Proposal to Adopt MEI for Encoding Traditional Japanese Music Scores

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Abstract

Encoding of western music notation is being standardized as a result of the dedicated work of the MEI and MusicXML communities. However, there is no machine-readable format for encoding traditional Japanese musical notation. This short paper discusses the use of MEI to encode traditional Japanese musical notation.

Introduction

We can transcribe western music notation into machine-readable scores using MusicXML or MEI. Accessibility to music resources has been improved by converting paper-based sheet music to machine-readable format. This has made it possible for those who are unable to read music notation to listen to it and utilize digitally conserved music notation as research resources. On the other hand, there is still no format for correctly encoding the content of musical scores used in traditional Japanese music.[1] This short paper shows the appropriateness of applying MEI as a format for machine-readable representation of traditional Japanese notation.

1. Significance of Encoding Traditional Japanese Scores

In Japanese music notation, each school established its own style for each instrument and gradually added innovations as needed, resulting in the current form (Malm, 2000). Although it is possible to interpret this as the development of an optimal musical notation for each school, it is less objective and universal than staff notation. Therefore, unless the performer is quite familiar with the style of each piece, it is hard to perform music from sheet music alone. Additionally, the majority of Japanese music is transmitted orally from master to apprentice. Japanese musicians have procedural memories of the melody and rhythm that have been ingrained in their bodies through imitation of the master's performance. In traditional Japanese music culture, sheet music is merely a tool for supporting their procedural memory (Tanabe, 1984a; Ng, 2011).

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[1] Some performers interested in computer technology have developed computer-aided Japanese sheet music typesetting systems such as JapoScore (https://fluteywinds.com/japoscore/) or KotoViewer (https://sites.google.com/site/razvanswebsite/software/kotoviewer). However, these systems are only for creating the layout of music scores and do not accurately encode the written content of the scores.

However, this does not mean that the encoding of traditional musical scores used in Japanese music is meaningless. The encoding of Japanese music notation will make it possible to apply quantitative methods in Japanese music studies, potentially leading the way to future computer-assisted music research in this discipline. Additionally, there is still a possibility that Genetic Criticism in Japanese music scores will reveal a new understanding of how Japanese music is created.[2] Moreover, it is an essential issue not only in music research but also in regional and folklore studies to archive musical resources that are at risk of disappearing due to the lack of successors or a decline in population.

2. Why MEI for Encoding Japanese Music Scores?

It is reasonable to encode Japanese music scores using MEI for two reasons.

First, MEI would make it easy to encode traditional Japanese notation which is more text-based than staff notation, since MEI is closely related to the Text Encoding Initiative. For example, it is almost impossible to describe Shōga notation, which is a transcription of Shōga (phonetic articulation of the melody and rhythm using Japanese sound symbolism), using staff notation (Tanabe, 1984b). However, with MEI, which can flexibly accept text data, Shōga notation can be transcribed just as text without being forcibly converted to staff notation. Although some additional elements might be needed to encode such unique notation, the flexibility of MEI for text is useful in encoding Japanese notation.

Second, since MEI has a performance module that describes the correspondence between performance sound sources or video materials and musical scores, it is possible to record Japanese music scores that do not have strict information on rhythms and melodies in association with performance records (Music Encoding Initiative, 2019). It is extremely complicated for a non-professional to comprehend a traditional Japanese notation such as the Shōga notation, which assumes that the reader has mastered how to sing and how to play the piece. Also, it is almost impossible to restore a tradition of playing that is no longer handed down through the generations. Therefore, it is essential to document the connection between the performance and the score while attempting to preserve and pass on Japanese musical culture. Encoded sheet music will be beneficial for non-performers and performance learners if the relationship between what is written in the score and the actual performance is clearly described. It can also be used for preservation efforts for music which is in danger of being lost due to a lack of successors.

Conclusion

Although still many issues need to be explored to make traditional Japanese musical works machine-readable, some of them can be resolved by applying the knowledge and expertise accumulated by the MEI community. I am certain that MEI's high extensibility and flexibility will contribute to the encoding of Japanese music scores. I intend to work toward developing a comprehensive encoding format of Japanese music scores, referring to projects that target music

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[2] Beethoven's Werkstatt (https://beethovens-werkstatt.de) is a precedent for genetic textual criticism based on musical scores.

cultures that do not adopt Western music notation and projects that deal with the relationship between musical scores and performance sound sources.

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