

Bringing Subjectivity and Objectivity Together in Applied Cartography [DRAFT]

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Based On: Sulzberger, A. G. (2023). Journalism's Essential Value¹ & Ward, Z. B. (2021)² On Value-Laden Science

Summaries by: ChatGPT 5.2

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The Real Problem: The Belief that Objectivity Cannot Coexist with Subjectivity

The most common critique Critical Cartography readers hear is that maps are “never neutral.” That statement is true, but it is obvious and also incomplete in a way that can accidentally push people toward cynicism. It’s a fundamental axiom that anything regarding decisions by a human will be based, a point I believe we all subconsciously know. Rather than harp on this point that is well documented, I will spend the time making the case to embrace making maps as a value-laden process to manage the biases that come from human values. That management requires a struggle in implementing four concepts, subjectivity, objectivity, justifiability and independence, each doing a different job. Struggling to integrate these three elements sits in the vein of the “essential tension” in science where progress and impact are made manifest. (cite Kuhn, 1977).

The Concepts

Subjectivity shows up first as the opening scene that sets the plot of the work to come with values, priorities, or convictions to the topics that make you decide “*this*” problem matters. That motivation is not a contamination as is often seen, but it’s really the whole point. Applied work does not come without it. But it must be mitigated to prevent the conviction in driving the method to get the outcome believed to be the right one. And from that, a map should exist and some audience needs to see it... because you care. Subjectivity, then, is what gives a mapping project purpose and urgency. Selecting to make a map over another graphic is a conscious decision to pursue that medium over another because it centers geography as the source in which the solution will be sought and will be more effective in communicating a problem or solution for someone to take action.

However, with the goal being persuasion in expending resources or solving a problem, the “process discipline” must be managed to prevent the method from breaking down in creating the final product under the conviction that “these results right a wrong and this analysis has an obligation to make that happen.” Doing analysis this way often ends up only motivating peers - the choir- who already support you, but ends up subtracting credibility from your work by those who can make a difference. Or worse, steering the analysis to the desired results builds a staunch resistance to your work and ideas that ends up feeling good from the fight, but the

¹ Sulzberger, A. G. (2023). Journalism's Essential Value. *Columbia Law Review*. pp. 1 – 19. May.

² Ward, Z. N. (2021). On Value-Laden Science. *Studies in the History and Philosophy of Science*, 85: 54 – 62.

ideas never gain traction, become so diluted to be of any effect or thwarted from a stronger opposition. You gain street creds, but have little impact and the people on the ground want the latter. No participant who is truly independent on either side is going to support your work. We'll get to that term "independent" later. I have seen this. I have experienced it. I have fought against it. I have several examples to show across the semester.

To mitigate that subjectivity and value-driven impulses, objectivity is often thought of as the immediate counter weight to prevent method corruption. Objectivity is and can be a mitigator, but the concept has suffered a negative reputation in doing what it aims to do, particularly because it has come to be seen as an inhibitor to progress. It has been seen as being overhyped because it does not deliver in persuasiveness, let alone being seen as counter to the goal of using a platform to effect change. Setting aside the latter point, taking a cold objective stance in the analysis likely will not form any real persuasiveness and be deadpan uninspiring because it's just a "here are the results... you figure it out." That is, the results are not aimed at making a difference, only presenting as neutral a way as possible a set of results to someone who will make less than informed decisions. If you want to be part of the game in making an impact, subjectivity needs to be let in to help craft a persuasive message. Otherwise, it is left completely up to the reader to make any determinations from the work, which means answering their own questions. That is not what we want as analysts looking to make an impact with their work.

Where are We?

So let's clarify up to this point that subjectivity is not a problem to be solved because the analyst's values operate as the *motivating reason* as the subjective drive and objectivity serves in *establishing* a rigorous method to follow in an attempt to check the subjectivity. The two are enough to create a rigorous analysis, but are not enough to project that a rigorous analysis has been done. At this juncture, two additional aspects come into play, justifiability and independence.

Where does this leave to go now? Objectivity, in this context, is best communicated in terms of justifiability as an explanation for decision reasoning that can be used to defend the analysis and resting map. Justification presents information about the methods used, the decisions made about the statistical techniques used, map classification, adjustments made, color, layers used, supporting communication, and any other aspect along the way that led to the final product. Justifiability is the ability to defend your work with reasons that are accountable beyond your preferences. Justifying reasons offer the opportunity for the map to be interrogated by someone who does not share the mapper's motivations. Providing these details makes it harder to thwart your work when it's all there to see and it's well constructed and forces any disagreement to be revealed as to legitimate differences in analysis or simply the reader's own biases that refute acceptance. The fewer questions you leave on the table from your map and its supporting analysis, the less your work can be attacked as a hack.

This is where the concept of independence plays its role. Independence here is not a personal virtue of claiming "I'm unbiased," but as demonstrating a set of practices that protect the

analysis from being captured by the mapper's desired outcome and a viewer's biases intent to twist the results. In mapping, the temptation is subtle: because every map requires an extended set of choices over other graphics, it is easy to move from legitimate discretion to motivated selection without ever explicitly deciding to do so. A mapper might sincerely begin with a values-driven motivation (reducing harm, highlighting inequity, improving services), and then, without intending to, allow that motivation to steer decisions downstream: choosing boundaries or classification schemes that amplify the pattern or over-sharpening contrast, selecting a time window that heightens the narrative, or highlighting uncertainty only where it does not weaken the conclusion. Independence is the counterweight: it is the commitment to process constraints that make it harder for values to quietly "win" by shaping evidence.

The Real Stakes: People's Lives and Livelihoods are Affected More than You Think

So what's at stake from all of this? It's your integrity, organizations that use your work, geography as a discipline, and most importantly the people on the ground. In applied critical cartography, the real question is not "Are you subjective or objective?" The real question is: Where do values belong, and where must they be managed? A constructive answer is that values can legitimately guide (i) which problems we study (footnote), (ii) what consequences we care about, but values must not be allowed to pre-determine, and (iii) what the evidence will be taken to show. This division is not always clean, because mapping choices are not purely technical. Yet the discipline of the field is to draw a bright line where possible, and to document the gray areas where it is not.

The payoff of this approach is not merely better maps. The payoff is more integrity down the line from the map maker's reputation to the organization who follows the results and recommendations to the and ultimately the people being affected by the decision. The map becomes a platform for a responsible argument that spans that continuum. The work states simultaneously, "Here is what I care about and why this deserves attention; here is what the evidence shows under reasonable analytic choices; here is what changes when you alter assumptions; and here is what I still think should be done, even acknowledging those uncertainties." That final move matters because don't, for one moment, not believe your being a desk jockey will really impact other work. It may seem like academic type work, but in a daily job there is a real impact because it's closer to the ground than you may think. Applied work is not satisfied with description. Yes, there's published work about showing that when you map at the wrong neighborhood scale, or with the wrong neighborhood boundaries, you can "find" patterns that don't survive a different scale or shape that can translate into mis-targeted interventions in the wrong places, wrong size of area, and diluted resources. Again, I have examples from my career to share and plenty of articles to demonstrate these negative impacts. With such potential for downstream effect on real people, it's the ethical obligation of the course to ensure that the desire to make a difference does not become the mechanism that manufactures the difference in the map itself that ultimately harms instead of helps.

In the end, values belong upstream and downstream constraints are needed so outcomes aren't quietly manufactured.