Non-staff and other non-common notations for music

MUSIC 253/CS 275A
STANFORD UNIVERSITY
Common Western Notation (CMN)

- References **specific** pitches and **relative** durations
- Assumes **regularity of meter**
- Has numerous **graphical** conventions
- Is **flexible** and **extensible** (up to a point)
- Potential includes hundreds (or thousands) or **graphical objects**
- Has numerous **organizational** conventions (scores, parts, etc.)
- **Meaning** of given object often **conferred contextually**
Other representations of music

Western non-common

◦ **A. Neumes**: specifies relative pitches, often in *patterned* groups associated with particular words or syllables. *Many scripts.*

◦ **B. Mensural notation**: differentiates multiple *organizational hierarchies* for meter and duration. *Many scripts.*

◦ **C. Tablature**: pitch and note onset information tied to *gestural* info. *Many dialects.*

◦ **D. Music since 1950**: arbitrary requirements for *irregular* meter, unusual tunings, unusual gestures. *Arbitrary notations.*

Neumes

• Staves: usually 4-line
• Notes: shapes not standardized
• Durations: not explicit
• Lyrics (lang.): mainly Latin
• Lyrics (script): special fonts, diacriticals

From the Carmina Burana
(Bavarian State Library Hss Cgm 4660, Munich)

Mensural notation

Examples: Josquin Research Project—jrp.stanford.edu

Josquin: perfect

Dufay: imperfect

Ockeghem: Cut
Mensuration signs

Measurement, grouping

Metrical hierarchies
Fretted-instrument tablatures

Six-string grid
Duration separated
Many graphical dialects

Lute
Classical guitar

Andalusian

Plaisir D'amour
Fingerstyle Guitar Solo
Jean Paul Égide Martini (1741-1816)
Arranged Bill Tyers

pollice-indice-medio-anulare-mignolo
Tablatures can take the form of:

- Pictographs
- Numeric codes
- Other graphs


http://en.wikibooks.org/wiki/Guitar/Tablature

Musette tablature

Bergeronette

Borjon de Scellery, Traité de la Musette
Wind and keyboard tablatures

Recorder tablature
Horns, trumpets, trombones

Military 6-valve trombone

Trombone, first position overtone series

Valveless instruments

Sackbuts

Natural horn, Paris, 1797
Trumpet tablature
Anatolian folk instruments
Yang qin (zither)

Map showing major sites, cities, and relative locations ancient China from the end of Neolithic to 1453 AD.

Neolithic Period ca. 7000-2000 B.C.
Bronze Age ca. 2000-500 B.C.
Shang dynasty ca. 1600-1050 B.C.
Zhou dynasty 1050-221 B.C.
Western Zhou 1050-771 B.C.
Eastern Zhou 771-221 B.C.
Warring States Period 475-221 B.C.
Qin dynasty 221-206 B.C.
Han dynasty 206 B.C.-A.D. 220
Western Jin dynasty A.D. 266-316
Tang dynasty A.D. 618-907
Song dynasty A.D. 960-1279
Northern Song A.D. 960-1127

Zhu, 5th cent. BCE
Guqin notation (tablature)

- Vol. number
- Seals of the owner
- Title of volume
- Tuning, method of tuning
- Name of modal “preface”
- Tablature of modal preface

Next page:
- Title of piece
- Origins of piece
- Tablature for piece
Recent music

- Articulation marks
- Compound meters
  - Polymeters
  - Quarter-tones
- Off-staff presentations

Music Theory Spectrum Volume 16, Number 1, Spring 1994
Peter H. Smith, "Brahms and Schenker: A Mutual Response to Sonata Form"
Systems of arbitrary complexity

Hyo-Shin Na’s “Rain Study”

Typeset in SCORE by Craig Sapp (c. 2008)
Braille music notation

Requires impact printing (raised “cells” of information)

Two chapters on Braille MN in *Beyond MIDI*

<table>
<thead>
<tr>
<th>Cells</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 4, 5</td>
<td>“data” bits</td>
</tr>
<tr>
<td>3, 6</td>
<td>switches</td>
</tr>
</tbody>
</table>

Note: Articulation marks (staccato, tenuto, etc.) are shown as applied to a quarter note C (C).
Non-Western music

- Tuning systems unpredictable
  - Ambiguities of tuning, temperament, scale degrees
- Non-Western instruments (gesture)
  - String
  - Wind
  - Percussion
  - Tuned percussion
- Different understandings of pitch and duration

\[
\begin{align*}
\text{gong} & \quad \text{shang} & \quad \text{jiao} & \quad \text{zhi} & \quad \text{yu} \\
1 & \quad 2 & \quad 3 & \quad 5 & \quad 6
\end{align*}
\]
Other special-needs repertories

Cheironomic notation

Greek Orthodox chant

Tibetan chant
Combinations of the above

Δείγμα τοῦ πῶς γράφονται τὰ κείμενα μετὰ μουσικῆς εἰς BRAILLE. Ἐκ τοῦ Ἀναστασιματηρίου Ἰωάννου τοῦ πρωτοψ.

Greek Orthodox chant in Braille music notation
SCORE for special notations

Has extensive drawing capabilities
  ◦ Anticipated PostScript in use of splines

Has a few “palettes” for special characters
  ◦ Chant
  ◦ Mensural notation
  ◦ Tablatures (harp, trumpet, drum, guitar)
  ◦ Large-print notation (for plotter) [no Braille MN]

Legacy of large-print editions
Score: Maximum user control

Comes at price of parametric manipulation!