A series of thin, black, overlapping lines forming various geometric shapes like triangles and polygons, scattered across the top and left side of the slide.

'MERE SPECTACLE
FOR IDLE
MOMENTS..?' ON THE
ORIGINS OF THE
DEBATE ABOUT
VISUAL
EMBELLISHMENT IN
INFOGRAPHIC DESIGN

Dr Murray Dick, Newcastle University



Nigel Hawtin

@nigelhawtin

Replying to @ed_hawkins

Pie charts are fine

9:51 PM · Jun 7, 2022 · Twitter f



VISUAL EMBELLISHMENT AS CULTURE WAR...

'Mere spectacle for idle moments..?' On the origins of the debate about visual embellishment in infographic design

We need to grow the pie

VISUAL
EMBELLISHMENT
AS CULTURE
WAR...



'Mere spectacle for idle moments..?' On the origins of the debate about visual embellishment in infographic design

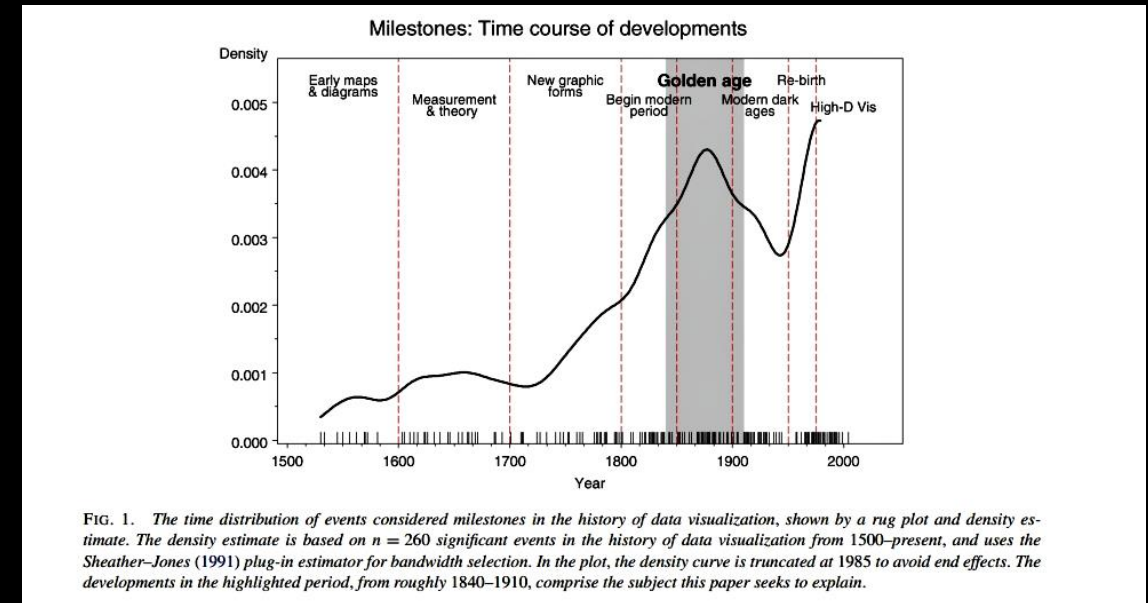


VISUAL EMBELLISHMENT AS CULTURE WAR...

EXPLORING THE HISTORY OF DATA VISUALIZATION...

The **developmental** approach (Michael Friendly, 2008a, 2008b)

- Emphasis on innovations (technology) and innovators (heroes/heroines) however...
- Dramatic fallacy of “golden” and “dark” ages
- Narrow range of intellectual currents explored (statistics, mathematics)
- Users and uses (habits, rituals) under-explored
- Relationship between production/ consumption under-explored
- Culture (and communication) conceived of as process of ‘transmission’ between rational agents



A DIFFERENT APPROACH...

Thomas Kuhn's (1970) philosophy of science:

- Progress is not uniform, but goes through 'normal' and 'revolutionary' phases
- In 'normal' phases, scientific progress is essentially 'puzzle-solving'; iterative, and (reasonably) predictable
- In 'revolutionary' phase, progress is less cumulative than it is chaotic because scientific beliefs and practices are revised
- Progress in science therefore only possible via commitment to (new) shared values and techniques across a scientific field
- **Paradigm shift**



THREE REVOLUTIONS IN
THE VISUAL
COMMUNICATION OF
MATHEMATICS
FOR THE
PUBLIC...

1. The classic era

2. The empire building era

3. The cosmopolitan era

REVOLUTION 1: CLASSIC INFOGRAPHICS – LATE 18THC

Defined by: emergence of ‘classic’ infographic forms

As William Playfair recalls: “[The King- Louis XVI] **at once** understood the charts and was highly pleased. He said they **spoke all languages** and were very clear and easily understood” (Wainer & Spence, 2005, 1)

- Designed to accommodate high- level and low-level cognitive processing (Spence, 2006)
- Aimed at ‘middling sort’

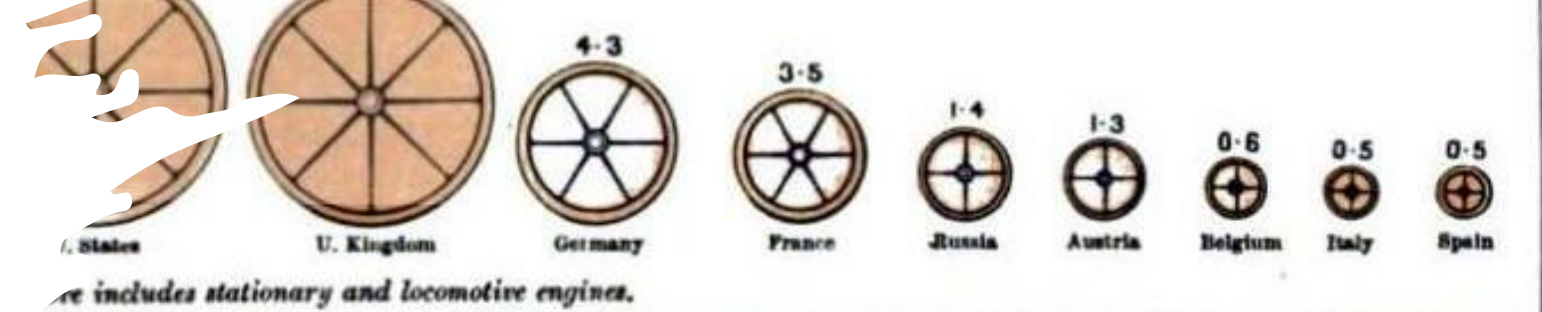
But weren’t particularly popular with wider public... Why?

- Playfair’s low reputation (Wainer & Spence, 2005)?
- That didn't stop Daniel Defoe ...
- Education a preserve of the elite (cartography)
- Discursive fit: Playfair’s infographics were intended to persuade as much as to inform; out of keeping with reference literature at the time
- Suspicion of the visual: *The Whip of the Word*

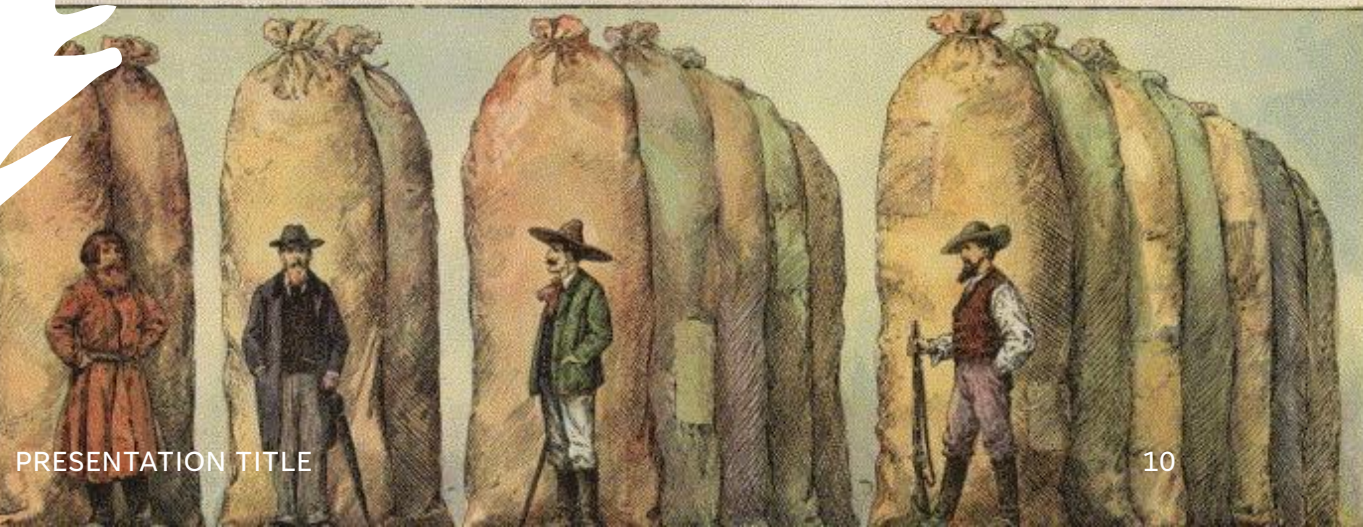
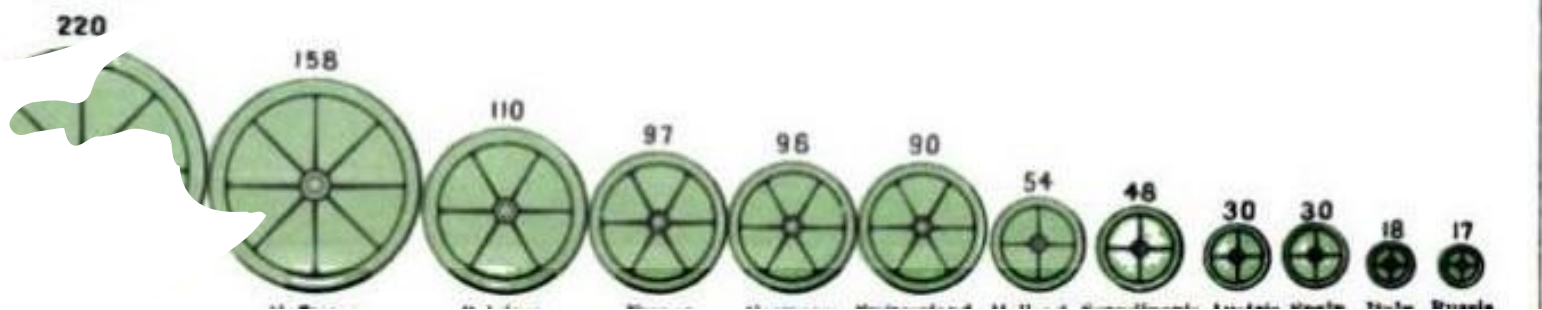


REVOLUTION 2: JINGOISTIC PICTOGRAMS – LATE 19THC

- **Defined by:** first attempt to engage wider public in communication of mathematics via popular media
- Embellished pictograms published in **Steinbrener** almanacs, some ordained by Emperor and King Franz Josef I (below right)
- **Michael George Mulhall** published several statistical works containing scaled pictograms, the best known of which was *Mulhall's Dictionary of Statistics* (1892 [1886]) (above right)
- These were (relatively) popular, but not universally so...
- Dismissed as patriotically biased, and patronising, Mulhall's talents were said to lie in the arrangement of his *mise-en-scène*, not the serious business of statistics (De Foville, 1887, 707– 708)

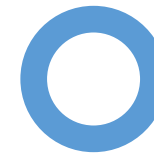


se-power per 1000 inhabitants.



REVOLUTION 2: JINGOISTIC PICTOGRAMS

- Popular reference works begin to influence the popular newspaper press in a process of **almanacization**...
- Criticisms of Mulhall dovetail with cultural elite's criticisms of the 'new journalism' of the Daily Mail etc. as **feather-brained** (Arnold, 1887)
- RG Collingwood felt similarly – see quote on right (from his autobiography 1939)...
- Echoes of Jurgen Habermas, and the problem of the public sphere
- According to Habermas, visual media are not an effective mean of transacting critical discussion/ debate
- But they can be a form of manipulative publicity, or **propaganda**...

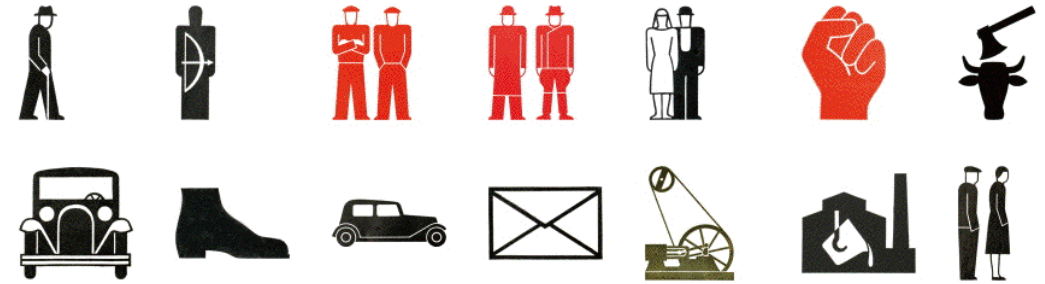


The whole system, however, would break down if a majority of the electorate should become either ill informed on public questions or corrupt in their attitude towards them: by which I mean, capable of adopting towards them a policy directed not to the good of the nation as a whole, but to the good of their own class or section or of themselves.

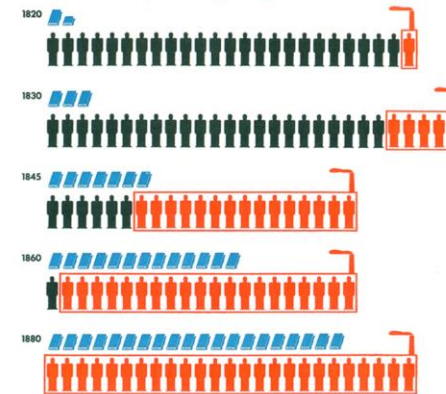
In the first respect, I became conscious of a change for the worse during the eighteen-nineties. The newspapers of the Victorian age made it their first business to give their readers full and accurate information about matters of public concern. Then came the *Daily Mail*, the first English newspaper for which the word 'news' lost its old meaning of facts which a reader ought to know if he was to vote intelligently, and acquired the new meaning of facts, or fictions, which it might amuse him to read. By reading such a paper, he was no longer teaching himself to vote. He was teaching himself not to vote; for he was teaching himself to think of 'the news' not as the situation in which he was to act, but as a mere spectacle for idle moments.

REVOLUTION 3: COSMOPOLITAN PICTOGRAMS

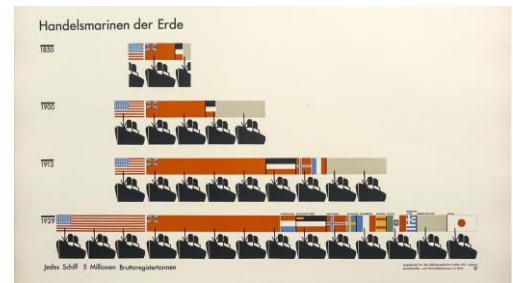
- **Defined by:** the dual importance of standardisation and audience affect in designing data visualizations for diverse audiences
- **Isotype** developed in radical Marxist (and positivist) world-view. Repeated use (rather than re-scaling) of icons as **visual arguments**
- **Otto Neurath (1936)** sought to communicate with as wide an audience as possible,
- Central assumption: audiences glance (or scan) rather than read modern visual media... (Leonard, 1999)
- **Gesellschafts- und Wirtschaftsmuseum in Vienna** not concerned with popularising public statistics per se; but with providing an alternative way of thinking about social issues for the less well-educated (Nemeth, 2019, 126)



Home and Factory Weaving in England



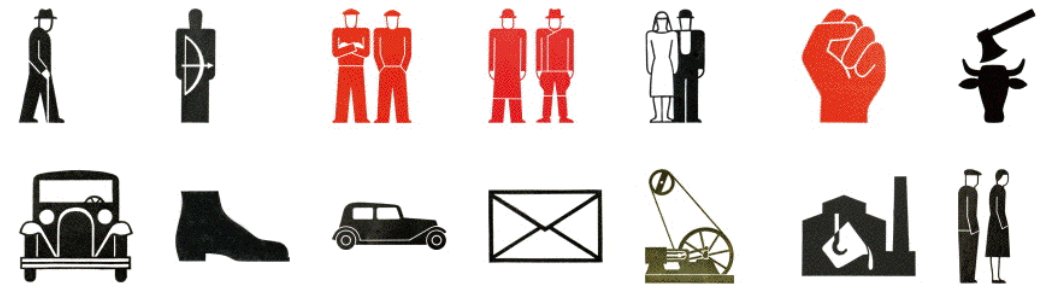
Each blue symbol represents 50 million pounds total production
 Each black man symbol represents 10,000 home weavers
 Each red man symbol represents 10,000 factory weavers



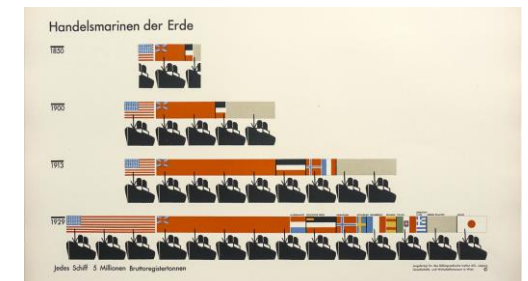
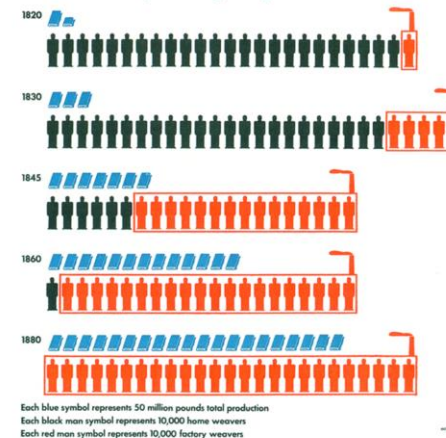
'MERE SPECTACLE FOR IDLE MOMENTS..?' ON THE ORIGINS OF THE DEBATE ABOUT VISUAL EMBELLISHMENT IN INFOGRAPHIC DESIGN

REVOLUTION 3: COSMOPOLITAN PICTOGRAMS

- Isotype has long been stigmatised due to Neurath's association with **Izostat** (1931-1934)
- Also for being unduly reductive:
- “The over-educated and the over-refined will find something to carp about in all this, and will think that the rounding off in the figures is too coarse. The Museum and its collaborators counter with the position: to remember simplified pictures of quantities is better than to forget accurate figures!” (Neurath, 1928, 132 – quoted in Burke in Burke et al 2013: 84-85).
- Isotype was essentially multimedia, displayed in “lantern slides, charts, photographs and models” (Vossoughian & Neurath, 2011: 52) – encouraging museum-goers to discuss, debate, and engage public/civic statistics...
- This challenges Habermas' argument (but then so too did Priestley's timelines) – so we have moved on to *mediated public spheres*



Home and Factory Weaving in England



'MERE SPECTACLE FOR IDLE MOMENTS..?' ON THE ORIGINS OF THE DEBATE ABOUT VISUAL EMBELLISHMENT IN INFOGRAPHIC DESIGN

CONCLUSION...

- From Priestley to Booth there's a well-established use of data visualization to mediate conversation amongst elites...
- There is also a well-established critique of visual embellishment as a distraction, as inaccurate, as being in bad taste, and as being bad for democracy
- But today we know people like visual embellishment, and that it can improve memorability (Borkin et al. 2013; Franconeri et al., 2021)
- If you want to communicate mathematics to the public, you need to identify a communicative paradigm (and design praxis) that weds **standards** with **audience effect**



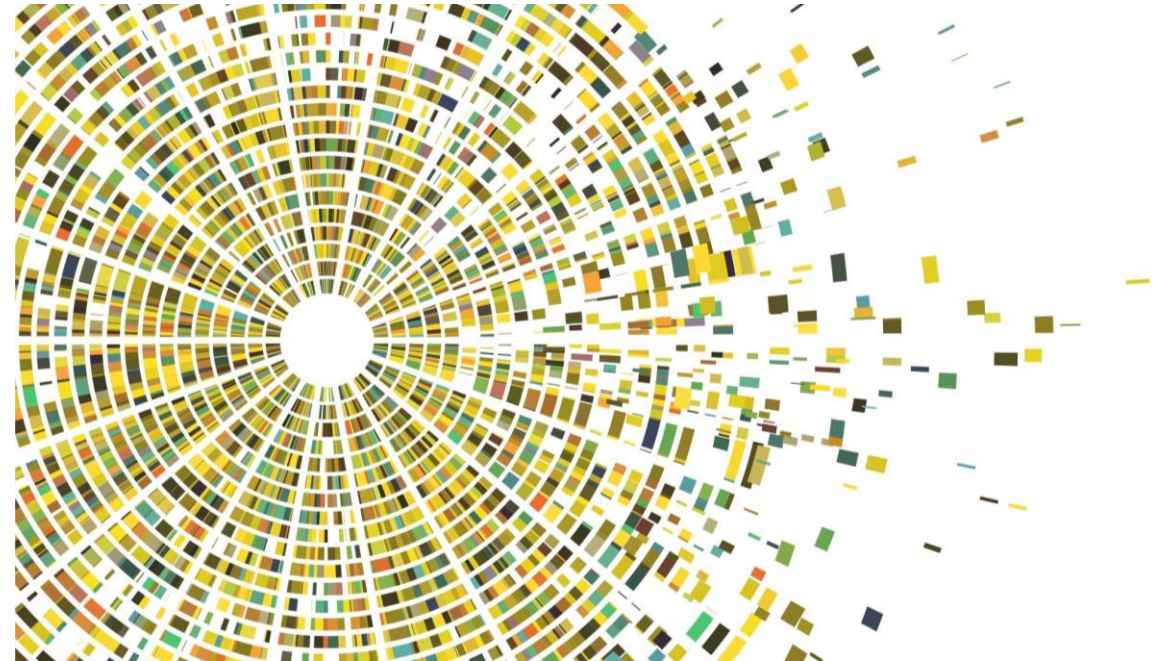
CONCLUSION...

- Try conceiving of data visualizations as comprising a **multilevel discourse** (Eco, 1976) – proof, tool, ideology and aesthetic.
- Consider an anti-embellishment position as ‘functionalist-idealist’ and a pro- (or at least open-to) embellishment position as ‘pragmatist realist’ (see table on right)
- Prediction: a **fourth** revolution will see the rise of the pragmatist realist (in the guise of visual journalists and publicists), and the adoption of this world view in our understanding of how to communicate mathematics with the public...

Table 1.1

A comparison of attributes common to the functionalist-idealist and the pragmatist-realist approaches to data design.

Functionalist-idealist	Pragmatist-realist
Rules (standards) are absolute	Some rules are absolute, some rules are open to interpretation subject to context, work flow, and audience
Multivariate	Variables informed by context and audience
Positivist	Pragmatist
Infographics should be self-explanatory	Audience understanding requires testing
Infographics shouldn't patronize	Infographics shouldn't confuse



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