

The Meaning of Music in Ethnomusicology and Music Information Retrieval: Obstacles Against Computational Ethnomusicology

Ali C. Gedik¹ and Andre Holzapfel²

¹Department of Musicology, Dokuz Eylül University

² Department of Media Technology and Interaction Design, KTH Royal Institute of Technology

Background in ethnomusicology:

The history and emergence of ethnomusicology is closely related with the invention of sound recording. However, the importance of music recording gradually diminished due the paradigm shifts in the history of discipline. The first shift was from scientific approaches of comparative musicology to approaches of social science under the influence of cultural anthropology after the II. World War. The second shift was from approaches of social science to approaches of humanities, called as “interpretive turn” in 1980s. The scientific universalist approach of the discipline in its early years, gradually diminished after these two shifts. Instead, a historical particularistic approach came to dominate the discipline, based on detailed ethnographies of individual musical cultures, thus leaving aside comparative approaches by appreciating a cultural relativistic approach. This background roughly reflects the main trends of ethnomusicology in United States where the discipline was founded and thus have greater financial and institutional support than elsewhere. A complete map of ethnomusicology is much more complicated considering the discipline mainly in continental Europe and Britain and in other national schools.

Background in music information retrieval:

The main focus of music information retrieval (MIR) can be described as research and development of computational systems for the analysis of large music recording corpora by researchers mainly from computer science and electrical engineering. The study of subject has been Western art music and Western mainstream popular musics from early days of MIR until the last decade. However, the last decade has witnessed a gradual increase in number of MIR studies on traditional musical cultures of Africa, Middle East and Asia, and folk music cultures of Europe. Many of the researchers working in this direction soon developed an interest in ethnomusicology, however, often considering it simply as the study of non-Western music recordings.

Aims:

The aim of our study is to reveal main obstacles against collaboration between ethnomusicology and music information retrieval, and thus propose solutions to remove these obstacles for an interdisciplinary collaboration.

Main contribution:

A new term, computational ethnomusicology (CE) was proposed (Tzenatakis et al. 2007) as a call for the utilization of MIR methods and tools in ethnomusicology. The motivation behind this call was also a critique of existing studies: Methods developed for Western music were usually applied blindly to non-Western musics by engineers or computer scientists with little or no ethnomusicological considerations. Despite the gradual popularity of the term in recent MIR studies, neither MIR researchers demonstrated a deeper interest in ethnomusicology nor ethnomusicologists have been interested in the issue.

The history of ethnomusicology is presented in MIR literature as if stopped in its development in the 1970s. Therefore, ethnomusicology is mainly considered as non-Western music research, mostly consisting of laborious musical analysis of field recordings based on equally

laborious manual transcriptions, with the goal of comparison in subsequent MIR studies (Tzanetakis et al. 2007; Panteli et al. 2018). Since the aim of MIR is to analyze large corpora of music recordings, it seemed to be an ethnomusicological work to reduce such laborious work with the help of new computational methods and tools developed for those musical cultures.

However, this picture of ethnomusicology belongs mostly to its early days when the scientific universalist approach dominated the discipline and then gradually diminished towards 1980s. This “old” approach consisted of following main research topics which also fits well to MIR research, such as measurement (e.g. of pitch intervals), theory (e.g. of tuning systems) and analysis (e.g. of transcriptions), and comparison and evaluation of different musical cultures.

In fact, the kind of theory peculiar to ethnomusicology largely has been shifted from music theory and analysis to social theory (Rice 2010; Solis 2012), and the subject of its study has also been shifted from traditional non-Western musical cultures to all musical cultures in the world, including Western art music and popular music cultures varying from extreme heavy metal to hip-hop and more local music scenes. Therefore, the meaning of music in ethnomusicology currently lies behind a complex web of local, global and glocal cultural and social and even personal processes.

As a result, the main obstacle against an interdisciplinary collaboration between ethnomusicology and MIR is the different meanings of music. While the meaning of music in MIR lies behind music recording, it is problematized within ethnomusicology by considering it as only one of the representations of music, like a photograph of a real moment, not the music itself (Turino 2008). In this sense, transcription has been already fell out of favour in ethnomusicology, which is one of the hottest topic in MIR. The other main reason is the abandonment of scientific approaches in ethnomusicology which is the only approach exists in MIR. Nevertheless, there are still analytical and empirical approaches applied by various ethnomusicologists but still working manually.

Implications for musicological interdisciplinarity:

We argue that if MIR researchers could recognise the meaning of music in ethnomusicology, then they could develop computational tools even for small number of music recordings, which could help to understand these processes and the role of music played in them; of course in an interdisciplinary collaboration with either those more analytical and empirical ethnomusicologists or those more humanistic ethnomusicologists.

Selected Bibliography:

- Panteli, Maria, Emmanouil Benetos, and Simon Dixon. "A review of manual and computational approaches for the study of world music corpora." *Journal of New Music Research* (2018): 1-14.
- Solis, Gabriel. Thoughts on an interdiscipline: Music theory, analysis, and social theory in ethnomusicology. *Ethnomusicology*, 2012, 56.3: 530-554.
- Rice, Timothy. Ethnomusicological theory. *Yearbook for Traditional Music*, 2010, 42: 100-134.
- Turino, Thomas. 2008. *Music as Social Life: The Politics of Participation* (Chicago Studies in Ethnomusicology). Chicago: The University of Chicago Press.
- Tzanetakis, G., Kapur, A., Schloss, W.A. and Wright, M., 2007. Computational ethnomusicology. *Journal of interdisciplinary music studies*, 1(2), pp.1-24.