Things to illustrate in the “Intro to Humdrum” section:

\*deg

\*context

Steps/script for the “finding the first-level default medial caesura” part of the program:

Focusing on hammer-blow type?

[TO DO] Clean the Op. 14 No 1 mvt 1 file. Get rid of dynamics spine and beaming information.

[check the Clean directory]

Step 1: Find places where there’s a grand pause / rest in all voices.

-first extract just the kern spines:

extract -i "\*\*kern" k080-01.krn

-then look for places with 4 rests (for string quartet movements):

extract -i "\*\*kern" k080-01.krn | grep -n ‘.\*r.\*r.\*r.\*r'

N.B. We were interested in ‘nothing but rests’, but notice that we actually searched for ‘sonorities with 4 ‘r’s in them’ (which could include ‘re’!)

-This doesn’t work for piano sonata movements (which may not have 4 voices), plus it doesn’t give us the measure numbers. Plus, it only finds places where all four rests are ‘attacked’ at the same time. It’s better to ditto to find ‘sonorities’ of all rests.

Step 2: Demo cleaned files and how we can search better with them

-Show cleaned files with metpos info

-All sonorities have been ditto’d

-All spines collapsed into single sonorities

-Duration data has been removed

-Turned into solfege

-Metpos data has been added (useful later)

Step 3: Truly search for ‘nothing but rests’

-Show finder.mc -r option

-Details may be a bit technical, so don’t feel like you need to follow

-But, it first gets rid of all solfege info (letters), then puts 2 lines on 1 (to get ms. #), then searches for anything with rests

-Run

for i in Cleaned/Metpos/All/\*; do finder.mc -r $i; done

-Whoa! That’s a lot of results

-if you add wc to the end, you’ll see 1997 results!

Clearly, that’s not the best method!

Step 4: Maybe we should only look for all rests on ‘strong’ish beats.

-Show finder.mc -s option

-This essentially takes downbeats, the second level (half measure), and third level metric position (quarter notes in 4/4). It essentially gets rid of rests on non-beats

-Essentially, the major change here is getting rid of non-measures that have 4, 5, or 6 at the end of the line

for i in Cleaned/Metpos/All/\*; do finder.mc -s $i; done | wc

-Ok, that trims it down a little (1761), but still WAY too many.

Step 5: Maybe we should just look in the first 50% of the movement (after all, medial caesuras are in the exposition).

-Show finder.mc -f

-Essentially, this first finds the highest measure number, divides it by two and then takes just the remaining measures to operate the same thing from 4 on.

for i in Cleaned/Metpos/All/\*; do finder.mc -f $i; done | wc

-Trimmed down quite a bit more (804), but still way too many

Step 6: Ok, we should probably take into account the harmony.

-Show finder.mc -c (for cadence)

-This essentially looks for three types of patterns: a re on the downbeat, followed by at least 1 record of nothing but rests, followed by a barline, followed by a chord with so in it; or the same with te in the bass followed by a chord with me; or a so in the bass followed by a chord with so.

for i in Cleaned/Metpos/All/\*.clean; do finder.mc -c $i; done

-This is a lot more selective, returning only 59. However, some movements have more than 1 hit and many movements (perhaps with links) have 0 hits.

-Plus, it returns a lot of false positives.

Step 2: Include scale degree information? First-level medial caesura will have ^2 in the bass, so maybe look for a pattern like ^2 r ^2 r ^2? (At least try to get it to find THIS one?)

* problem: this file is encoded reading the LH from the top of the bass staff DOWN, instead of from the bottom up. (Damn you, CSS!) So the prolongation of the dominant and the bass voice ^2s are in a split spine NOT on the LH side of the file.

Step 3: Extend it to other hammer blow situations, maybe with no rests in between the blows?

Step 4: Limit search to places where ^2 falls on a strong beat?

Step 5: What if there’s no actual rests? Use Op. 14 No. 2 as an example – elements are there, but there’s no rest, no octave hammer blows, and the prolongation of the dominant is elaborated in the LH.

You might be able to do this by operationalizing “theme.”  
  
In other words, look at least after the first theme, and before the second theme, where the cadence and all rests are.

But, to operationalize theme, you have to operationalize “melody” and “key area” and “cadence” and “non-theme material” and maybe “motivic similarity,” etc.