

Four Provocations on Diversity in Computer Music

By Ritwik Banerji

The problem of diversity in any scholarly or professional field is too complex to address in a piece as short as this one. In what follows, I offer four provocations on this topic. While these are partial, selective, and perhaps “personal,” they are nonetheless intended as a way for scholars across this field to decompose the broad issue of diversity into its constitutive elements for subsequent reassembly in pursuit of the goal of greater diversification.

Provocation 1: The Missing Quantitative Answer

The question of whether computer music possesses or lacks diversity is at the very least a quantitative one. As would be the case anywhere else, the final answer to this question must be numerical and should consider multiple parameters in relation to one another. These include not only the race, gender, linguistic background, or geographic location of various participants of computer music as an artistic, academic field, but the relationship between these

parameters and the kinds of topics and repertoires included in major gatherings, publications, and other documents of this field’s activities.

A quantitative answer is necessary despite the likelihood that it would corroborate the hypothesis that this field, like so many others, is socially homogenous and often dominated by white, middle to upper-class, cis-gendered men from the wealthiest nations of the world. It is imperative to check that casual impression against the data.¹ More importantly, the quantitative answer is vital to forestalling a facile, defensive tokenism. Were any of us tasked with summoning a group of nonwhite, non-male music technology practitioners for a panel, festival, or special journal issue, most would easily think of a list of names. In turn, that quickly produced list of names can easily be used as an alibi against any claim that the field lacks diversity: *how did we think of the names so fast if there are so few of them to begin with?* It matters little that a handful of non-white, nonmale colleagues in the field exist. The real question is whether this is enough to earn the designation of ‘diversity.’

As necessary as it may be, several factors complicate any simple reliance on quantitative data. Centrally, institutions benefit from not collecting this data because doing so saves them from accepting how far their current outcomes might be from the ideal. This is likely the reason that such data are not currently available and a significant barrier to its honest collection in the future. More importantly, these data alone do not resolve the question of whether the goal is to achieve demographic representation commensurate with demographic proportions elsewhere or to correct the imbalance and inequities of this elsewhere. The first point is rather complicated in an explicitly international organization like ICMA as it is unclear which set of nations ICMA's demographic profile should reflect. The second is complicated by the lack of historical data for ICMA specifically. These complications aside, I am sure the data will be useful for understanding issues of diversity in this field.

Provocation 2: Ethnomusicology's Aversion to Technology

Without necessarily exonerating

computer music researchers for their role in the lack of diversity in this field, I would like to consider how this problem is exacerbated by the field of ethnomusicology's ongoing aversion to computation research methods.² While ethnomusicology's efforts to diversify are by no means fully successful, the field has been, for better or worse, the domain where music scholarship and cultural diversity most strongly intersect. At the same time, its engagement with computation has historically been quite limited and largely focuses on taking computation as an object of cultural study rather than a methodological tool.³

This I know directly from my scholarly professionalization in this field, where my research has focused on the development of virtual performers of free improvisation and asking improvisers to compare these systems to fellow human players. While a contingent of my ethnomusicologist colleagues have seen the value of this work as a means of examining music as a social practice, many others have found that my foregrounding of computation in my work is antithetical to their basic conceptions of this field. For exam-

ple, when I spoke with a senior ethnomusicologist at an elite institution about pursuing this project in the graduate program where she taught, she suggested instead that I apply to her university's school of engineering and applied science and take a few ethnomusicology courses along the way. I am grateful for her honesty, for it saved me from many disagreements that would have made graduate school feel longer than it already was supposed to be. In any event, for her and numerous other ethnomusicologists, computer music as it is currently practiced has no place in the field of ethnomusicology other than as an object of sociocultural analysis.

The consequence of this ideological opposition to computational methods among ethnomusicologists is that the typical purveyors of diversity in music scholarship are themselves disinterested in the diversification of computer music. Conversely, I have often found that computer music researchers are far more interested in musics of beyond the Euro-American world than ethnomusicologists might be in computation, whether as object or tool. For example, my colleagues at CNMAT,

particularly the late David Wessel, were often interested in the kinds of musical practices ethnomusicologists typically focused on. Yet due to the typical ethnomusicologist's antipathy towards music computation, there was often very little opportunity for computer music researchers to develop their interests in these musical practices in dialog with those who make it their business to build expertise in these topics. To be fair, there is also a long history of composers taking an interest in such musics solely as a source of creative ideas and doing so without necessarily being explicit with their audiences about the true identity of their inspirations. Thus, ethnomusiological skepticism of such interests is not entirely unfounded. Nevertheless, if just one piece of the diversification of computer music lies in the diversification of its repertoire, a key constituency that would be able to aid this cause is largely disinterested or perhaps even tacitly disgusted by such ideas.

Provocation 3: The Omission of Identity and Experience

Throughout his various commentaries on *Voyager*, George Lewis has

consistently emphasized the relationship between this work and his participation in various social worlds of African-American experimental music, particularly the Chicago-based Association for the Advancement for Creative Musicians (see Lewis 2000, for example). By contrast, while numerous other designers have also built virtual performers of free improvisation since Lewis' pioneering work in this area (for a review of such systems, see Banerji 2018), they are far less explicit about what sorts of personal experiences, whether as performers or listeners, inform the design of their systems. In other words, where Lewis is unambiguous about the relationship between his sociocultural identity (particularly his race), personal experience, and the practice of free improvisation, others omit such narratives and present free improvisation as if the nature of this practice were a self-evident fact requiring no further elaboration. And while Lewis illustrates how arts-technology projects are unavoidably a product of the "community of thought and culture" (Lewis 2000, 33) of their creators, the rest of this cohort of researchers largely disregards this point and presents their work as if it

were an impartial, objective depiction of free improvisation as a musical practice.

By and large, omission of explicit discussion of the relationship between culture, social identity, personal experience, and one's own research is an implicit norm of technical writing in computer music. This is largely due to the field's adoption of modes of scholarly communication and documentation from science and engineering more generally (see Latour 1987). While computer music significantly overlaps with these fields in terms of methods and subject matter, music is a fundamentally different entity in that it constitutes an integral element of the behemoth commonly glossed as "culture." The fact that these matters are an acceptable omission in scholarly writing speaks volumes to the state of diversity in the field, or to put it more succinctly, the normative whiteness of this area of research. Were we all to write about the role of culture, social identity, and personal experience in our work, this would likely bear out the fact that the vast majority of researchers in this field are white men as well as the fact that the primary music-cultural sphere that anchors

work in this field (i.e., new music, the Euro-American avant-garde, etc.) is also dominated by white men.

Provocation 4: The Racialization of Computing

Most of my ethnographic work has focused on inviting improvisers to play with systems I have designed to function as performers of free improvisation and compare these to human performers. Given the prominence of George Lewis' work in this domain as both an arts-technologist and an improvising trombonist, many improvisers I have worked with during my ethnographic field research have drawn comparisons between my systems and his. At a private session in the casual setting of my apartment in Chicago in December of 2009, one white trumpeter who I shall refer to as "Joel," made such a comparison (for a longer account of this interaction, see Banerji 2021).

Overall, Joel found that my system *Maxine* (Banerji 2010) compared favorably to Lewis' *Voyager*. For the most part, his praise seemed sincere, though he was, of course, induced towards politeness and

praise given the intimacy of the occasion. However, given the racial differential between myself and Lewis, Joel's evaluation reduplicates a set of old, tired, racist stereotypes about the relationship between aptitude in technical fields and race. Whether he meant to fall into this stereotype or not, it remains that on that day, he found the (South) Asian's system to be better than the one made by the Black man. Thus he concurred with a dominant prejudice that Asians are somehow possess greater aptitude in technical fields than other nonwhite peoples.

When we talk of diversity in a highly technical field like computer music, it is essential that we remain alive to the way such stereotypes animate the social life of science and engineering as daily activities for thousands of students, researchers, and other practitioners around the world. Such stereotypes create a risk of a rather uneven and inequitable racial diversification of this field in which "minority" populations who are already prominently represented in technical fields are included at the expense of other populations who are consistently marginalized.

Notes

[1] Georgina Born and Kyle Devine have recently noted that music technology undergraduate programs are often populated largely by white lower class men (Born and Devine 2015). However, the question remains as to whether this alters the overall class profile of those who become lifelong members of this academic community.

[2] I concur with those who argue that the colonialist and racist ideologies at the core of the field of ethnomusicology give us many good reasons to dispense with the term "ethnomusicology" (Fox 2020) and perhaps the field as whole as currently practiced (Amico 2020). Nevertheless, it is quite necessary to use the term here in order to clarify what field in particular I am referring to.

[3] One crucial exception is Bernard Bel and James Kippen's collaborations in the study of North Indian classical tabla improvisation (see Kippen and Bel 1989, among several other publications by these two from the same period). Even so, the ethnomusicologist, Kippen, was uninvolved with the programming in any meaningful way.

References

Amico, S. (2020). "'We Are All Musicologists Now'; or, the End of Ethnomusicology." *The Journal of Musicology* 37 (1): 1-32.

Banerji, R. (2010). "Maxine Banerji: The Mutually Beneficial Practices of

Youth Development and Interactive Systems Development." *eContact! Journal of the Canadian Electroacoustic Community* 12 (3).

Idem. (2021). "Whiteness as Improvisation, Nonwhiteness as Machine." *Jazz and Culture* 4 (2).

Born, G., and K. Devine (2015). "Music technology, gender, and class: Digitization, educational and social change in Britain." *Twentieth-Century Music* 12 (2): 135-172.

Fox, A. A. (2020). "Divesting from Ethnomusicology." *The Journal of Musicology* 37 (1): 33-38.

Kippen, J., and B. Bel (1989). "Can a Computer Help Resolve the Problem of Ethnographic Description?" *Anthropological Quarterly* 62 (3): 131-144.

Latour, B. (1987). *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press.

Lewis, G. E. (2000). "Too Many Notes: Computers, Complexity and Culture in Voyager." *Leonardo Music Journal* 10: 33-39.