What to do with a Digitized Collection of Western Folk Song Melodies?

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Outline

History
• Ideological backgrounds
• Classification Systems
• Other projects
• Recent developments

Meertens Tune Collections

What to do?
• Music Cognition
• Oral Variation
• Cultural Heritage
• Music Information Retrieval
**History – Selective Overview**

Starting point of modern Folk Song Research (Volksliedkunde) generally dated in late 18th century Germany.

Interest in Folk Songs stimulated by Romantic ideology as advocated by Gottfried Herder and brothers Grimm.

Herder: Folk song is the ‘mirror’ of the soul (Geist) of the people.

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**History – Selective Overview**

Herder c.s.: essentialistic-normative tradition.

Essentialistic: intrinsic qualities

Normative as opposed to empirical

Only ‘authentic’ (echte) songs reveal the Volksgeist.

Quest of folk song researchers: discern authentic folk songs:

- Oral transmission
- Popularity
- Continuous Variation
- Anonymity
- Dignity
- Ancient and Persistent.

Left behind in the second half of the 20th century.
Five to Twelve

URGENCY: collect as much as possible before it vanishes.

Herder: “Die Reste aller lebendigen Volksdenkart rollen mit beschleunigtem Sturze in den Abgrund hinab.”

Wiora (1959): Folk song is irrevocably doomed.

Suppan (1978): Folk song is dead.

History – Selective Overview

Herder published editions of folk song texts from various countries.

19th century editions of melodies by Ludwig Erk and Franz Magnus Böhme.
History – Selective Overview

Netherlands: Florimond Van Duyse, Jaap Kunst

20th century: field work recordings
Classification Systems

How to order melodies?

1900: Daniel Scheurleer organized a competition:
“Welche ist die beste Methode, um Volks- und volkmässige
Lieder nach ihrer melodischen (nicht textlichen)
Beschaffenheit lexikalisch zu ordnen?”

What is the best method for the lexical ordering of folk and
folklie tunes?

Classification Systems

Ilmari Krohn (1903):

Cadence tones

12 June 2014
Classification Systems

Bartók adapted Krohn’s system:

$$\begin{align*}
4 & 4 \\
1, & 8, & 1-8
\end{align*}$$

Many more systems were conceived and abandoned during the 20th century.

North America

Samuel Bayard (1950): *Tune Family*

Bertrand Bronson (1949): Punch Cards
Cantometrics
Project in the 1960s lead by Alan Lomax

Large scale, empirical, comparative study.

EsAC
1980s - : Corpus of melodies encoded in “Essen Associative Code”
By Helmuth Schaffrath.
Continued by Eva Dahlig.
Currently >20,000 songs.

Machine readable
Music Information Retrieval

Interested in collections of monophonic melodies for testing algorithms:

- Segmentation
- Melodic Similarity
- Pattern Finding
- etc.

Meta-data is regarded as *ground-truth*.

Virtually all papers in the proceedings of ISMIR in which this set of melodies is used do not show an interest in folk music and its particularities as such.
Computational Model

Input: Formalized data (songs, tales, ethnographic data, …) → Algorithm (model) → Output: Classification, Similarity, Distance, Clustering, Etc.

Ground truth

Meertens Tune Collections

http://www.liederenbank.nl/mtc

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>data types</th>
<th>version</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTC-DGLAUDIO</td>
<td>Collection Onsde groene ijsde: 7,178 audio recordings collected by Dutch</td>
<td>mp3</td>
<td>1.0</td>
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<tr>
<td></td>
<td>field workers during the 1950s-1980s.</td>
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<tr>
<td>MTC-DGLSCANS</td>
<td>Scans of ~6,754 transcriptions of recordings from Ons de groene ijsde as</td>
<td>txt, png</td>
<td>1.0</td>
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<tr>
<td></td>
<td>made during the 1950s-1980s. The music is hand-written, the lyrics are</td>
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<tr>
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<td>typed.</td>
<td></td>
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<tr>
<td>MTC-FS</td>
<td>4130 digitally encoded vocal folk songs both from Ons de groene ijsde (2500)</td>
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<td>1.0</td>
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<tr>
<td></td>
<td>and from various related written sources (1817).</td>
<td>be, png,</td>
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<tr>
<td>MTC-INST</td>
<td>2388 digitally encoded instrumental tunes from 18th-century Dutch</td>
<td>txt, mid,</td>
<td>1.0</td>
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<tr>
<td></td>
<td>manuscripts and printed scores.</td>
<td>be, png,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>txt, mid,</td>
<td></td>
</tr>
<tr>
<td>MTC-ANN</td>
<td>Annotated Corpus: 360 melodies used in various publications.</td>
<td>**kern</td>
<td>1.0</td>
</tr>
<tr>
<td>MTC-LC</td>
<td>Large Corpus: 4800 melodies used in various publications.</td>
<td>**kern</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Each collection comes with rich meta-data.
Lie-ve schip-per vaar mij o-ver
Naar het gind-se dor-pje heen;
Ik zal u een half-vlin-ger gen-ven,
En een kos-te-lij-ke steen

Elle will die schip carevaar mij over
Naar het ginds dorpe heen;
Ik zal u een halve vinger geven,
En een kostelijke steen

**kern**

Syllabized lyrics

Metadata: singer id, tune family, tune family membership, text family, place of recording, date of recording, etc

MTC-OGLAUDIO

Meta-data:
Date of recording
Place of recording
Date of birth singer
Place of birth singer
Tune family
Field worker

All recordings by Ate Doornbosch
**MTC-OGLAUDIO**

*Meta-data:*
- Date of recording
- Place of recording
- Date of birth singer
- Place of birth singer
- Tune family

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**What to do?**

What to do with a Digitized Collection of Western Folk Song Melodies?

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Music Cognition

These melodies were sung by ordinary people with little or no formal musical training.

Study human musicality:
• memory for melody
• strategies of text-setting
• properties of singing
• common errors

Examples:
Schellenberg (1996) used a corpus of folk songs to refine Narmour’s (1990) theory of melodic structure empirically.
Music Cognition

Examples:

Memory for Absolute Pitch in Oral Tradition:


Understanding Oral Variation / Stability

Record 72103 - Strophe 1

Record 72104 - Strophe 1

Record 72105 - Strophe 1

12 June 2014
Understanding Oral Variation / Stability

Nettl (2005): What is the ‘basic unit of transmission’?

Whole piece?
Formulae?
Motifs?

This question could be addressed with a pattern finding algorithm.

We test hypotheses on melodic stability.

Berit Janssen (2014)
Cultural Heritage

Currently much funding spend on preservation and digitization of European Cultural Heritage

E.g. Europeana.eu

To unlock and search digitized artifacts, adequate models and tools are needed.

Music Information Retrieval Tasks

Examples with Meertens Tune Collections:

- Melodic Segmentation
- Melodic Similarity
- Geographic Clustering
- Audio-Score alignment
- Singer classification
- Optical Music Recognition
- Pattern discovery
- Lyric-Audio alignment
- Key-finding
Computational Model

**INPUT**  \[\text{Algorithm (model)}\]  **OUTPUT**

*Formalized data* (songs, tales, ethnographic data, …)

Ground truth

Classification
Similarity
Distance
Clustering
Etc.

**INPUT**  \[\text{Algorithm (model)}\]  **OUTPUT**

Domain Knowledge / Hypotheses  \[\text{Interpretation}\]

*Formalized data* (songs, tales, ethnographic data, …)

Classification
Similarity
Distance
Clustering
Etc.
Thank you