

The powers that come from mastering data are reputed to be without limit. They include the power to transform economies, the power to sway elections, and the power to make money from nothing more substantial than an encrypted blockchain. Methods for analysing data are being developed constantly. They often aim to make the patterns in our data visualizable.

The forms taken by these visualizations arose at the end of the Scottish Enlightenment. With the exception of the scatterplot (or scatter graph), which appeared somewhat later, they have their origins in William Playfair's attempts to document long-term economic trends, and to correlate these with the rise and fall of nations. Those attempts began with his *Commercial and Political Atlas*, published in 1786. They were made urgent by the French Revolution, and by the violence that followed it, both of which Playfair witnessed: he was present at the storming of the Bastille, and two years later escaped from his own run-in with a violent mob through a combination – in his own account – of daring, hiding in someone's bed, and sending a boy out to buy three dozen bottles of wine, with which to endear himself to the National Guard.

In his quieter moments Playfair made economic data comprehensible, with a view to making it politically and strategically useful. He did this by plotting imports and exports against time, so as to display trends in the balance of trade; plotting prices and wages against time, so as to provide an immediate

Spies and pies

How a shady character invented data visualization

CHRISTOPHER MOLE

Bruce Berkowitz

PLAYFAIR

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visualization of inflation; and representing the populations and land areas of nations as divided circles, so as to enable a comparison of their resources. The works in which he pioneered these methods were admired in America, France and Germany, but Playfair's invention of the line graph, the bar graph and the pie chart was nowhere celebrated, partly because so much of his time was taken up in what seems to have been shady business. In Bruce Berkowitz's new biography of Playfair, the shade begins to fall when he becomes involved in an infamous scheme for selling parts of Ohio to Parisians. It reaches its nadir with his attempts to blackmail old acquaintances, following a prosecution for libel and the collapse of a bank that he founded, on somewhat precarious legal grounds, which enabled him, while it

lasted, to literally print his own money. Much of the light Berkowitz shines into these corners of Playfair's career comes from his discovery that, between 1793 and 1795, Playfair initiated and coordinated a government-approved plan to flood the French economy with counterfeit currency. In Berkowitz's opinion, the compromises necessitated by this "Great Op" exculpate Playfair from many of his failings. Even when Playfair is blackmailing old acquaintances, Berkowitz thinks we should be slow to judge.

Playfair's operations are at times more complex than Berkowitz's colloquial prose can convey. Slanginess will amount to obscurity for non-American readers, as when Joel Barlow is said to have "lollygagged through the American Revolution", or when Jean-Jacques Duval d'Eprémesnil is said to have been "cold-cocked" by a member of the mob from which Playfair would later escape. Berkowitz's recourse to stock phrases eventually rises to the level of a continuity gag, but for the most part seems clumsy. His one-sentence paragraphs, enquiring after the identity of some just-mentioned person, are an extreme example: "So who was Thomas Byerley?" (p94); "So who was Samuel Blackden?"

(p99); "So who was Benjamin Walker?" (p119) (and so on, in the same form, on pages 183, 193, 206, 209, 272, 273, 296, 310 and 323). An editor ought to have stopped this, and ought also to have removed the author's references to a London thoroughfare named "Piccadilly Street", to a "Theatre Royale" on Drury Lane, and to St Peter's conversion on the road to Damascus.

Such gaffes sometimes intrude on the substance of Berkowitz's analysis: two men whose children have married are not therefore brothers-in-law; an eighteenth-century ream of paper did not contain 500 sheets; and Playfair himself is quoted as saying that his eldest daughter was blind, five pages before the author reports it to have been his youngest. The intrigue and pathos of Playfair's life survive these infelicities in its telling, however, as do his intellectual achievements. Berkowitz argues plausibly that Playfair anticipated ideas about credit that are usually attributed to Jeremy Bentham, and ideas about comparative advantage that are usually attributed to David Ricardo. (He is somewhat less plausible when claiming that Playfair anticipated twentieth-century thinking about behavioural economics.) He also gives us a clear view of Playfair's attempts, both in covert operations and in public propaganda, to mobilize the powers that his analyses of data promised to make available. Since the extent of such powers is often reckoned to be dauntingly vast, the long perspective that is made available by Playfair's biography is an especially valuable one to have.