

24. Great Inventions

Marie Neurath and Joseph Lauwerys, *The first great inventions* (Max Parrish, 1951)

A children's book published in 1951, in the University Special Collections library, used striking visual approaches to help children understand the origins of inventions that included agricultural and rural technologies.



We wanted to know more and asked Professor Sue Walker, who has undertaken research about Marie Neurath's children's books using archival material from the Otto and Marie Neurath Isotype Collection, here at the University of Reading.

The first great inventions: packaging children's non-fiction in 1951

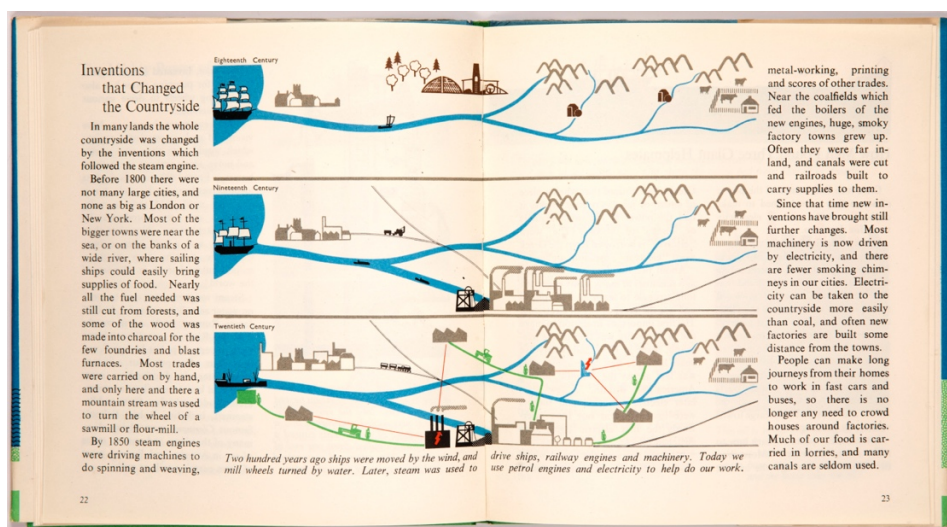


The mid-twentieth century was an exciting time for children's non-fiction. Many books reflected post-war optimism with emphasis on the outdoors, such as *The map that came to life* (OUP, 1948) and the effect of new forms of architecture and planning the environment shown in S.R. Badmin's *Village and town* (Puffin, 1942). Young readers were encouraged through profuse and stimulating illustrations to engage with a new world: John Redmayne's *The changing shape of things* (John Murray, 1947) is a good example with images showing modern uses of glass, steel and concrete in architecture, interiors and transport.

The first great inventions, published in 1951 by Max Parrish exemplifies engagement with modernist ideas and use of distinctive and compelling coloured illustrations. It was part of a series 'A new look at world history', prepared by Marie Neurath and Joseph Lauwerys, and offered a comprehensive and wide-ranging view about inventions beginning with the wheel, ending with jet planes and the transmission of knowledge though print and telegraphy. Its intended audience was children aged between 8 and 11 years.

The first great inventions is one of many children's books in the *Otto and Marie Neurath Isotype Collection*, a renowned University of Reading collection that holds important works and also papers, correspondence, drawings, and other material that includes documents, published works, and artefacts relating to the history, principles, working methods, and products of Isotype, from its beginnings in 1920s Vienna through to its later incarnations in The Hague, Oxford, and London.

From the late-1940s to late-1960s the Isotype Institute under the direction of Marie Neurath, produced over 80 children's non-fiction titles on a variety of topics. The first books published in 1948—*Railways under London*, *If you could see inside*, and *I'll show you how it happened*—were well-received by young readers, teachers, and reviewers, who responded positively to the illustrations, child-centred focus and well-targeted text. From the 1950s Marie Neurath and a team of researchers, writers, and illustrators worked 'like a little factory making books'—a description she used in a letter to a child who asked how the books were made.



The first great inventions comprises 17 topics, each on a page or a double-page spread. Most include a visual representation in the form of a chart in the centre of the spread, with text edited to fit down each side. *'Inventions that changed the countryside'* is a typical opening. The chart with three sections representing the eighteenth, nineteenth, and twentieth centuries is in the centre of the spread. The chart shows growth in the size of towns; the growth of factories; and change and increase in mode of transport via waterways, roads, railways across the three centuries. The accompanying narrative is written clearly with the needs of a young readership in mind.



'Wonders worked by wheels' shows a different approach. Here there is more text and a series of schematic images show a potter working with their hands, and also with a wheel. The illustration informs the first part of the accompanying narrative which also notes that wheels are used to grind corn and turn waterwheels. Somewhat incongruously it deviates from the heading of the spread and includes text about spinning without a wheel.

The first great inventions elicited good reviews, with comments about the visual presentation as well as content and text. *The Irish Times* (1 December 1951) noted that ‘Coloured and vividly practical diagrams decorate a persuasive text which is a model of clarity’, and the *South Wales Evening Post* (15 December 1951) that ‘the books have brightness and clarity and tell fascinating stories of the life of the first men and the implements they invented for hunting, farming and fishing’. However, some reviewers commented that the books were better suited to an older age-range than 8-11 years, and that the diagrams had oversimplified complex processes. The *TLS* (23 November 1951) thought that the book ‘tries to do too much in its 36 pages’. This was also picked up on by Katherine Lines in *Four to fourteen: a library of books for children* (2nd edn 1956) who described it: ‘In thirty-six illustrated pages a compressed pictorial introduction to scientific discovery and invention. Necessarily scrappy because of its wide scope’.

However, there is another story behind *The first great inventions* and this may, in part, account for the less favourable comments. Not only had the illustrations been designed for and used in previously published books, *The first great inventions* was produced originally for distribution in the USA by *Lothrop, Lee, and Shepherd*, as a ‘*Chanticleer Wonder Story Book*’, published in 1950. The series, ‘*A new look at world history*’, exemplifies ‘book packaging’, pioneered by *Adprint*, where books were conceived and created by a team of authors, editors, and designers, and then sold on to an established publisher. This removed distribution costs and contributed to commercial viability and sustainability (see Korber 2016).

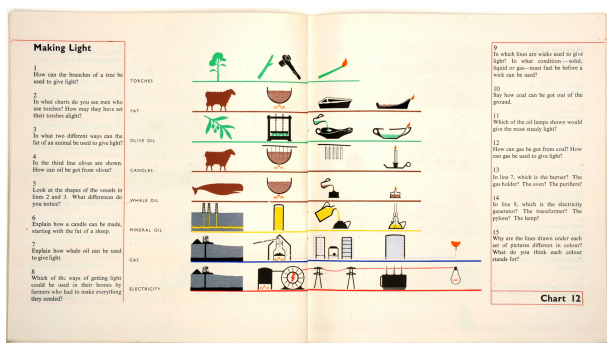
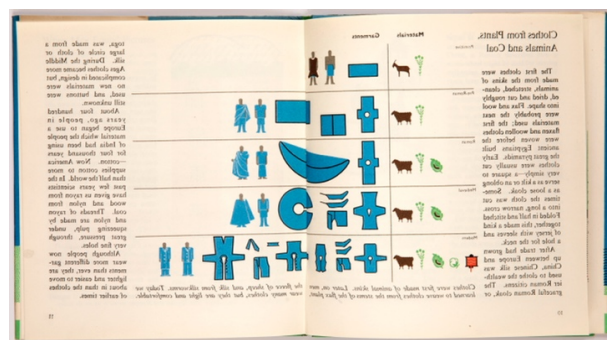
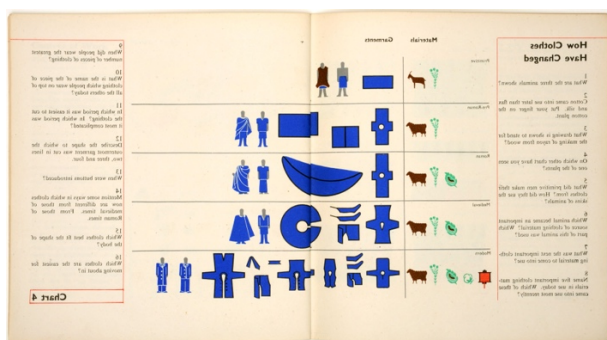
Many of the illustrations in *The first great inventions* were first published in the pioneering series ‘*The visual history of mankind*’ and ‘*Visual science*’, part of a programme of educational publishing initiated by the Neuraths with Wolfgang Foges and others at *Adprint*. *Adprint*, under the direction of Foges, became well-known for ‘integrated books’ where illustrations and text worked alongside each other. This approach suited Otto and Marie Neurath and they began working with Foges on educational books. The set up an ‘editorial committee’ including Lancelot Hogben, Max Parrish, and Joseph Lauwerys (a professor at the Institute of Education, University of London). Neurath and Lauwerys had complementary ideas about history and how it should be taught in schools. Their paper ‘*Isotype books on history*’ explained the rationale behind the ‘*Visual history*’. The use of questions, it proposed, would encourage children to engage with the content of charts. The charts themselves would be designed according to Isotype principles: purposeful use of colour; use of comparison; making sure that the most important things could be seen at first glance, with more detail being evident on closer scrutiny; and the consistent use of pictorial symbols. The paper presented early ideas on the content of each of the three books that demonstrate the extraordinary reach of Neurath’s historical, scientific and geographical awareness and knowledge, as well as his confidence and ambition in the use of Isotype charts to convey this information.

‘*The visual history of mankind*’, published in 1947–8, aimed to engage young people with histories of everyday life through contrast and comparison (rather than history through the lives of kings and queens, and battles). The distinctive and innovative design attributes of this series were

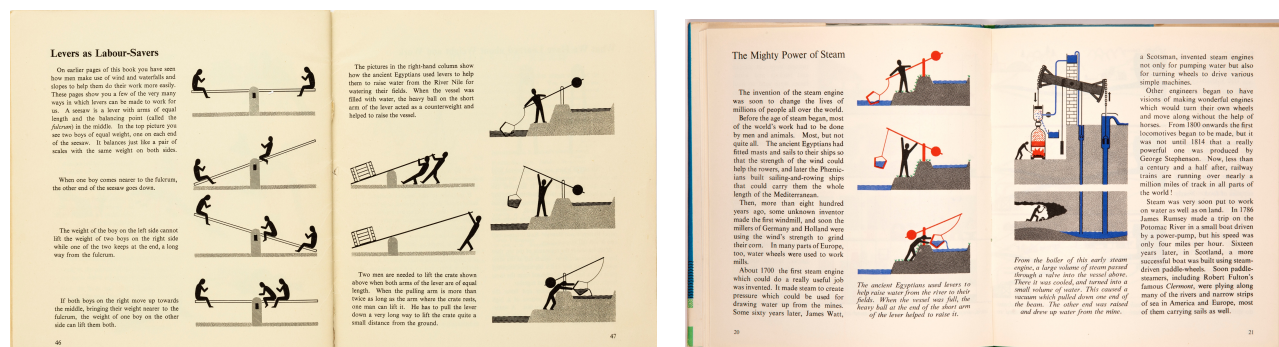
illustrations in the form of charts that used ‘*simple and clear symbols*’ that were combined and used in a way to express complex ideas; and the use of colour in a meaningful and consistent way.

Each topic was presented as a double-page spread, with a series of questions down the outside edge of each page that encouraged young readers to look closely at the charts to find out the answers. The charts themselves were designed in ways appropriate to the information they conveyed, for example, as timelines, before and after scenarios and pictorial lists. The use of questions positioned on the outer edge of the spread encouraged the readers to engage with the content of the charts as well as their visual attributes by asking readers what particular colours stood for in a particular image.

The following spreads show how the same illustration was used, first in the ‘*Visual history*’, and then in *The first great inventions*. In both these examples the title of the spread is different. The spreads from the ‘*Visual history*’ are more active in the sense that they encourage the reader to ask ‘*how*’ – which is expanded on through the questions that encourage the reader to look at the illustration and work out the answer. The text in *The first great inventions* is altogether more passive and is a descriptive account derived from the images.



Some of the illustrations in *The first great inventions* originated in ‘Visual Science’, a series of six books published between 1950 and 1952. In the example below, illustrations from a spread about levers in ‘Visual science’ are used, with additional colour, in a spread about ‘The mighty power of steam’ in *The first great inventions*.



The first great inventions, then, has some stories to tell—about the spirit of the time and also about a new publishing practice. It’s not one of the most compelling Isotype children’s books, but it maintains commitment to not talking down to young readers, and to using illustrations to explain often complex scenarios, processes, and activities.

A brief note on the Isotype Collection:

The Collection was acquired in the early 1970s after Marie Neurath had worked closely with kindred spirits in the *Department of Typography and Graphic Communication* at the University of Reading. The Collection continues to be widely used in teaching, and in research, notably the ‘[Isotype revisited](#)’ project, funded by AHRC (2007–11), and more recently about Marie Neurath’s science books for children, [Picturing science](#).

Further information (online):

For further information about the Otto and Marie Neurath Isotype Collection see –
<https://www.reading.ac.uk/en/typography/collections-and-archives>

For further information about the University of Reading Special Collections see –
<https://collections.reading.ac.uk/special-collections/>

For the paper prepared by the Isotype Institute and Joseph Lauwerys –
<http://isotyperevisited.org/1944/06/isotype-books-on-history.html>

Further reading (as cited in text):

Körber, Silke. (2016) The democratisation of knowledge and a new visual culture: popular illustrated non-fiction books by German speaking émigré publishers in Britain during and after the Second World War. *Publishing History*, 76, pp.57–76

Lambert, David. (2009). Wolfgang Foges and the new illustrated book in Britain: Adprint, Rathbone Books, and Aldus Books. In Paul Stiff (ed) *Modern typography in Britain: graphic design, politics, and society*, *Typography Papers* 8, London: Hyphen Press, pp.113–128.

Stiff, P. (2007). Showing a new world in 1942: the gentle modernity of Puffin picture books. *Design Issues*, 42 (4), pp.22–38.

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