

Pixelmaster could be used to produce maps for visually impaired and blind people. We have since found that the Pixelmaster produces a durable tactile surface when illustrations are imaged repeatedly on the same page. Today we are producing maps for braille social studies and geography textbooks and for private individuals; floor plans of hotels, office buildings and museums; diagrams of paths and walkways for school campuses and individual orientation; and mobility maps for personal use.

Braille Institute Press is also experimenting with a second tactile process — involving the use of “nyloplates” — to print paper maps, graphs and illustration outlines that can be mass-produced for use in braille publications. The nyloplate process is simple, easy to use and requires standard ink printing procedures. A special negative is produced from camera-ready art, then burned into a nyloplate. One difference from ink print is the need for a second plate to complete the embossing process. The second plate is best described as a positive-negative of the image on the first plate. After the second plate is made, the two plates are mated together on the press and the paper passes between them, creating the embossed image.

The nyloplate technique has been used on the graphic illustrations appearing in our annual braille anthology of children's stories, *Expectations*. Every year this publication is distributed worldwide, free of charge, to English speaking blind children and their parents and to institutions that serve them. Initial reactions have been very favorable to the new method of solid raised outlines, as opposed to the old process, which utilized raised dots.

Conclusion

In the past, technological limits and prohibitive costs made it impossible for blind and visually impaired people to own tactile maps, atlases and globes. Now Braille Institute has the technical ability to give blind people useful tools for mobility and independence. We urge interested members of the map making community to contact us with suggestions on how we might further improve our cartographic products.

Dale Gasteiger, Director
Braille Institute Press

another passing

THEORY INTO PRACTICE

A Tribute to Brian Harley

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Lowly graduate students sometimes have a problem relating to faculty, especially a faculty member at the prime of his life and at the top of his form. In recent years Brian Harley had become a big name, but he never forgot “the little guy,” as I can personally attest. The first of six volumes of the *History of Cartography*, which he co-edited with David Woodward, was being published to top-flight reviews. At the same time, however, he was appealing to a new generation of geographers and cartographers through a series of innovative and controversial articles concerned with deconstruction, ideology, secrecy and (in perhaps his last piece published while still alive) an article on ethics for this journal.¹ Indeed, his appeal to this younger generation was so strong that on several different occasions people were openly surprised when they met him to see that he was not in his twenties or thirties!

I myself was surprised. But

then he had a habit of surprising people. In my own case, long before I ever met him, I had read an article co-written with Woodward on the subject of cartography and history. Needing an example of a traditional viewpoint for an essay I was writing, I latched too enthusiastically onto this as an exemplar of traditional cartography, and subsequently learned my first lesson on uncritical and unreflective thinking from this eclectic and generous scholar.

By October 1989, on my way up to Ann Arbor for the NACIS IX conference, I discussed with my fellow passengers his famous paper “Deconstructing the Map.”² I recall a lunch break at some roadside restaurant where we bandied terms like “post-modernism” and “power relations” between forkfuls of scrambled egg and gulps of black coffee. The paper was more than another Harley surprise, however; it was a total revelation.

For me, Harley's greatness was that he brought what he was saying into everyday life and workaday cartography — he didn't just leave it up in the remote realm of philosophy. I have been most affected by his later writings, but you can see a theme of wresting control over cartography from scientism running back at least to the beginning of the last decade, where he said things that challenged the foundations upon which cartography thought it was safely resting — and so brought his theory into practice. He was the gentleman highway robber of cartography; challenging those who had complacency to spare, and giving to those who needed encouragement.

And he *was* a gentleman. Apart from some brief interaction via email (or “evil mail” as he mischievously called it) my first direct contact with him was when I called to ask if he would take part

in a session I was organizing (was it only last year?) at the AAG meetings in Miami. Although already booked to give a paper and as discussant (and rightly suspicious of "spreading yourself too thin" during the conference) he generously agreed to Chair the session. He was more than generous; he was downright bouncy! "Helloooooo Jeremy!" he cried when I got through to him (characteristically, his letter had left a home number for me to call). At this point, he still didn't know me from Adam.

I met him only twice, during the AAG Miami conference and just prior to that when he visited Penn State's Department of Geography as Distinguished Visitor. He prepared four original talks for his week at Penn State (including a preliminary draft of "Can There Be a Cartographic Ethics?" and work which later appeared as "Maps and the Columbian Encounter"). My notes say such things as "cartography has ridden on the coattails of science and technology," and that cartography has sought to civilize people through "the reason" of the map, and that the Enlightenment has "hijacked the history of cartography." My recollections are mixed up, however, with a party later at which he perched on my sofa, beer in hand, grinning a kind of boyish grin (as if he had just stolen a neighbor's apple and was rather pleased about it), while graduate students hovered around him or romped in the snow, where at one point I nearly expired from laughter.

Sometimes he seemed to go too far. He was fervid when it came to challenging "establishment" views. No doubt this was partly intentional, of a piece with his puckish delight in popping balloons of self-righteous hot air. From time to time, though, you got the feeling he didn't always distinguish between the challenge and the insult. To those of us

who had adopted him as our intellectual father, myself included, this was merely icing on the cake. If you reject the hegemony of the scientific paradigm, why not be polemical from time to time? It was all part of the message, plain enough in his academic writings, and plain from his active work; theory and practice coming together.

That Brian's genius and generosity has touched many besides myself was evident in a Royal Geographical Society Memorial held in London on March 17, 1992. It was sad, for obvious reasons, but in the end amazing (in the true sense of the word) to see the variety and number of people who must have memories similar to mine.

I have no doubt that Brian will continue to amaze, surprise, and even delight many more in time to come.

1. Harley, J.B. (1991) Can there be a cartographic ethics? *Cartographic Perspectives* 10, pp. 9-16.

2. Harley, J.B. (1989) Deconstructing the map. *Cartographica* 26:2, pp. 1-20.

cartographic techniques

CREATING UNCLASSSED CHOROPLETH MAPS WITH POSTSCRIPT

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First introduced in 1973 by Tobler, unclassified choropleth mapping has a tortuous history in cartography. Although the technique of assigning shadings proportional to the data values made it possible to create choropleth maps without classifying the data, the method of mapping has not been widely accepted. The basic objection to

the technique is that the cartographer loses the ability to direct the message of communication (Dent 1990, p. 167).

A more practical reason, however, that the unclassified method is not more widely used is the difficulty in creating a continuum of shadings. Tobler used a coordinate plotter to create a continuum of crossed-line shadings. The introduction of the laser printer and a page description language called PostScript has made it possible to create a white to black continuum of dot shadings. A procedure for creating unclassified choropleth maps with PostScript is described here.

The Shadings

Figure 1 depicts a series of shadings that were created with Adobe *Illustrator*. A percentage ink value was assigned to each rectangle with the 'Style' command. The shadings have been perceptually adjusted using the formula by Williamson (1982):

$$W = P^{.8333} / 0.464$$

where W is the gray tone in percentage of area white and P is the desired perceived value.












value		% ink
100		100.00
90		85.32
80		73.84
70		63.32
60		53.38
50		43.86
40		34.65
30		25.69
20		16.94
10		8.38
0		0.00

Figure 1: A ten shading continuum defined with PostScript.