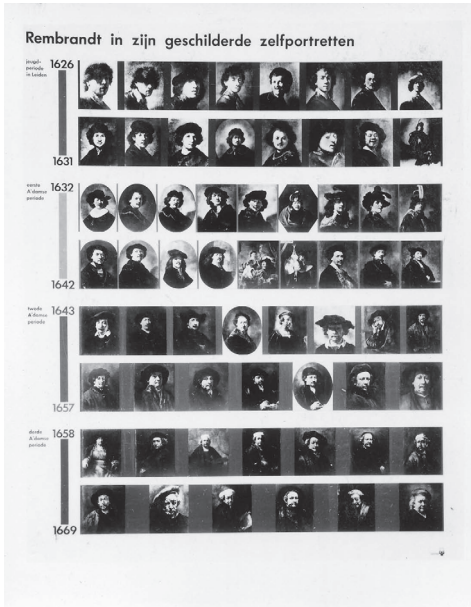


Fig. 10

'Rembrandt in his painted selfportraits'
 (chart from the exhibition *Random Rembrandt* using photographs),
 (1938),
 I.C. T 1687, Isotype Collection,
 University of Reading.

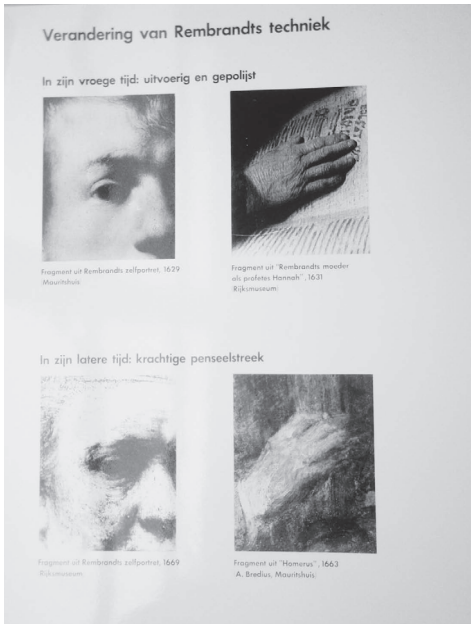


Fig. 11

'Changes in Rembrandt's techniques'
 (page from the
 booklet *Random Rembrandt*),
 (1938),
 I.C. 3/2, Isotype Collection,
 University of Reading.

Referring to these charts (collage of photographic reproductions with ‘sequenced’ self-portraits of Rembrandt’s, fig. 10; his renderings of hands and faces, fig. 11) which helped to discern changes in Rembrandt’s style in the course of the different periods of his career, and to the colour coding (fig. 12), Neurath wrote:

This [...] taught many things, you see immediately alterations in his gesture, in his personality [...] how his brush is changing, from the first paintings to the last. We subdivided his life line, and gave each of these subdivisions a particular colour, from the young man’s green to the old man’s brown. These colours lead the visitor through the exhibition, the reader through the booklet.⁵⁴

Neurath explained how this was attempted by showing ‘the brushwork’ in photographs of enlarged details of Rembrandt’s works (fig. 11), or with other synoptic collage-arrangements (fig. 13), and gave a reason, why:

[Also] the layman who now learns what research means [...] likes that, assumed, that this knowledge does not ask for long hours of studies.⁵⁵

The colour coding kept aware of fundamentally important background information (historical time and changing surroundings) without producing ‘visual noise’.

If we had not done this, we should have had to label all his etchings and paintings with their dates, thus burdening the visitor with more detail than he could absorb.⁵⁶

Describing how the background of Rembrandt’s time was visualised in this exhibition, Neurath wrote:

What was his time, a visitor may ask? Where? [...] You may show a picture of Leyden, which presents the town as an industrial one. An ISOTYPE brings a short history of the textile production in Leyden, the maximum period is identical with the Rembrandt period. You may present old colour prints, or paintings of old Amsterdam, and of Rembrandts Amsterdam—very nice and impressive town views.⁵⁷



Fig. 12

'Rembrandt's paintings in the Netherlands'

(page 11 from the booklet *Rondom Rembrandt*), (1938), I.C. 3/2, Isotype Collection, University of Reading.



Fig. 13

'Apprentices and painters influenced by Rembrandt', version with paintings indicating the contemporary background (chart from the exhibition *Rondom Rembrandt* using photographs), (1938), I.C. T 1699 from 3.2-14.

Neurath first related to the interests and capacities of the envisaged users (which questions might arise? what subject-knowledge should be expected?) and in a second step suggested (appropriate) means of visualisations to choose from (a blend of Isotype and conventional images).

Organisational schemes of certain charts were specific to the *Rondom Rembrandt* exhibitions, and some charts, although treating the same topic differed in the versions for the exhibition and the booklet respectively. Examples are:



Fig. 14

'Rembrandt's Selfportraits'
(page 7 from the booklet
Rondom Rembrandt),
(1938), I.C. 3/2,
Isotype Collection,
University of Reading.



Fig. 15 **'Contemporaries and important events of Rembrandt's times'** (exhibition chart from *Rondom Rembrandt* with photographs of portraits, paintings of buildings, commerce, whaling, etc.), (1938), I.C. 3/2, University of Reading.

Rembrandt's chronologically arranged self-portraits (figs. 10, 14), a chart relating to his time and contemporaries (figs. 15, 16), a map indicating the distribution of his works (figs. 12, 17), or the charts comparing art activities and markets of Rembrandt and Rubens (figs. 18, 19).

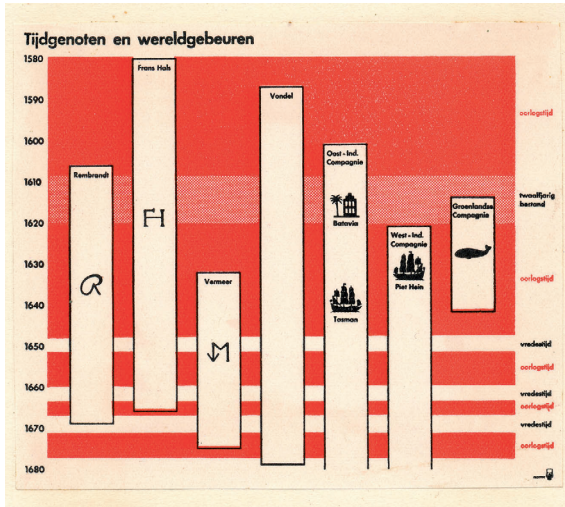


Fig. 16

'Contemporaries and important events of Rembrandt's time', chart from the booklet (with signatures; pictograms for commerce, whaling, etc.), I.C. 3/2 -42, Isotype Collection, University of Reading.



Fig. 17

Rembrandt's Paintings in the Netherlands (chart from the exhibition Rondom Rembrandt using photographs), (1938), I.C. T1708, Isotype Collection, University of Reading.

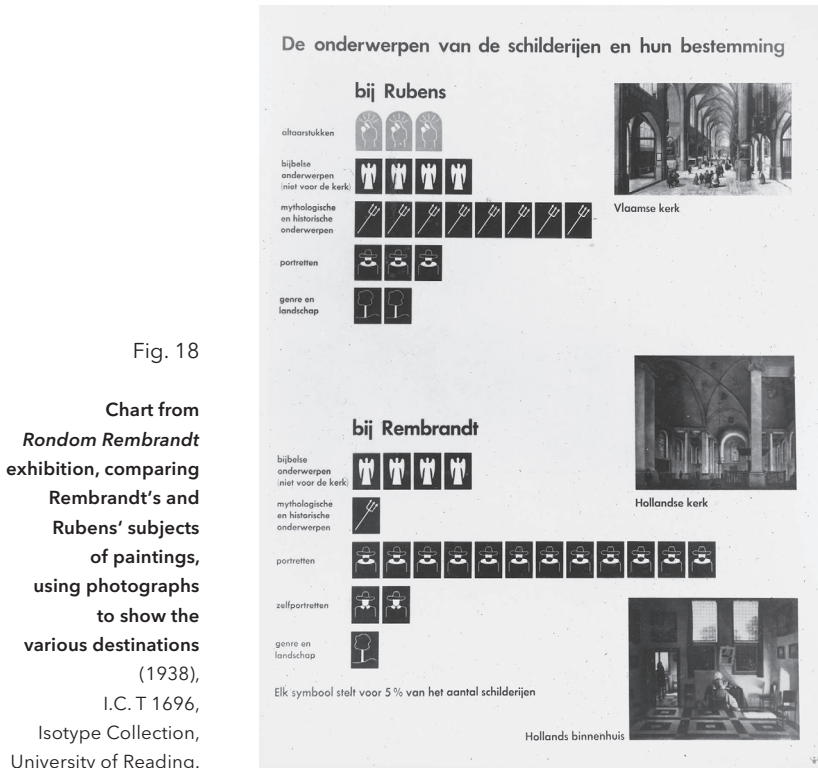


Fig. 18

**Chart from
Rondom Rembrandt
exhibition, comparing
Rembrandt's and
Rubens' subjects
of paintings,
using photographs
to show the
various destinations
(1938),
I.C. T 1696,
Isotype Collection,
University of Reading.**

The 'visual weight' of the pictograms rendered the extent of the artists' thematic specialisations, and the text established the percentage-relation to their complete oeuvre. Specific symbols (not difficult verbal terms) were used for the artistic genres (portrait, landscape, religious and mythological paintings). In the exhibition version, the additional lead images (showing a likely historic placement of the artworks) served as clues for the artists' respective markets. In the booklet, this information is not visually conveyed.

In addition to the observational tasks, and as a special attraction, simple games ('question and answer' machines, devices for self-testing) were developed for the *Rondom Rembrandt*-exhibitions (cf. fig. 20). These provoked curiosity and engaged the users (physically as well as mentally) who were asked questions concerning the exhibition and would find out if their answer was right or wrong.

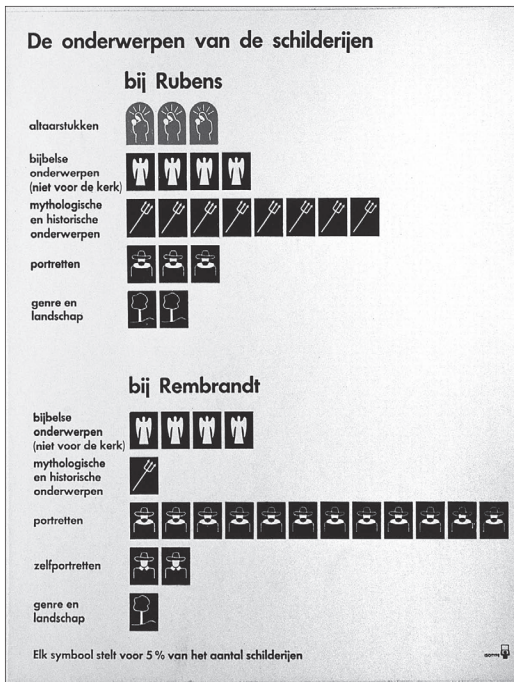


Fig. 19

Chart from *Rondom Rembrandt* booklet, comparing Rembrandt's and Rubens' subjects of paintings, using pictograms (1938), I.C. 2034, Isotype Collection, University of Reading.

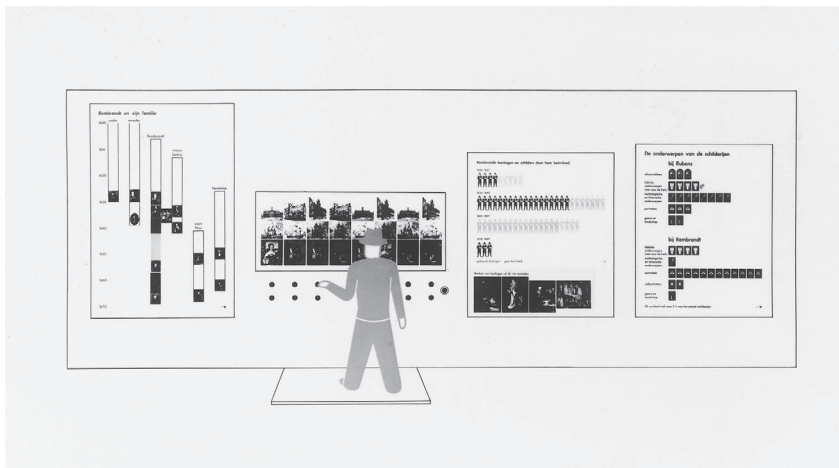


Fig. 20 Photograph of mock-up exhibition situation, c. 1938, I.C. 5/15 (detail, T 1814), Isotype Collection, University of Reading.

Neurath underlined the importance of such concrete, practical provisions for interactivity and involvement, and pointed out that these had already been introduced by the GWM in Vienna. He also reported that the Rembrandt-exhibition in department stores was ‘visited by ten thousands of people, who have been very interested in this new type of exhibitions and this new type of booklet’ and pointed at the deliberate combination of individual events, particular pictures, and analyses in detail, with environmental material, in the two different, but corresponding versions.⁵⁸

In the booklet—with considerably more text—charts and photographs (some in symbol variants, as technically required with regard to viewing-size, reprographic-quality, cost of printed matter) and corresponding text were especially carefully matched. Marie Neurath described this as a new way of ‘bring(ing) text and pictures intimately together’.⁵⁹ After the successful *Rondom Rembrandt*-project, a series of ‘Around [other *well known* artists]’ was envisaged, using this ‘pictures and text’ approach.

The intentions behind such Isotype-enterprises can be summarised as follows: to make an art topic easily accessible—physically, intellectually, and emotionally. This concerned the use of unusual venues, as well as the democratic ‘visual language’ and the flexible and impressive visualisations of concepts. The text of the exhibition booklet ends as follows:

By [i. e. with the help of] only this booklet and the Isotype pictures one does not get to know Rembrandt: but maybe through his works. May this small collection be inspiring to visit the museums and to better get to know the Dutch Golden Age which also was the century of its greatest artist.⁶⁰

This conveys two especially pertinent points, namely as Neurath writes, with the booklet and the Isotype exhibition ‘one does not get to know Rembrandt: but maybe through his works’, and that the pedagogical task set out for the Isotype work was to engage, kindle interest, and inspire to go further.

Obviously (more than 70 years later), it is not possible to ascertain what *Rondom Rembrandt* ‘meant’ for the users. It possibly enabled the untrained lay-users to understand and use new terms, to work out categories of art appreciation, provided time for conversations, and with this helped them develop competencies for experiencing art. One effect seems clear: *Rondom Rembrandt*’s presenting and networking these themes and diverse contextualisations in a dynamic and uncommon production structure/environment

(as offered in the department stores), vastly enlarged the potential for learning and ‘meaning’. It touched new ground and provided an example of integrated and sustainable audience-orientation, a component necessary for (responsible) public presentations in museums and exhibitions.

The quality and success of the *Rondom Rembrandt* exhibitions had not gone totally unnoticed. In 1946, Paul Rotha,⁶¹ the influential British film-maker, had been invited as a speaker to the British Museums Association’s Annual Conference. In his discussion of visual communication techniques, Rotha reported on ‘the well-known work of the Isotype Institute’. He specifically pointed at its efforts in creating a ‘picture language’ and ‘orchestra of instruments for visual education’, and as an outstanding example mentioned *Rondom Rembrandt*.⁶²

Still, there seem to be no other contemporary reactions or direct influence of this project in its own time. We have to keep in mind, however, that often Neurath’s work did not fit his contemporaries, as he was ‘not afraid of taking up untimely issues’.⁶³ *Rondom Rembrandt* took place shortly before the Second World War, an extremely difficult epoch for European societies, and the venues, the department stores, put it (at least mentally) far from peer review or a disciplinary art historical or museological context.⁶⁴

More recently, picture historian Astrit Schmidt-Burkhardt introduced a reproduction of a *Rondom Rembrandt* chart (fig 7; the Rembrandt family-chart) to discuss Gerd Arntz’s graphic style. Although earlier in the book she had referred to Neurath’s ‘Wiener Methode’ (Isotype), the connections were not made clear, and the underlying notions (exhibition purpose, user-context, language-like visualisations, team work) were not pointed out in relation to the Rembrandt-chart.⁶⁵

What is seen in an image (artwork, diagrammatic chart, etc.) does not only depend on the competencies brought to the encounter but also on the socially developed and embedded instruments.⁶⁶ This has to do with competencies in ‘languages’ or ‘language dependent’ communication systems (traditions), with trespassing customary disciplinary boundaries, and with attitudes. Neurath proposed a forum of research that draws upon the expertise and methods of several of the relevant disciplines—art history, perceptual psychology, anthropology—without presuming any one of these to be a complete explanatory model, but with the understanding that each must retain the rigour of its methods and yet be open to other approaches.

The most concrete revolutionary quality of Neurath’s museum work was its decisive and stringent perspective of the ‘future user’, its ‘constructivist’ and

collage-like work-method, corresponding to his basic concept of ‘orchestration’. In this work of ‘humanising’ specialist/expert work, to make it approachable and understandable for the average user (the broad masses without academic training), special importance was given to visual communication.

Museum Work and Visual Argumentation

In the Western world, systematic learning and the transfer of information are (not only seemingly) coupled to spatially and visually structured concepts (departments, sections, scripts, segments and strata) and ‘pictured as social facts’ in specific spaces (school, library, museum, laboratory, university). The breakdown of such conceptions (representative and constitutive), and the realisation of the fact that these are mental and communal (constructions/restrictions) and undergoing constant shift, is pushed by the new technologies offering new conversations, and characterised by the qualities and the ‘fluidity’ of the virtual and immaterial. Such traditions and conceptions are also challenged by taking seriously Neurath’s historic, but still provoking, ‘orchestrated’ enterprises.

The transinstitutional and cross-media aspects of visual culture, where museums and exhibitions figure prominently, make the museum a pre-eminent site for contested views of identity, power, and control. We are used to think about viewing images and media as a process of socialization in specific culture settings: who gets to produce images? Who gets to consume them, who can do both?

Within this complex, the art museum has traditionally played an important role in the transferral of art practices, and according to Pierre Bourdieu (1930–2002) has functioned as a legitimizing central higher authority. There, in the museum, which takes out of the original context of production and use, neutralises and re-loads with other qualities, the aesthetic disposition is produced and reproduced.⁶⁷ As such, the art museum has also functioned as a socially distinguishing authority, as a ‘marker’ between pertaining and being locked out—heightening the social status of its patrons. Also more recent art-sociological research implies that the relationship between demographic background and consumption of art has not changed since that recorded by Bourdieu. The majority of the population lacks imperative empowerment and access to the ‘performed’ code. The museum is reserved for the affluent

and better educated. What is happening there is ‘shared’ within a specific segment of society—those capable of specialised (not necessarily academic) discourse, implying connoisseurship and rituals, with clear links to economic power and art markets. These ‘distinguishing’ differences can be internalised to a degree that they seem ‘natural’. However, they have to do with education, acquired competencies, and habits.⁶⁸

Contrary to ‘pure’ art history concerned with intra-disciplinary refinement (discussions of iconology or iconography), a sociologically oriented art-science/art-studies (visual culture studies) not only takes into account the history of production, but the history of reception as well as that of the media for perception.⁶⁹ In this context, *Rondom Rembrandt* can justly be seen as an important historical example. The traditions sustaining ‘distinction’ and perpetuating inequality as identified by Bourdieu’s work, were certainly worked against by *Rondom Rembrandt*, with its clear orientation at lay-audiences, in *not* art-related surroundings, and by introducing everyday common concerns, topics and questions, also echoed in the French sociologists’ research. Bourdieu identified similar clues as had been devised by Isotype-methodology, as pertinent and successful categories for establishing possible recognition formations for non-specialised audiences.⁷⁰ *Rondom Rembrandt* proposed and carried through a previously unknown sociological structural approach and introduced novel observational categories, and with this, broadened the social base for meaning.

Research into the conditions or the results of museum/exhibition use had barely started in Neurath’s times. Also in this respect the GWM work must be seen as an early and exceptional example.⁷¹ Innumerable surveys and evaluations of museum visiting and learning have been undertaken since.⁷² These have delivered relatively stable pictures of audiences and visiting patterns, and confirm many of the less formally secured observations of an earlier date—made by Neurath.

Nowadays research concerned with learning and communication in museums, based on constructivist epistemology emphasizes the dynamic and complex relationships between learning and social contextualisations.⁷³ It also clarified that the learner’s own perception of learning and of her/his individual situation in this process constitutes an influential component of learning, and underlines the importance of incorporating appropriate ‘conceptual frameworks’, as well as of providing assistance for the users to ‘make sense’, and applying principles of interpretation and learning, to museum displays.⁷⁴



Fig. 21 The pictogram 'R' as developed for *Rondom Rembrandt* to denote both Rembrandt, and his works (Isotype Collection, University of Reading) and a random collage of Rembrandt signatures. (H. Kraeutler 2010).

Neurath did not narrowly focus on the visual within the boundary of traditional humanistic scholarship, or 'high culture.' His concept surpassed what has been divided into 'high' or 'fine' art and 'low'. He related to informational design, museums and exhibitions, books, films, architectural concerns, and employed the most diverse media and strategies in his Isotype work, using the visual for (visual) communication. Today, the visual is often studied in such a less bounded fashion, as the new paradigm of 'visual culture' represents a holistic and encompassing approach to the visible world. As expressed in his 'visual autobiography' and often underlined by Neurath—also by the conglomerate materials and strategies he referred to—the worthiness of visual material or practice, as an object of study, depends not on its inherent art-qualities, but on its place within the context of the whole of visual cultures. Neurath encouraged looking at matter under scrutiny from many sides and considering all implications, as a meditative mood and democratic 'scientific' attitude should imbue all of society.

Contemporary museum discourse is characterised by (verbalized) ethical notions and concepts such as inclusivity and democracy, by interdisciplinary, multifocal, co-operational and international structures. This again evokes Neurath, who pointed at social contingencies, renounced all foundationalist conceptions, and definitely related sustainable advancement of societies to a general sharing in democratic and egalitarian structures, and to an increase in

the quality of the lives of the many. Neurath aimed for an inclusive democracy and underlined that provisions for learning, communication and exchange were necessary. He saw museums/exhibitions, predominantly visually organised, as constituting powerful tools with great potential for playing an active role in this painstaking process of general advancement.⁷⁵

For museums and exhibitions the main question is: How to start a comprehensive scheme and then to reach the detail, what's the argument and not what does the director want to present. Single objects on view should be linked by illuminating schemes.⁷⁶

Indeed, museums, through their educational power can be important engines for social change. By some museum workers, education has been addressed as 'the essence of museums' and as 'the most potent weapon at our disposal'.⁷⁷ In practice, however, realisations are often confined to a pragmatic attitude, aiming at peer review levels, and frictionless implementation within the limits of the already accepted.

More than half a century after Neurath's critical work, the newer findings confirm his methodological approach, the importance of the visual, and, most importantly, that it is the fundamental aspects, touching on the structures and characteristics of the traditional museum, which need to be rethought and changed, in order to provide for more relevant institutions, for a 'museum for the future user' engaged in the important business of 'picturing social facts'.

Notes

- 1 Neurath 1973: 214 (Neurath 1925).
- 2 After 1934, the initial name Vienna Method of Pictorial Statistics was given up in favour of the acronym ISOTYPE – International System of Typographic Picture Education.
- 3 Marie Neurath (née Reidemeister; later Otto Neurath's third wife); Cf. Robin Kinross, 'The work of the transformer' in Neurath and Kinross 2009: 77–96.
- 4 The material from the Isotype Collection is referenced here as: I.C. followed by the archival reference number (e. g. I.C. 3.2/42).
- 5 Cf.: Hartmann and Bauer (eds., 2002), Nikolow and Schirmmacher (eds., 2007), Vossoughian(2008). Online at: http://www.hyphenpress.co.uk/journal/2008/05/12/isotype_recent_publications.
- 6 Cf. This article is a revised version of a paper given at the workshop 'Picturing social facts. On Neurath's visual language. Gesellschaftliche Tatsachen darstellen. Zu Neuraths Bildersprache' in the framework of the 33rd International Wittgenstein Symposium in Kirchberg, Austria, August 8, 2010. An extensive treatment of this aspect of Neurath's Isotype work is found in Kraeutler 2008.
- 7 Gopnik 2007: 3.
- 8 Cf. Marrinan 1992.
- 9 Cf. Roberts 1997.
- 10 Cf. Cartwright and Uebel, 'Philosophy in the Earthly Plane' in Nemeth and Stadler 1996: 39–52, 43 (italics as in the original).
- 11 For a contextualisation of Otto Neurath, the philosopher, sociologist, political economist, historian, and information on his life and work, see Stadler 2001.
- 12 Neurath 1991 and Neurath 1936.
- 13 Cf. the topic of the Neurath-workshop at the Wittgenstein Symposium 2010 (see note 7).
- 14 Neurath 1991: 190, 242, 346.
- 15 Neurath 1991: 180.
- 16 Neurath 1936: 21.
- 17 Neurath 1996: 259–260.
- 18 Neurath 1996: 331.
- 19 Neurath: 'The Isotype-method was developed as the result of practical exhibition work' (Neurath 1991: 417).
- 20 Neurath 1973: 219.
- 21 Neurath 1991: 255.

- 22 Neurath 1991: 265–336.
- 23 The term ‘visual literacy’ is used to mean experience with the workings of visual media coupled with a heightened conscious awareness of these workings. Four consequences are commonly said to flow from visual literacy: comprehension of visual media, transfer of cognitive skills from the interpretation of visual media to other tasks, awareness of visual manipulation, and æsthetic appreciation (cf. Raney 1997: 15).
- 24 Neurath 1936.
- 25 The latter was published as: *Otto Neurath. From hieroglyphics to Isotype – A visual autobiography*, edited by Matthew Eve and Christopher Burke, London: Hyphen Press, December 2010.
- 26 Neurath was concerned with Basic English, Esperanto, Interglossa (Neurath 1996: 335); Basic English is a restricted language, limited to 850 English terms, cf.: Neurath 1936 (reprint 1980: 6).
- 27 Neurath 1996: 335.
- 28 Neurath 1996: 24–26.
- 29 Cf. Otto Neurath’s letter to Julian Huxley, of December 1942 (I.C. MS 1091, File 1/35).
- 30 Neurath 1936: 16.
- 31 Neurath 1936: 18.
- 32 Neurath 1936: 19.
- 33 Neurath 1996: 291.
- 34 Neurath 1996: 333.
- 35 Neurath 1996: 334.
- 36 Neurath 1996: 332.
- 37 Neurath 1936: 65–73; 1991: 275, 594–595; Marie Neurath 1974: 130; Cf. the teaching strategies identified in Raney (1971). The clear case for visualisation, visual literacy, and visualisation skills as core skills and essential to thinking has often been argued (Kress and Van Leeuwen 1996; Pink 2006; Sturken and Cartwright 2001).
- 38 Cf. Marie Neurath, ‘Wiener Methode and Isotype: my apprenticeship with Otto Neurath’ in Neurath and Kinross 2009: 9–76; 55.
- 39 Neurath 1991: 197 (italics as in the original).
- 40 Neurath 1973: 223 (1925). An abbreviated version of this is used as the introductory paragraph to the chapter ‘The Chief Points of the ISOTYPE System’ (Neurath 1936: 27).
- 41 Neurath 1936: 20.

- 42 Neurath and Kinross 2009: 20.
- 43 Neurath 1936: 26–27.
- 44 Both information modes are basically differently structured, employ different sets of elements and rules—disjunctive symbolic orders/structures—and imply activating respective modes of recognition, use, combination (cf. Krämer 2009: 157–159).
- 45 Neurath, ‘Visual Education. Humanisation versus Popularisation’ in Neurath 1996 (1945).
- 46 Cf. Marie Neurath in Neurath and Kinross 2010: 57.
- 47 Cf. Neurath, ‘Around Rembrandt’ (I.C. 3.2/42). This typescript was written in English, i.e. not Neurath’s mother tongue. No changes in vocabulary, spelling or punctuation were made in the transcripts used here.
- 48 Neurath I.C. 3.2/42.
- 49 Cf. the caption used for this image in Neurath and Kinross 2009: 57.
- 50 Neurath I.C. 3.2/42 (italics as in the original).
- 51 *Rondom Rembrandt* was sponsored by the Dutch department store De Bijenkorf (on the occasion of Queen Wilhelmina’s 40 years’ jubilee) for simultaneous showing in the sales venues of three of its branches, 1–15 September 1938. The main outlet is situated just across the ‘Gracht’ (canal) from the Rijksmuseum.
- 52 Cf. Laurie 1932.
- 53 Neurath, I.C. 3.2/42.
- 54 Neurath I.C. 3.2/42; Cf. footnote 30.
- 55 Neurath I.C. 3.2/42.
- 56 Neurath I.C. 3.2/42.
- 57 Neurath I.C. 3.2/42 (capital letters as in the original).
- 58 Neurath I.C. 3.2/42.
- 59 Marie Neurath in Marie Neurath and Robin Kinross 2009: 59.
- 60 Cf. (my translation): ‘Door boeken en Isotype-afbeeldingen alleen echter leert men Rembrandt niet kennen: men moet zijn werken zelf gaan zien. Moge deze kleine verzameling een opwekking zijn tot het bezoeken van musea en tot het beter leren kennen van Holands Gouden Eeuw, die ook de eeuw was van zijn grootste kunstenaar’ in: International Foundation for Visual Education (Stichting for Beeldpaedagogie), Uitgegeven ter gelegenheid van de tentoonstelling ‘Rondom Rembrandt’ in de Bijenkorf, Amsterdam–Den Haag–Rotterdam, n. d.: 12.
- 61 Paul Rotha (1907–1984) produced experimental film with Isotypes from 1941 onwards, e.g. ‘World of Plenty’, ‘Land of Promise’, ‘Total War in Britain’ (cf. Neurath 1991: 644). This cooperation brought a continuation of experimental work with ‘diagrammatische Filme’ (diagrammatical films) started as early as 1927

- in Vienna. The talk for the MA was about ‘The film and other visual techniques in education’ (Rotha 1946: 141–145).
- 62 Rotha 1946: 141–142.
- 63 Kinross 1994: 72.
- 64 Enquiries regarding possible material evidence or documentation of the exhibitions had been directed to the Bijenkorf Archives (Amsterdam City Archives), the Rijksbureau voor Kunsthistorische Documentatie (The Hague), and the Rijksmuseum (Amsterdam). These pointed out that Rembrandt-exhibitions had been organised by the Rijksmuseum in Amsterdam in 1935 (centenary) and in 1938 (letter from Rijksmuseum, Amsterdam, NL, of November 30, 1990). The Rijksmuseum’s library has a copy of the *Rondom Rembrandt* exhibition-booklet.
- 65 Cf. Schmidt-Burkhardt 2005: 32–34.
- 66 Kastner 2009: 106.
- 67 Bourdieu 2001: 461.
- 68 Bourdieu 1994.
- 69 Bourdieu and Darbel 2006: 74.
- 70 Cf. Bourdieu 1974, 2006.
- 71 Marie Neurath in Neurath and Kinross 2009: 58.
- 72 See the overview in Kirchberg 2005.
- 73 Cf.: Falk and Dierking 2000, Hein 1998, Hooper-Greenhill 2007.
- 74 Cf.: Black 2005, Hein 1998, Hooper-Greenhill 2007, Roberts 1998.
- 75 Kraeutler 2008.
- 76 Neurath 1996: 312.
- 77 Fleming 2008: 7.

Literature

- Alpers, Svetlana. *Rembrandt's enterprise. The studio and the market*. Chicago: University of Chicago Press, 1988.
- Alpers, Philip (editor). *The Philosophy of the Visual Arts*. Oxford: Oxford University Press, 1992.
- Anderson, Gail (editor). *Reinventing the Museum. Historical and Contemporary Perspectives on the Paradigm Shift*. Lanham, New York, Toronto, Oxford: Altamira Press, 2004.
- Bal, Mieke and Norman Bryson. 'Semiotics and Art History' in *The Art Bulletin*, Vol. 73, No. 2, June 1991, 174–298.
- Black, Graham. *The Engaging Museum. Developing Museums for Visitor Involvement*. London and New York: Routledge, 2005.
- Bourdieu, Pierre. *Distinction*. London: Routledge and Kegan Paul, 1994.
- Bourdieu, Pierre and Alain Darbel. *L'Amour de l'art: Les musées d'art européens et leur public*. Paris: Edition Minuit, 1966. English translation: *The Love of Art*. Cambridge: Polity Press, 1991.
- Cartwright, Nancy and Jordi Cat, Lola Fleck, Thomas E. Uebel (editors). *Otto Neurath: Philosophy between science and politics*. Cambridge: Cambridge University Press, 1996.
- Falk, John H. and Lynne D. Dierking. *Learning from Museums: Visitor Experiences and the Making of Meaning*. Walnut Creek, Lanham, New York and Oxford: Altamira Press, 2000.
- Fleming, David. 'The International Slavery Museum' in International Council of Museums (editor), *ICOM-News*, Paris, 1/2008: 7.
- Genoways, Hugh H. (editor). *Museum Philosophy for the Twenty-first Century*. Lanham, New York, Oxford: Altamira Press 2006.
- Gopnik, Adam. 'The Mindful Museum' in American Association of Museums (editor), *Museum News*, Nov./Dec. 2007, 37–41: 3.
- Hartmann, Frank and Erwin Bauer (editors). *Bildersprache. Otto Neurath – Visualisierungen*. Vienna: WUV-Facultas Universitätsverlag, 2002.
- Hein, George E.. *Learning in the Museum*. London and New York: Routledge, 1998.
- Hooper-Greenhill, Eilean. *Museums and Education, purpose, pedagogy, performance*. London and New York: Routledge, 2007.
- Kastner, Jens. *Die ästhetische Disposition. Eine Einführung in die Kunsttheorie Pierre Bourdieus*. Vienna: Turia + Kant, 2009.
- Kinross, Robin. 'Blind Eyes, Innuendo and the Politics of Design.' *Visible Language* (28) 1 (1994): 68–78, Providence: Rhodes Island School of Design.

- Kirchberg, Volker. *Gesellschaftliche Funktionen von Museen. Makro-, meso- und mikro-soziologische Perspektiven*. Berliner Schriften zur Museumskunde, Wiesbaden: Verlag für Sozialwissenschaft, 2005.
- Krämer, Sybille. “Schriftbildlichkeit” oder: Über eine (fast) vergessene Dimension der Schrift’ in *Bild – Schrift – Zahl*, edited by Sybille Krämer and Horst Bredekamp, 157–176 (Second edition). Munich: Wilhelm Fink Verlag, 2009.
- Kraeutler, Hadwig. *Otto Neurath. Museum and Exhibition Work—Spaces (Designed) for Communication*. Frankfurt, Berlin, Bern, Bruxelles, New York, Oxford, Vienna: Peter Lang Internationaler Verlag der Wissenschaften, 2008.
- Kress, Gunther and Theo van Leeuwen. *Reading images: The grammar of visual design*. London: Routledge, 1996.
- Laurie, Arthur Pilans. *The brush-work of Rembrandt and his school: illustrated by photomicrographs*. London: Oxford University Press, 1932.
- Marrinan, Micheal J. ‘Cultural Institutions and the Topography of Art History’ in Philip Alperson (editor) 1992: 521–529.
- Neurath, Marie and Robin Kinross (editors). *The transformer, principles of making Isotype charts*. London: Hyphen Press, 2009.
- Neurath, Marie. ‘Isotype’, in *Instructional Science*, 3 (1974): 127–150, Amsterdam: Elsevier Scientific Publishing Company.
- Neurath, Otto. *International Picture Language*. London: Kegan Paul, 1936 (Facsimile Reprint, Department of Typography and Graphic Communication, University of Reading, editor, 1980).
- Neurath, Otto. *Empiricism and Sociology. With a Selection of Biographical and Autobiographical Sketches*. Edited by Marie Neurath and Robert S. Cohen, Vienna Circle Collection (Vol. 1), Dordrecht/NL and Boston/USA: Kluwer/Reidel, 1973.
- Neurath, Otto. *Gesammelte bildpädagogische Schriften*, Volume 3. Rudolf Haller and Robin Kinross (editors), Vienna: Hölder-Pichler-Tempsky, 1991.
- Neurath, Otto. ‘Visual Education—Humanisation versus Popularisation’ (edited by Juha Manninen) in Elisabeth Nemeth and Friedrich Stadler (editors), *Encyclopedia and Utopia*. Dordrecht: Kluwer Academic Publishers, 1996: 245–335.
- Nikolow, Sybilla and Alf Schirrmacher (editors), *Wissenschaft und Öffentlichkeit als Ressource füreinander. Studien zur Wissenschaftsgeschichte im 20. Jahrhundert*. Frankfurt/M.: Campus, 2007.
- Pink, Sarah. *The Future of Visual Anthropology: Engaging the Senses*. London: Routledge, 2006.
- Raney, Karen. *Visual Literacy. Issues and debates, Report on the research project ‘Framing visual and verba Experience’, a collaboration between Middlesex University and the Arts Council of*

- England*, published by School of Education Middlesex University, London, 1997.
- Roberts, Lisa C.. *From Knowledge to Narrative, Educators and the Changing Museum*. Washington, D.C: Smithsonian Institution Press, 1997.
- Rotha, Paul. 'The film and other visual techniques' in Museums Association (editor), *The Museums Journal*, vol. 1946 / 8, London: 141–145.
- Sandell, Richard (editor). *Museums, Society, Inequality*. London and New York: Routledge, 2002.
- Schmidt-Burkhardt, Astrit. *Stammbäume der Kunst. Zur Genealogie der Avantgarde*. Berlin: Akademie Verlag, 2004.
- Stadler, Friedrich. *The Vienna Circle—Studies in the Origins, Development, and Influence of Logical Empiricism*. Vienna-New York: Springer, 2001.
- Sturken, Marita and Lisa Cartwright. *Practices of Looking: An introduction to Visual Culture*. Oxford: Oxford University Press, 2001.
- Vossoughian, Nader. *Otto Neurath. The Language of the Global Polis*. Rotterdam: NAI Publishers, 2008.

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