LONDON THROUGH ROSE-COLORED GRAPHICS: VISUAL RHETORIC AND INFORMATION GRAPHIC DESIGN IN CHARLES BOOTH’S MAPS OF LONDON POVERTY

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ABSTRACT

In this article, I examine a historical information graphic—Charles Booth’s maps of London poverty (1889-1902)—to analyze the cultural basis of ideas of transparency and clarity in information graphics. I argue that Booth’s maps derive their rhetorical power from contemporary visual culture as much as from their scientific authority. The visual rhetoric of the maps depended upon an ironic inversion of visual culture to make poverty seem a problem that could be addressed, rather than an insurmountable crisis. This visual rhetoric led directly to significant features of and concepts in western societies, including the poverty line and universal old-age pensions (social security).

From their first public uses, which many agree date from William Playfair’s 1786 Commercial and Political Atlas, information graphics have provided advantages Playfair himself described clearly and eloquently:

The giving of form and shape, to what otherwise would only have been an abstract idea, has, in many cases, been attended with much advantage; it has often rendered easy and accurate a conception that was in itself imperfect, and acquired with difficulty [1, p. 3].

From Playfair’s claims, we can see that information graphics have always been thought of as clear and immediate visual representations of data. According to this idea, information graphics should behave as if they were the objective outputs of scientific instruments—as tools of measurement and observation—rather than as
subjective expressions of ideas—as tools of rhetoric. Thus, information graphics should be clear, succinct, usable, straightforward, transparent; they should give us a direct view of the data and avoid any extraneous detail.

A growing number of scholars have questioned this ideal of transparency, emphasizing the social and rhetorical nature of information graphics. Ben Barton and Marthalee Barton have argued for recognizing information graphics as ideologically-implicated constructs, suggesting that we should create complex, postmodern graphics that acknowledge ideological bias and allow multiple viewpoints [2]. Lee Brasseur has claimed that information graphic genres embody their own distortions and limitations, even when used “correctly”—tables, for example, allowing only two-dimensional views of what might be multi-dimensional realities [3]. Charles Kostelnick and Michael Hassett have traced the inherently social development of conventions in technical visuals [4]. And Sam Dragga and Dan Voss have pointed out that the methods of transparency in information graphics about human tragedies tends to filter out the human, proposing that we should add visual elements that re-humanize graphics [5, 6]. Claims such as these for the rhetorical nature of information graphics have become common enough that Barton and Barton describe this realization as “endoxal”—as the rule, rather than the exception [2, p. 50].

But despite what seems a general scholarly agreement that information graphics are rhetorical, socially constructed, and ideologically biased, in practice most still use, teach, and approach graphics as transparent. As Gunther Kress and Theo van Leeuwen put it, “Visual communication is always coded,” but “it seems transparent” [7, p. 32]. As a result, technical communication textbooks and courses still tend to claim with Playfair that information graphics can convey data (im)mediately, if we avoid obvious distortions and misrepresentations. We can see the continuing strength of this ideal of transparency in letters responding to Dragga and Voss’s controversial article, “Cruel Pies: The Inhumanity of Technical Illustrations.” One respondent claimed that “the only unethical graphic is one that misrepresents the facts,” and others asserted that information graphics should be only “straightforward,” unemotional, “abstract,” “honest, accurate, and scientific” [8-11]. Some responses even took on a vehement and scoffing tone, calling the article “an embarrassment,” “totally wrong-headed,” and “laughable” [8, 10, 11]. These reactions suggest that despite our best scholarly arguments to the contrary, practitioners prefer to measure information graphics against the ideal of transparency, rather than to think of them as rhetorically and ideologically implicated.

As scholars of technical communication, we could respond by suggesting that practitioners have yet to see the light. But in this article, I will use a historical case to suggest that something more nuanced is going on here: that viewers and creators of technical graphics have a long-standing cultural desire to prefer information graphics that imply a more transparent view of reality, rather than ones that imply a more complex view of reality; if information graphics are
rhetorical, readers find graphics implying relative clarity more convincing than graphics emphasizing complication. Moreover, I will argue that this desire for simple transparency arises from a broader visual culture that influences what readers will accept as simple or transparent.

The difficulty with discussing cultural aspects of information graphics today is that they are too familiar: we create them with little commentary, and we read them with little consciousness of the act of reading. One way of understanding information graphics better is to look closer at the period of their invention, when they were new and remarkable for their own sake. In this article, I will examine a famous use of information graphics from the 19th century: Charles Booth’s thematic maps of London poverty (1886–1902). Booth’s maps are particularly worth discussing because, along with Playfair’s graphs about national debt, John Snow’s cholera map, and Florence Nightingale’s “coxcombs” of Crimean War deaths, they represent an early use of information graphics to influence social policy. Other early uses of information graphics were undeniably significant innovations, but they appeared either as limited communications with narrow scientific audiences, like Alexander von Humboldt’s isobar charts, or bravura performances, like Joseph Minard’s chart of Napoleon’s march to Moscow 50 years after its conclusion—an isolated graphical display with little rhetorical object except to show off a new mode of communication. But Booth’s maps were created in the context of a widely-read sociological report and in response to a recognized social evil: the problem of poverty, which racked bourgeois Victorian minds and consciences throughout the nineteenth century.

THE PROBLEM OF POVERTY IN VICTORIAN LONDON

Victorian London was submerged in unimaginable filth, darkened by fog, coal smoke, mud, and worse: by the 1860s, massive sewer-building projects helped manage the human waste that had saturated the industrial metropolis, but hundreds of thousands of tons of manure were still dropped on London’s streets each year. The monied classes could avoid this filth and disease by moving further west, upstream; the poor made do as best they could downstream, at the eastern end of the sewer that was the Thames. Reverend Andrew Mearns famously described the misery of the East End poor in *The Bitter Cry of Outcast London*, where he described their homes as follows: “To get into them you have to penetrate courts reeking with poisonous and malodorous gases arising from accumulations of sewage and refuse scattered in all directions and often flowing beneath your feet” [12, p. 58]. Newspapers, government Blue Books, and novels were filled with depictions of the destitution, prostitution, and alcoholism of the poor.

These conditions bred a rhetoric of bourgeois alarm, fed by violent demonstrations in Trafalgar Square in the 1880s, both that the poor were in such misery and that they might rise up against the middle and upper classes in socialist
revolution. Many philanthropies, such as the Charity Organization Society and the Salvation Army, called out for efforts to feed, clothe, and house the poor. But even these organizations argued that poverty was the result of laziness, prostitution, and gin, and that giving the poor anything would just encourage licentiousness and breeding. Various remedies were proposed and tried—model dwellings, working-men’s education, Poor Law reform, Christian evangelism—but few provided any lasting benefit. Poverty was for this culture a consuming and paralyzing problem for decades.

In addition, the uproar made the scope and nature of the problem difficult to perceive. Many expressions of concern or anxiety about poverty appeared in terms of vision or seeing—or more accurately, in terms of being unable to see clearly. Bourgeois Victorians tended to describe the poor as always at the bottom of something, their characteristics, number, and intent obscured. The poor were commonly referred to as the “submerged tenth”; “the residuum”—what was left over at the bottom of the barrel; the “teeming masses” at the base of the “pyramid of society.” They were hidden in the deep wilds of “Darkest England,” as impenetrable a wilderness as Stanley’s “darkest Africa” [13]. Even Mearns admitted failure in trying to describe the poor: “Far more vivid must be our colors, deeper and darker far the shades, if we are to present a truthful picture” [12, p. 69]. In visual culture, the poor were pictured darkly: the engravings in Henry Mayhew’s *London Labour and the London Poor* emphasized the dark and grimy nature of poverty, and Phiz’s (Hablot K. Browne’s) illustrations to Charles Dickens’ *Bleak House* showed the dark courts and alleys the poor inhabited [14, 15]. These formulations, both textual and visual, suggest the middle and upper classes looked upon the poor as if through an impenetrable darkness.

**BOOTH’S INQUIRY**

The natural response to this difficulty of vision was to find a new way of seeing the facts of poverty in London. Charles Booth, a rich shipping magnate, determined to do so by conducting a comprehensive social survey or “Inquiry” of London. Booth wanted to engage in what he and his protégé Beatrice Potter (later Beatrice Webb, the Fabian Socialist and co-founder of the London School of Economics) talked about as “social diagnosis”—a “careful observation of Economic disease” that would use both personal observation and statistics to describe social ills and eventually heal them [16, 17].

The scope of the Inquiry was remarkable, especially since Booth and his team relied not on statistical sampling, but on real counts of the population. Booth’s efforts centered on the testimonies of School Board Visitors (truant officers), and later police officers, clergy, and personnel of philanthropies, who described conditions in London in exhaustive detail. Booth combined that information with census data and personal observations, both his own and those of his team of researchers. Beginning with the East End, Booth’s team visited every street in
London, assessing each household’s class from A to H, with A-D representing want and E-H representing comfort (see Table 1).

Booth then published a massive, multi-author report in five expanding and overlapping editions, growing from a single volume published in 1889 to 17 volumes published in 1902-1903:

- 1889: *Life and Labour of the People*, Volume 1 (covering only the East End).
- 1903: Final Volume: Notes on Social Influences and Conclusion (also known as the “Star Volume”).

Booth’s report had significant social impact. It presented the first relatively comprehensive statistical account of the relation between poverty and work in the metropolis. It contributed the still commonly-used concept of the “line of poverty,” which many argue was Booth’s own invention (and which is itself a visual metaphor). And it established Booth as the President of the Royal Statistical Society and the founder of British sociological research, positions from which he argued successfully for the institution of universal old-age non-contributory pensions—what we call social security. In no small way, Booth’s reports determined the landscape of 20th-century Western society.

However, Booth’s findings were and remain controversial. Booth estimated that 30.7% of London lived in poverty (classes A-D). Class A (0.9% of the population)

<table>
<thead>
<tr>
<th>Class</th>
<th>Social condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Lowest class</td>
</tr>
<tr>
<td>B</td>
<td>Casual earnings</td>
</tr>
<tr>
<td>C</td>
<td>Irregular earnings</td>
</tr>
<tr>
<td>D</td>
<td>Regular earnings, minimum</td>
</tr>
</tbody>
</table>
Booth thought was best left to die because “They degrade whatever they touch, and as individuals are perhaps incapable of improvement” [18, p. 39]. The 7.5% of class B, which he described as a “loaﬁng semi-criminal class and given to drink; lazy, shiftless people,” dragged down the classes above them by working just often enough to take employment away from classes C and D, the working poor [18, p. 13]. If class A were to die and English society were somehow to “get rid of class B,” the remaining majority of the poor would beneﬁt and rise accordingly [18, p. 165]. To this end, Booth eventually proposed using what he called “state socialism” to deport class B from the metropolis into camps, villages, or colonies where they could be taught a trade or at least given useful (if hard) work.

**SEEING POVERTY THROUGH BOOTH’S MAPS**

These conclusions made Booth’s report monumental and shocking. But the crowning glories of the report were Booth’s memorable maps of London, which color-coded every street according to its relative level of poverty or comfort.\(^1\) This color-coding was inscribed by tinting the blocks of houses on each side of the streets with a scale of colors indicating the social condition of households on that street. Roughly, the color scale corresponded to the A-H designation of classes (see Table 2).

The map versions most readers and scholars know were printed and published as chromolithographs at three points in the study’s publication history:

- 1889: one map covering only the East End (published with Volume I)
- 1891: four maps covering all of London (published with Volume II)
- 1902: twelve maps covering all London (published with the ﬁnal edition of 17 volumes)

The 1891 and 1902 chromolithographic maps have been digitized and published online, the former by Sabiha Ahmad and David Wayne Thomas at the University of Michigan, and the latter by the London School of Economics Archives Division [19, 20].

Many scholars have commented on Booth’s written report, marveling at its scope, debating its methodology, and applauding its innovation as the world’s ﬁrst large-scale sociological survey. Analysis of the maps, however, has been surprisingly limited, arising primarily from historians of sociology and from cartographers. T. S. and M. B. Simey’s enthusiastic 1960 biography of Booth describes the maps in general terms, focusing on how draft maps were displayed at

\(^1\) The maps are particularly well known in Great Britain, where they are often taught as part of the A, AS, and A2 level curricula.
Toynbee Hall and the Royal Statistical Society (of which Booth was a member and later the president), as well as how they were revised using the testimony of police officers in the 1890s [21]. In their 1993 revisionist biography, David Englander and Rosemary O’Day provide a balanced and careful discussion of Booth’s work, but give little greater attention to the maps beyond commenting that “In many cases class allocations do not appear to tally with the colour accorded the street” [22, p. 47]. More recently, O’Day and Englander discuss Booth’s maps briefly in the context of 19th-century developments of thematic or “social mapping,” citing the 1841 Irish census report and Adolphe Quetelet’s development of gradation shading, but go not much farther, concluding that “What Booth knew of all of this remains to be established” [23, p. 7]. One exception is Ifan D. H. Shepherd, who criticizes Booth’s maps from the viewpoint of statistical and cartographic practice [24]. But in general, scholarly attention has focused on the printed reports and the survey notebooks (also archived at the LSE), with the maps being set aside with little additional critical analysis as information graphics.

This lack of attention is especially unfortunate because the maps had an important effect on the poverty debate. Contemporary viewers commonly heralded the maps as a clear, “bird’s-eye-view” of the problem; reviewers of the 1891 maps commented with surprise, for example, that the map clearly showed greater concentrations of poverty south of the Thames than in the East End slums. But more significantly, the visual rhetoric of the map changed the public view of

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
<th>Map color for streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The lowest class of occasional laborers, loafers, and semi-criminals</td>
<td>Black</td>
</tr>
<tr>
<td>B</td>
<td>Casual earnings: “very poor” (below 18s per week for a moderate family)</td>
<td>Dark blue</td>
</tr>
<tr>
<td>C</td>
<td>Intermittent earnings Together, ‘the poor’ between 18s and 21s per week for a moderate family</td>
<td>Light blue</td>
</tr>
<tr>
<td>D</td>
<td>Small regular earnings</td>
<td>Purple (mixed)</td>
</tr>
<tr>
<td>E</td>
<td>Regular standard earnings Above the line of poverty</td>
<td>Pink</td>
</tr>
<tr>
<td>F</td>
<td>Higher class labor Fairly comfortable good ordinary earnings</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Lower middle class Well-to-do middle class</td>
<td>Red</td>
</tr>
<tr>
<td>H</td>
<td>Upper middle class Wealthy</td>
<td>Yellow</td>
</tr>
</tbody>
</table>
poverty, making the problem seem much smaller than had been supposed, and thus manageable. We can see this visual rhetoric take effect in the comments of a Daily News reviewer:

[The map] is in many colours, and the specks of black will show us where to find the haunts of the lowest class. . . . Happily, the strange landscape shows a fair predominance of the more cheerful colours. It is a pink, and a red, and a light blue landscape, on the whole; and only here and there . . . are the dismal shades which seem but so many varieties of black [25].

To this reviewer, the significance of the map lies in the relative areas of coloration and the scale of darkness and lightness he perceived. Both factors tell him that Booth’s map is a mostly rosy picture in which the brightness of the pinks and reds of comfort and the light blue of sustainable poverty far outweigh the “dismal” darkness of black and dark blue.

Considered from a Gestalt perspective, Booth’s color scale creates a figure-ground contrast supporting his basic argument—that classes A and B form an object small enough to get rid of. The color scale of the Booth poverty maps encourages viewers to see the dense and dark colors of poverty, opaque black and dark blue, as figures upon a more general ground of comfort. The figures are serious, even sobering—but their relatively small area in the large areas of light blue, pink, and red makes them seem manageable. In addition, the reviewer’s positive tone suggests a relief that the masses ironically do not appear to have adequate (visual, physical, or demographic) mass to rise up and overthrow the rest; as Booth pointed out in his report, “The hordes of barbarians of whom we have heard, who, issuing from their slums, will one day overwhelm modern civilization, do not exist. There are barbarians, but they are a handful, a small and decreasing percentage: a disgrace but not a danger” [18, pp. 38-39]. In keeping with Booth and Potter’s metaphor of “social diagnosis,” the color scale of the map represents poverty as a dark necrosis or cancer upon the body of London, with its tissues colored in healthy, flesh and blood-based tones. But the cancer has not yet metastasized, and London can act to save itself by removing this manageable problem.

We should not underestimate the power of this visual rhetoric on its viewers. The Daily News reviewer further called the 1889 map a “new physical chart of sorrow and suffering and crime,” the word “physical” suggesting that he saw the charts less as mere graphics than as a direct translation of physical reality to a graphic mode [25]. Booth’s maps, in presenting poverty as a concrete problem that could be communicated in a few sheets of paper, a few lines, a few splashes of color, encouraged people to overcome the paralyzing complexity surrounding poverty and actually do something. And in fact, by the time the last edition of the maps was published in 1902, many of the areas of black and dark blue had been targeted in a heavy-handed urban renewal: torn down and replaced with “respectable” homes, parks and hotels. (A good example is the well-known
Russell Hotel on Russell Square, built from 1899-1901, which stands at the head of what had been called one of the blackest streets of London.

THE VISUAL UNDERPINNINGS OF BOOTH’S INQUIRY

The effect of the maps’ visual rhetoric points us toward the importance of the visual to Booth’s survey as a whole. Just as the surrounding Victorian culture expressed a frustration with the obscurity through which they viewed the poor, Booth’s Inquiry was an explicit attempt both to see and to portray poverty simply and clearly, as Booth repeatedly expressed. Near the end of his first volume (1889), in a section entitled “Point of View,” Booth described the situation he and his research team faced:

East London lay hidden from view behind a curtain on which were painted terrible pictures:—Starving children, suffering women, overworked men; horrors of drunkenness and vice; monsters and demons of inhumanity; giants of disease and despair. Did these pictures truly represent what lay behind, or did they bear to the facts a relation similar to that which the pictures outside a booth at some country fair bear to the performance or show within? The writers of this book have each of them at different points, tried to lift this curtain and to see for themselves the world it hid [18, p. 592].

This passage suggests a basic epistemological assumption that there is a fixable real London behind the curtain, a hidden but solid subsurface of empirical reality. It suggests a frustration, not at the invisibility of this assumed “true” London, but of the obscuring visibility of current representations of London—the London of Mayhew’s daguerreotypes, of Phiz’s illustrations. The confusion of these “terrible pictures” seems to trouble Booth deeply—the grotesqueness of the horrors, monsters, demons, and giants that bourgeois Victorian society has painted on the surface of London, in the form of the cacophony of texts, both visual and literal, addressing the problem of poverty: paintings, engravings, novels, stories, journalism, and so on. In other words, Booth’s metaphor seems a reaction against Mearns’s cry for a picture of “more vivid . . . colors” and “deeper and darker . . . shades” and in favor of a simplified, clear, unmediated picture of poverty.

Significantly, Booth employed the metaphor of photography to convey this immediacy. A few pages after the passage quoted above, Booth comments on “The special difficulty of making an accurate picture of so shifting a scene as the low-class streets in East London”: “As in photographing a crowd, the details of the picture change continually, but the general effect is much the same, whatever moment is chosen. I have attempted to produce an instantaneous picture, fixing the facts on my negative as they appear at a given moment, and the imagination of my readers must add the movement, the constant changes, the whirl and turmoil of life” [18, p. 26]. This reference to photography implies that Booth saw his
visual method as a scientific instrument to record this picture directly and physically, but without the “whirl and turmoil” that confuses viewers of moving images. Whereas others have merely painted a picture of poverty, Booth suggests that his project has actually penetrated the representational surface, creating a simple and straightforward snapshot of the problem.

The maps thus present a vision of the poverty problem that, to echo Kress and Van Leeuwen, “seems transparent,” in empowering the viewer to penetrate surfaces to see the reality obscured beneath them. For example, Booth implied that the maps allow the viewer to penetrate simplified generalities to arrive at detailed specifics. In his 1888 address to the Royal Statistical Society, Booth presented a draft map of the East End. At the scale of 25′:1 mile, the map would have been approximately 5′ wide by 4′ tall, large enough that viewing it whole would require standing back at some distance. Yet Booth also advised the audience that the map “requires a near view, and even needs a magnifier to be seen properly,” inviting them to examine it more closely after his speech [26]. The movement here is of penetration: viewers can see the colorful, macro-scale picture from a distant, bird’s-eye perspective, then move in for a micro-scale examination of individual streets and dwellings. And more: the color-coding of blocks of houses allows not merely a “bird’s-eye-view,” but an actual penetration of the rooftops of London so viewers can see the state of the families hidden within their homes. In this regard, the maps form less a geographic representation of London than a cutaway diagram of its inhabitants.

This penetration reinforces the maps’ apparent scientific validity, especially in contrast to the carnival pictures Booth described, which portray only an impenetrable, horrific surface. The maps may be as colorful as the carnival-pictures, but now the colors come with a key, associating color semiotically with the scientific observations of Booth’s team as they divided London’s inhabitants into eight distinct classes. What had seemed visually chaotic has now become clear, organized, and transparent.

**COLOR SCALES AND AMBIGUITY**

Yet the semiotic value of the maps’ colors—however carefully labeled and keyed they might have been—is profoundly ambiguous. The color-coding of the maps is the essential feature of the maps’ visual rhetoric, yet, as the LSE’s Charles Booth Online Archive website coyly notes, “It can be a little difficult to interpret the colours used on the Maps Descriptive of London Poverty” [27]. Many have argued for the statistical validity of Booth’s separation of London’s population into eight classes, A-H, but the relationship between the lettered categories A-H and their color counterparts is slippery, changing considerably with the various instantiations of the color scale (see Table 3).

If we count all of the colors used in the notebooks and draft maps, the color scale’s relation to Booth’s survey categories might seem straightforward: eight
### Table 3. Color Scheme Changes

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
<th>Notebooks</th>
<th>1888 Watercolor</th>
<th>1889 Lithographic</th>
<th>1891ff</th>
<th>Combinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Lowest class</td>
<td>black</td>
<td>black</td>
<td>black</td>
<td>black</td>
<td>“dark blue barred black”</td>
</tr>
<tr>
<td>B</td>
<td>Casual earnings</td>
<td>dark blue</td>
<td>dark blue</td>
<td>dark blue</td>
<td>dark blue</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Irregular earnings</td>
<td>light blue</td>
<td>light blue</td>
<td>light blue</td>
<td>light blue</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Regular minimum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mixed</td>
<td>purple</td>
<td>purple</td>
<td>purple</td>
<td>purple</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Ordinary earnings</td>
<td>pink</td>
<td>red</td>
<td>pink</td>
<td>pink</td>
<td>“pink barred red”</td>
</tr>
<tr>
<td>F</td>
<td>Highly-paid labor</td>
<td>red</td>
<td></td>
<td>pink</td>
<td>pink</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Lower middle class</td>
<td>[orange]</td>
<td>red</td>
<td>red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Upper middle class</td>
<td>yellow</td>
<td>pink</td>
<td>yellow</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
colors (black, dark blue, light blue, purple, pink, red, orange, and yellow) to
designate London’s eight classes as A-H. But in fact, this arrangement is not
accurate. Orange never appeared on the printed maps, having been discarded
at some point after May 1888, when Booth presented the watercolor map of
East London to the RSS. Purple or “violet,” as he noted on the occasion, indicated
no particular class, but a “mixed street” with both poverty and comfort [26,
p. 285]. That leaves us with six colors for eight classes—hardly a straightforward
arrangement. Moreover, in his 1888 RSS paper, Booth describes the color scale of
the 1888 watercolored map as follows: “The colours correspond in effect with my
division by class; black and dark blue represent A and B, while light blue serves
for C and D, and crimson represents E, F, and G, and light pink H” [26 p. 285]. In
other words, at some point pink seems to have migrated from below red to above
it—a considerable change. By 1889, the lithographic map of East End poverty had
returned pink to its position below red, but because there were no upper middle
class or wealthy households in the East End, that map includes no yellow. Only by
1891 does the color scale settle into something approximating a normal curve,
with each outlier class (A and B, G and H) receiving its own color and the four
middle classes (C and D, E and F) sharing two colors (light blue and pink). These
changes in the color scale in relation to the eight classes make for an unstable
system of signification. And significantly, all of the changes happen in the area of
comfort; the designation of poverty remains consistently with black, dark blue,
and light blue, suggesting that these colors were well settled on from the very
beginning of the survey.

But additional ambiguities intrude. Purple, the designator for “mixed” streets,
implies a combination of pink and light blue, as one might expect visually from the
colors being mixed, or in other words a mixture of classes C-D with classes E-F.
But on some occasions the mixture could be anything from above the poverty
line with anything from below—for example, a street of mostly F households
with a few B households, or a street of C and D households with one or two G
households. In addition to using purple to show a poverty/comfort mixture,
Booth’s team developed a separate graphic notation for streets that included
“a fair proportion” of two classes in poverty or two classes in comfort. Typically,
this took the form of “dark blue barred black” or “pink barred red.” On the maps,
this notation took the form of the houses on each side of the street colored in
dark blue with a thinner line of black next to the street, or colored in pink with
a thinner line of red next to the street. This might suggest that further gradations
of color were required than the lettering system allowed. But more to the point,
it serves as a recognition of the difficulty the team had making hard separations
between eight classes of people who all lived side by side. Moreover, the ten-
dency to make pink glance upward toward red (“pink barred red”) and of dark
blue to fall downward toward black (“dark blue barred black”) visually embodies
a traditional rhetoric of poverty and comfort, that those in comfort can rise to
greater comfort, but that those in poverty can only fall into greater poverty.
Booth was aware of these ambiguities, although he claimed a general truth of representation: "every street is more or less mixed in character, [...] the Black streets taken together contain some of every class from A to F, or . . . even G . . . . There are no doubt differences; there is dark blue and dark blue, light blue streets vary in character, and there are many shades of black; but the likeness far transcends the differences" [28, Vol. II, pp. 43-44]. But considered visually, all this mixing certainly tends against a neat, empirical connection between Booth’s maps and the social reality behind them.

Of course, one wonders whether technological limitations of color printing might have played a role in the creation of the color scale. But by 1889, there would have been no technical reason against using any color or colors Booth might have wanted on his map. As early as the 1850s, German and French printers had created map specimens using up to forty inks in separate impressions, and by 1880 adding more ink colors was solely a matter of expense, rather than technical capability. The printers of Booth’s maps, Stanford’s Geographical Establishment, clearly had the capability of printing complex, multiple impression lithographs. And surely someone as rich as Booth, who could pay to have his 17-volume survey bound in vellum, could afford to print the map in whatever colors he desired.

Even setting aside these ambiguities, the relatively symmetrical, “normal” arrangement of the color scale in 1891 and following, with three colors above and three below the line of poverty, present additional problems by skewing the color scale toward the lower end. Classes CD (light blue) and EF (pink) are not in fact in the “middle,” since the “middle class” begins with G. If 30% of the population is below the line of poverty, the line of poverty, strictly speaking, should not be in the middle of the scale, but at the 30% point.

Of course, we should not apply our own contemporary standards for information graphic design retroactively to Booth’s maps. But even in comparison to information graphic design practices of his own day, the color scale of Booth’s maps is not just unique, but idiosyncratic. Contemporary 19th-century practice for representing a univariate scale of data—for example, a range from illness to health, from high population to low population, or from poverty to wealth—would typically be to use gradation shading, or various shades of a single color to represent various levels of intensity of effect. In other words, common practice would have been to use one basic color for all levels of intensity—probably in a very dark shade for the depths of poverty, but gradually lightening through the classes until reaching the lightest shade at class H.2 Though O’Day and Englander have wondered “What Booth knew” of thematic mapping practice,

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2 There are many examples of such single-color choropleth maps in contemporary atlases. Today, because the maps show essentially two conditions (poverty and comfort), a re-interpretation of Booth’s maps might use two-color gradation shading instead—shades of one color for poverty, and shades of a contrasting color for comfort. But none of the contemporary choropleths I have examined have followed this practice.
Booth clearly knew about gradation shading, for several of the other maps in Booth’s volumes use this technique [23, p. 7]. For example, the “Map Shewing Degrees of Poverty in London in Areas with about 30,000 Inhabitants in Each,” published in Booth’s 1891 appendix volume, is a typical choropleth (area-shading map) using a gradated color scale of different shades of purple. Even earlier, Booth’s 1889 first volume included small choropleth maps in H. Llewellyn Smith’s chapters on immigration to show where immigrants to London were most likely to originate. Because these maps appear in Booth’s own volumes, we can assume that Booth knew of this contemporary standard for color scales in such maps and chose not to follow it.

So the maps are rhetorically ambiguous. As Barton and Barton pointed out, most would agree today that the maps’ perception of transparency is illusory: the maps are cleaned-up visions, calm snapshots of London, with the “complicated relativities” of viewpoint controlled, dampened, filtered, categorized—all in support of Booth’s own arguments about how to solve the poverty problem. Merely claiming the rhetorical nature of the maps, as Barton and Barton point out, is somewhat of a deconstructive dead-end. But the fact remains that despite their rhetoricity, these maps were very convincing. Where does that persuasive power come from, if not from scientific, positivistic transparency?

In the remainder of this article, I will discuss how the visual power of Booth’s maps derives more from visual culture than from scientific validity. In other words, I will argue that Booth’s maps are persuasive because they invoke and extend an existing visual rhetoric in Victorian culture.

BOOTH’S MAPS AND WATERCOLOR

One indication that Booth’s maps rely strongly on visual culture is that a considerable amount of actual watercolor painting played a central role in the survey’s methodology and the documentation leading to the maps. Most scholars have tended to consider the maps only in their finished state—that is, as the 1902 lithographically printed maps. Little attention has been paid to the watercolored maps that formed part of the team’s working methodology. The Inquiry used two sets of these maps throughout the 16-year study to document the condition of the study’s basic level of detail, the street. The first set, now held at the Museum of London, was watercolored between 1886 and 1891; these were the foundation of the 1889 East End and 1891 London lithographic maps. The second set, now held at the London School of Economics, was watercolored between 1894 and 1899, forming the basis of the final 1902 lithographic maps. These watercolor maps were clearly important to the team’s methodology, as well as to the public face of the project. The first set was displayed prominently in London at Toynbee Hall and Oxford House, where the concerned public were invited to view them and propose corrections, as well as at Booth’s address to the Royal Statistical Society in 1887.
and 1888. And the second set of watercolored maps was displayed at the Paris Exhibition of 1901.

Watercolors had distinct methodological advantages for the survey team, allowing them to see the shape of the poverty as well as what streets or portions of streets were yet to be observed and labeled. The transparency of watercolors (excluding red and black) also allowed the building-level detail of the 25-inch-to-the-mile Ordnance Survey maps to show through the coloration clearly. However, this approach also held disadvantages. Whoever watercolored the maps struggled to keep the colors consistent; purple and light blue vary particularly, and color testing and mixing areas appear in the margins of the maps. The coloration was also relatively permanent, making changes almost impossible to complete neatly—a daunting problem when the subject is a dynamic metropolis and the time period of the study is sixteen years.

The sketch maps, however, were a secondary documentation, holding the summarized knowledge that had originally been recorded in a series of notebooks. The notebooks form the site at which the team originally made its color attributions—and they used watercolor there as well. According to Englander and O’Day, the three team members primarily responsible for recording the initial findings of the poverty series were Booth himself, Jesse Argyle, and George Arkell, both paid “secretaries” [22, p. 48]. At the beginning of the study, one of these three men would sit down with a School Board Visitor and go through records of households in a district one at a time, street by street. As they progressed, the team member would fill in the fields in the tabulated notebooks—each household occupying one row in the table with columns for information such as the number of children, the occupation and wages of the wage-earner, and the rent. Because the households were organized by streets, the table would be interrupted periodically with a heading for a new street. At some later point, Booth, Argyle, or Arkell would go through the notebooks again to specify class letters (A-H) and colors, labeling each street heading with a color, such as “lbl” for light blue, “dblue” for dark blue, and “pk” for pink. The Poverty Series notebooks, numbered B8 through B81 in the LSE Archives, includes 57 notebooks (B8-B64) inscribed in this manner. These notebooks were in turn used to develop the 1889 East London map and text of the first volume of the Poverty Series. In extending the study to all of London for the 1891 publication, Booth changed the level of detail to the street, rather than of the household. The team filled out an additional twelve tabulated notebooks (B65-76) with each row representing one street. In these notebooks a column was dedicated to color, which was also filled in with a written label.

Significantly, in a number of the earlier notebooks (B8-B64) and in most of the later notebooks (B65-76), someone went through and made watercolor slashes over these color labels, providing a visual shorthand of the street’s general “character” (see Table 4).
This watercoloring makes a particularly dramatic visual display in the later notebooks, with long columns of slashes indicating quickly the general quality of the streets. Clearly, it was not enough merely to label the streets with a color word; the watercolor reveals someone’s desire to see the data visually in a way that the alphabetical categories A-H could not convey. This use of watercolor slashes was not consistent, and the principle behind what notebooks received watercolors is hard to discern. But the fact that the colors appear in the earlier notebooks (B8-64), which were used to create the 1889 East End map, and even more consistently in the later notebooks (B64-76), which were used to extend the study to the West End, indicates a repeated investment in the visual approach.

Likely, the notebooks were a space for periodical color experimentation—a place to try out the principle or technique of color coding to see how or whether it would work on the maps. The best indicator of this is the number of orange-labeled

<table>
<thead>
<tr>
<th>No.</th>
<th>Area covered</th>
<th>Date recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>B8</td>
<td>Whitechapel, Mile End Old Town</td>
<td>1886-87</td>
</tr>
<tr>
<td>B9</td>
<td>Whitechapel and Poplar</td>
<td>c1886</td>
</tr>
<tr>
<td>B25</td>
<td>Whitechapel, Stepney</td>
<td>1887</td>
</tr>
<tr>
<td>B27</td>
<td>Whitechapel, Stepney</td>
<td>1887</td>
</tr>
<tr>
<td>B28</td>
<td>Whitechapel, Mile End Old Town</td>
<td>1887</td>
</tr>
<tr>
<td>B33</td>
<td>St. George's-in-the-East</td>
<td>1887</td>
</tr>
<tr>
<td>B34</td>
<td>St. George's-in-the-East</td>
<td>c1886</td>
</tr>
<tr>
<td>B35</td>
<td>St. George's-in-the-East</td>
<td>c1886</td>
</tr>
<tr>
<td>B36</td>
<td>St. George's-in-the-East</td>
<td>1887</td>
</tr>
<tr>
<td>B65</td>
<td>West Lambeth, Greenwich, Marylebone, East Lambeth, Westminster</td>
<td>c1890</td>
</tr>
<tr>
<td>B66</td>
<td>Chelsea</td>
<td>c1890</td>
</tr>
<tr>
<td>B67</td>
<td>City, Westminster</td>
<td>1890</td>
</tr>
<tr>
<td>B68</td>
<td>Finsbury</td>
<td>1890</td>
</tr>
<tr>
<td>B69</td>
<td>Greenwich</td>
<td>1890</td>
</tr>
<tr>
<td>B70</td>
<td>East Lambeth</td>
<td>1890</td>
</tr>
<tr>
<td>B71</td>
<td>East Lambeth</td>
<td>1890</td>
</tr>
<tr>
<td>B72</td>
<td>West Lambeth</td>
<td>1890</td>
</tr>
<tr>
<td>B73</td>
<td>Marylebone, Paddington, St. Pancras</td>
<td>1890</td>
</tr>
<tr>
<td>B74</td>
<td>Southwark</td>
<td>1889</td>
</tr>
</tbody>
</table>
and -colored streets in the later notebooks. I have been unable to find in the survey archives, in Booth’s correspondence, or in his draft or published works any mention of the place of orange in the color scale. For the most part, streets labeled orange in the notebooks seem to have been situated between the red of lower middle class and the yellow of upper middle class, which would make sense in terms of color as orange is a mixture of red and yellow. In the maps, however, little orange appears; most of the notebooks’ orange streets appear on the maps as yellow. Perhaps one reason orange was discarded was the evident trouble maintaining a consistent orange. Whereas yellow or red would have been created from individual pigments (such as alizarin or cadmium), orange would likely have been a mixture of the two. Some streets labeled orange in the notebooks are watercolored something very close to and sometimes indistinguishable from yellow. This might indicate the replacement of orange with yellow, or simply a difficulty in keeping the paint colors consistent. In any case, orange was clearly a failed experiment.

Little direct evidence indicates who might have been responsible for the watercoloring. Though it may have been any of the three men primarily responsible for the notebooks—Booth, Arkell, or Argyle—one biographical fact might be significant: Booth was an experienced and accomplished amateur watercolorist. The University of London holds a number of Booth’s landscape watercolors that show a remarkable facility with color. One in particular—a seashore view that shows the reflection of a bluff in a small cove—is remarkable for its intense and impressionistic use of color, applied in something very close to pointillism [29]. Another, a view of a red stone house, uses a palette that might have been taken directly from the color scale of the poverty maps [30]. Booth’s facility with the brush, and in particular with combining colors for visual effects, was remarkable.

That a sociologist should be an amateur painter might not seem remarkable. But the cultural context of Booth’s amateur painting heightens its significance. During the nineteenth century thousands of British amateurs of many classes took up watercolor, encouraged primarily by John Ruskin’s promotion of the practice through his art criticism, his books on watercolor technique, and his teaching in working men’s colleges. Watercolor, in other words, was many Victorians’ primary model of visual expression. Thus watercolor, when employed in a scientific project such as Booth’s maps, likely carries more global cultural associations and meanings, while simultaneously conveying the local meanings specified in a color key. Other scholars have begun to emphasize the cultural significance of color in visual communication. Gunther Kress and Theo van Leeuwen, for example, argue that both local (keyed) and global (cultural) meanings of colors “exist at the same time, and interact in complex ways” [31, p. 345]. And Donna Kienzler and Carol David have recently argued for the rhetorical significance of color in Web design, deriving their evidence from painter Wassily Kandinsky’s theories of color [32]. Thus, Booth’s watercoloring, combined with his references to visuality, painting, and photography in his discussions of the Inquiry and the
maps, suggests that his color scale’s local meaning (its relation to classes A-H) is linked as well to more global meanings—the broader cultural associations of the colors he used. While statistics may have been part of Booth’s palette, his urge included creating a particular visual representation of London—a painting of the city made with a multitude of tiny strokes, the pointillist lines, dots, and dashes of color combining to make a general impression of the metropolis.

These irregularities suggest that Booth’s most prominent product, his maps, engage in a visual rhetoric not clearly tied to the statistical framework of the survey. In other ways, scholars have noted similar difficulties in tying Booth’s conclusions to his data. O’Day and Englander comment that a variety of biases crept into the color designations, especially as the 1891 maps were revised in 1897–1898 for the new edition of 1902. The significance of the colors began to change as the study went on; dark blue and black “became associated less with degrees of poverty than with degrees and kinds of criminality, roughness and disorderliness” [23, p. 10]. Rather than using the raw data of income and employment with which they began, the team increasingly relied upon “the external appearance of buildings, streets and people as the criteria by which they measured the accuracy of the map of 1889” [23, p. 10]. Eventually, the color scale became a shorthand for the Booth team, as the survey team began to use the color terms as unitary descriptive terms—for example, referring to someone simply as a “pink man” [23, p. 11]. Similarly, Ifan D. H. Shepherd has noted the difficulty of replicating the class designations Booth’s team made from the basic data of their observations [24].

**BOOTH’S MAPS AND VISUAL CULTURE**

So the relationship between the maps and their supposedly underlying data is murky. But as I have noted, viewers nonetheless saw the map as a powerful clarification of the “real” condition of London. How could this be the case, that viewers could assume a clarity or transparency on the behalf of the maps, when if anything they provide only a painting of London, rather than a statistical measurement of it?

The rhetorical power of the maps may have arisen simply because of the maps’ novelty—except, as we have seen, they were not particularly novel, as information graphics go. Or it could have arisen from the scientific tone from which they were introduced; this was an age in which the methods of science grew tremendously. But a more significant factor in viewers’ willingness to see Booth’s maps as more transparent than other visualizations of London poverty is the ironic relationship between Booth’s maps and the visual culture that surrounds them. The effect of transparency arises not from Booth’s maps themselves or from their statistical or scientific validity, but from their participation in and overturning of an existing visual rhetoric—the “terrible pictures” Booth claimed to attempt to penetrate. Specifically, the color scales of Booth’s maps participate in a broader cultural
visual rhetoric that consistently presented poverty as obscured in darkness and pictured comfort, salvation, and wholesomeness in terms of brightness.

Examples of this visual rhetoric are numerous in Victorian culture; I will mention only a few here. A number of famous images of the period focus on allowing the viewer to penetrate visually to the dark center of poverty. As I have pointed out, Mayhew’s *London Labour and the London Poor* [14] used engravings made from daguerreotypes that showed the poor in stark relief, as dark figures against a white ground (see Figure 1). As I have noted, Phiz’s illustrations for *Bleak House* (1852) display a similar focus on darkness, showing us a view down the dark courts of East End London (see Figure 2) [15]. The same darkness appears in Gustave Doré’s engravings of the London slums, such as “Over London—By Rail,” which despite its title, concentrates on the darkness under the rail, allowing the upper-class visitor to visually penetrate the dark back-courts of London slum dwellings [33] (see Figure 3). This rhetoric of darkness extends through the spectrum of color, as well: William Holman Hunt’s well-known painting “The Light of the World” shows the yellows and reds of enlightenment shining through the darkness as Christ knocks on the door of a hovel or cottage [34] (see Figure 4). Hunt’s painting is particularly significant in that Booth owned a copy of the painting made by Hunt himself, and thought enough of it to send it on a world exhibition tour. These images share a penetrating perspective. In Doré’s and Phiz’s engravings, we see through an arch into a concealed darkness—the back-courts and back-yards of London’s poor. In Hunt’s painting, we share the perspective of Christ standing outside the hovel, rather than of the poor and lost behind its dark door.

In effect, Booth’s maps overturned this visual rhetoric of darkness, using the same scale of colors, the same associations of darkness and brightness, yet overwhelming the darkness that had once been the focal point of Victorian representations of poverty with “more cheerful colors” of pink, red, and yellow. The resulting maps argue visually that while things are dire, they are not hopeless. Booth’s visual rhetoric was successful not because it accurately portrayed an empirical reality, but because it adapted an existing rhetoric to convince people that something could be done to alleviate poverty. The maps, by engaging ironically in an existing visual rhetoric, made the situation seem much clearer than it might have been—or at least, clearer than it had been pictured or seen previously.

A final piece of evidence supports this reading of the maps’ reliance on visual culture, as we see Booth’s ironic inversion of visual culture re-incorporated into that visual culture. Salvation Army General William Booth, in his 1891 book *In Darkest England, and the Way Out*, explicitly cites Charles Booth’s findings as his basis for enumerating the poor as the “submerged tenth,” arguing that the Salvation Army should save the poor by moving them stage by stage from the depths of poverty through the training workshops of “The City Colony,” to “The Farm Colony,” and finally to “The Colony across the Sea” [13]. To represent this plan, General Booth provided a chromolithographed frontispiece, clearly
Figure 2. Phiz (Hablot K. Brown), “Tom-All-Alone’s” [15].
identified as a “chart” of the plan from a “bird’s-eye-view,” that reunites Charles Booth’s statistical graphics with the existing visual rhetoric of poverty (see Figure 5). This image borrows both from Victorian visual culture and from Booth’s maps. We can see clear parallels with Phiz and Doré’s works, including the frames, perspective, and teeming figures. But it also clearly borrows Charles Booth’s visual rhetoric. It echoes the Booth maps’ color scheme, leading from the blacks and dark blues of the sea at the bottom, toward the reds and yellows of the sunset-tinged “Colony across the Sea”—or in other words, from dark poverty to bright comfort (and from sin to respectability). It also incorporates a scientific “feel” by including labels in the columns, with statistics about poverty, drunkenness, and prostitution in London. Most significantly, the overall visual argument parallels that of Charles Booth: get rid of the submerged tenth, even by job training, and the rest will take care of itself. In essence, General Booth’s graphic re-incorporates the scientific visuals of Booth’s maps into the broader culture’s visual rhetoric.

These images suggest that the persuasive power of Booth’s maps not only on the explanatory power of simple “transparency,” but on a transparency defined in
Figure 4. William Holman Hunt, “The Light of the World” [34].
Figure 5. General William Booth, frontispiece to *In Darkest England* [13].
terms of visual culture. That is, what people accept as a compelling visual explanation of reality in an information graphic depends on the context of visual culture that surrounds and informs their responses. Booth’s maps were seen as convincingly transparent (or penetrative to empirical reality) not only because of their scientific consistency or validity, but also because they built upon a visual rhetoric well known in Victorian culture. By invoking and extending that visual culture, Booth was able to create a graphic that convinced people that his vision of the problem of poverty was fact. By enabling this vision—by presenting it in so clear, penetrating, transparent, and convincing a manner—Booth was able to convince England to move on from debate to action.

“TRANSPARENCY” AND INFORMATION GRAPHICS

In this regard, Booth’s maps stand emblematic of information graphics in general because they complicate the ideal of transparency. As I have noted briefly already, a number of scholars have called for information graphic designers to acknowledge complication, irony, and detail. Barton and Barton advocate complicating information graphics by including details about how they were produced (how a graphic was created, what data it rests upon) as well as allowing multiple subjectivities (especially the viewpoints of disempowered viewers). Dragga and Voss argue for incorporating reminders of humanity into information graphics about accidents, which usually strip out the human in the name of scientific objectivity. And as Barton and Barton point out elsewhere, Edward Tufte’s work, which might seem to focus on a positivistic, Strunk and White-style clarity, actually harbors a paradox between that sensibility and Tufte’s advocacy of presenting images in a collage of “small multiples” [35]. In other words, Tufte rests between two potentially contradictory dictums: “eliminate chartjunk,” but “to clarify, add detail” [35, p. 37; 36, p. 107ff].

The difficulty, of course, if figuring out which details are “junk” and which details “clarify”—and from whose cultural viewpoint. This paradox is an important issue in information graphics because of its close ties to our purposes for using information graphics in the first place. As Playfair pointed out, information graphics appear immediate, offering a direct apprehension of a multitude of details at once. Yet at the same time, as Barton and Barton point out, this snapshot view of multiplicity ironically excludes or at least de-emphasizes details that do not fit the big picture [2]. Tufte includes a graphic in Envisioning Information that charts many experiments on the electrical resistivity of copper as it changes with temperature—supposedly a physical constant, but also the subject of many differing observations [37, p. 39]. He lauds the graphic for building a picture providing a macro view—the general, “recommended” curve, represented by a thick line—while allowing micro-investigation of individual studies, represented by thin lines. Yet the visual emphasis of the thick line relative to the thin lines suggests that in its context, this graphic would probably have been read more for
its recommendation than for its disagreements (the many outlyers distanced from
the recommended curve). After all, many scientific and engineering projects rely
on being able to predict the resistivity of copper pretty accurately, and the author
of the article from which Tufte excerpted this graphic was likely trying to give
them the best average answer he could determine.

Nor does the inclusion of detail release us from the difficulties of viewpoint.
Eileen Janes Yeo points out in discussing Booth’s survey that a survey (literally,
over-view) is something done from above, not below—and information graphics
typically take a similar perspective, both in visual and cultural terms [38, p. 50].

Echoing Barton and Barton’s call for multiple subjectivities, Tufte also com-
pliments an isometric map of midtown Manhattan because its “fine texture of
exquisite detail leads to personal micro-readings, individual stories about the data:
shops visited, hotels stayed at, walks taken, office windows at a floor worked
on” [37, p. 37]. Yet for a map, this representation obscures considerable parts of
Manhattan because of its viewpoint: roughly southeast of the island, looking down
and toward the southeast corners of the buildings, and thus their south and east
sides. This viewpoint does allow us to envision much of the area—but not the
north or west sides, and not anything obscured behind the buildings themselves.
As a result, for example, Radio City Music Hall, obscured by the RCA Building,
must be indicated by a label with a little curved arrow. What other details might be
obscured by this choice of a viewpoint? And what of the ideological implications
of the viewpoint itself—in an aerial position of power, as if we were a giant
standing in some of the most expensive real estate on earth, rather than someone
standing in the north, in the Bronx, or in the west, in New Jersey? Details that
from one subjectivity might be important—entertainment venues like Radio City
Music Hall, included albeit in “(be)hindsight” for those with enough leisure and
money to seek it out—might be insignificant from another perspective, such as
that of people in less desirable areas who cannot afford such luxuries. Tufte seems
to acknowledge this viewpoint in the activities that he imagines going on in
this part of the city: shopping, vacationing, taking walks, working in offices with
windows. From a disempowered viewpoint—say of a homeless person—other
details might be more important: finding a mission; knowing where to panhandle;
staking out a good spot for the night. This visual and cultural perspective is a
deeply significant aspect of information graphics we cannot ignore.

The deeper irony revealed here is that adding detail or multiplicity of viewpoints
to information graphics contradicts one of their central advantages: their ability to
enable decisions or actions by aggregating data into unified ideas that viewers
can grasp at a glance. And much of the purpose of information graphics is to filter
out detail that seems extraneous from a viewpoint of power—people who can take
action, who can make decisions. Information graphics enable decision makers by
excluding details that make decisions seem complicated—for example, the details
of production or details of subjectivities that Barton and Barton would have
designers include. Even when the viewpoint is philanthropic or charitable—for
example, attempting to improve the condition of the poor or the dispossessed—the viewpoint remains one of power, and any attempt to include detail of the “other” or the human is itself an ideological statement. Information graphics inherently privilege the viewpoints of the powerful; they are used from a position of strength, representing corporations, agencies, classes, and institutions who are trying to forward agendas, prove points, and solve problems. Thus, attempts to reform information graphics by revealing their ideologies or allowing multiple viewpoints will inevitably meet with considerable resistance. Less may be a bore, as Barton and Barton point out, echoing Tufte and before him Robert Venturi—but more will not rehabilitate graphics from their rhetorical, ideological, and cultural contexts.

CONCLUSION

All information graphics are visually-inscribed rhetorics. But the power of those rhetorics depends upon the visual culture surrounding their creation, including our own cultural desire to see clearly—to believe that information graphics can give us a transparent window to quantitative reality and beyond. As creators and viewers of information graphics, we should be highly aware of this desire in ourselves and in our audiences. We should acknowledge that information graphics are inherently rhetorical, letting go of our desire to make them ideal representations of the “facts”—either by removing “chartjunk,” which misrepresents their cultural context, or by adding echoes of humanity or levels of postmodern complexity, which would merely make them less convincing.

Instead, using information graphics ethically and well will require acknowledging their limits and our own. Although the outlines and depths of visual rhetoric are still under exploration, we should recognize that communicating with images promises no more certainty than communicating with words. Accordingly, we should redouble our efforts to understand the mechanisms of visual rhetoric and to spread that understanding by teaching our students to be as canny in their reading of visual rhetoric as they are in their reading of textual rhetoric.

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