Although Automatic music transcription (AMT) is one of the hottest topics within the Music Information Retrieval (MIR) community, the interest of ethnomusicologists towards the issue is far from the vivid discussions held half a century ago (Nettl 1982: 80). On the other hand MIR studies show also no sign of ethnomusicological approach even in few studies on non-western musics. This gap between MIR field and ethnomusicology, results with an ambiguity especially in AMT studies on non-western musics. Ambiguity mainly results from the problem definition of AMT, as a kind of reverse-engineering (Klapuri 2004) where the aim is obtaining original score from performance. Thus, this ambiguity reveals itself in the evaluation of AMT studies where automatic transcription is compared with either original notation or manual transcription. However, this is a well-known problem in ethnomusicology that either original notation or manual transcription does not match with performance due to personal interpretations (Ellingson 1992: 117). Since non-western musical cultures historically based on oral traditions, the relation of notation and musical performance is highly problematic for the cultures adopted written traditions as a result of westernization and modernization processes by the 19th century.

As a result, we discuss this problem for traditional Turkish art music (TTAM) which has great divergences between notation and performance. Therefore, we present our study by considering the relevant ethnomusicological literature and applying an ethnomusicological approach besides MIR methods developed for TTAM.

The automatic transcriptions of our system are cross-evaluated by two manual transcriptions. We applied both frame-based and note-based approaches for evaluation. Success rates of automatic transcriptions give close results to manual transcriptions for most of the recordings in terms of mean F-measures such as 0.6, 0.7 and 0.8 respectively. Finally, these quantitative evaluations are compared with qualitative ones based on ethnography of manual transcription procedure obtained by observation and face-to-face interviews.

References


