CHAPTER THREE

THE ISOTYPE INFLUENCE ON THE HENRY DREYFUSS *SYMBOL SOURCEBOOK*

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An investigation into whether symbol classification methods, originally developed from 1958–59 by Rudolf Modley and Marie Neurath (of the Isotype Institute) could have provided inspiration for the structural design of the Henry Dreyfuss *Symbol Sourcebook* (published 1972). This paper reprises experimental symbol classification methods developed by M. Neurath and Modley for a year-long survey known as the "Preparatory Survey on Communication through Graphic Symbols" from 1958–59 and assesses whether their experiments into classification had been used in the design of the *Symbol Sourcebook*. "The Preparatory Survey" was instigated by Henry Dreyfuss and financed by the US based Fund for the Advancement of Education. Its aim was to research the feasibility of compiling a symbol dictionary, by collecting and classifying existing graphic signs and symbols to produce a comprehensive reference source.

The Isotype Collection (University of Reading) contains correspondence (1956–1960) between M. Neurath and Modley that outlines the aims and objectives behind this project (one of several failed US symbol dictionary schemes between 1948–1960). But correspondence from 1969–1970 between M. Neurath and Paul Clifton (responsible for managing design and production of the *Symbol Sourcebook*) has recently come to light in the Henry Dreyfuss archive at the Cooper Hewitt, Smithsonian Design Museum, New York evidencing the fact that Clifton asked M. Neurath for information regarding her "experiments" in symbol classification from the "Preparatory Survey" which may have influenced the classification methods used in the *Symbol Sourcebook.*

Introduction

This project began due to a chance find in the Henry Dreyfuss archive in the Cooper Hewitt, Smithsonian Design Museum, New York by pictogram researcher Dr Wibo Bakker. He found correspondence dating from 1969–70 between Marie Neurath of the Isotype Institute in the UK and Paul Clifton, the design and production manager of the Henry Dreyfuss *Symbol Sourcebook* in USA.[1] In the letters, Clifton requested information about classification systems that M. Neurath and Rudolf Modley had developed for a feasibility study for a proposed classification system for a symbol dictionary, the "Preparatory Survey on Communication through Graphic Symbols" dating back to the late 1950s. Clifton was interested in the experimental work that M. Neurath and Modley had undertaken for the project, to ascertain whether if it would be useful in the structural design of *Symbol Sourcebook*.[2] The correspondence between M. Neurath and Clifton evidenced renewed interest in M. Neurath and Modley's earlier classification experiments and extended commentary on the legacy of the influence of the principles of Isotype in relation to international pictographic systems and symbol classification by another decade.[3] The opportunity to present these findings with Bakker at the 6th ICTVC conference in Thessaloniki in July 2016 opened up new research opportunities thanks to the interest of pictogram and symbol researcher Dr Katherine Hepworth. This paper will begin by describing the experimental classification systems employed by M. Neurath and Modley in the "Preparatory Survey on Communication through Graphic Symbols"; discuss exchanges of ideas between M. Neurath and Clifton in the structural design of the *Symbol Sourcebook* and evidence whether these ideas have been incorporated into the design of the *Symbol Sourcebook*. It will conclude by introducing new initiatives for future archival research in the Henry Dreyfuss Symbol Sourcebook archive at the Cooper Hewitt.

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[1] Cooper Hewitt, "Isotype institute" 1972–88–123.2.

[2] Rudolf Modley was a former Viennese citizen who had originally been an intern with Otto Neurath and M. Neurath (née Reidemeister) at the Gesellschafts- und Wirtschaftsmuseum in Vienna during the late 1920s. Modley left for USA in 1930 and had great success founding "Pictorial Statistics Inc." in 1934 which became "The Pictograph Corporation" in 1940. The form of visual statistics he employed was Modley's own variation of "The Vienna Method"–a source of considerable tension between Modley and Otto Neurath (Ihara, 2013, 299–354).

[3] It was previously considered by Perks that work by the Isotype Institute in the area of international pictographic systems came to a close in 1960 when the "Preparatory Survey" reached its conclusion (Perks, 2012, 161–179).

The question of whether symbol classification methods, originally developed between 1959–60 by M. Neurath and Modley for the "Preparatory Survey" could have provided inspiration for the structural design of the symbol classification system of Henry Dreyfuss' *Symbol Sourcebook* (published 1972) forms the basis to this essay. It will be explored through documentary evidence in correspondence between M. Neurath and Modley from 1959–1960,[4] located in the Isotype Collection (I/C) and between M. Neurath and Clifton in material from 1969–70 in the Cooper Hewitt Symbol Sourcebook archive.[5]

Background

The starting point for this research began in the Isotype Collection at University of Reading, as part of the AHRC funded "Isotype Revisited" project. Perks researched correspondence (1956–1961) between M. Neurath and Modley that outlined the early stages, progress, aims and objectives of the "Preparatory Survey" (IC 1/49), a year–long feasibility study (1958–59) instigated by Henry Dreyfuss and funded by the New York based Fund for the Advancement of Education. Its primary objective was to research the possibility of compiling a symbol dictionary, with the aim of collecting and classifying existing graphic signs and symbols and producing a comprehensive reference source on symbols–a project which Dreyfuss was to finally realize with the launch of his *Symbol Sourcebook* over a decade later.

The popularity of symbol projects

One of the reasons for the increased interest in symbols and symbol projects during the late 1950s and early 1960s, was the increase in prosperity post WWII, allowing for more international travel and opportunities to visit world expos, fairs and Olympic gatherings. But the desire to foster international peace and avoid nuclear disaster was also a prime factor (Bresnahan, 2011, 5–24). In response to this, organizations such as UNESCO, United Nations and The Fund for Advancement of Education were supporting projects promoting internationalism, leading to the United Nations celebrating their 20th anniversary in 1965 by naming it "International Co-operation Year". Design commentators such as Modley responded to these inspirational ideas (and perhaps also to the availability

[4] Isotype Collection, 1/49 University of Reading.
[5] Cooper Hewitt, "Isotype institute" 1972–88–123.2.

of funding) became involved in projects on the standardization of symbols –with a view to promoting universally recognized graphic symbols.

Modley's involvement with symbol projects

Modley's first involvement in symbol dictionary projects began as early as May 1940 when he collaborated with social scientist Harold Lasswell of Yale University on a project known as the "Dictionary of Graphic Symbols in Current Use in America" which aimed to promote the standardization and wider use of symbols. It was submitted to the Carnegie Corporation, but never came to fruition. Two years later, Modley published a book of his own symbols entitled *1000 Pictorial Symbols* (1942). The project with Lasswell provided a starting point for the 1958–59 "Preparatory Survey" with Dreyfuss, M. Neurath and semiologist and designer Martin Krampen. In 1962, Modley went on to work on a third symbol dictionary project a "Feasibility Study for the Creation of a Dictionary of Symbols and the Development of a Universal Symbolic Language" with Herman Weisman, the Executive Director of Colorado State University's Center of Research in Communication. This project had a wider remit and included symbols in use in the USA, Latin America, Europe, Asia and Africa. It was submitted to the National Science Foundation, but sadly again came to nothing (Ihara, 2011).

In 1968 Modley collaborated with anthropologist Margaret Mead and formed "Glyphs Inc.", a non-profit making organization founded to encourage the development of a set of language-independent universal graphic symbols.[6] They also published the newsletter *Glyphs* from 1966–76. Modley was also involved in a "Project for Creating Archives" in 1970, which formed the basis of Dreyfuss' symbol archive into which the collections of M. Neurath, Dreyfuss, and Modley would be channeled. Mead and Modley also worked on the "Symbol Archive" project in 1970 and Modley, (this time without Mead) worked on "Data Bank" a further symbol archive in collaboration with Dreyfuss, which Dreyfuss mentions in the Introduction to the *Symbol Sourcebook* as containing (at the time the book was published in 1972) over 20,000 symbols. Finally, in 1976, (the year of his death), Modley (with William R. Myers) published the *Handbook of Pictorial Symbols 3,250 Examples from International Sources*–taken from a huge variety of references including transport, tourism and Olympic symbols, including some from "The Pictograph

[6] Explained in Mead and Modley's article in *Natural History* "Communication Among All People, Everywhere." 1968, 56-63.

Corporation" and collections from Dreyfuss. These projects show that Modley had maintained a strong involvement with Dreyfuss during the 1960s and early 70s.

"The Preparatory Survey on Communication through Graphic Symbols"[7]

On 24 April 1956, Dreyfuss wrote to Modley asking if he was interested in preparing a proposal for a comprehensive reference source on symbols, beginning with a one-year feasibility study for a proposed five-year project, which would ultimately attempt to collect, observe, classify and catalogue western graphic symbols and produce what would be a symbol dictionary. The primary objective of the feasibility study was to formulate a strategy for how this could be done. Modley was confident that the Fund for the Advancement of Education represented by Dr Alvin C. Eurich would agree to finance the one-year feasibility study, with sponsorship from the United Nations. On 4 August 1956, Modley, having conducted his own preliminary research, wrote to Eurich stating that the estimated total cost for producing a comprehensive symbol dictionary would be $50,000 (allowing for contingencies). Eurich was fearful that the project was overly ambitious, but Modley was confident that it could be contained, and described the process as one of "investigation, contact, collection and evaluation–all of which seemed to offer no major problems" (IC 1/49). Eurich suggested a meeting of experts from different fields to guide the project (minutes of meeting Modley and Eurich 23.10.1956 IC 1/49). Participants for the project were to include M. Neurath, Modley, Dreyfuss and Martin Krampen (along with other international associates such as Harold Lasswell and Harden Bishop). The aim of the one-year project was to lay foundations for the five-year project which would entail compiling, cataloging and classifying an extensive collection of international graphic symbols: determining potential scope of study, establishing contacts and costs, organizing methods of reproduction, proposing staffing and organizational structures to produce the symbol dictionary. From the beginning, it was agreed that the project would restrict itself to research on symbols from western civilizations only.

[7] This project is cited in key authored books and papers on signs and symbols written between 1965–76, by Modley *Handbook of Pictorial Symbols* (1976), Dreyfuss *Symbol Sourcebook* (1972) and Krampen "Signs and Symbols in Graphic Communication" (1965).

M. Neurath's involvement with the "Preparatory Survey"

It was clear from correspondence that M. Neurath and Modley had had little or no contact since Modley left Vienna for USA in 1930 until Modley's letter of 13 June 1956: "It seems a hundred years since I have seen you–and it almost is. My kids love your books and it serves as a reminder between my pictograph past and future."[8] The purpose of renewed contact was to establish whether she would agree to be involved in the feasibility study for the symbol dictionary in the capacity of European Representative. After several friendly transatlantic Airmail exchanges, M. Neurath received a five-month contract from the Fund for the Advancement of Education in New York (established by the Ford Foundation) to work on the "Preparatory Survey" in association with Modley (1 June to 1 October 1958) for a fee of $125 per month (letter Eurich to M. Neurath, 9 July, 1958, IC 1/49).

M. Neurath was familiar with the classification and standardization of symbols due to her work on the original Isotype 'Picture dictionary' a working document which consisted of a series of loose-leaf pages containing printed linocut artwork of all sizes and varieties of Isotype symbols in use from the Vienna to The Hague periods of the Isotype Institute's work (1928–40). Symbols were grouped under subject headings ("Costume", "Woman", "Worker" etc.) in alphabetical order (Fig. 3.1).

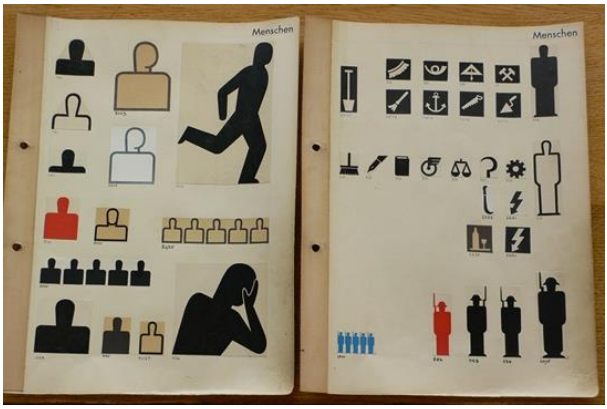


Figure 3.1 "Menschen", pages from a version of the Isotype "Picture dictionary" showing pasted up symbols in a variety of sizes and configurations (IC4/1).

[8] Correspondence Modley to M. Neurath, June 13, 1956, (IC 1/49).

Instructions from Modley

In her role as European Representative for the project, M. Neurath's brief from Modley was to collect and make an inventory of all available symbols by establishing personal contacts with all agencies interested in symbols and trace the origin and designer of every symbol, cross-referencing those with more than one meaning. She was to include only symbols in current use, or proposed for use, but restrict them to those from western civilizations. Mathematical, biological, social, political, religious, highway symbols, and warning signs on medicines and chemicals would be included, but abbreviated symbols from Latin and Greek alphabets, trademarks and cartoons would be excluded. She was also asked to research experimental ways to catalogue, classify and cross-reference signs and symbols and test and evaluate the results, and for this M. Neurath enlisted the help of Dr Rivka Eifermann, a doctoral student in psychology from Birkbeck College, University College, London. Eifermann was asked to conduct a pilot study to investigate the psychological relationship between symbol recognition, retention and accuracy of response along with the appropriateness of colour and the use of negatives and affirmatives. (IC 1/49).[9]

M. Neurath encountered problems with Modley's instructions; there were no firm guidelines and the target audience could not be identified. She was also concerned that technical symbols would prove incomprehensible for mainstream audiences. The complexity of the project was evident from the start. M. Neurath spent about half of her working week on the project over the five-month contract. As part of her remit she made contact with some of the foremost European designers of the time: Ella Reiner Lingen, Phillippe Pieger, Armin Hoffman, Theodore Bestermann (a symbol expert from the Institut et Musée Voltaire in Geneva), representatives from DIN (German National Standards Organization), BSI (British Standards Institution), the Automobile Association, the Industrial Psychology Research Group, and the Psychology Department of University College, London. She also contacted old colleagues from Vienna and The Hague including Bernath, Tschinkel, Pfitzner, Scheer, Jodlbauer and Matzalik.

[9] Perks 2012, 173–174.

The following list is extracted from M. Neurath's notes dated August 1, 1958 (IC 1/49) and indicates her approach to the project:

1. Collect all signs and symbols
2. Sources–books on symbols, symbols in publications, designers and personal contacts, organizations that promote symbols, students and others
3. Classification
4. Standardize (by usage or formal acceptance)
5. Adaptable or suitable for standardization?
6. Categories/classes/major groups–social and natural sciences, geography, should adopt or adapt existing system.
7. Area where used
8. Period of use, degree of acceptance, field of application, form of presentation (abstract, horizontal lines, square, round, rectangle etc.)
9. Self-explanatory?–from simple pictorial symbol to stylized systems

Her ideas for cataloguing and classifying symbols included investigating: designer/producer/origin; system type or single use (i.e. barber's pole, traffic lights); design principles (stylized, naturalistic, pictorial, abstract); colour matching; symbol combinations; codification; sources/manuals; evaluation; attention; retention; tests; sources and references; remarks and observations. Modley had ideas of his own involving the use of grids to standardize the way that symbols using geometric shapes were represented.

> *Correspondence Modley to M. Neurath September 28, 1958 (IC 1/49).*
> More important is the use of a typological analysis by which we could classify any non-pictorials symbol in a grid for machine tabulation purposes. I am still in an early stage of this but am thinking of "simple symbols" and "combined or complex symbols"… I got this idea from a visit to the research and development Office of the US Patent Office and I think it has real merit. It will also have a chance of machine application…

Progress of the "Preparatory Survey"

Throughout 1958, both M. Neurath and Modley communicated with standards organizations DIN and BSI. It became increasingly clear that a standardized classification system was urgently needed to systematize the collective data. Modley suggested the Universal Decimal Classification

System (UDC).[11] They also considered Royal McBee cards, a classification system which could function for up to 40,000 cards using a punch hole card system, capable of pin-pointing up to 105 different variables; and the popular IBM cards (invented in the 1930s) which measured approximately 7 x 3 inches. In 1959 Modley introduced the IBM punch card system to help with the classification of data, which (at that point) he considered more future-proof than the rest. However, later that year it was discovered that IBM systems operated differently on both sides of the Atlantic, making data classification even more difficult to coordinate.

Until the late 1950s, IBM cards had been used to hold nearly all of the world's known information for just under half a century. Holes were punched to indicate content, but the "Preparatory Survey" was aiming to include 20,000 symbols, with a capability of 105 variables for each classification criteria, which would make this card system logistically unworkable. Modley considered that within two to five years from 1959, IBM machines would be able to graphically analyze symbol shapes electronically, but this was a distant dream at the time.[12] But throughout the project, no firm decisions were ever made on whether to classify symbols regarding hierarchy, and whether name, origin, period of acceptance or generic subject matter should take precedence.

The following extracts from airmail correspondence between M. Neurath and Modley show their struggle to establish a useful symbol classification system:

> *Letter, Modley to M. Neurath, December 16, 1958 (IC 1/49).*
> *[about punch hole cards and using the UDC]*
> What I am none too happy about is that you will have to do manual (not by needle) sorting to get anything but shapes and colors. What do you do to get all "road signs", all "biological symbols", etc.? In an IBM-type of card all the elements, i.e. UDC, Class, Name, Origin, Period, acceptance, etc. would be coded and all the cards pertaining to any of the elements could be sorted out quickly and automatically. All you will be able to do is to get shapes and colors quickly… I am not saying this is a negative way or intending to discourage you. I am only trying to foresee problems…

[11] UDC is a multi-lingual manual indexing and retrieval classification system developed by Paul Otlet and Henri La Fontaine at the end of the 19th century. UDC systematically arranges all branches of human knowledge into a coherent system in which knowledge fields are related and inter-linked to facilitate transatlantic data-sharing.

[12] Correspondence Modley to M. Neurath, April 11, 1959, IC 1/49).

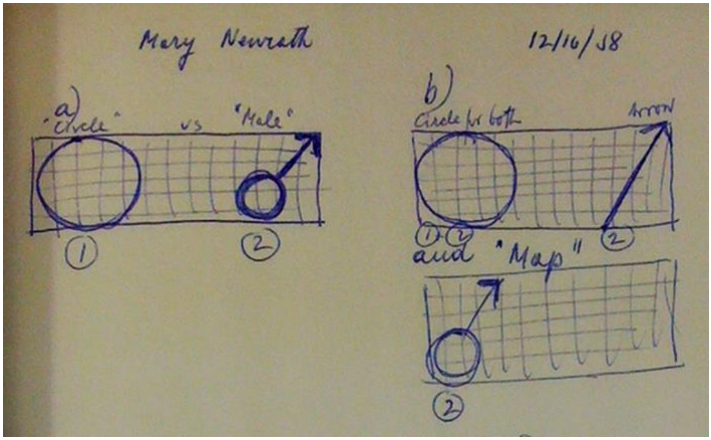


Figure 3.2 Modley's sketch of three gridded cards to show ideas for symbol classification by simple and then more complex geometric shapes. Letter from Modley to M. Neurath December 16 1958 (IC 1/49).

[about using grids to note and describe symbols on Royal McBee cards]
Two things we shall have to watch; they are somewhat inter-related.
a. If we have, let us say, two difficult symbols to describe. One is a plain (illustration of a circle), the other is (illustration of a male symbol)… The circle is the same in both, except once it is large, one small. How can we avoid a completely different description just because it covers less of the grid?
b. Should we only use shapes, i.e. circle plus arrow symbol, on the grid, and then have a kind of "map" in how the two fit together?

Letter, M. Neurath to Modley, December 22,1958 (IC 1/49).
[about the UDC and how to categorize symbols]
I am struggling with this. I wish somebody like Ogden had conceived this with a bit more simplicity and common sense. I have made a list of headings which might come into our catalogue; but though this is a small collection, how much duplication there is. Which to choose? Something like telecommunication comes under public administration, could it be in several places… We shall have problems. But we can make our own decision.
I thought we had decided that we arrange our cards according to the UDC numbers; perhaps we could use slightly bigger cards with the UDC numbers as chapter separations; so no sorting is needed according to UDC numbers; all road signs, all biological symbols will be in a group together.

> We could also make subgroups according to countries, which have their UDC numbers.
> But we could of course have bigger cards with more holes, if we want to have more subdivisions, and have holes representing countries for instance; if you think we ever would like to have all German symbols together… I concentrated on shapes and colours for the representation by holes, because there is no alphabet and no UDC number for them, and no very sensible way to create a sequence according to shapes or colours. The hole system will help us to find all symbols containing one circle and one arrow; among all these will be the "male" symbol.

In June, 1959 the "Preparatory Survey" was presented to The Fund for the Advancement of Education in New York. It consisted of several components: M. Neurath and Modley supplied a proposal for the five–year project with details on how it would be realized; communication scientist and designer Martin Krampen presented his idea for a symbol classification system where symbols were classified according to seven criteria (geometrical, human, animal, vegetal, element, object and letterform); M. Neurath presented an alternative classification system based on four major classes of symbols (geometric, pictorial, convention, weight and colour); Eifermann, presented her pilot study on the efficiency of affirmative and negative signs and words in symbol recognition and retention and Modley included a reprint of his recently written pamphlet based on his 1959 speech for The Fourth Annual Communications Conference of the Directors' Club of New York "The Challenge of Symbology". To complete the submission, Modley had commissioned two reports from Martin Krampen, then a Fulbright fellow studying at Michigan State University: "An Approach to the Classification of Graphic Symbols"[13] and "Classification of Graphic Symbols and Scientific Method". It is not known whether a copy of the Royal McBee card symbol classification system M. Neurath had developed was part of this submission. Modley firmly believed the only way to deal with symbols in a scientific manner was to find a rational classification method, it is not known whether he was confident that this had been achieved in the final presentation.

Sadly, Eurich's immediate verdict on what was being proposed within the "Preparatory Survey" was that the costs were too high for a five–year project to produce a comprehensive symbol classification system and alternative finance would need to be sought. On 8 December 1959 Modley

[13] Krampen's report has been made available online by Steven Heller: http://www.printmag.com/design-education/learning-from-symbols-yesterday-and-today/.

resubmitted the project renamed as the "Graphic Symbol Project", but it was greeted with a pessimistic outlook by Eurich, who was concerned that it was getting too theoretical. In response, Modley suggested the idea of a further simplified "Dictionary of Symbols". But on June 3 1960 Modley wrote to M. Neurath informing her that the Fund for the Advancement of Education were ultimately not prepared to support the wider venture, and all hopes for the five-year project subsided.

In hindsight, during the late 1950s, attempts to produce the sort of symbol resource that Dreyfuss, Modley and M. Neurath were envisioning were almost impossible to realize. Decisions relating to the criteria for selection and classification of symbols were never finally agreed (and neither was the form that the project would take) although many experimental ideas were investigated and put forward. Also, the problem of coordinating a transatlantic project by airmail was unwieldy–all of which led to the failure to secure funding past the initial phase. However, although disappointed, Modley kept the project alive and published several editions of the newsletter *Glyphs* intermittently between 1966 until his death in 1976. The "Preparatory Survey" did however, continue to be mentioned in literature on graphic symbols by Krampen, Dreyfuss and Modley.

Henry Dreyfuss' involvement with symbols

Henry Dreyfuss (1904–1972) was one of the most successful American industrial designers from 1940–1960, standing alongside other well-known industrial designers of the time such as Raymond Loewy, Walter Dorwin Teague and Norman Bel Geddes. Henry Dreyfuss Associates regularly designed symbols for its clients from 1950–1965, and throughout his long career, Dreyfuss was actively involved with individuals and organizations that wanted to develop and standardize symbols. To highlight a few of his achievements as an industrial designer, Dreyfuss was responsible for the design of John Deere tractor Model A, (1939), The Round, (1953) and the Polaroid SX-70, (1972). As an author he wrote *Designing for People* (1955) and *The Measure of Man* (1960). Dreyfuss paid much attention to collecting data to promote usability and making this data publicly available. The universal tractor symbols he designed for John Deere and his work on distance symbols for the Polaroid Swinger camera show his expertise in the area of symbol design, as did his efforts to make symbols designed for his clients at Henry Dreyfuss Associates into

American industry standards.[14] It was Dreyfuss who originally motivated Modley to secure funding for the "Preparatory Survey" in 1956, and it is clear that their two careers were interlinked through the symbol database projects that followed between 1958 and 1970.[15]

The *Symbol Sourcebook*

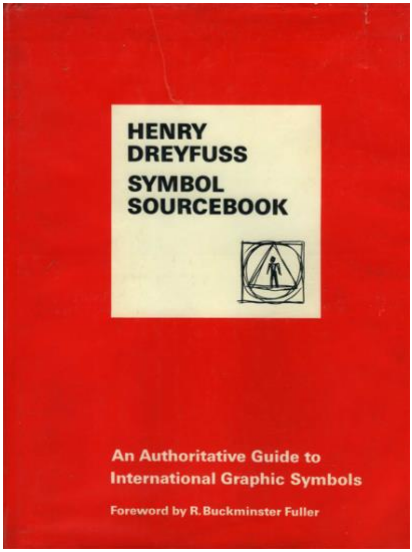


Figure 3.3 The Henry Dreyfuss *Symbol Sourcebook*, published in 1972.

In the late 1960s Dreyfuss decided to start working on a symbol database or dictionary himself (with help from Modley).[17] This project finally evolved into the *Symbol Sourcebook*, published by McGraw-Hill in 1972. In 1965, he began to approach clients and other large corporations specifically for symbol related information. In 1968 Dreyfuss and Paul Clifton, who headed the *Symbol Sourcebook* project, began to work on seriously collecting symbols and classification systems from organizations such as Unesco, ANSI and ISO, using a questionnaire sent out to organizations from all around the world. In early 1969 plans for a symbol

[14] Dreyfuss, Henry, "Speaking in a Thousand Tongues", 16–20.
[15] See Ihara 2011, 2–4.
[17] The Acknowledgements section of the *Symbol Sourcebook* states that Modley and Mead (as "Glyphs Inc.") worked on the book throughout the project.

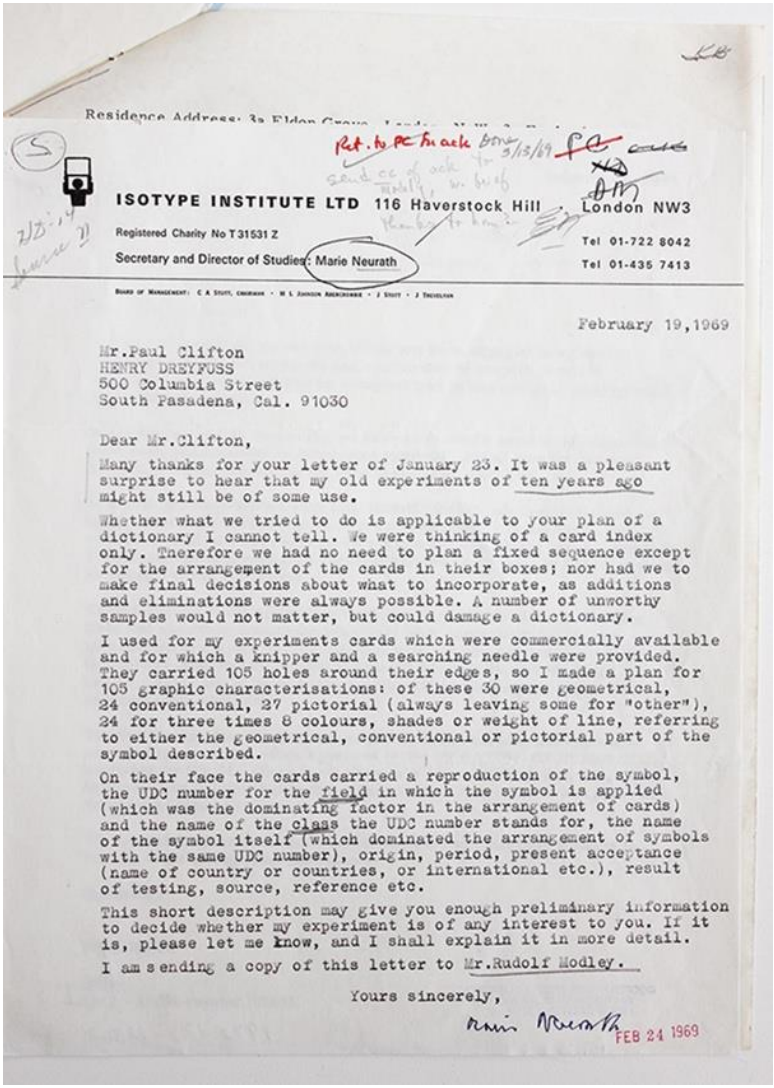
dictionary were shelved and focus was directed on the design of a proposed computer database containing approximately 25,000 symbols, although exactly how this was going to be realized is difficult to imagine. It was at this time that Clifton made contact with M. Neurath in relation to classification systems used in the "Preparatory Survey". In 1970 Dreyfuss and Clifton initially failed to get a book contract, but persevered and with support from the Academy for Educational Development, published what was to become the *Symbol Sourcebook* in January 1972, followed by an exhibition in the Hallmark Gallery, New York City.

Dreyfuss' ambitions for the *Symbol Sourcebook* were practical, idealistic and theoretical. Practically, he wanted to help people and companies communicate better through the use of known symbols; idealistically he aimed to provide a stepping stone for standardization and the activities of ANSI & ISO; and theoretically, evidencing the 'Basic Symbols' and 'Graphic Forms' sections, he wanted to see if a system of symbol grammar could be achieved.

Renewed contact with M. Neurath

The new line of correspondence between Paul Clifton (responsible for managing design and production of the *Symbol Sourcebook*) and M. Neurath began in January 1969, with a letter to M. Neurath requesting examples of classification experiments from the "Preparatory Survey". It is probable that the experiments Clifton was interested in consisted of category listings and a sample set of the punch hole cards featuring a symbol and a UDC number which M. Neurath had developed in 1958. Her correspondence with him from February 19 1969 precisely describes the Royal McBee card index and how the 105 hole and knipper system worked.[21] Later correspondence confirms that her symbol classification terminology and ideas were incorporated into the 'Graphic Form' section of the *Symbol Sourcebook* (Fig. 3.5). Clifton wrote to M. Neurath in a letter dated 8 January 1971: "As to the question about your classification ideas, we are using these in the Graphic Form section of the book."[22]

[21] M. Neurath to Clifton, letter, Feb 19, 1969, Cooper Hewitt, Isotype Institute 1972–88–123.2.
[22] Cooper Hewitt, "Isotype Institute" 1972–88–123.2.



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Ref. to PC for ack 3/13/69

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BOARD OF MANAGEMENT: C. A. STUTT, CHAIRMAN · M. L. JOHNSON ABERCROMBIE · J. STUTT · J. TRIEVELYAN

February 19,1969

Mr.Paul Clifton
HENRY DREYFUSS
500 Columbia Street
South Pasadena, Cal. 91030

Dear Mr.Clifton,

Many thanks for your letter of January 23. It was a pleasant surprise to hear that my old experiments of ten years ago might still be of some use.

Whether what we tried to do is applicable to your plan of a dictionary I cannot tell. We were thinking of a card index only. Therefore we had no need to plan a fixed sequence except for the arrangement of the cards in their boxes; nor had we to make final decisions about what to incorporate, as additions and eliminations were always possible. A number of unworthy samples would not matter, but could damage a dictionary.

I used for my experiments cards which were commercially available and for which a knipper and a searching needle were provided. They carried 105 holes around their edges, so I made a plan for 105 graphic characterisations: of these 30 were geometrical, 24 conventional, 27 pictorial (always leaving some for "other"), 24 for three times 8 colours, shades or weight of line, referring to either the geometrical, conventional or pictorial part of the symbol described.

On their face the cards carried a reproduction of the symbol, the UDC number for the field in which the symbol is applied (which was the dominating factor in the arrangement of cards) and the name of the class the UDC number stands for, the name of the symbol itself (which dominated the arrangement of symbols with the same UDC number), origin, period, present acceptance (name of country or countries, or international etc.), result of testing, source, reference etc.

This short description may give you enough preliminary information to decide whether my experiment is of any interest to you. If it is, please let me know, and I shall explain it in more detail.

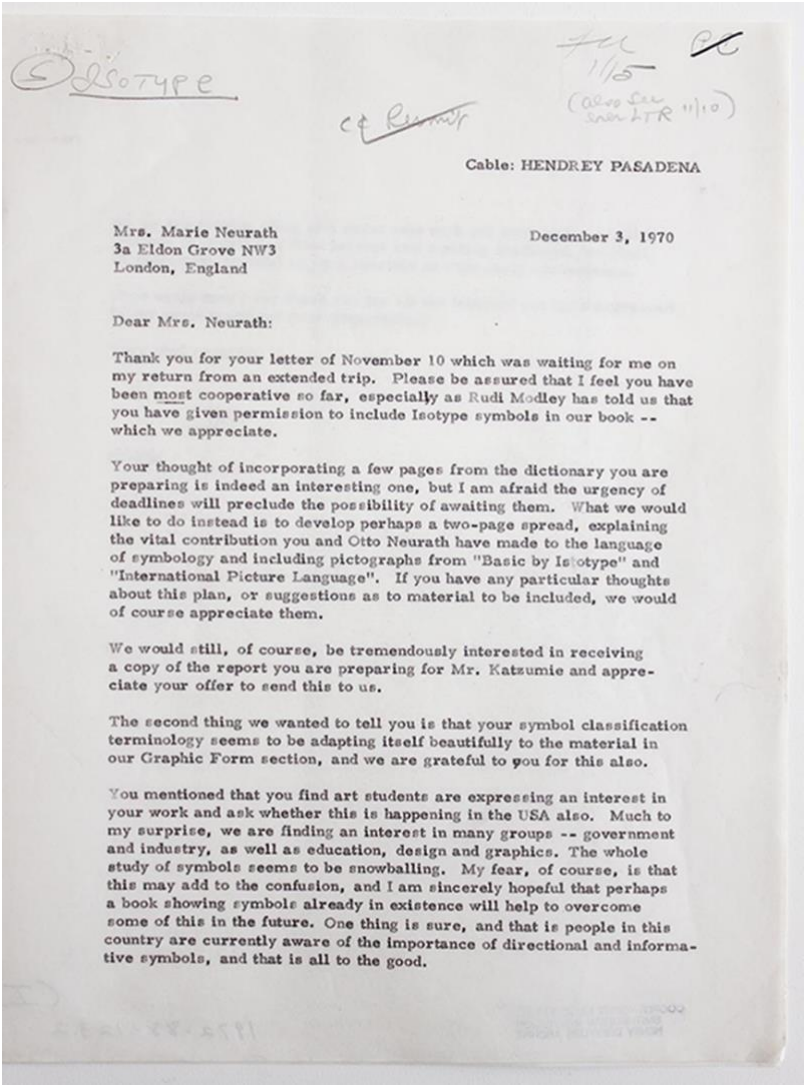
I am sending a copy of this letter to Mr.Rudolf Modley.

Yours sincerely,

Marie Neurath

FEB 24 1969

Figure 3.4 Letter from M. Neurath to Clifton, February 19, 1969. Cooper Hewitt, “Isotype institute” 1972–88–123.2.



Isotype

Cable: HENDREY PASADENA

Mrs. Marie Neurath
3a Eldon Grove NW3
London, England

December 3, 1970

Dear Mrs. Neurath:

Thank you for your letter of November 10 which was waiting for me on my return from an extended trip. Please be assured that I feel you have been most cooperative so far, especially as Rudi Modley has told us that you have given permission to include Isotype symbols in our book -- which we appreciate.

Your thought of incorporating a few pages from the dictionary you are preparing is indeed an interesting one, but I am afraid the urgency of deadlines will preclude the possibility of awaiting them. What we would like to do instead is to develop perhaps a two-page spread, explaining the vital contribution you and Otto Neurath have made to the language of symbology and including pictographs from "Basic by Isotype" and "International Picture Language". If you have any particular thoughts about this plan, or suggestions as to material to be included, we would of course appreciate them.

We would still, of course, be tremendously interested in receiving a copy of the report you are preparing for Mr. Katzumie and appreciate your offer to send this to us.

The second thing we wanted to tell you is that your symbol classification terminology seems to be adapting itself beautifully to the material in our Graphic Form section, and we are grateful to you for this also.

You mentioned that you find art students are expressing an interest in your work and ask whether this is happening in the USA also. Much to my surprise, we are finding an interest in many groups -- government and industry, as well as education, design and graphics. The whole study of symbols seems to be snowballing. My fear, of course, is that this may add to the confusion, and I am sincerely hopeful that perhaps a book showing symbols already in existence will help to overcome some of this in the future. One thing is sure, and that is people in this country are currently aware of the importance of directional and informative symbols, and that is all to the good.

Figure 3.5 Letter from Clifton to M. Neurath December 3, 1970. “The second thing we wanted to tell you is that your symbol classification terminology seems to be adapting itself beautifully to the material in our Graphic Form section, and we are grateful to you for this also.” Cooper Hewitt, “Isotype institute” 1972–88–123.2.

In the "Preparatory Survey", M. Neurath and Modley had experimented with several initial criteria for categorization including name, origin, period, extent of usage and whether national or international. Their graphic criteria for classification included use of geometric form, pictorial or non-pictorial, colour, shade, and line weight. What appears to have been taken forward is an adaptation of M. Neurath's alternative classification system based on four major classes of symbols: geometric, pictorial, convention, weight and colour, simplified to geometric and pictorial (going from simple to more complex shapes). This can be seen in the Graphic Form and to some extent in the Colour sections of the *Symbol Sourcebook*.

The design of the *Symbol Sourcebook*

The book is, as its subtitle suggests, 'An Authoritative Guide to International Graphic Symbols'. It was published in 1972, and has been reprinted many times. It contains an extensive collection of Western symbols. For a long time, it has been the classic go-to-book for information on symbols. The book is divided into the following sections, some of which – such as "Discipline", "Graphic Form" and "Colour" – referring to symbol catagorisations:

Contents in 18 languages

Foreword by R. Buckminster Fuller writing about Dreyfuss' contribution to the 'new world technique of communication'.

Introduction by Dreyfuss outlining his interest in symbols, why he compiled the book and how it can be used.

"Semantography: One Writing for One World" by Charles K. Bliss describing how the language works

"Isotype: Education Through the Eye" by Marie Neurath gives a brief description of the importance of Isotype.

Basic Symbols section describing symbols Dreyfuss considered basic to semiotic communication and how they can be developed.

Discipline section containing symbol sets relating to 26 specific technical and academic disciplines listed alphabetically, which forms the largest section of the book (133 pages) (i.e. Accommodation and Travel, Biology, Communications, Engineering, Medicine, Photography and Manufacturing).

Graphic Form section which provides another way to classify systems – seen through 16 different variants (circle, triangle, square, human form, arrow, amorphous shapes (cloud). Each section contains symbols from many disciplines, which use these forms. This section forms the second largest section of the book (64 pages).

Colour section comprising a 'glossary of the symbology of colour' to show how colour plays an important role in graphic symbolism, shown using geometric form. Dreyfuss explains the difficulty he has with this section due to cultural associations, and how he has "conveniently" assigned shapes to colours. In this section Dreyfuss shows 12 colours and a geometric shape and lists attributes such as positive and negative associations and uses within various disciplines.

Acknowledgements giving an overview of all the academics, organizations, institutes and funding bodies who made the book possible.

Bibliography containing an extensive exhaustive list of all sources used in the book, both general and subject specific.

Index indicating how to use the book for cross-referencing along with a list of where you can find all symbols within the book (some appear in multiple places through several disciplines).

Apart from written evidence stating that M. Neurath's experiments from the "Preparatory Survey" had been used in the Graphic Form section of the *Symbol Sourcebook*, there are other similarities between the two projects. Firstly, both projects represent symbol categories by discipline, and both use geometric shapes as a form of classification, ranging from simple to more complex. Both projects aimed to include as many symbols in current (or proposed) use as possible, restricted to those from western civilizations, and are cross-referenced to show multiple meanings. Mathematical, biological, social, political, religious and highway symbols are included in both projects, as are warning signs on medicines and chemicals. Finally, both projects exclude abbreviated symbols from Latin and Greek alphabets, trademarks and cartoons.

Conclusion

Working out how to deal with such a monumental, amount of material in a pre-computer age was logistically impossible for M. Neurath and Modley from 1958–1959, leading to funding for the five–year project to produce a symbol dictionary being refused. It took a small team of dedicated designers and administrators ably lead by Paul Clifton from 1968–72 to successfully find methods to manage, collect, collate and classify the symbol material in the *Symbol Sourcebook*–still without the aid of a computer. It is little wonder that Clifton reached out to M. Neurath and

others[24] for help in how to do this. Dreyfuss' symbol "Data bank" contained 20,000 symbols in 1972 (at the time the *Symbol Sourcebook* was published). In 1967 the collection had numbered 8,000 symbols and had been substantially augmented by the questionnaire that Dreyfuss sent out to acquire more symbols in 1968. In the opening pages of the *Symbol Sourcebook,* Dreyfuss shows his continued commitment to collecting symbols by asking readers of the book to send him even more examples, and these are now contained in the Symbol Sourcebook archive. Given the reputation of the work of the Isotype Institute dating back to 1920s Vienna, it is heartening to be able to show that M. Neurath's work on symbol classification methods had been effectively employed in the 1970s in such a prestigious publication. As the Symbol Sourcebook archive at the Cooper Hewitt is further investigated, more detailed information about how exactly Dreyfuss, Clifton and his team actually managed the design of the book will emerge.

Future Developments

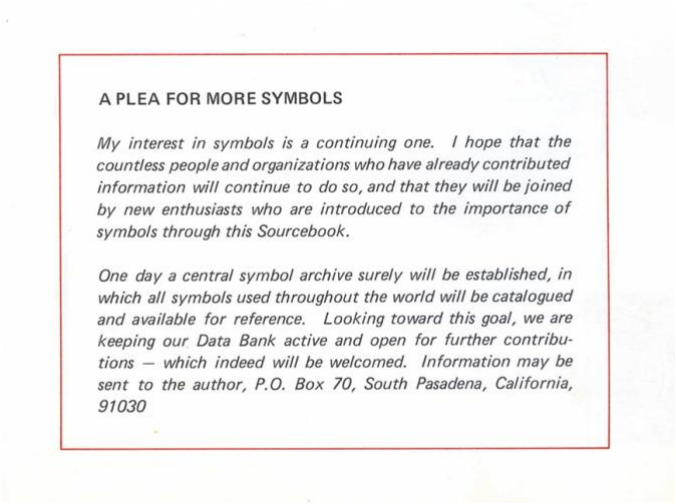
At the ICTVC conference in July 2016, Bakker and Perks' paper drew interest from Isotype scholars, trademark specialists and those interested in classification – in particular Dr Katherine Hepworth, Assistant Professor of Visual Journalism at The Reynolds School of Journalism at the University of Nevada. By combining our research interests (Isotype, pictograms, corporate symbols, and digital humanities) we realized that we had the relevant expertise to further develop a project to collaboratively realize Dreyfuss' vision of making the collections of symbols from his 1972 *Symbol Sourcebook* universally available, as a basis for creating a digital database for the collection and classification of contemporary symbol sets. This would go some way to realizing Dreyfuss' dream for a 'computerized' symbol database as he described at the start of the original 1972 version of the *Symbol Sourcebook*:

> "One day a symbol archive will be established, in which all symbols used throughout the world will be catalogued and available for reference. Looking toward this goal, we are keeping our data bank active and open for further contributions – which indeed will be welcomed." *Symbol Sourcebook* (1972).

[24] In the Acknowledgments section of the *Symbol Sourcebook* Mead is cited as the "inspiration behind the Graphic Form Section". Dreyfuss, *Symbol Sourcebook*, 250.

An initial research grant awarded by University for the Creative Arts allowed Perks to visit the Henry Dreyfuss Symbol Sourcebook archive at the Cooper Hewitt in New York in Summer 2017 with the objective of assessing exactly what is contained there. The archive contains Dreyfuss' personal and professional papers and spans the years 1923-1986. I met with Steven Van Dyk, Department Head at the Cooper Hewitt, and curator Emily Orr, who kindly introduced me to the archived Symbol Sourcebook material (Series 6: Symbol Sourcebook Working Papers (1941–1973)) which consists of 21.5 linear feet; 23 boxes of well indexed material leading up to the design of the *Symbol Sourcebook*. It includes correspondence/information gathering, selected symbol material, post-publication data, submissions not included, the Hallmark Symbol Exhibition, publication drafts, presentations & publicity and symbol display material. What emerged from surveying the material was the revelation that the archive contained an abundance of information relating to the design and development of symbol systems by key designers such as Lance Wyman, Otl Aicher, Masaru Katsumi, Martin Krampen and Paul Arthur, and symbol commentators such as Rudolf Modley and Margaret Mead (Glyphs Inc.), Icograda and important documents relating to symbol systems for rail, road, air, travel and tourism and Olympics to mention but a few of the names and systems I saw within the small amount of material I was able to access in the short time I had in the archive. The material spans a time when graphic design was coming of age and commercial organizations were realizing the power of design, both in terms of safety and promoting business. The Cooper Hewitt are gradually digitizing the material and Bakker, Hepworth and Perks have been invited to contribute blog spots in response to new material becoming available online. It will be fifty years since the publication of the *Symbol Sourcebook* and Dreyfuss and his wife Doris Marks' untimely death in 2022. Our ultimate aim would be to seek international funding to commemorate Dreyfuss' achievements with the *Symbol Sourcebook* in a symbol related exhibit and web resource/symbol data base recounting the stories emerging from the newly digitized material.

> "If a system of symbols could be compiled that would be equally recognizable in Lagos and Lapland, perhaps the dream of a universal basic means of communication could be realized. I believe this is possible." Dreyfuss, *Symbol Sourcebook*, 18.



A PLEA FOR MORE SYMBOLS

My interest in symbols is a continuing one. I hope that the countless people and organizations who have already contributed information will continue to do so, and that they will be joined by new enthusiasts who are introduced to the importance of symbols through this Sourcebook.

One day a central symbol archive surely will be established, in which all symbols used throughout the world will be catalogued and available for reference. Looking toward this goal, we are keeping our Data Bank active and open for further contributions — which indeed will be welcomed. Information may be sent to the author, P.O. Box 70, South Pasadena, California, 91030

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