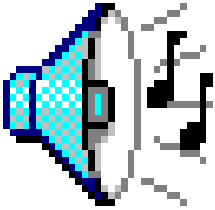


What is musical information?

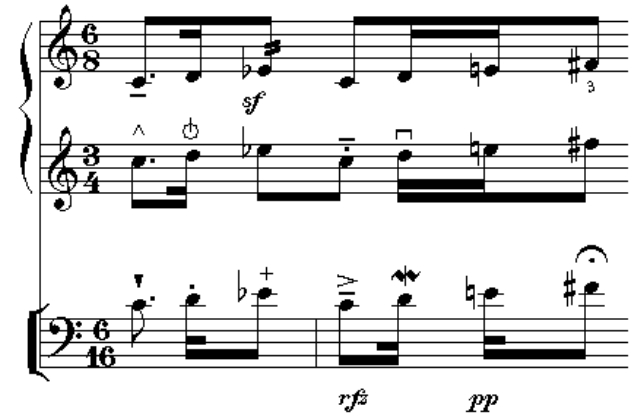
Music 253/CS 275A
Stanford University

Topic 1A

What is the basic essence of music?

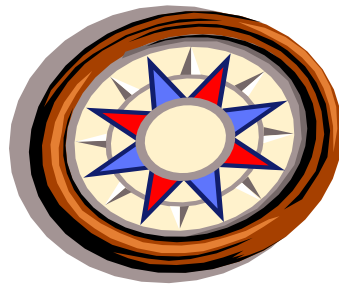


- Sound
- Text
- Act
- Mental image

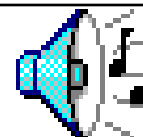


What is music representation?

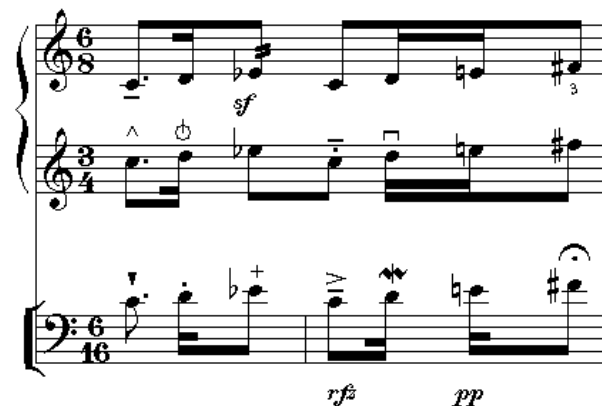
- **Sound:** parameterization of sound qualities
- **Text:** symbolic representation of scores
- **Act:** symbolic representation of gestures
- **Mental image:** rules, hierarchies, principles



Software domains for musical-information management

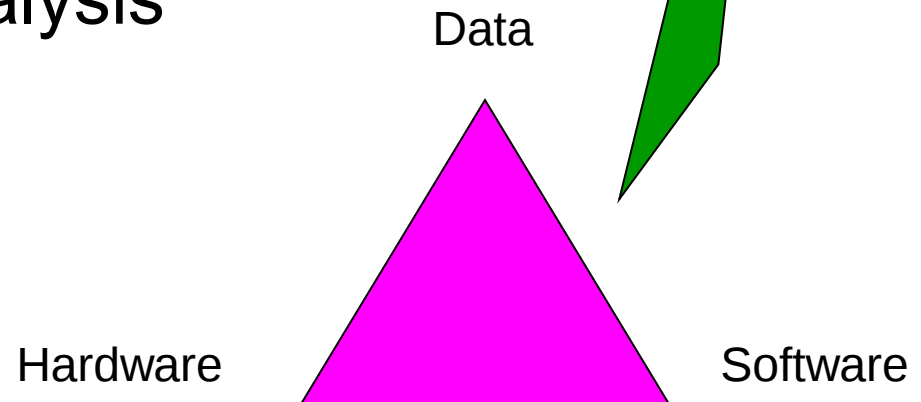


- **Sound-based:** MIDI (sequencer *du jour*)
- **Text-based:** *Guido*, *Finale*, *SCORE*, *Sibelius*, *abcm*
- **Analysis-oriented:** *Humdrum Toolkit*
- **Data and Data Interchange:** *MuseData*, *Plaine&Easie*, *MusicXML*, *MEI*



Frontiers of musical information

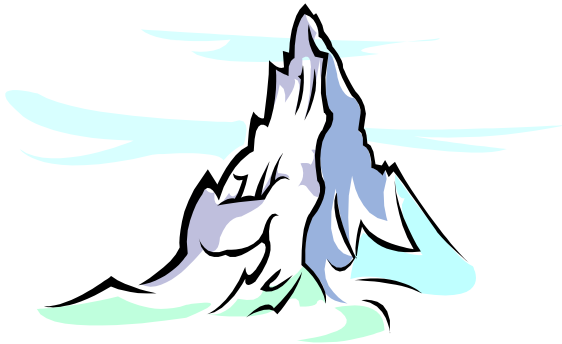
- Data resource development
- Data management and identification
- Data interchange
- Data query and analysis
- Data visualization



Selective understandings of music

- Absolute vs. relative

- machine-oriented
 - MIDI key nos.
- user-oriented
 - Intervallic information



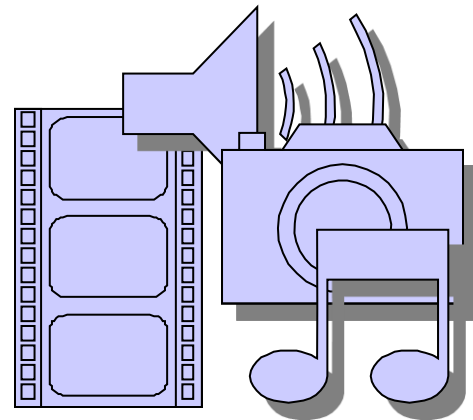
- Complete vs. selective

- Selection by domain
- Selection by reduction



Selective understandings

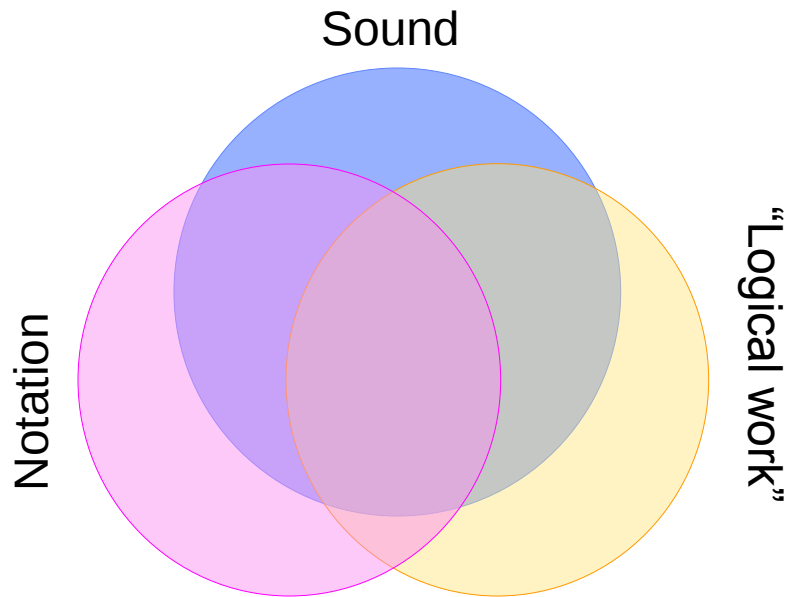
- Raw vs. interpreted data
 - **When** interpreted?
 - On input
 - In processing
- Common vs. application-specific data
 - **Data** attributes
 - **Application** attributes



Musical information confounds

No symbolic data-content:

- "Pure" graphics
- "Pure" sound

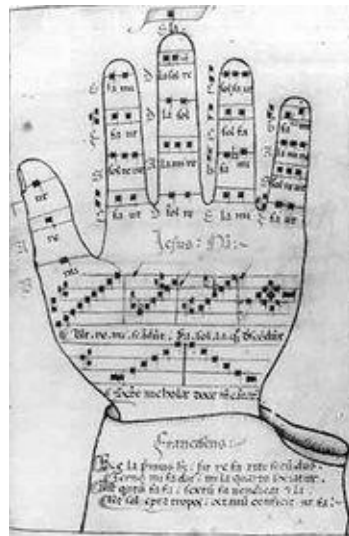
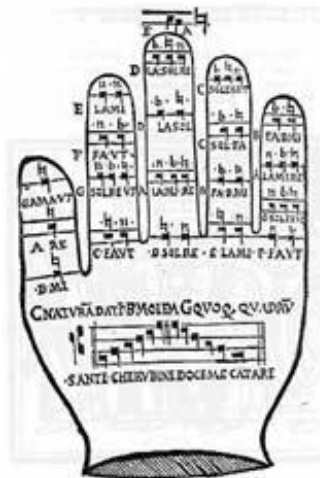


Sign vs. sound:

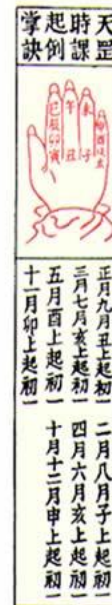
Domain-specific attributes



The Guidonian hand (mnemonics)



Mnemonic devices (c. 1000 AD)



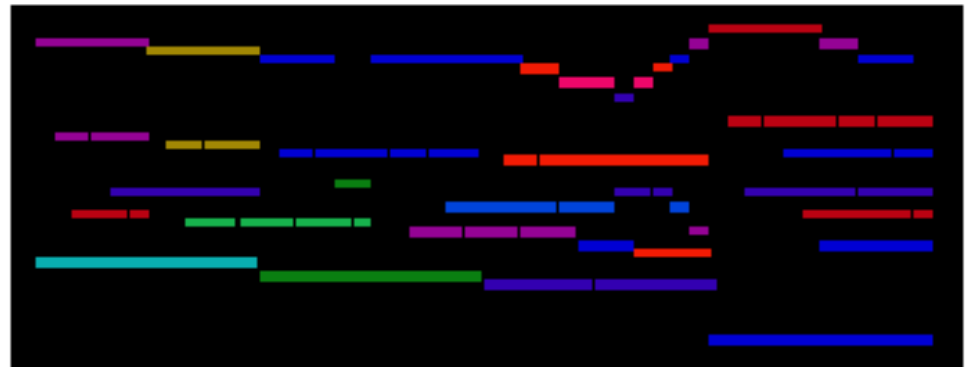
Giordano Bruno (1582)

Piano rolls as music representations



J. S. Bach: Chorale No. 1

Chopin: Prelude



The Music Animation Machine

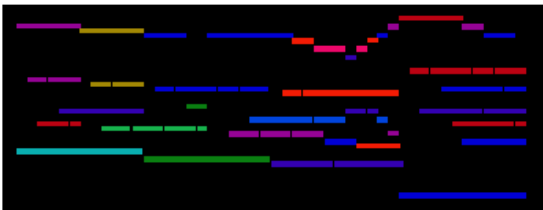


Music Animation Machine: Harmonic Coloring - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Address

Links Google Search Web Search Site



Above are four bars (23-26) of Chopin's Nocturne, Opus 27, No. 2 in D-flat major. This excerpt modulates chromatically, ending with a V-to-I cadence (violet-to-blue in the bass line).

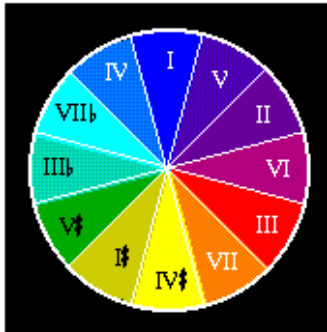
Done Internet

Music Animation Machine: Harmonic Colo...

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Address

Links Google Search Web Search Site

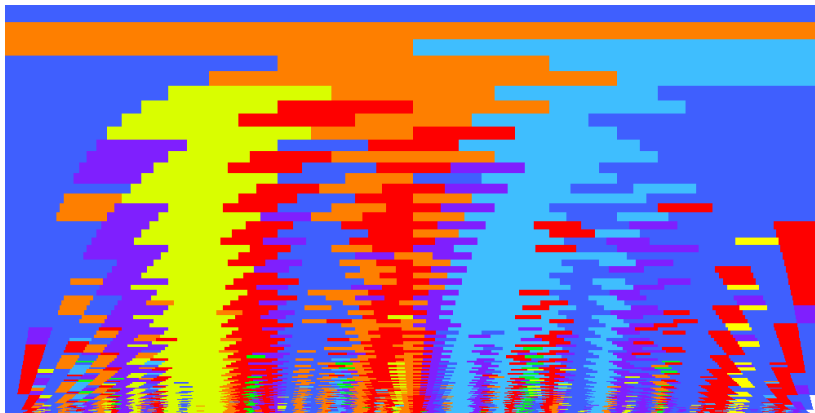


Harmonic coloring assigns twelve colors from the artist's color wheel to the twelve pitches of the musician's circle of fifths.

In the chart above and the examples that follow, blue is assigned to the tonic pitch (I).

Done Internet

Harmonic representation schemes



J. S. Bach: Prelude in D
Major, Fugue in D Minor

[work of Craig Sapp]

