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Explaining History to Children: Otto and Marie Neurath's Work on the *Visual History of Mankind*

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This essay traces the development of Otto Neurath's ideas that led to the publication of one of the first series of children's books produced by the Isotype Institute in the late 1940s, the *Visual History of Mankind*. Described in its publicity material as 'new in content' and 'new in method', it embodied much of Otto Neurath's thinking about visual education, and also coincided with other educational ideas in the UK in the 1930s and 1940s. It exemplified the Isotype Institute's approach: teamwork, thinking about the needs of younger readers, clear explanation, and accessible content. Further, drawing on correspondence, notes and drawings from the Otto and Marie Neurath Isotype Collection at the University of Reading, the essay presents insights to the making of the books and the people involved, the costs of production and the influence of this on design decisions, and how the books were received by teachers and children.

Keywords: book design—Isotype—Otto & Mary Neurath

The writing, design and production of books for children are among the less well known aspects of the work of the Isotype Institute. 'Isotype' stands for International System Of Typographic Picture Education, and is a method for assembling, configuring and disseminating statistical information through pictorial means. First known as the Vienna Method, it was developed by Otto Neurath and colleagues in 1920s Vienna, at the ground-breaking Gesellschafts- und Wirtschaftsmuseum (Museum of Society & Economy). There it helped to explain and illustrate contemporary social and economic issues to the general public. Through associated offices, activities and work, the Isotype 'movement' spread to the Netherlands, Britain, the Soviet Union, the United States of America and elsewhere, and remained active until 1971.[1] The *Visual History of Mankind* series, comprising Book 1, *Living in Early Times*, Book 2, *Living in Villages and Towns*, and Book 3, *Living in the World*, was published by Adprint, under the Max Parrish imprint, in 1948 **[1]**. Each of the three books in the series comprised a sequence of twenty double-page spreads, each of which contained an Isotype chart and a list of questions, the answers to which could be worked out by examining the chart **[2]**.

The aim of the *Visual History* was to describe 'human activities and achievements throughout the ages which influenced the life of groups of people and the contacts between groups'. The focus on groups of people rather than individuals was in accordance with the very early Isotype museum work, which dealt with issues affecting society as a whole, rather than individual people. The *Visual History* was therefore not a chronological historical narrative punctuated by kings and queens, battles and ceremonies. Rather it looked at the past through the lens of everyday activities, such as 'How Clothes have Changed' (in Book 2), 'Making Light' (in Book 1) and 'Travelling on Land' (in Book 3), and the impact that such activity might have on a community, country or world. Teaching *method* was embedded within the way the content was presented, described in the publicity as 'the active attitude': 'in every case the child

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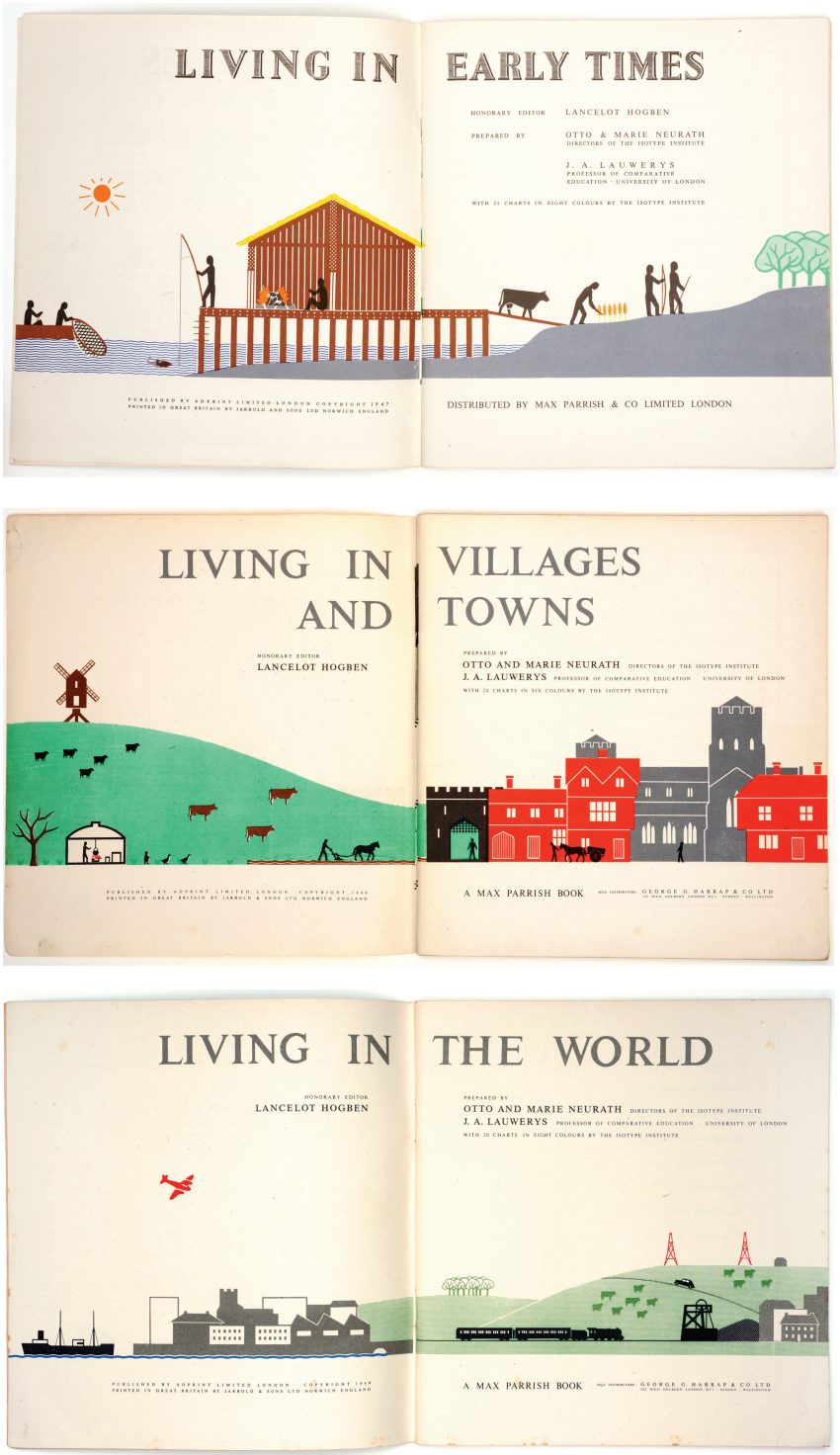


Fig 1. Title openings from the three books in the *Visual History of Mankind* series, Max Parrish, London, 1948. Reproduced with permission from the University of Reading

is required to seek information for himself, and to express answers in his own way'.[2] The 'visual approach' taken in the books was carefully described for its readers:

> These Isotype symbols, as the pictures are called, are always kept as simple and clear as possible, bearing in mind that each has to be recognized quickly and must

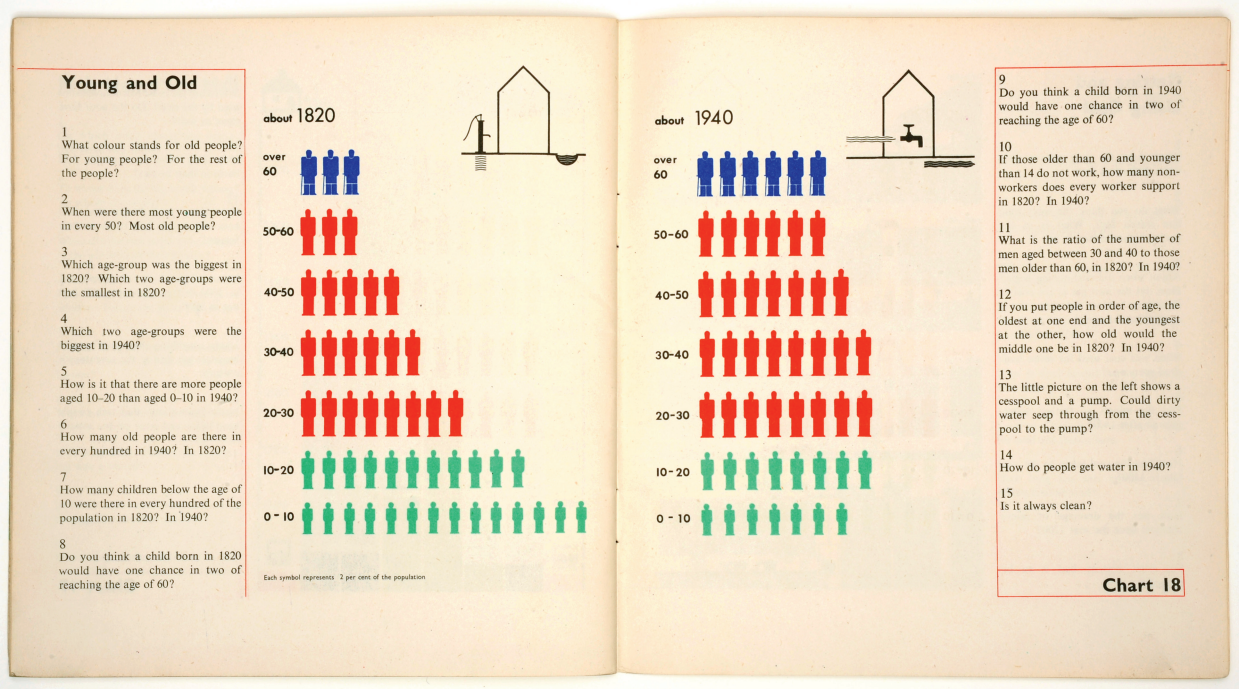


Fig 2. 'Young and Old', Chart 18 from *Visual History of Mankind*, Book 2, *Living in Villages and Towns*, Max Parrish, London, 1948. Reproduced with permission from the University of Reading

> be different from all the others. As a result they can be put together like the letters in a written line, to make up a story.[3]

Young readers were advised that to get the most out of the picture stories they would need to spend time looking:

> Begin by looking at each symbol, and then at all the symbols in each line or column till you thoroughly understand the statements made. Go on like that until you have read the whole page. Then ask yourself questions and try to answer them. As examples, we have drawn up lists of questions, many of which, we feel sure, come into your mind as you look at the page. You can certainly think of more.[4]

Teachers were receptive to this approach. From the late 1920s reports about education in schools had commented both on how pictures might be better used in books, and on the value of approaches to teaching that relied 'less on mass instruction and more on the encouragement of the individual, and group work'.[5] A number of these, such as the 1931 Hadow Report on the primary school, had anticipated a move towards an educational environment in schools that would be receptive to a child-centred approach. This report explained the curriculum as not only consisting of:

> [. . .] lessons to be mastered, but as providing fields of new and interesting experience to be explored; it appeals less to passive obedience and more to the sympathy, social spirit and imagination of the children [. . .][6]

The 1937 *Handbook of Suggestions for the Consideration of Teachers and Others Concerned in the Work of Public Elementary Schools*, produced by the Board of Education, had proposed that childhood should not exist in isolation, but be 'linked with home and an ever-widening environment with family and ancestry, with friends and the people of his own country, and with mankind at large.'[7] It encouraged children, through their learning, to relate to other people and their communities and

promoted comparison and contrast as mechanisms for learning.[8] The *Handbook* had further advised, echoing the Hadow Report, that attention should be paid to illustrations readily available through museums and galleries, and referred to 'charts', in particular time charts, as an excellent way to give children clear ideas about dates and the duration of time periods.[9] The *Visual History*'s originality lay in the visual explanation of historical ideas in the charts, and the production of these according to Isotype rules and principles, so that children could engage with them. Many of these ideas and their visual presentation derived from Otto Neurath's own childhood experiences.

Otto Neurath grew up in a home where books were valued and where he was allowed unrestricted access to those of his parents. It is evident from his visual autobiography that this experience had a significant effect on his thinking about the presentation of information and ideas for children as well as for more general audiences. *From Hieroglyphics to Isotype: A Visual Autobiography* shows the extraordinary reach of Neurath's historical, scientific and geographical awareness and knowledge.[10] Perhaps because of this, his ideas for children's books were ambitious: on a number of occasions he proposed the global adventures of two characters (called variously Iso and Typie, Pieter and Maryke, and Peter and Polly) who travelled the earth by hot air balloon and submarine surveying mountains and oceans, and learning about people, customs, farming and the economy.[11] The subject matter of the charts in the *Visual History* reflected such ambitions.

From Hieroglyphics to Isotype illustrates some of the graphic materials that influenced Neurath, and gives some idea not only of the breadth of sources but also of the extensive array of different kinds of graphic presentation that he encountered. He recalled, for example, two techniques that were to be used in a number of the Isotype children's books: cross-section and 'through the microscope', and made a number of observations about the use of 'simplified and standardized colours'. He wrote, for example, of memories evoked by a zoological atlas:

> This [use of standard colours] simplified what I had to learn because I could remember clearly that 'the wolf is light grey', 'the deer is dark brown' and so on. I knew quite well from visiting the Vienna zoo that the colours of the animals looked much more indefinite when one became acquainted with them, but this simplification of colours harmonized with the simplification of the outlines, which I sometimes discovered in textbooks and liked very much.[12]

However, he went on to say that as a child he was also thrilled by pictures of animals in realistic colours 'with all the charm of shining hairs and soft shades', before writing more generally of the educational value that could be found in comparing simplified and realistic forms:

> For making decisions in life we need an adaptation of our eyes both to the multiplicity of overwhelming details and to a far-reaching schematization of the important correlations between the objects before us.[13]

The legacy of such recollections, in particular a flattening of colour through a lack of tonal variation and colour simplification through the use of colours consistently and with meaning, can be seen in the way colour was used in the *Visual History*. He also recalled the simplicity, lack of perspective, and clear story-telling in Egyptian wall paintings, as well as his pleasure in grouping scraps in his scrap book that 'seemed to belong together' and fitting single units together to form a larger whole. All of these are represented in the visual approach seen in Isotype charts. One of his recollections has particular resonance, and the impact is affirmed through Otto and Marie

Neurath's commitment to not including any graphic elements that did not enhance the information that was being conveyed in the charts, or that was inaccurate:

> There were books which showed craftsmen at work, together with their tools, but I soon discovered that the tools in the 'key charts' did not coincide completely with the tools used in the pictures of the workshops, and I disliked this very much. I have often found that children dislike such dissonances in pictures, as, for instance, when a girl in one picture has blonde hair and a blue dress and in the continuing scene the same girl is shown with black hair and a green dress. I felt even more distressed when the picture showed details I could not distinguish sufficiently or details that which did not help to explain anything.[14]

As well as taking account of his childhood recollections in the design of Isotype charts, Neurath and others involved in the making of the *Visual History* were influenced by contemporary and visually interesting children's books, such as Noel Carrington's Puffin Picture Books series, Paul Redmayne's *The Changing Shape of Things* (Murray, London, 1945), described as 'an essay in visual presentation', and the very clear and colourful illustrations by Hans Tisdall in Oliver Hill's *Wheels* (Pleiades Books, London, 1946), and other titles. Combined with developments in children's publishing and educational thinking at the time there was a receptive context for the child-focused approach taken in the *Visual History*.

Making the *Visual History*

The *Visual History* (and other Isotype children's books) would most likely not have been published without Adprint's 'book packaging' approach to publishing and the support of three people there: Wolfgang Foges, Walter Neurath (no relation of Otto) and Max Parrish. Book packaging emerged in response to wartime restrictions on paper:

> Adprint, being a new firm, had no track record with which to get any paper ration. This led to the concept of 'book packaging', which was to become a significant part of book publishing in the second half of the 20th century. The 'packager' puts together author and subject and looks after design and typography, etc. all the way through to complete production. The books were licensed to publishers with adequate paper rations and their names appeared on the jackets.[15]

Foges, as managing director of the company, took a keen interest in Isotype and worked closely with Otto and Marie Neurath on a number of projects. The close integration of text and pictures within a double-page spread was understood by Walter Neurath, the production manager (who was instrumental in the design and production of the 'King Penguin' series, *Britain in Pictures* and the *New Naturalist*), and it was timely that in 1947 Max Parrish was an Adprint imprint for music books and children's books including textbooks, with Max Parrish acting, for Foges, as publisher.[16]

The *Visual History* was the first children's book series that Otto and Marie Neurath worked on when they were based in Oxford. It began with the setting up of an editorial committee in March 1944 to oversee the production of 'textbooks' for use in schools, initially three history and three geography books for eight, nine and ten year olds. This committee comprised Lancelot Hogben, Otto Neurath, Joseph Lauwerys (Reader and then Professor in Comparative Education at the Institute of Education, University of London), Marie Neurath, Wolfgang Foges, Mr Meredith (Head of the Visual Education Centre at University College, Exeter) and Mr Roberts (from the production team at Adprint). Hogben acted as Chair; he had been impressed by the

Isotype flagship publication *Modern Man in the Making* (1939), and Marie Neurath was pleased to have his support not least, because he was a keen advocate for visual education.[17]

Throughout 1944, and until Neurath's death in 1945, Otto Neurath and Joseph Lauwerys worked together on the content; Otto and Marie Neurath were in close contact with Wolfgang Foges and others at Adprint over scheduling and production matters; Marie Neurath and various assistants assembled reference materials for the charts. Marie Neurath, often working to Otto Neurath's sketches, and illustrators and designers made symbols and assembled the charts in accordance with Marie's sketches. Throughout the process of making the charts, they were shown to experts in particular fields to ask for their views and for clarification of particular points. Professor Gordon Childe, Director of the Institute of Archaeology at the University of London, was one such expert, and he advised on a number of charts. Long before the series was published, Otto Neurath was thinking about how the collaboration might be attributed: 'About the editorial and author indications we have in mind, to say something like that: prepared by the Isotype Institute, edited by Lancelot. I think our names, "in co-operation with Lauwerys" should appear in some note, perhaps also of other collaborators.'[18] The attribution on the title pages in the books reflected this, reinforcing the teamwork and interdisciplinarity that underpinned Isotype work.

Throughout 1944 there was much dialogue between Otto and Marie Neurath, Lauwerys and Foges about the content and visual appearance of the *Visual History*, both in the form of correspondence, the fortnightly committee meetings, and sketches and drawings. In June 1944 a memo from Lauwerys to Otto Neurath intended to 'start off discussion' proposed three booklets: 'Primitive Man', 'The Early Cities' and 'The Ancient Empires', and suggested the kinds of topic that might be considered within each. It outlined approaches that could be taken to the organization of the content and to ways that children could be encouraged to engage with it. For example:

> There are certain important questions which we must try to answer in *each* book, or at least give the data that would make it possible for the children themselves to find answers:
>
> *For instance*: How long did people live (expectation of life?) How many babies survived? How large was the family? What did people die of? What food did the people chiefly eat? What clothes did they wear? How did they build their houses? [. . .]

Lauwerys proposed that the contents should be organized chronologically 'as being simpler and also as making it easier to display the interweaving of customs and techniques'.[19] Otto Neurath's response to Lauwerys, on behalf of the Isotype Institute, was three pages of typescript dated 5 June 1944, and he repeated some of his underlying principles for designing for children, as well as responding to Lauwerys' proposals in more detail. It is the first of many interactions that shaped the *Visual History*, and confirmed some of the fundamental approaches taken in the book. At this stage, none of the discussion was about the visual presentation, though Neurath began his remarks with: 'We think it is very helpful and stimulating to get a layout for discussion'. He disagreed with Lauwerys' proposals for a chronological approach starting with primitive man, saying that teachers could get such information from textbooks. He suggested instead that it was important to start by considering a child's point of view:

> First of all, he has hardly a feeling for historical periods. We should like to introduce something which leads to that. The prehistoric stuff should be introduced from case to case, when one asks the question—what may have been before?[20]

He reinforced this by suggesting that one should begin with what children already know, and he proposed sequences of charts that used generations (parents, grandparents, great-grandparents) as a means of helping young readers make connections between the present and the past. The idea of generations as a basis for comparison was to become one of the distinctive features of the *Visual History*. A typescript document (undated) entitled 'Isotype Books on History. Suggestions prepared by the Isotype Institute in collaboration with Mr J. A. Lauwerys', probably written for the editorial committee, summarized the approach.[21] It proposed outline content for each of the books, along with suggestions for 'visual representation', that is, the charts. The paper began with their overarching objective: 'We wish to develop a historical time sense in children, basing it on gradually accumulated impressions of how things are always changing. Therefore we have to start from family life: what grandpa tells about his time, and his forefathers' time.' Otto Neurath continued with an explanation of the role of Isotype charts in helping to distinguish between 'more or less generally accepted statements on historical events and conjectures':

> Since charts are less comprehensive than textbooks, we have to use synchronistic charts for indicating items not discussed in the single charts. The pictures are connected with explanations of symbols. There are no stories told outside the charts. Questions may stimulate the interest in further details. There might be three types of questions:
>
> (1) questions which can be answered from one chart only,
> (2) questions which can be answered from more than one chart,
> (3) questions of the type: can you find out this or that from these charts (answer: yes or no).[22]

The paper then turned attention to the use of the charts in the classroom saying, that they could be used without the teacher's guidance, as well as in combination with more conventional textbooks. Comparison was again highlighted as a learning tool: 'Since comparison is to be the backbone of all sets of Isotype charts, it should be stressed in the questions, and much of the material will be presented not in form of single stories, but in comparative charts.'[23]

Design and production

Much of the preparatory work for the charts was undertaken by research assistants who collected background material, in the form of pictures, newspaper articles, papers from academic journals and so on.[24] Such material formed the basis for the numerous sketches and drawings for each of the charts, and was used by Marie Neurath in her role as transformer—the person who distilled data about a particular topic, made it understandable and related it to what a particular audience already knew.[25] Marie and her team prepared, for perusal by the editorial committee, draft layouts for each double-page spread, showing the chart and related questions.

The Otto and Marie Neurath Collection contains many drawings which include notes, questions and comments that show the care and attention with which the charts were made. The illustrations in figure 3, for example, show the development of one of the charts in Book 2, *Living in Villages and Towns*: 'A Hundred Years of Change' **[3]**. The earliest and most roughly drawn sketches are by Otto Neurath. The first of these illustrated shows the beginnings of the idea; the second is more carefully drawn, but

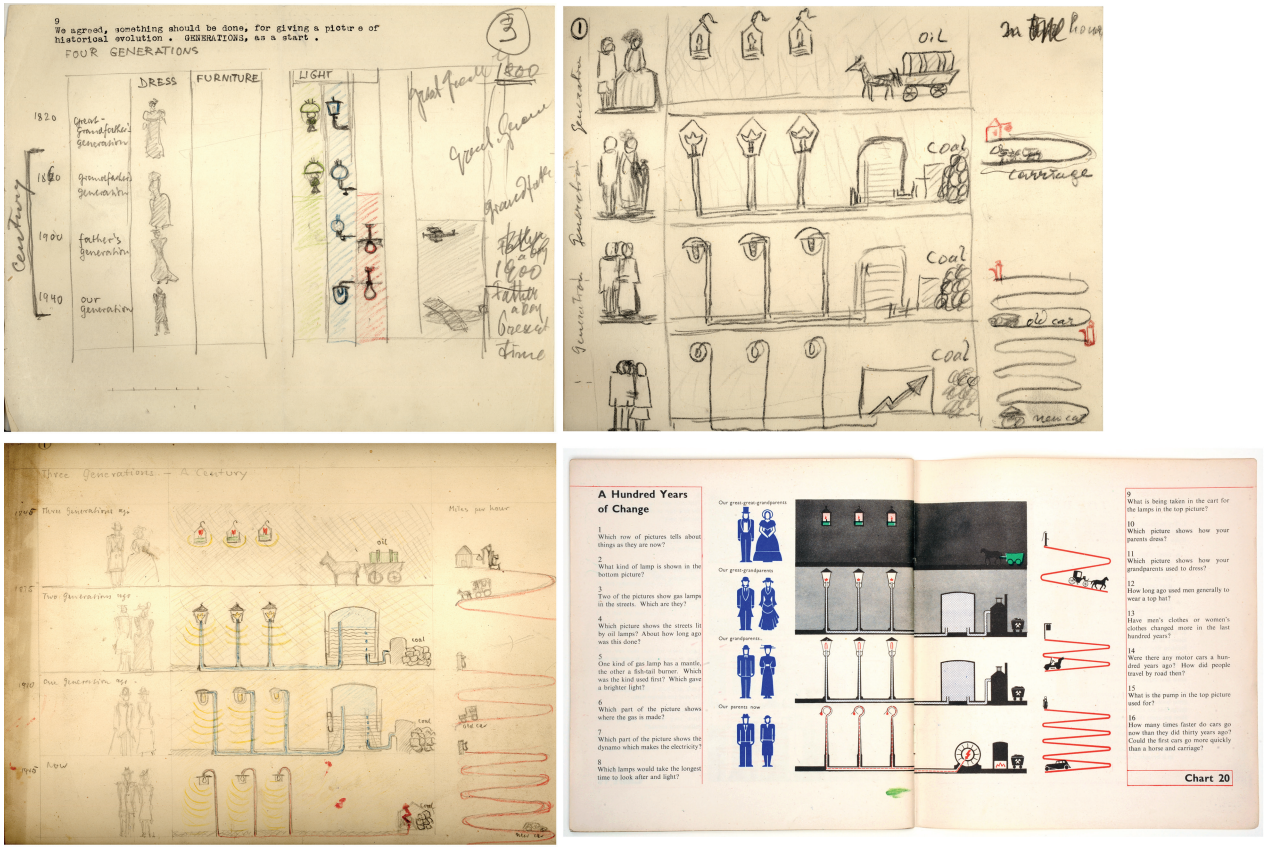
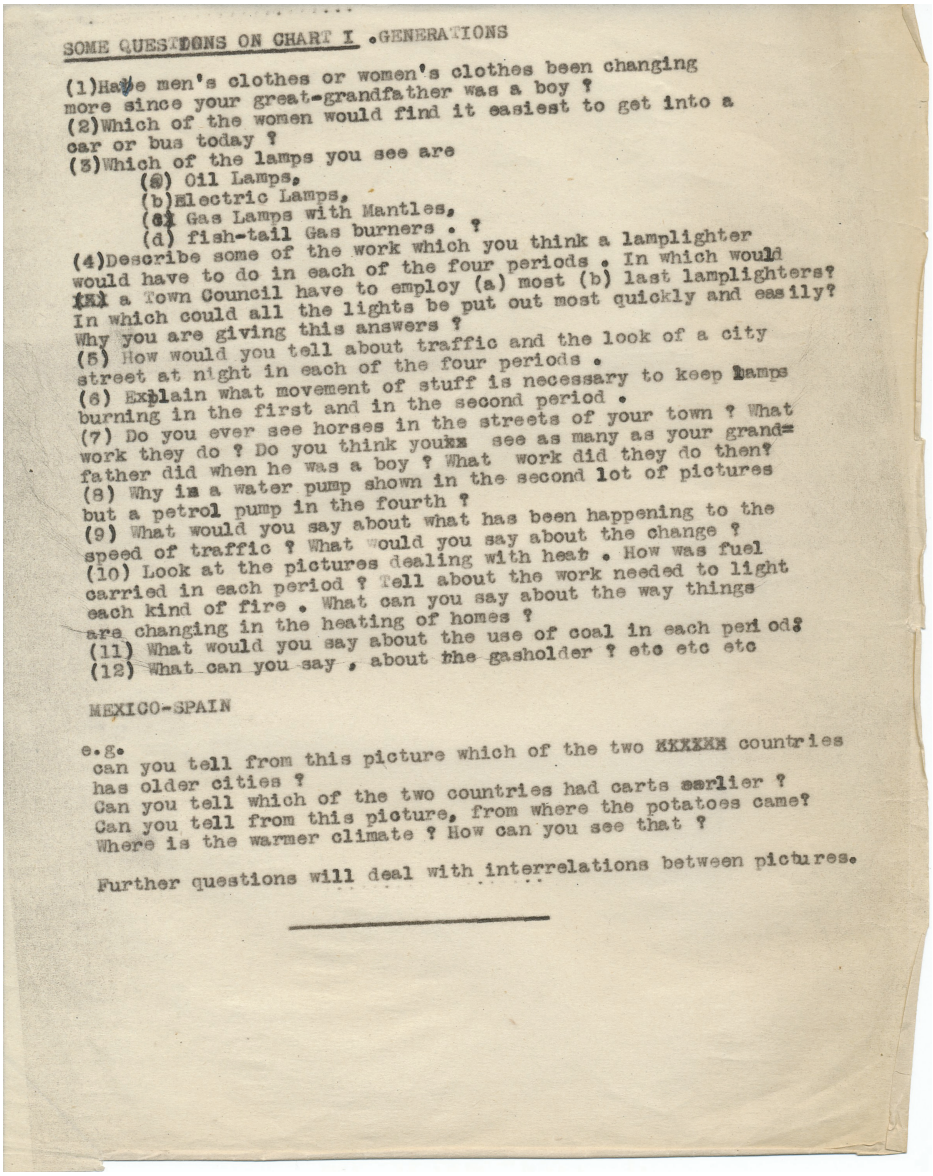


Fig 3. Sketches by Otto Neurath and probably Marie Neurath, showing the development of ideas using depictions of generations to represent eras of time and the resulting chart 'A Hundred Years of Change' from *Visual History of Mankind*, Book 2, *Living in Villages and Towns*, Max Parrish, London, 1948. Reproduced with permission from the University of Reading

still rough. Though annotations in Otto Neurath's hand are evident, the outline chart is likely to have been drawn by Marie or members of her team. The final example in the series of sketches is a more detailed drawing that bears a closer resemblance to the final chart. The material in the archive suggests that the questions were drafted by Otto and Marie Neurath and Lauwerys once the visual presentation of the charts was done. In October 1944, for example, Otto Neurath and Lauwerys were corresponding about 'a rather new type of historical comparison' that used generations to denote periods of time:

> It is unavoidable, that you come to Oxford, to formulate the questions for the charts and also the wording on them. We shall be free for you the weekend and the Monday.
>
> We made great progress—after many experiments—in getting a rather new type of historical comparison. We shall have: boat making, three generations (characterised by dress, light, Gasometer, etc. included, speed of transport, (not only the shape of the vehicles; heating, fire place etc. up to electric heating [. . .])[26]

Figure 4 shows a draft of the questions to accompany the chart showing 'A Hundred Years of Change' **[4]**. The draft questions that appear in the printed version of the chart are different to those in the type-written list, but they are nonetheless in line with the aim to encourage children's engagement with the chart. The way of working—where language and visual organization are considered alongside each other—was unusual, and heralded the approach taken by many information designers today.



SOME QUESTIONS ON CHART I .GENERATIONS

(1)Have men's clothes or women's clothes been changing more since your great-grandfather was a boy ?
(2)Which of the women would find it easiest to get into a car or bus today ?
(3)Which of the lamps you see are
(a) Oil Lamps,
(b)Electric Lamps,
(c) Gas Lamps with Mantles,
(d) fish-tail Gas burners . ?
(4)Describe some of the work which you think a lamplighter would have to do in each of the four periods . In which would a Town Council have to employ (a) most (b) last lamplighters? In which could all the lights be put out most quickly and easily? Why you are giving this answers ?
(5) How would you tell about traffic and the look of a city street at night in each of the four periods .
(6) Explain what movement of stuff is necessary to keep lamps burning in the first and in the second period .
(7) Do you ever see horses in the streets of your town ? What work they do ? Do you think you see as many as your grandfather did when he was a boy ? What work did they do then?
(8) Why is a water pump shown in the second lot of pictures but a petrol pump in the fourth ?
(9) What would you say about what has been happening to the speed of traffic ? What would you say about the change ?
(10) Look at the pictures dealing with heat . How was fuel carried in each period ? Tell about the work needed to light each kind of fire . What can you say about the way things are changing in the heating of homes ?
(11) What would you say about the use of coal in each period?
(12) What can you say , about the gasholder ? etc etc etc

MEXICO-SPAIN

e.g.
can you tell from this picture which of the two countries has older cities ?
Can you tell which of the two countries had carts earlier ?
Can you tell from this picture, from where the potatoes came?
Where is the warmer climate ? How can you see that ?

Further questions will deal with interrelations between pictures.

Fig 4. Draft questions to accompany the chart 'A Hundred Years of Change', most probably prepared by Otto and Marie Neurath and Joseph Lauwerys, c. 1944. Reproduced with permission from the University of Reading

The use of colour, to indicate meaning and relationships, is a distinctive feature of the *Visual History*. Eight solid colours, that is, separate printings, were used in the first editions of each of the books of the series: green, black, orange, brown, yellow, blue, red and grey. The use of screens (dots of varying size, straight and wavy lines) extended the range of colours available, and meant that the books were very colourful, particularly on spreads where all eight colours were used, such as 'Making Clothes' in *Living in Early Times*: green is used consistently for plant material and linen thread; brown, red, yellow and green represent different kinds of cloth; grey is used for background or supporting elements; orange, blue and black are used for the visual explanation of weaving **[5]**.

Printing in eight colours, plus black for the text, was unusual. That it happened at all indicates the commitment that Adprint had to Isotype, as well, no doubt, as Otto and Marie Neurath's ability to make their case. Eight separate colour printings meant that the *Visual History* was expensive to produce, and this conflicted with the publisher's aim of pricing

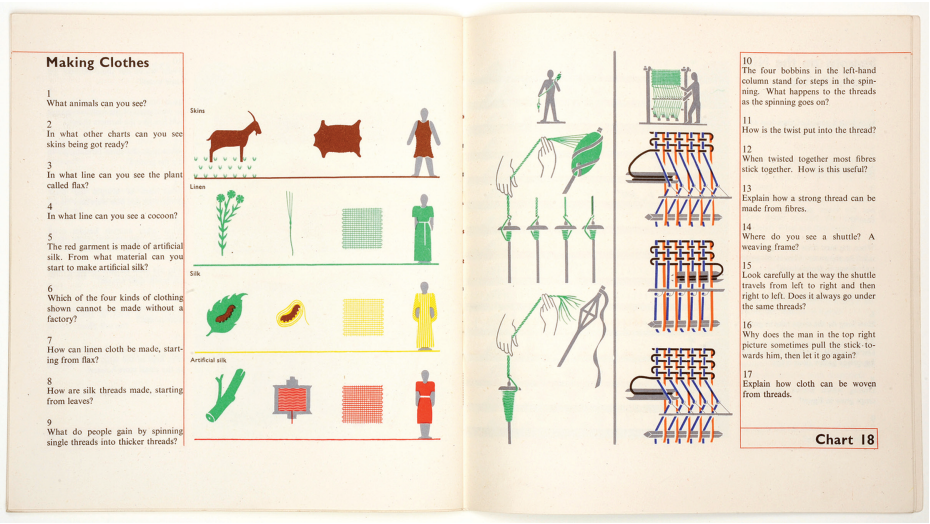


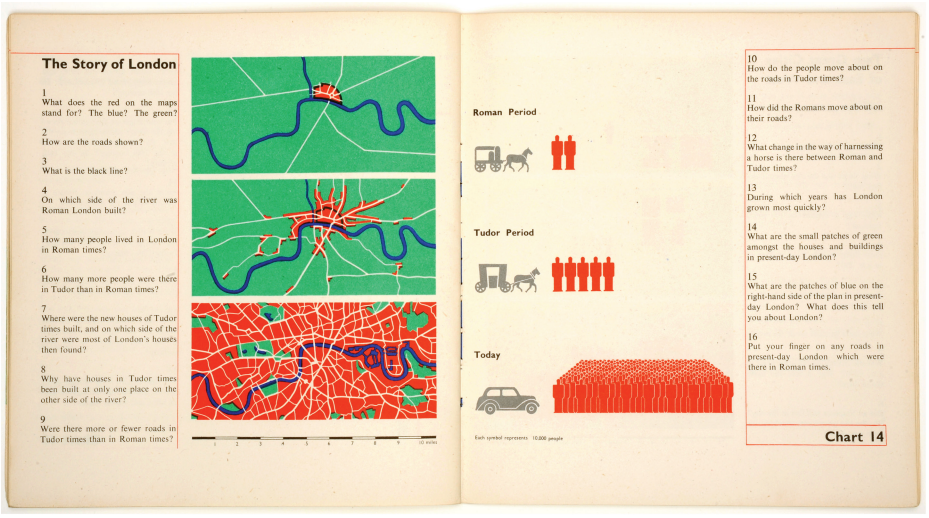
Fig 5. 'Making Clothes', Chart 18 from *Visual History of Mankind*, Book 1, *Living in Early Times*, Max Parrish, London, 1948. Reproduced with permission from the University of Reading

the books so that schools could afford them. Max Parrish summarized the issues in a paper for colleagues at Adprint, 'Visual Schoolbooks'.[27] He assumed that there would need to be 'school book' and 'bookshop' editions of the *Visual History* to cover costs, with print runs of 20,000 in each edition. The plan was to print 40,000 in total, using the same colour plates, but with different black printings for the text in each edition (the idea seemed to have been that the bookshop edition contained the answers to the questions). He wanted to sell the books for two shillings and sixpence, to maximize sales to schools, but given the eight-colour printing and payments to the Isotype Institute for design and royalties, the price of the school book edition ended up as three shillings.

As a result Parrish insisted on lowering production costs, by reducing the number of printed colours in the later editions, with a detrimental effect. For example, in the 1962 edition of *Living in Villages and Towns* only red, black, green and brown were used, with red and black only on alternate spreads. This publisher-driven cost-cutting exercise reduced the effectiveness of many of the charts. For example, Chart 14 in *Living in Villages and Towns*, 'The Story of London', used black, green, blue, red and grey in the first edition; blue is used to show the River Thames, an important landmark, and grey for the pictograms used for periods of time. In the 1962 edition, the grey was replaced with brown (because brown was better suited to some of the other charts), and there was no blue, the Thames being shown by a black wavy line, a far less effective solution **[6]**.

After her husband's death in December 1945, Marie Neurath continued to work on the *Visual History* charts with Lauwerys on whom she relied for advice in choosing the subjects for the charts in the second and third books.

It was a difficult time for her because she found the historical subject matter challenging, but also because between 1946 and 1948 she had to deal with an uneasy relationship between the Isotype Institute and Adprint people, Wolfgang Foges and Max Parrish.[28] Despite this unease, Foges invited Marie Neurath and her team to set up office in London. She accepted this invitation and the Institute moved to London in 1948; the *Visual History* was completed there. It continued to appear in Max Parrish catalogues until at least 1965, though by this date editions of the *Visual History* were being produced with far fewer colours, and because of this may have been less appealing and more difficult to understand than the original editions where the colours were chosen and used with such care.



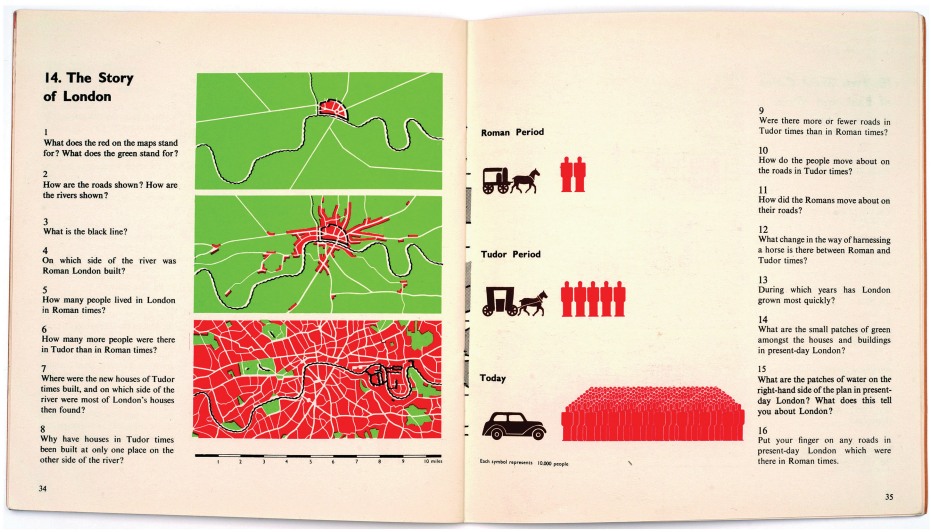


Fig 6. 'The Story of London', Chart 14 from *Visual History of Mankind*, Book 2, *Living in Villages and Towns*, Max Parrish, London. Above: 1948 edition; below: 1962 edition. Reproduced with permission from the University of Reading

What was the visual appeal of the charts? Some clues about this are found in reviews of the books, such as this one from the *School Science Review* in 1952:

> Clarity and simplicity is the aim, and certainly this is achieved together with a degree of attractiveness to the young which seems almost extraordinary until it is realized that the story is just what the children want to learn and the vivid colours are the ones in which they like to express themselves.[29]

Clarity and simplicity were achieved in part through the use of Isotype symbols and the ways in which they were combined and used to explain complex ideas.

Narrative structures provided accounts of events, processes or comparisons: pictorial lists and matrices of different kinds were used in each volume of the *Visual History*. A variety of techniques for showing space were used, both large-scale, in the form of maps of large areas, and on a smaller scale, in the form of floor plans and cross-sections; showing internal spaces such as those within a building was another challenge for the designers of the charts. Making comparisons between numbers of things or distances between things across periods of time was a theme running throughout the series, and

some of the most innovative charts fell within this category. Each *Visual History* chart was designed using a range of techniques for visual explanation chosen to suit the content. They could be read in a number of ways, though there were some conventions: in conveying time, the oldest was at the top, whether this was a particular date, or an era; in the more narrative charts the 'start' was top left, whether they ran across a double-page spread, or top to bottom on the left-hand page and then the right-hand page. Beyond these conventions there were a number of different schematic configurations used throughout the *Visual History* as shown in the following examples.

The chart illustrated in figure 7 is a pictorial bar chart, which shows the relative distances travelled, over a given amount of time, for sea-going vessels from different periods of history **[7]**. It is one of the 'changes over time' configurations. In this case it uses buildings to represent different eras: a triumphal arch for ancient Rome, a skyscraper for the twentieth century and so on. The wavy blue and grey lines that represent water are divided into sections, each of which represents 100 miles. The ships are placed on the lines to show how fast they travel. Consistent use of yellow for the sails of the wind-powered ships encourages comparison of the shapes of the sails, and the number of sails on each ship.

The chart in figure 8 is arranged as a top-to-bottom reading chart comprising five separate pictures showing four ways to make fire **[8]**. While some of the images are far-fetched, such as the proximity of the hot lava to the bush and the man, the pictures and the questions about them get across the following information, as described in the *Notes for the Teacher*:

> Fire is not often found in nature, without the agency of man; even in the hottest climate the sun's heat would not be sufficient to ignite dry leaves, and it is hard to imagine that fires could be started at all except by lightning, by the eruption of a volcano, or by heat generated by decomposing vegetable matter.[30]

Orange is used consistently in these charts, as it is throughout the book, for fire; green is used for grass, leaves and so on; red is used for 'very hot'—in this case the lava from the volcano; grey (and tints of grey) is used for background information; a dark grey, made from a tint of black is used for smoke, and black for 'man'; yellow is used for straw; and brown for tools. Thus, including the tints, ten colours are used for this chart.

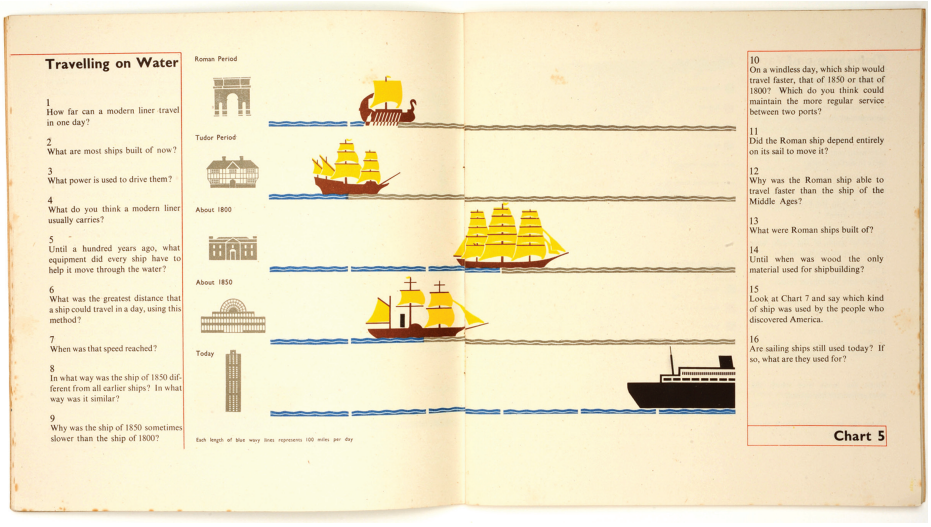


Fig 7. 'Travelling on Water', Chart 5 from *Visual History of Mankind*, Book 3, *Living in the World*, Max Parrish, London, 1948. Reproduced with permission from the University of Reading



Fig 8. 'Getting Fire, Keeping Fire, Making Fire', Chart 8 from *Visual History of Mankind*, Book 1, *Living in Early Times*, Max Parrish, London, 1948. Reproduced with permission from the University of Reading

It is an example of very careful use of colour to add meaning to the message, as well as depth to the pictorial form.

In figure 9, the pictorial list on the left of the chart shows the tools used to make the kinds of boat that are shown in the second part of the chart on the right **[9]**. Although there is a horizontal relationship between the tools used to make the boat and the way that the boat is used, the use of space does not encourage horizontal reading. Rather, the chart on the right, which shows how boats are used, works best as a separate chart that can be read horizontally and vertically, to encourage comparison. Cross-sections are used in the left-hand column to show the position of the person and their use of the oar in each boat; in the second column hatching indicates the part of the boat that is under water.

Of the seven colours used in the chart, the blue, green and orange are associated in the *Visual History* with water, land and fire; it is curious that the boat in the left-hand part of the chart is grey rather than brown, but this may be to place more emphasis on the boat in use as it is on the right.

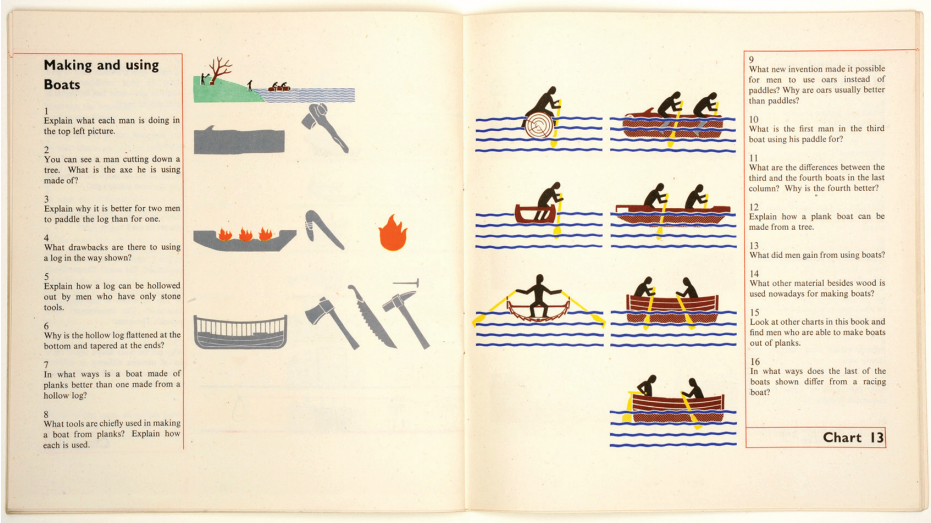


Fig 9. 'Making and Using Boats', Chart 13 from *Visual History of Mankind*, Book 1, *Living in Early Times*, Max Parrish, London, 1948. Reproduced with permission from the University of Reading



Fig 10. 'The Lake Dwellers', Chart 16 from *Visual History of Mankind*, Book 1, *Living in Early Times*, Max Parrish, London, 1948. Reproduced with permission from the University of Reading

The *Visual History* received favourable reviews in the UK on publication, such as this one in *The Times Educational Supplement,* 11 December 1948:

> The first of a series designed to show how our ancestors began to evolve methods of living which culminated in modern civilization. Thus such stories as that of the ship, the wheel, the machine are depicted, but in the new visual method known as Isotype. This may be described as picture language, but it is by no means simply an easy way of escaping the more rigid discipline of the printed text-book: it requires an equal amount of thought and effort on behalf of the pupil to be fully effective. The special value of this method lies in its providing the teacher with an inherently more appealing background of interest on which to base lessons.

The visual presentation of the charts was very rarely commented on in reviews, and when it was it tended to be remarked that the intensity and vibrancy of the colour was likely to appeal to young readers, or that some of the symbols were hard to interpret. Arthur French worked in the School Museum Service in Derbyshire, and writing of *Living In Early Times*, he commented:

> [. . .] I consider it a delightful book, that should do a lot to raise the standard expected for text-books. I have been showing it to people ranging in age from 5 to 50, and have a few comments, some of them minor criticisms, to make as a result. All ages *enjoy* looking at it (which is an important step!) and all appear to learn from it, in differing degree.[31]

He went on to provide more detailed comments, some of which were a result of him talking with his five-year-old son. French noted, in relation to a chart explaining the livelihood of people living by a lake, that: 'The *technique* of sections is not obvious to a young child, and I am afraid a child might miss the point of, say, the cow IN the hut if he wasn't told the building was cut open' **[10]**. He thought that the upside down



Fig 11. Detail from 'Man Makes Use of Animals', Chart 6 from *Visual History of Mankind*, Book 1, *Living in Early Times*, Max Parrish, London, 1948. Reproduced with permission from the University of Reading

sheep shown in figure 11 was not recognizable as a dead sheep and proposed an alternative with bent legs **[11]**. He also reported that his son objected to the milk in the milk bottle being yellow.

Getting such feedback about their work was important to Otto and Marie Neurath; they were ahead of their time, and it was particularly unusual to elicit comments from children and others directly involved in using the books. A letter from a school inspector, Hedwig Brookes, began by identifying 'two dangers in books of this kind'. One was that, while the wording of the questions could be simple throughout, children of average and below average ability may find it difficult to work out the answers from the charts,[32] and the second was that some of the charts were too complicated.[33] She continued, however, that these were minor points of criticism, and went on to list seven points in the books' favour, the most important in her view being 'inculcating a sense of proportion about time'. She concluded: 'Above all, the terrible bookish approach to history is jettisoned.'[34]

There is evidence to suggest that the *Visual History* was acknowledged in Europe and further afield in the USA and India.[35] The series was exhibited in 1950 in Germany as part of 'Deutsche und englischer Schulbücher der letzten 30 Jahre', where it was praised for its concisely formulated questions and clear, simple, reductive and well-arranged illustrations.[36] A seminar organised by UNESCO in 1950 on the theme 'The Improvement of Textbooks, Particularly History Textbooks' included a presentation by Lauwerys and resulted in a short publication by him, *History Textbooks and International Understanding*.[37] There is considerable evidence of Otto and Marie Neurath's influence in this text. While there is only one specific reference to the *Visual History*, to the usefulness of 'A Picture showing Parents, Grandparents, etc.' as a way of showing temporal sequence and timespan,[38] a section on 'Visual Presentations' demonstrates the impact that working with Otto and Marie Neurath had on Lauwerys, and his belief in particular on teamwork and interaction in the process of designing:

> The chief point which we have tried to make in this section is this: for effective visualization the author must continually ask himself *why* he is using the illustration or the chart. What is the purpose of including it? What effect is intended on the learner? What connexion is there with the text?
>
> And to publishers we would say: put at the disposal of your authors as much visual material as you can, be generous with it. But insist on real collaboration between author and artist; remember both of them need training and experience in this educational field; and make sure they really know *why* they are including the pictures they wish to present.[39]

Lauwerys' remarks summarise some of the reasons for the success of the *Visual History*. It sat well within an educational and publishing context that was receptive to new ideas. It was made by a group of people who were committed to its success: the inspiration and leadership of Otto Neurath, the determined intellect and focus of Marie

Neurath, the business astuteness of Foges and Parrish, the loyalty of the team of talented researchers, designers and artists who worked for the Isotype Institute, and the teachers and librarians who took a keen interest in the books in use. While some of the charts in the *Visual History* are overly complex for their intended audience and, as Arthur French's son noted, some of the graphic conventions are confusing, most are powerful examples of graphic explanation for children. They demonstrate the application of Isotype principles and how these inform design for clear communication: consistent application of an agreed set of principles of visual organisation; accurate information; user-centred thinking that related language and graphic presentation to the needs of young readers; sound visual judgement; and interaction between those involved in making the charts and teachers and experts in particular fields. Marie Neurath's skill, determination and tenacity were central to the making of the series, and she went on to produce many successful series of books for children, until the 1970s.

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If you have any comments to make in relation to this article, please go to the journal website on http://jdh.oxfordjournals.org and access this article. There is a facility on the site for sending e-mail responses to the editorial board and other readers.

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Notes

1 A useful summary of Isotype is the exhibition catalogue *Graphic Communication through Isotype*, University of Reading, Reading, 1975. The AHRC-funded 'Isotype revisited' project began in 2007 and aims to better understand the contribution of the Isotype movement through a re-evaluation of its work and legacy. Further information can be accessed at Isotype Revisited <http://www.isotype-evisited.org>. See also the note on 'Sources' in M. Neurath & R. Kinross, *The Transformer: Principles of Making Isotype Charts*, Hyphen Press, London, 2009, pp. 121–2.

2 From publicity brochure for *Visual History of Mankind*, Otto and Marie Neurath Isotype Collection (henceforth IC) 8.2/38.

3 *Visual History of Mankind* series: Book 1, *Living in Early Times,* Max Parrish, London, 1948, p. 6.

4 Ibid., p. 7.

5 Quoted in A. Ellis, *A History of Children's Reading and Literature*, Pergamon Press, Oxford, 1963, p. 150.

6 Board of Education, *Report of the Consultative Committee on the Primary School*, HMSO, London, 1931, pp. xvii–xviii.

7 Board of Education, *Handbook of Suggestions for the Consideration of Teachers and Others Involved in the Work of Public Elementary Schools*, HMSO, London, 1937, p. 112.

8 Ibid., p. 127.

9 The Historical Association was mentioned as an 'excellent' source and the *Handbook* refers (ibid., p. 31) to pamphlet no. 82 which is D. Dymond (ed.), *A List of Illustrations for Use in History Teaching in Schools*, (Historical Association, London, 1930), and pamphlet no. 50, H. M. Madeley, *Time Charts* (Historical Association, London, 1921; reprinted 1923, 1929, 1938; 2nd edn 1948).

10 O. Neurath, *From Hieroglyphics to Isotype: A Visual Autobiography*, M. Eve & C Burke (eds.), Hyphen Press, London, 2010. This edition contains an introduction by Christopher Burke providing background to the writing, and contextual information. Matthew Eve's preface summarises the approach taken to the editorial work, which involved close analysis of several versions of hand- and typewritten drafts.

11 In correspondence with Paul Rotha, Otto Neurath wrote of cinematographic newspaper strips for children based on the adventures of Pieter and Maryke. He wrote of plans for 'Isotype strips': '[. . .] like the comic strips in the USA newspapers.' One of his ideas was 'the story of PETER AND POLLY, two children's adventures, etc round the earth, stratosphere baloon [*sic*], submarine, etc, mountains, the seven seas, etc fun, but educational, too . . .' Letter from O. Neurath to Miss Beland, 2 November 1942, IC 1/1.

12 Neurath, op. cit., p. 34.

13 Ibid., p. 35.

14 Ibid., p. 27.

15 T. Rosenthal, 'Walter and Eva Neurath: Their Books Married Words with Pictures', in *Immigrant Publishers: The Impact of Expatriate Publishers in Britain and America in the 20th Century,* R. Abel & G. Graham (eds), Transaction Publishers, New Brunswick, 2009, pp. 111–22.

16 See also, for information about Foges' relationship with Adprint, D. Lambert, 'Wolfgang Foges and the New Illustrated Book in Britain: Adprint, Rathbone Books, and Aldus Books', *Modern Typography in Britain, Typography Papers 8,* 2009, pp. 113–28.

17 O. Neurath, *Modern Man in the Making*, A. A. Knopf, New York, 1939. Hogben went on to write *From Cave Painting to Comic Strip: A Kaleidoscope of Human Communication* (Max Parrish, London, 1949), for which Marie Neurath selected the pictures. This, as noted by Christopher Burke, effectively took the place of Otto Neurath's similarly titled *From Hieroglyphics to Isotype*, most likely because Adprint thought that Hogben's book would sell more copies (see Neurath, *From Hieroglyphics to Isotype*, op. cit., p. ix).

18 Letter from O. Neurath to W. Foges, 23 June 1945, IC 1/34.

19 J. A. Lauwerys, 'MEMORANDUM FROM J. A. L. intended to start off discussion on the 3 Junior History Booklets', June 1944, IC 3.2/101.

20 O. Neurath, 'ISOTYPE INSTITUTE, remarks on MEMORANDUM FROM J. A. L. intended to start off discussion on the 3 Junior History Booklets', 5 June 1944, IC 3.2/101.

21 'Isotype Books on History. Suggestions prepared by the Isotype Institute in collaboration with Mr J. A. Lauwerys', IC 3.2/101. A transcript of this text can be seen at <http://www.isotyperevisited.org/1944/06/isotype-books-on-history.html> accessed 24 July 2012.

22 'Isotype Books on History', op. cit.

23 'Isotype Books on History', op. cit.

24 It is not clear how many people worked with Otto and Marie Neurath on the charts, though an undated scrap of paper in the archive, under a heading 'Textbooks', implies that making sixty charts a year required one transformator [*sic*], four designers and one research worker. There remains work to be done on the contribution of various team members to the making of the *Visual History* charts; there is some evidence in the correspondence files that provides some information.

25 See Neurath & Kinross, op. cit.

26 Letter from O. Neurath to J. A. Lauwerys, 16 October 1944, IC 1/39.

27 M. Parrish, 'Visual Schoolbooks', typescript, 28 May 1946, IC 1/2.

28 See M. Eve, 'Isotype in Trouble', *Modern Typography in Britain: Graphic Design, Politics and Society, Typography Papers 8*, 2009, pp. 129–34.

29 *School Science Review*, June 1952, p. 424.

30 O. Neurath, M. Neurath & J. A. Lauwerys, *Visual History of Mankind. Notes for the Teacher*, Max Parrish, London, 1948, p. 13.

31 Letter from A. French to M. Neurath, 25 June 1948, IC 1/20.

32 Others, also, expressed this concern: 'The text, which is based on the isotype pictures, consists almost entirely of questions, demanding from the pupils great concentration on the details of the illustrations. Many may prove to be much too difficult for pupils of this age.' (*The Middlesex Log*, July 1952.)

33 The example given by Hedwig Brookes is Chart 13 in Book 3, *Living in the World,* and it is indeed the case that the intersecting coloured lines depicting how different fruits move around the world are hard to follow.

34 Letter from H. Brookes to M. Neurath, 21 January 1951 (IC 1/24).

35 For example, a letter sent by the Oxford University Press Bombay office to Harrap & Co. (who distributed the books), 18 July 1949, includes the following from a headmaster in

Amraoti (Amravati): 'We find the books extremely interesting and would like to go in for other similar literature on visual education that may be produced by the said institute in future' (IC 1/22). Kenneth James (Jimmy), who worked with Marie Neurath on the books, spent time at Harvard in the Graduate School of Education, and took the opportunity to show the *Visual History* to colleagues. Letters from K. James to M. Neurath, 17 December 1947, 17 January 1948, IC 1/21.

36 Herr Mueller, likely to have been from the German Ministry of Education. Appendix to letter from Annemarie Boch to M. Neurath, 20 March 1950 (IC 1/19).

37 J. A. Lauwerys, *History Textbooks and International Understanding*, UNESCO, Paris, 1953.

38 Ibid., p. 55.

39 Ibid., pp. 68–9.