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Big Data, Diminished Design?

In 1901, Australia's prime minister, Edmund Barton, asked citizens to design the country's first national flag. The winning selection combined elements of the British flag, visible in many of the more than 30,000 entries submitted. According to historian Carol Fowley [1], many Australians remain unconvinced of the appropriateness of this design. Is poor design—even mediocrity—the inevitable result of the crowdsourced design process?

In 1994, artists Vitaly Komar and Alex Melamid developed a project called "The Most Wanted Paintings on the Web," in which they surveyed 3,001 people's impressions of artwork posted online. Their result: Most prefer landscapes. This was the same preference sociologist David Halle had noticed in 1993 in his survey of art in the American home. People generally accounted for their preference not in terms of aesthetic appreciation, but instead simply because looking at a landscape made them feel calm and peaceful. As the goal of much contemporary art is to provoke, the project's genius was to show the rift between the taste of the art world and that of the general public (or, in this case, a group of people taking an online survey in the mid-1990s). In designing a system that guaranteed banal results, Komar and Melamid anticipated the contemporary shift from an artistic to a utilitarian view of design.

This shift is visible in the new trend for crowdsourced design. We see the emergence of three forms of crowdsourced design. First is the employment of the crowd for free user experience testing, meaning that every design decision, no matter how small, can be tested and tweaked. This is the fantasy, but in the complexity of practice, design does not easily map to yes-or-no data questions. Douglas Bowman, Google's first visual designer, cited the company's data-driven design philosophy as a part of his decision to leave the company in 2009. Decisions such as how to select a hue of blue for a toolbar link involved testing 41 shades of blue to reveal which shades performed better. Today, when even small-scale developers use statistics to make design decisions, the utility of "classically trained" [2] designers—or those trained in color theory—appears to be as marginal as it was in the 1901 Australian flag competition.

Following this process up a level reveals a second form of crowdsourced design, in which the actual work of design, rather than selection or mere tweaking, is relegated to the crowd. This involves restructuring the way designers get paid, breaking long-standing taboos against doing work on speculation. Graphic design hopefuls use websites like 99designs and crowdSPRING to lure paying clients, but first must generate design ideas, logos, or business cards without payment. Product design enthusiasts use websites like Quirky for collective ideation and crowdsourced manufacturing. Interaction design firms turn over their design process to the voting public to release data-driven games. Architects promote open source construction kits to enable anyone to design, download, and print CNC-milled houses [3]. Through

this lens, crowdsourcing means the designer becomes easily replaceable or exchangeable: the purveyor of a commoditized service.

Now, if we look beyond professional practice to design's modes of production, we find a third kind of design crowdsourcing going on: the creation of design tools. In this arena, the preferences of the crowd for complex design elements are averaged and transformed into a preset that a user can apply with a single click. In a recent talk at the University of Washington [4], for example, Adobe researcher Aseem Agarwala demonstrated the tool he developed to steer novice designers toward "better" font selections. To build the system, he asked users of Amazon's crowdsourcing task engine Mechanical Turk to associate fonts with human attributes by aggregating answers to questions such as "Is the text in image A more gentle than the text in image B?" The resulting application offers the user font suggestions based on these attribute-font pairings. Such approaches to crowdsourcing paint the value of design as finite and knowable, and treat design as an element of a multivariate equation to be optimized. But there is a slippery slope in claiming that the output of this work reflects the preferences of a broad swath of the public. When big data is used to set defaults, it gets easier and faster to privilege not the knowledge and the preferences of the public, but instead the knowledge and preferences of those creating the categories that steer the research—whether this is done through surveys, ethnographic research, or the researcher's own intuition. Furthermore, in relying on the average, we risk missing exceptional outliers. What does it mean when a mathematically derived model becomes

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the model for good taste? The result is rather simple, just like a mean: The exceptional, the innovative, and the surprising are overshadowed by the norm. Design becomes the result of a finite, controllable process, rather than a messy, human art.

This move from crowdsourced field trials toward crowdsourced design tools suggests mounting challenges for design labor. On the one hand, as Lilly Irani and Six Silberman [5] have pointed out, producing socially responsible crowdsourcing applications entails attending to the rights of the crowd of workers whose labor underpins these millions of design decisions. On the other hand, the increasing use of crowdsourcing in design points to a dwindling role for the studio-trained designer as a creator of things. It suggests that, in the age of big data, the designer might become something else entirely. The manager of large systems? The interpreter of these data-generating events? But as anyone with knowledge of marketplace workings can attest, popular preference is not always the best predictor of good outcomes—think, for example, of the relationship between the American taste for fatty, salty foods and public health.

Because design education often draws from the tradition of provocation in contemporary art, many designers are trained to think about the relationship between aesthetics and cultural context. Without them, we lose more than expert-led practical and artistic innovation. The majority of American brides wear white on their wedding day, but the majority of Indian brides wear bright, saturated colors, associating the color white with funeral attire. Without knowing where to draw the boundaries around the crowd in crowdsourcing, important cultural differences could lead to some confused—and confusing—designs. Value is relational, and it needs to be continuously created and re-created. This is the work of design.

Whether we consider user testing, prototyping, or tooling, understanding the differences between utilitarian and artistic views of design suggests some compelling roles for crowdsourcing in civic participation. When charged with helping the city of Montreal come up with ideas for the use of a

new public space, the team Daily tous les jours created a Museum of Possibilities (Musée des possibles): a grid of huge, colorful balloons arranged in a field of grass (see photo). Passers-by attracted to the curious sight found clever prompts, where they were asked to write down ideas about how they might imagine using the space "with my grandmother," "on a bicycle," or "at sunset," a clever way to seed design development and also provoke those not used to creative thinking to speculate beyond the banal and expected. Could we use design expertise in crowdsourcing to help us reimagine our society and enact social change? Could we use careful understanding of crowdsourced design in context to interact with our world differently? What might a socially responsive design by crowdsourcing look like? As we explore the interplay between design expertise and crowdsourced design, some ramifications for technology development become clear: Crowdsourced design can all too easily short the circuit by simply repackaging that which has already been created; it's

time to add something new and socially responsive to the mix.

Endnotes
1. Foley, Carol A. *The Australian Flag: Colonial Relic Or Contemporary Icon?* The Federation Press, 1996.
2. http://www.wikihouse.cc/about
3. http://stopdesign.com/archive/2009/03/20/goodbye-google.html
4. http://vimeo.com/81153705
5. Irani, Lilly C., and M. Silberman. Turkopticon: Interrupting worker invisibility in Amazon Mechanical Turk. *Proc.of the SIGCHI Conference on Human Factors in Computing Systems.* ACM, 2013, 611–620.

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