
Commentary: Response to Tom Koch, "The Map as Intent: Variations on the Theme of John Snow," *Cartographica* 39/4 (winter 2004): 1–14

Critic, Deconstruct Thyself: A Rejoinder to Koch's Nonsense of Snow

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In his recent essay "The Map as Intent: Variations on the Theme of John Snow," Tom Koch (2004, 1) claims to demonstrate "the close relation between authorial intent and mapped result irrespective of the data." While map readers must indeed be wary of "authorial intent," Koch's rhetoric demonstrates that this caveat applies equally well, and perhaps more so, to expository writing in general. As one of several authors critiqued by Koch for an "appropriation and transformation of Snow's mapping to serve interests Snow himself would not have recognized as legitimate" (2004, 2), I offer a close reading of what I said and what Koch says I said.

Koch begins his assessment of "The Monmonier Contribution" by describing my take on the Snow map in the expanded, second edition of *How to Lie with Maps* (Monmonier 1996, 158), which includes the same illustration as the first edition, published in 1991. My source, he asserts, is an adaptation of the Snow map in Edmund Gilbert's "Pioneer Maps of Health and Disease in England" (1958) and reproduced in Edward Tufte's *The Visual Display of Quantitative Information* (1983, 24). Although my decision to use the Snow map was influenced at least partly by its appearance in Tufte's book, its graphic reconstruction was, I recall, informed more by the Snow maps of both Gilbert and L. Dudley Stamp, whose *Some Aspects of Medical Geography* (1964, 16) includes a redrawn version different from, yet no doubt influenced by, Gilbert's.

A target of Koch's complaint is the crude oversized symbols highlighting the pumps on my Snow map. "In this version," he opines, "the emphasis is not on the many deaths but on the pumps, which Monmonier has again re-symbolized for emphasis" (Koch 2004, 8). Koch calls attention to "the vastly enlarged circles [that] exist upon the attenuated field of streets" and notes that "the width of remaining streets (e.g., Oxford Street) is altered in a manner subtly emphasizing the centrality of the Broad Street pump" (8). True, I did "re-symbolize" the pumps, with large, donut-shaped dots more prominent than Stamp's black circles, each centered on the letter P in reverse (white) type. (In Gilbert's version, from which I obtained road alignments, comparatively recessive X's represent the pumps.) What is more, although my pump symbols are markedly more blatant than Stamp's, the overall emphasis on pumps comes from Stamp's map, which he re-centred, after Gilbert, to emphasize the Broad Street pump. If there is anything embarrassing in my rendition, it is the aesthetic severity of the visually dominant pumps and thick road casings, which I traced with MacDraw while drafting a larger illustration, the lower part of which Koch conveniently truncates.

There is more to the story if you probe beyond Koch's abridgment. Look at the full illustration, reproduced in Figure 1 together with its caption, which clearly identifies my rendering of the Snow map as a "reconstruction." What Koch suppresses – Brian Harley might have called

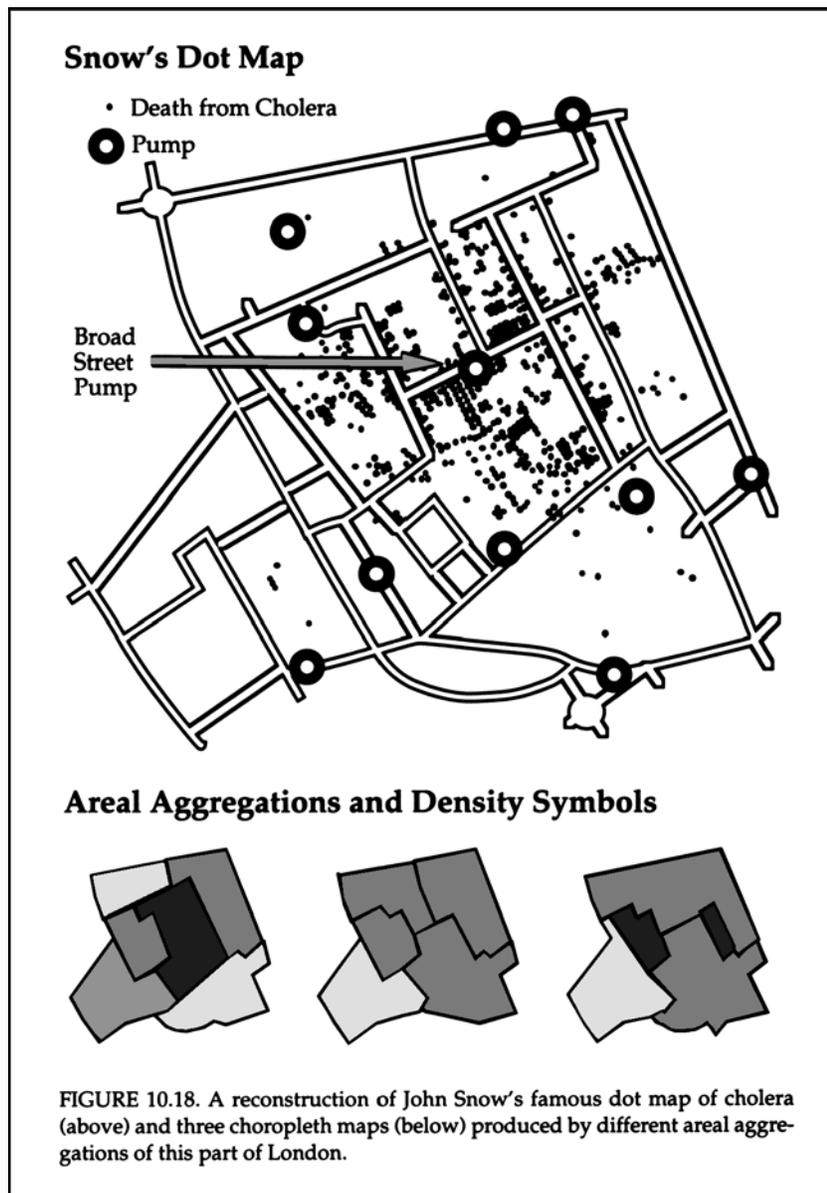


Figure 1. The complete image of the “appropriated” Snow map, caption included, from *How to Lie with Maps* (Monmonier 1996, 158). Koch’s version, enlarged to 115% the size of the original illustration, further exaggerates the pumped-up pump symbols.

this a “cartographic silence” – are the three alternative representations at the bottom and their heading, “Areal Aggregations and Density Symbols.” In order to condemn my “appropriation” of the Snow map by recasting it as “a critical analytical tool,” Koch wilfully ignores my argument that the boundaries used to aggregate data displayed on a choropleth map can obscure a strong pattern readily apparent on a dot map. As I say in the accompanying discussion, “If addresses are available, as on most death certificates, aggregation to census tracts or other areas units larger than the city block increases the risk of missing intense, highly local clusters” (1996, 159). Tufte, who mercifully redrafted the crude MacDraw

artwork of my choroplethic triad, reiterates this point in *Visual Explanations* (1997, 35).

What also gets Koch’s goat is that I based this example on an illustration that had become “famous” largely because of new meaning later writers had injected into Snow’s dot map. “Certainly nothing Snow wrote – and nothing in the data Snow collected and mapped – make the Soho cholera outbreak inherently superior as a case study for Monmonier’s thesis in *How to Lie with Maps*” (Koch 2004, 8). Maybe, maybe not. For diverse reasons, Snow’s dot map was indeed famous in the early 1990s – perhaps even more so now that Kari McLeod (2000) and Howard Brody and others (2000) have worked out a genealogy of

its numerous mutations – and I still think it makes a damned good example of what I was trying to show. Koch's later complaint that I "emphasized the pumps to legitimize [my] own work" (2004, 12) is silly. Every graphic and verbal example I use is intended somehow to "legitimize" my work by both engaging and informing readers. Indeed, every graphic and verbal example most writers use seems somehow intended to "legitimize" their work through some mix of aesthetics, information, and authenticity.

Koch also takes me to task for denigrating the Snow map as an emblem of present-day disease mapping in *Cartographies of Danger* (Monmonier 1997). He writes,

With the signifier secured (*maps serve medicine*) and the potential of mapping for epidemiology encoded (*map reveals disease source*), not only the original map but also the Snow myth and the map icons themselves could be dispensed with. Thus Monmonier was able to dismiss Snow's work as largely irrelevant to contemporary epidemiology or public health: "Real epidemiology isn't like that, as least not in late-twentieth-century America. Cholera is rare, if not extinct, and contagious diseases like pneumonia and influenza are less troublesome than heart disease, cancer, stroke, and numerous degenerative ailments once ascribed to old age" (1997, 263).

But heart disease, cancer, influenza, and stroke are all diseases that *are* mapped (as Monmonier's own examples illustrate) by epidemiologists attempting to define clusters and patterns in a manner similar to the one Snow pioneered (US DHHS 1997). Nor is cholera any more extinct than pneumonia and influenza, both of which remain extremely serious diseases. In fact, at the time of Monmonier's writing in the 1990s, the world was in the midst of the seventh international cholera pandemic, which began in 1961 and by the early to mid-1990s was diffusing through the Americas (CDC 2000a). The Pan American Health Organization (PAHO) reported 391,751 cases in the Americas in 1991 and 85,802 cases in 1995 (Arbona and Crum 1996). Extinct? Hardly. (Koch 2004, 8–9)

Koch's apparent skill in taking words out of context is a fascinating example of forensic manipulation. It even merits its own name: the Pan American Leap. When quoted in the first of these two paragraphs, I am clearly talking about "America" (singular) – after all, the book's subtitle is *Mapping Hazards in America*. To reinforce his pretensions to vastly greater epidemiological savvy, Koch cleverly shifts the discussion to "the Americas" in the second paragraph. While one might quibble about my using "America" as a synonym for "United States of America," at least give me credit for knowing that public health researchers do indeed map disease and that cholera remains a serious threat in the tropics. As for cholera in the "America" to which I was referring, for the period 1995–2000 the Centers for Disease Control and

Prevention detected an annual average of only 10+ new cases, typically associated with undercooked food or foreign travel (Steinberg and others 2001). Extinct? No, but still quite rare compared to the other diseases I mentioned.

More to the point is the continued relevance, or irrelevance, of Snow-like dot maps, which I have discussed more recently in *Spying with Maps* (Monmonier 2002), which Koch ignores. I offer the following two paragraphs because they add another (but now hardly original) dimension to the discourse on John Snow and his relevance to contemporary epidemiology:

If disease mapping has a poster child, it's John Snow (1813–1858), the London anesthiologist credited with discovering the waterborne transmission of cholera. Among geographers, Snow is best known for his 1854 map showing victims' homes clustered around Soho's infamous Broad Street Pump, which he identified as a source of contaminated water. According to epidemiological lore, the good doctor tried unsuccessfully to convince public officials to close down the pump. Undaunted, he took matters into his own hands, removed the pump's handle, and demonstrated the correctness of his theory when new cases plummeted. Truth be told, the epidemic had already run its course. What's more, Snow made his famous dot map several months later, for a revised edition of his book on cholera transmission. Even so, his pin map continues to embellish discussions of GIS and disease.

Medical geographers, GIS experts, and some epidemiologists perpetuate the Snow myth because it promotes disease mapping as a discovery tool and enhances the stature of their own disciplines. But a careful examination of Snow's writings indicates that he understood the disease's mode of transmission well before he made the map. Moreover, contemporary investigators with a different sense of cholera's origin and transmission produced more accurate maps of the Soho outbreak but misread them as evidence that foul air, not leaky cesspools, had spread the disease. Although Snow was a thoughtful observer, neither his map nor those of his rivals were of any value in generating insightful hypotheses. Snow's famous cholera map was pure propaganda – and copycat propaganda at that – but eminently useful later in the century, when public officials needed convincing arguments to isolate drinking water from sewage. (Monmonier 2002, 155)

I suppose this qualifies, even though no accompanying graphic was involved, as yet another Kochian "appropriation" of the Snow map. It also reflects a position more akin to Brody's and McLeod's, and perhaps even Koch's, than to the received wisdom I accepted in the early 1990s.

Another example of Koch's habit of taking words out of context occurs earlier in his essay, where he

confuses map communication with the clarity of social theorists:

In the main, working cartographers have treated this class of social theorists as irrelevant – or, worse, treated them with condescension – because their conclusions do not seem to affect the physical reality of the maps we make. Theory, or at least relevant theory, concerns itself with issues of symbolization and design that improve a map's communicability. As Mark Monmonier puts it, "I'm especially concerned that proponents of social criticism of cartography don't really seem to be very committed to communication" (Crampton 2002, 638). (Koch 2004, 2)

But in the passage quoted, I wasn't talking about how one can make map symbols communicate more effectively. What I said (on page 644, not 638) was this:

Nowadays, when I confess to being skeptical about theory, I'm especially concerned that proponents of social criticism of cartography don't really seem to be very committed to communication. They litter their essays with elitist language, which I don't think takes anybody, except maybe them, further down the road toward understanding. I say understanding rather than truth. If anything, I am probably as skeptical as anyone as to exactly what we mean by truth. And I think some of the social criticism is raising issues that need to be raised, but in the context of policy. (Crampton 2002, 644)

As the context indicates, my complaint was more about needlessly complex language than with the issues raised, which are too easily lost in the fog of Foucauldian cant.

Let me conclude with a few observations about medical cartography. First, while disease mapping remains a necessary and potentially useful endeavour, the complexity of most diseases diminishes the likelihood that mapping will reveal causally meaningful clusters not otherwise readily apparent. Second, privacy legislation (at least in my part of the Americas) lessens the likelihood that personnel not directly affiliated with a tumour registry or other storehouse of confidential health data will see dot map of human mortality or morbidity. And third, while disease maps have a poor record of revealing heretofore unknown causes, they have a useful role in

promoting awareness among health professionals and the public.

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