Dazzle them with Baffles: Gauging Attitudes toward Digital Fabrication in an Online Musicians' Community

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This paper presents a project, currently underway, that combines 3D fabrication and digital audio processing with text mining and sentiment analysis to gauge attitudes toward digital fabrication processes (and maker culture more generally) among a large online community of musicians.

In the last two years, traditional musical instrument manufacturing materials have been joined by laser-sintered plastics and photopolymer resins, as new Additive Manufacturing techniques have been employed either to replicate vintage instrument parts, or redesign them altogether. In no case, however, have digital fabrication methods managed to entirely displace artisanal tradition.

This study explores how digital fabrication has been negotiated by one large and active online musician's community that values artistry, craft, and industrial history alike. Using low-end desktop 3D fabrication methods with open-source software, I am reproducing a line of replica instrument parts based on vintage originals. Once all reproductions are complete, I plan to engage a professional musician to test-play the printed replicas, and compare them with their original vintage models. These tests will be recorded using audio freeware, and shared with members of a select online musician's community, in order to determine whether they distinguish my 3D-prints from their original models.

My aim is less to determine whether these replicas are in fact morphologically and sonically identical to their period models than to determine how 3D digital fabrication is received by musicians strongly devoted to vintage equipment and artisanal craft. Using the Python Natural Language Toolkit (NLTK 3.0) with a naïve Bayes classifier trained on a valenced wordlist (e.g. AFINN), I will conduct sentiment analyses of the online forum to gauge how the community of musicians responds to the introduction of new manufacturing techniques that are neither industrial nor conventionally artisanal.

Ultimately, this project addresses the "emergence" of digital humanities (Jones 2013) into artisanal practices as a sign of our contemporary "post-digital" condition, under which we need "no longer talk about digital versus analog but instead about modulations of the digital or different intensities of the computational" (Berry 2014). By engaging one active and prominent community of analog musicians in a discussion of digital fabrication, I hope to use their insights into the materiality of music production to address questions crucial to maker epistemology, such as: "For which methodologies do tactility and texture especially matter?," and "When is scholarly communication most persuasive off the screen?" (Sayers 2015).

Bibliography

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