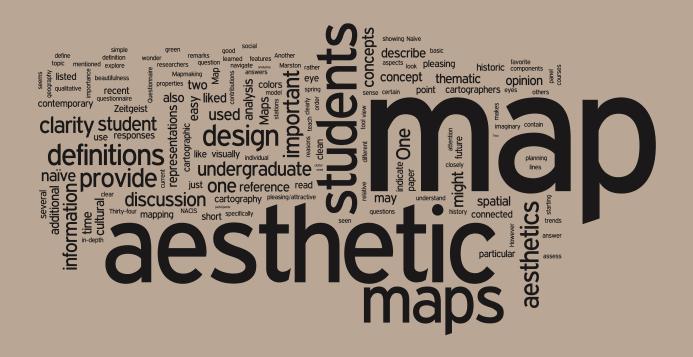# Undergraduate Geography Students Define Aesthetic Maps

Sven Fuhrmann, Texas State University–San Marcos: fuhrmann@txstate.edu

ABSTRACT

Several aesthetic map definition approaches aim to describe the components, concepts and aspects of aesthetic maps. While the discussion is mostly conducted by mapping professionals and researchers, one may wonder how naïve map users would define an aesthetic map. Thirty-four undergraduate geography students answered a short questionnaire in which they defined an aesthetic map, and identified the most aesthetic map along with the reasons why they liked that particular map. Preliminary findings indicate that two important concepts for aesthetic maps are clarity and being visually pleasing/attractive. Favorite aesthetic maps ranged widely from reference to thematic to imaginary maps. Questionnaire results also indicate the emerging importance of and possible aesthetic paradigm shift towards mobile and other interactive, web-based spatial representations. Naïve aesthetic map definitions could provide an important insight into current and future aesthetic map trends.

KEYWORDS: Aesthetic Maps, Cartographic Education, Undergraduate Students, Questionnaire, Naïve Map Users

As a faculty member in the GIScience program at a middle-sized university in the southwestern United States, I teach a range of basic and advanced cartography courses at the undergraduate and graduate level. One of my core cartography courses is "Maps and Mapmaking," in which I teach the principles of map use and

design. I was teaching this particular course during the 2013 spring semester, with 58 participants, and just had finished the section about historic and contemporary maps when this call for papers was published by the ICA Working Group on Map Design. Having introduced my students to important cartographic artifacts by lecturing about the history of cartography, showing several culturally unique spatial representations, and displaying more recent contemporary spatial representations, I invited them to answer a short questionnaire about "Aesthetics in Mapping." By discussing and looking at different spatial representations over a two week period, my undergraduate students had received an overview about different mapping products and learned that there are cultural and historic differences in map design. However, the students had not yet learned about fundamental map design theory; rather, cartographic "time travel" was used in my lecture to visualize and understand that map design changed over time and is closely connected to technical, cultural and social properties and influences.

Thirty-four undergraduate students chose to provide their opinions on and definitions of aesthetic maps. The session lasted for about 10 minutes, and no demographic information was collected. The goal of this qualitative opinion paper is to provide undergraduate geography students, our future map designers, with a platform to contribute to the map aesthetics discussion. My hope is that their remarks and viewpoints will provide additional contributions on this topic, and that we as practicing cartographers, cartographic researchers, and educators can learn from our students.

The first question prompted students to describe or define an aesthetic map. No additional information on the term "aesthetics" was provided, and no textbooks or any other media were used in generating responses. This opinion paper will present nine student definitions for aesthetic maps that provide a good starting point for a naïve aesthetic map discussion. These definitions are not listed in any particular order.

> *"An aesthetic map would be a map that captures the reader's attention and engages the reader in such a way to convey a certain point of view."*

> *"A map should be simple, functional and relevant. Common sense items/objects don't need to be labeled to clutter a legend. Map objects should be sized relative to their importance as well as colored in a scheme that makes sense (i.e. water is blue, vegetation is green)."*

> *"A map that has clean lines and a logical use of colors that does draw attention to certain features more so than others. Clarity and resolution of the printed map is very important. Labeling on the map is clear and simple."*

> *"An aesthetic map is a map that is visually pleasing. One that has attractive features in the eyes of the analyst/viewer."*

"I think all maps are aesthetic maps. Some try harder than others to look nice, but most maps contain the same components."

"An aesthetic map is appealing to the eye (from a design standpoint), is easy to read and may or may not be useful for daily activities."

"It is pleasing to the eyes. It is easy to read and understand. It looks professional."

"It is decorative, instead of just showing the basic information, it also has color or designs. It is a map that catches the eye."

"A map that pleases someone rather than [being] used as an informative tool."

While I will not specifically remark on individual definitions, two important concepts are mentioned several times: "*clarity*" and "*visually pleasing/attractive.*" Limited time does not permit me to conduct an in-depth qualitative analysis of all definitions, and follow-up thematic analysis should be done to formally assess patterns. However, it is intriguing that seven of these naïve definitions mention the concept of "pleasing the eye," while four of them contain "clarity" as design theme. This observation matches important aspects of the recent map aesthetics panel discussion at the 2012 NACIS conference, where panelists debated whether beautiful, thus aesthetic, maps would be achieved through clarity in map design, i.e., symbolizations, colors, typefaces, etc. (Marston et al. 2012; Buckley 2012). While aesthetics seem closely connected to cultural, generational, and other societal properties, one might wonder how the *Zeitgeist* (spirit of the time) affects our view on and definition of aesthetic maps.

…one might wonder how the Zeitgeist (spirit of the time) affects our view on and definition of aesthetic maps

The answers to the second set of questions were as diverse and individual as the recent NACIS aesthetic map panel discussion (Marston et al. 2012; Buckley 2012). Two questions asked students to identify the most aesthetic map that they had seen so far and describe why they liked it. Of the responses that were given, twenty-two students listed a reference map, eight opted for a thematic map, and one participant described an imaginary map as the most aesthetic. Three students did not provide an answer in this category. Five of the students who favored reference maps mentioned that their most aesthetic map is Google Maps, with two of these students specifically highlighting iPhone-based maps. This is certainly a trend which needs additional research, and clearly indicates that map aesthetics might be a changing concept.

One of the students focused on clarity, and wrote that the most aesthetic map he or she had seen was a SERE (Survive, Evade, Resist, Escape) map, which assists military personnel in returning to their home station. The student liked it because the map "is used to stay alive, provide vast amounts of relative data [about] the local area and gives routes in order to return quickly and efficiently." USGS topographic 7.5 minute maps were also considered as being aesthetic. One student

states that he or she used one to navigate and explore landscapes in New Mexico. Another student highlights a three-dimensional planning model in one of Chicago's museums: "the model was all white, except for the green space and upcoming planning projects. […] It was full of information, very clean and easy to read." One student liked a map of the London Underground: "Though it is not spatially accurate, it makes it easy to navigate the Tube. The colors for the lines are distinctive, stations which have more than one line servicing are connected, and stations are clearly marked. It is [a] clean and clear [map] with no extraneous information." Some students also like historical maps for several reasons: "I like them because they show history, but they are distorted and incomplete so I can't use them as reference tool, but they are pretty and I will probably inherit them." Student answers indicate that while everyone might have his or her favorite aesthetic map, it seems that the underlying thematic keywords are "clarity" of information presented and "beautifulness" in map design. While the concept of clarity could be empirically measured through testing, beautifulness might be much more difficult to capture and describe. Thematic analysis of map user responses seems to hold the most promise for a more in-depth analysis.

What is the "take-home-message" from the undergraduate student remarks? There are indications that map aesthetics might be an individual/group, social, cultural, Zeitgeist, and generation-based concept. As cartographers we should continue to investigate how map aesthetics is related to the ever-changing concepts of beauty, taste, culture, Zeitgeist, art, and technology. A starting point for such an investigation could be a formal study of historic and contemporary maps to assess their relationship to the above listed concepts. Another approach to defining map aesthetics could be initiated through soliciting and analyzing additional naïve aesthetic map definitions. Overall, naïve aesthetic map definitions could enhance the aesthetic map discussion and provide important insights in current and future aesthetic mapping trends.

One of the students writes: "It may not be [an] aesthetic [map] but my favorite maps are road maps. Don't know why, I could just look at them for hours." As long as maps facilitate the human passion to explore and question, then cartographers are on the right track for good and aesthetic map design—but this is a topic for another opinion paper.

There are indications that map aesthetics might be an individual/group, social, cultural, Zeitgeist, and generation-based concept.

ACKNOWLEDGMENTS

REFERENCES

Buckley, A. 2012. "NACIS 2012 – The Aesthetics of Mapping Forum (Part 2)." *ICA Commission on Map Design.* Accessed April 20, 2013. http://mapdesign.icaci.org/2012/11/nacis-2012-–-the-aesthetics-of-mapping-forum-part-2/.

Marston, B., B. Šavrič, and N. Arnold. 2012. "NACIS 2012 – The Aesthetics of Mapping Forum." *ICA Commission on Map Design.* Accessed April 20, 2013. http://mapdesign.icaci.org/2012/10/nacis-2012---the-aesthetics-of-mapping-forum/.