

## Music 254/CS 265B/SSP 253B

### Assignment 2. The *MuseData* and *KernScores* websites.

Since 1985, the Center for Computer Assisted Research in the Humanities (CCARH) has been developing a series of databases containing full-score encodings of classical music. It primarily distributes its holdings in the *MuseData*, Kern (for Humdrum), and MIDI file formats. A few scores are also available in graphical page files (\*.pdf and \*.cft).

Over the past five years (2000-05), Craig Stuart Sapp, a former TA in Music 253 and 254, developed a site with to enable students to spend more time analyzing time and less time encoding it. *KernScores* can be found under several urls. We use <http://kern.ccarh.org>.

The *MuseData* format and \*.kern format used for common Western notation in Humdrum are both translatable, via MusicXML, into many other formats used in music applications. MusicXML can be imported and exported into the commercial notation programs *Finale* and *Sibelius*, for example.

Some kinds of music can be successfully captured with the scanning program *SharpEye* (Braun lab; shareware) and saved as MusicXML data. Overall, MusicXML is a safer export medium than MIDI because it retains significantly more data elements.

Two important points to consider in designing a research project in music are:

- Sources of available data (if any): check the *MuseData* and *KernScores* websites
- Copyright restrictions on the underlying works: music published after 1923 is usually still protected

Question pertaining to [www.musedata.org](http://www.musedata.org)

1. Where can you find the [data for the] parts for Vivaldi's "Spring" Concerto? (It's Italian name is Primavera.) How many parts are there? What data formats are available for this work? What are the instruments? How many movements are in the work? How many other concertos are in the same opus? How many of these are on the website?
2. Thinking about music such as this work, how would you approach the task of quantifying the music on the *MuseData* website?
3. In [score.musedata.org](http://score.musedata.org) look at the Bach *Chorales*, which can be downloaded in one pdf file. There are more chorale settings than there are pages. If you were designing a search tool for musical data, what approaches might you use to find specific works?

Questions pertaining to [kern.ccarh.org](http://kern.ccarh.org)

1. How many composers are listed at this site?
2. How many musical genres are listed?

3. Find Scott Joplin's "Maple Leaf Rag." How many data translations are available? Open the PDF, so that you can see a copy of the music. Then open the piano-roll view under "analyses." If you want to hear the piece, click on the MIDI file under the PDF.
4. Find Corelli's Concerto Op. 6, No. 8, Movement 1. Open the Humdrum (\*.krn) file. How many instruments are required? How are their parts organized? What kinds of information are in the comments? How many lines does the file contain?
5. Now look at the Guido notation file for the same work. How is the same information organized? If you were writing an analysis routine, which file type (Humdrum kern vs. Guido notation) would be easier to work with? Why?
6. Pick one other format from the "data format translations" list and apply the questions in No. 5 to it.