

Fundamentals of Music Theory Blending for Fluency and Interdisciplinary Learning

Blended Learning in the Liberal Arts Conference

Christopher White (UMass) & Luke Phelan (Five Colleges)

Supported by the Teagle Foundation



Please write a sentence or two in response to the following questions:

1. How would you define “music”?
2. How does music communicate emotion?
3. What’s your favorite piece of music and why?

(Oh, and register for our demo course)

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Today

- Overview
 - Goals & Course Description
- Mock Lesson
 - Begin in “Lecture,” which turns to our blended materials, which then returns to “classroom” discussion
- Assessment

Goals

- Increase efficiency of and provide immediate feedback to students' learning of basic musical skills
- Shift classroom focus toward broader cultural/social questions surrounding musical theory and practice

- ***Increase efficiency of and provide immediate feedback to students' learning of basic musical skills***
- Online tools that allow students to practice particular skills to a point of fluency
 - Shows them what they get wrong; provides hints to help them troubleshoot
- Online quizzes to validate this fluency
 - Helps me and them know how they are doing

- ***Shift classroom focus toward broader cultural/social questions surrounding music theory and practice***
- Less time on developing fluency in the classroom means more time for higher-level work
- Online homework also includes short writing responses/prompts to initiate and deepen classroom discussion

And so

- Increase efficiency of and provide immediate feedback to students' learning of basic musical skills
 - **Makes something we used to do better**
- Shift classroom focus toward broader cultural/social questions surrounding musical theory and practice
 - **Adds new things that we didn't do before**

How we quantify / qualify these goals & learning outcomes

- “Do what we used to do just better”:
 - Will grades be higher?
- “Doing a new thing: open up time for developing more musical sophistication”
 - Will musical sophistication increase?
 - Specifics to follow the mock lesson!

Course Details

Fundamentals of Music Theory

- 80 student cap
- No prerequisite
- Not within the music-major sequence
- Only such course within the 5-College Consortium
- Provides a “Quantitative” General Education requirement for UMass students
 - Comparable classes include Introduction to Psychology, Statistics 101, Introduction to Computer Programming

Notating Pitch

a mock lesson

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that points you toward internet-facing tools
after which we'll come back together for discussion

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(and then close with some assessments of how this all
worked out)

Staff notation

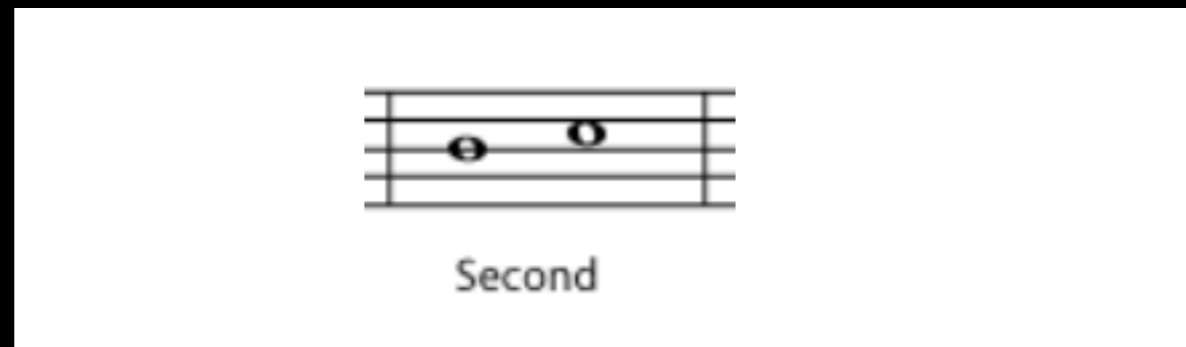
Writing note heads on a series of lines and spaces

Each move between a line to its adjacent space (or a space to its adjacent line) is a step (aka 2nd)

Staff notation

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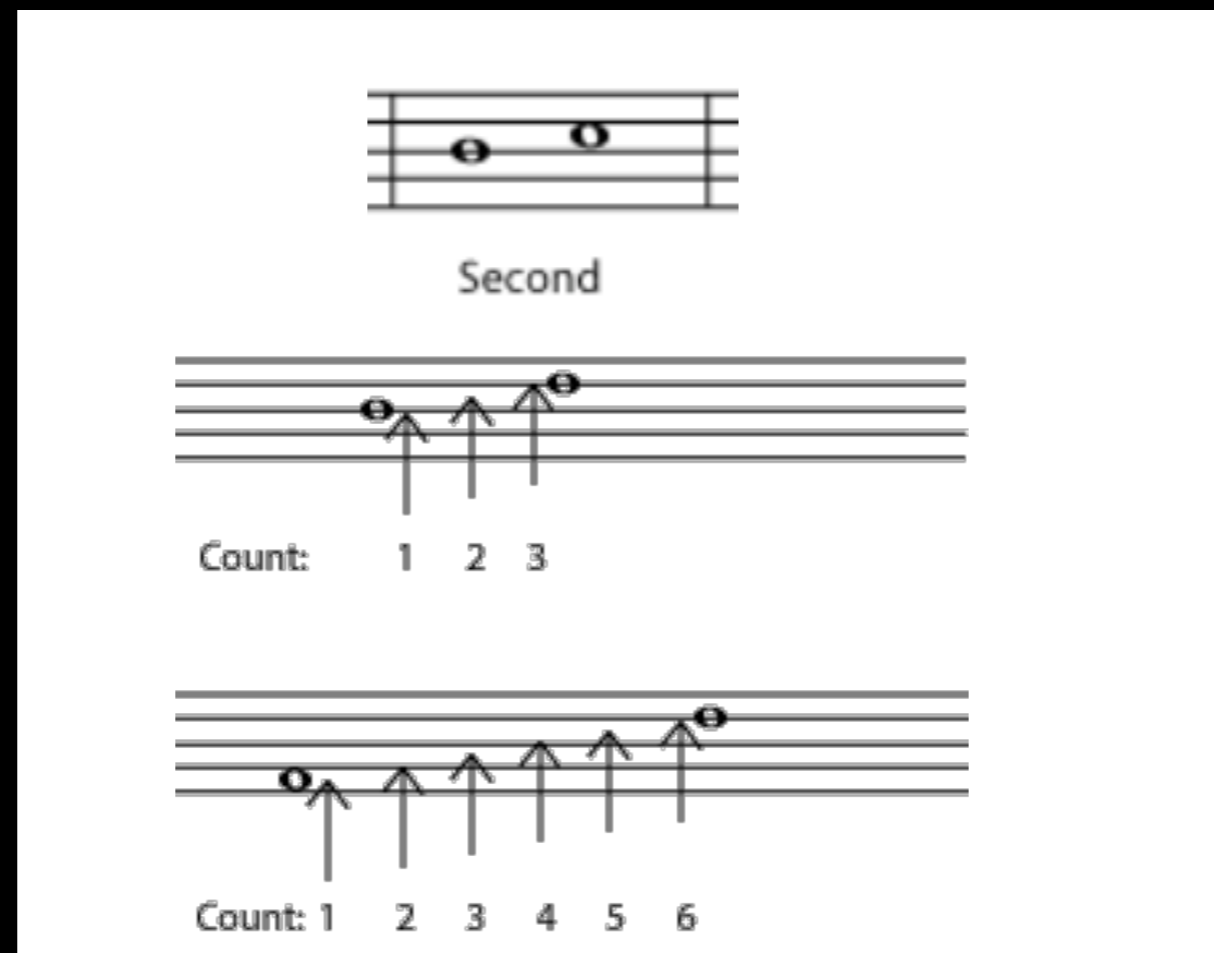
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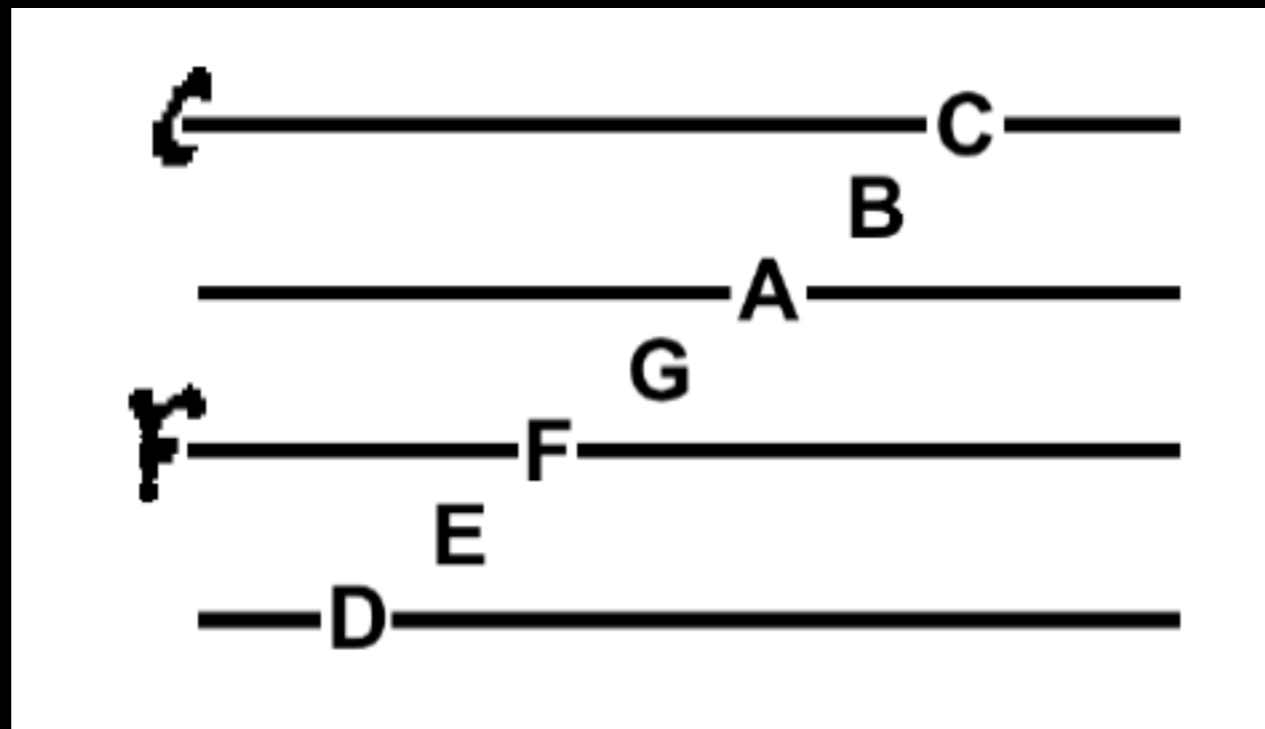
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We use clefs to show exactly what pitch corresponds to each line and space

- *Clefs* show us where a particular letter name appears on a staff
 - “This line is an F!”
 - “This line is a C!”
- Because once you know where one letter is, you can extrapolate the whole letter system onto your staff

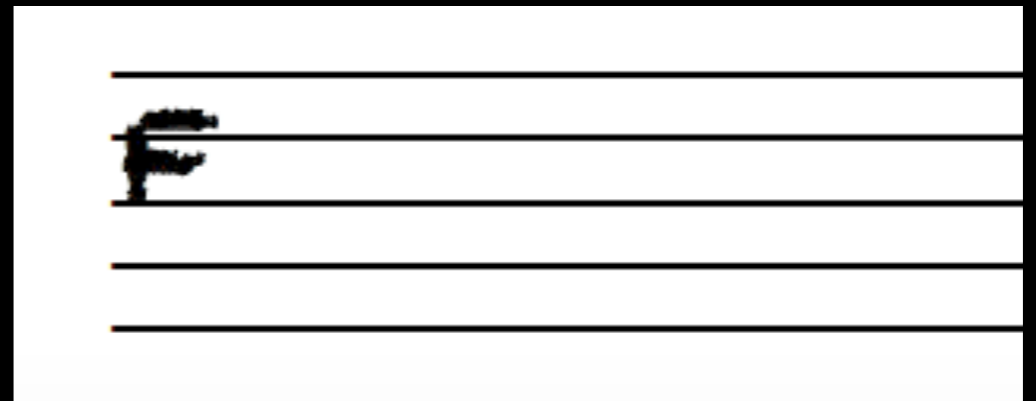
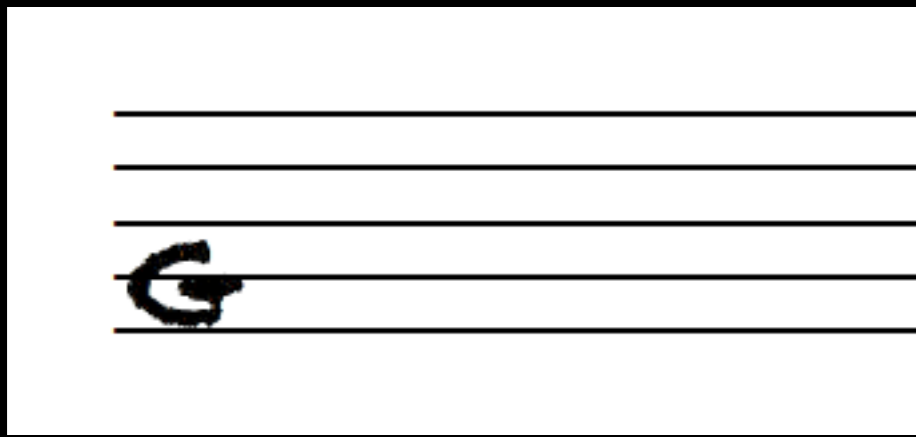
The earliest notation put letters next to lines



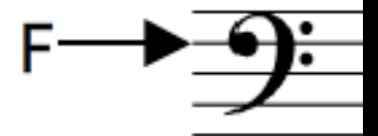
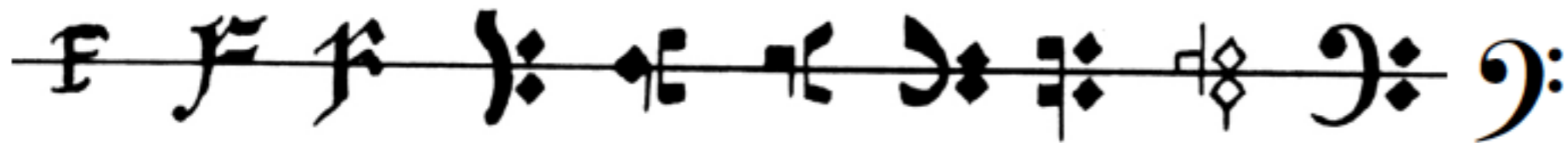
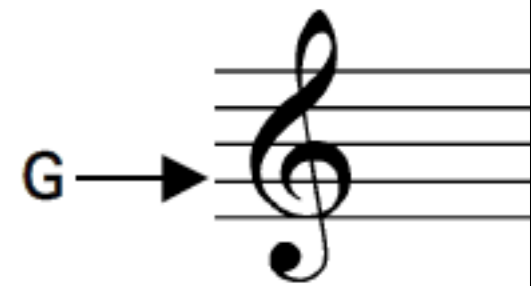
Clefs

- And from this developed clefs that show you where C is, where F is, where G is....
- But the most prominent ones ended up being the ones that show you where F and G are

Early G and F clefs

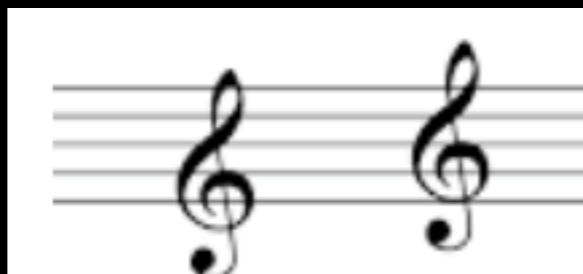


The develop into....

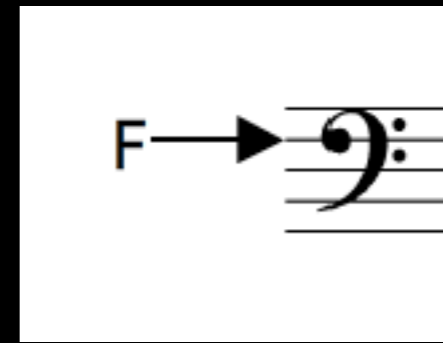
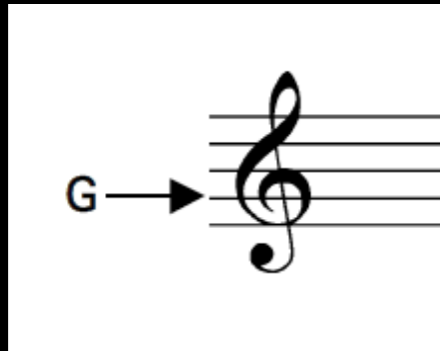


Early G and F clefs

In principle, you can put these wherever you want on the staff, but these positions become VERY standardized after the 1700s



Common names:



- G clef with the G on the 2nd line = Treble Clef
- F clef with F on the 4th line = Bass Clef

Mnemonics

Mnemonics

The image shows two musical mnemonics on a grand staff. The first mnemonic, 'F A C E', is written on a treble clef staff with notes on the first four lines (F4, A4, C5, E5). The second mnemonic, 'Every Good Boy Does Fine', is written on a bass clef staff with notes on the first four lines (G2, B2, D3, F3). The notes are quarter notes.

F A C E Every Good Boy Does Fine

All Cars Eat Gas Good Burritos Don't Fall Apart

Mnemonics

F A C E Every Good Boy Does Fine

All Cars Eat Gas Good Burritos Don't Fall Apart

This block contains a musical staff with two systems. The first system has four notes: F, A, C, and E. The second system has five notes: Every, Good, Boy, Does, and Fine. Below the staff, the corresponding words are listed: All, Cars, Eat, Gas, Good, Burritos, Don't, Fall, and Apart.

All Cows Eat Grass

This block shows a musical staff with four notes: All, Cows, Eat, and Grass.

Good Boys Do Fine Always

This block shows a musical staff with five notes: Good, Boys, Do, Fine, and Always.

Every Good Bird Does Fly

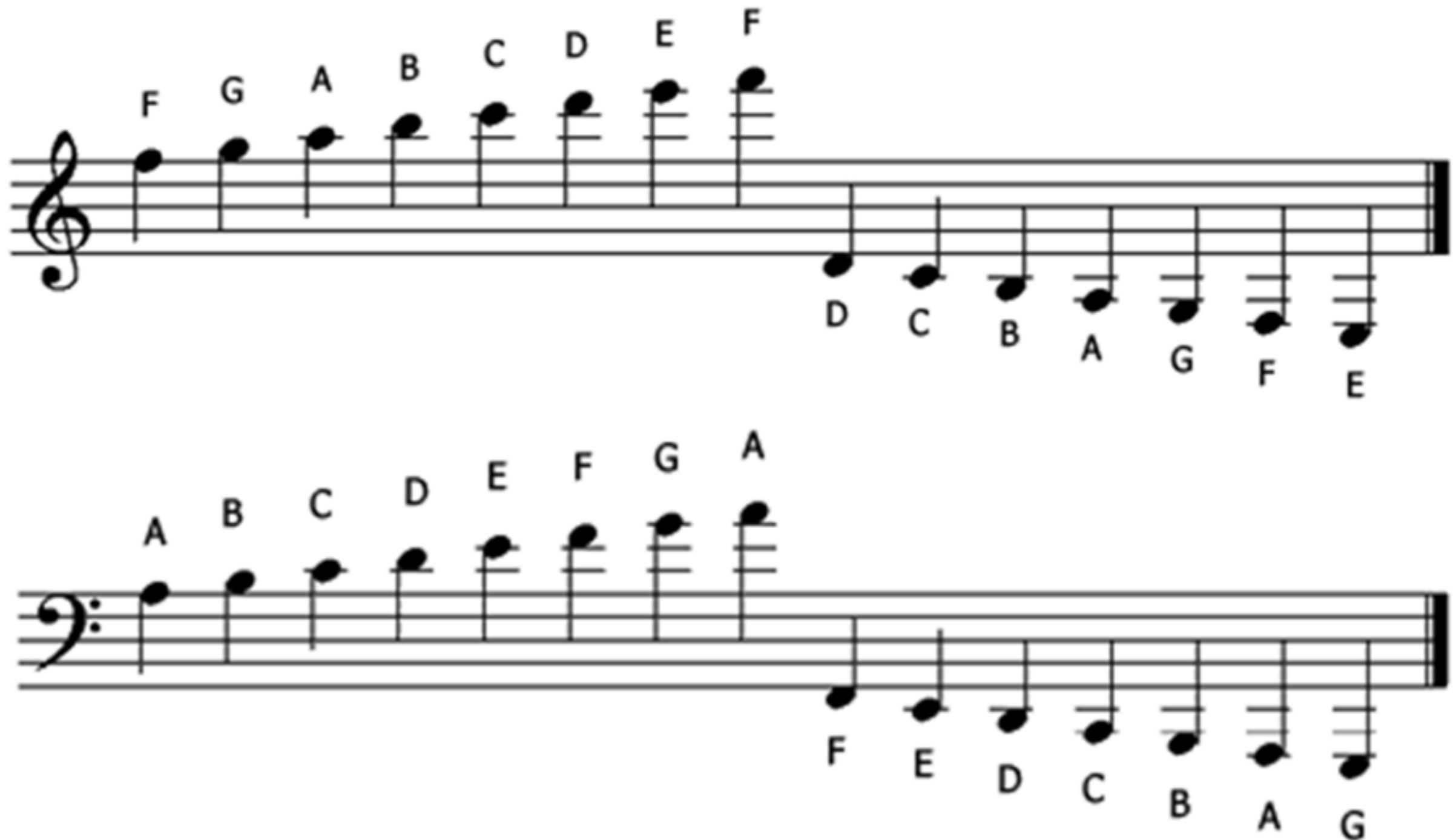
This block shows a musical staff with five notes: Every, Good, Bird, Does, and Fly.

Elephants Get Big Dirty Feet

This block shows a musical staff with five notes: Elephants, Get, Big, Dirty, and Feet.

And you can go above and below the staff
by hanging off or adding **Ledger Lines**

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And finally

Treble and bass clefs actually
capture pitches in different octaves

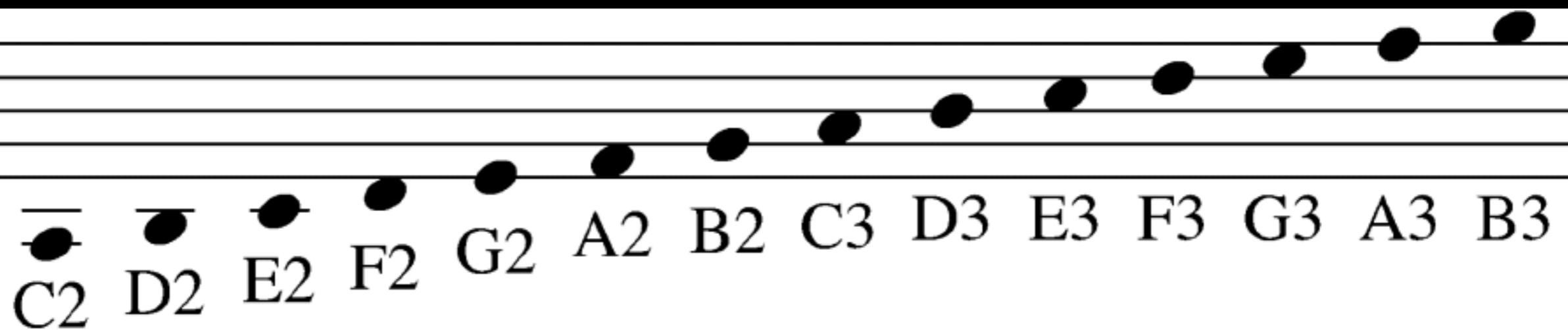
How do we know WHICH octave we're talking about?

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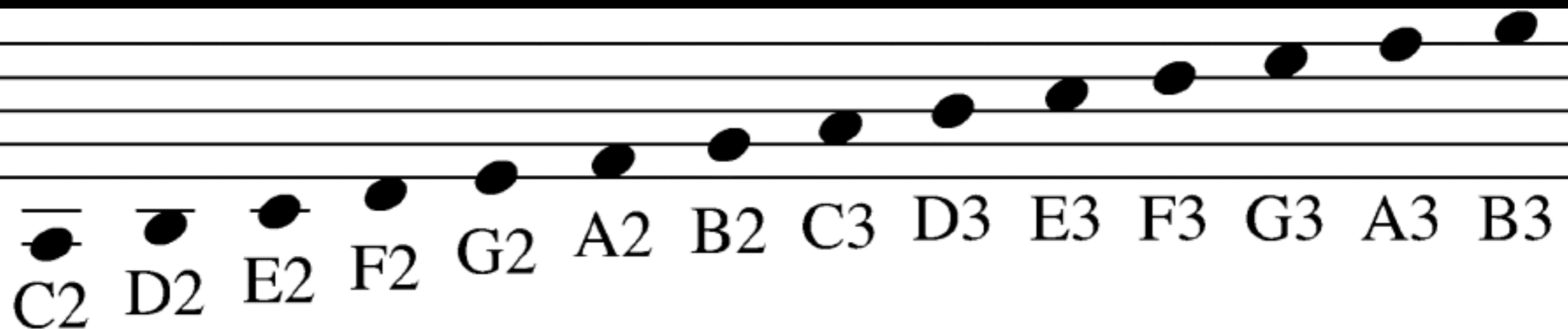
By number designations!

We designate the octave of the pitch
by using a number after the letter


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A musical staff in bass clef showing a sequence of notes from C2 to B3. The notes are represented by black dots on the staff lines. Below each note is its letter and octave designation: C2, D2, E2, F2, G2, A2, B2, C3, D3, E3, F3, G3, A3, B3. The notes C2, D2, and E2 are positioned below the bottom line of the staff. The notes F2, G2, A2, B2, C3, D3, E3, F3, G3, A3, and B3 are positioned on the staff lines from bottom to top.



A musical staff in bass clef showing a sequence of notes from C4 to C2. The notes are represented by black dots on the staff lines. Above each note is its letter and octave designation: C4, B3, A3, G3, F3, E3, D3, C3, C2. The notes C4, B3, A3, G3, F3, E3, D3, and C3 are positioned on the staff lines from top to bottom. The note C2 is positioned below the bottom line of the staff.

We designate the octave of the pitch by using a number after the letter



You have an example with
all the C's on your handout

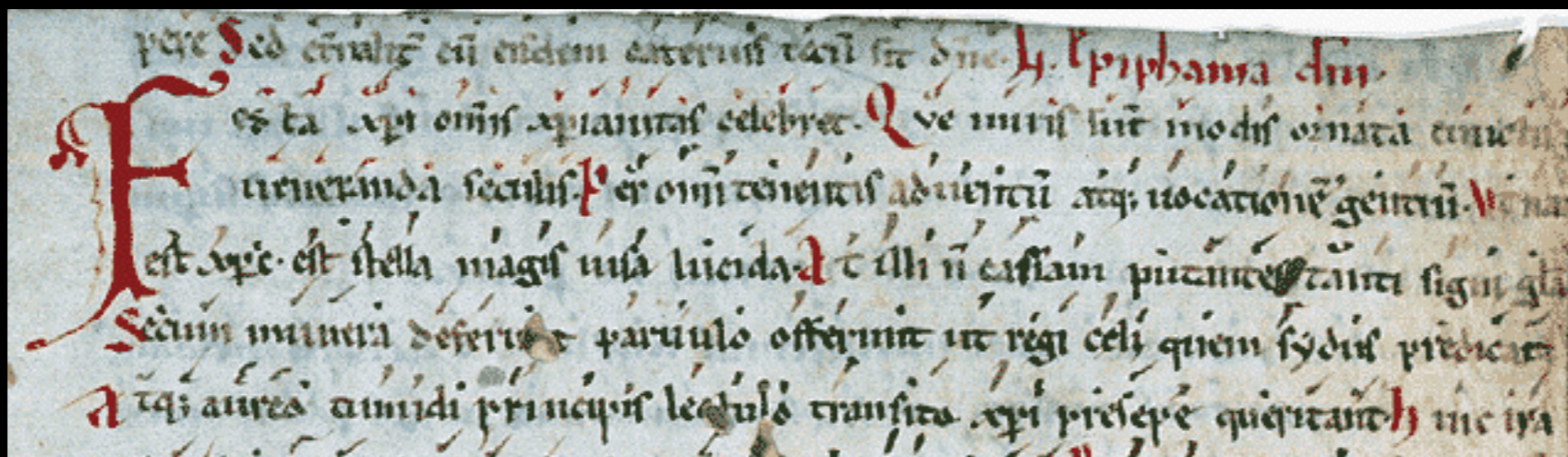
Let's name these pitches
together



Before we split up into
groups,
let's consider where this
all came from

Before the 12th century, most pitch notation in Western Europe were these squiggles that just showed the basic contour of a melody

- This was called “in campo aperto” or “open field” notation



0 Tubilate deo uniuersa terra uibila
te deo uniuersa terra psalmum dicite
nomini eius uenite et audite et narrabo uob omnia
quanta fecit dominus et omnia
mea alleluia.

de u te rus

alle lu ia al le lu ia
exultate iusti in domino. Se cu lorum amen.

R

Repleatur os me um lau de tu a alle lu ia. ut pos

sim can ta re alle lu ia. gaude bunt la bi a

me a dum can ta uero a bi a le lu ia. alle

ognou do mine quia quia iudi ci lu ia
ante dñe speravi. Amen

Alt Repleantur apli
of Lau da anima
co Spiritus ubi uult spirat

But the monks are avid readers, and are aware of an old old old Greek practice of naming pitches by letters

A
B
C
D
E
F
G
A
B
C

Note that some monk came in an wrote some letters under the contour scribbles

de u te rus

e d edh h hgf ef hgf shg ogff fe fghk i k l k k k h h k
 alle lu ia al le lu ia Exultate iusti in domino. Se cu lorum amen.

R ef dg sk k k k kkk h hkhg s h k ik h k ilkk ki s h
E pleatur os me um lau de tu a alle lu ia. ut pos

h h shsgf sf s ghk khksh h sk kkkk h hkk kkg gkk
 sim can ta re alle lu ia. gaude bunt la bi a

hghgf f e fs s s s shgfh h h h h h s s ghk kkg h ksh
 me a dum can ta uero ti bi ale lu ia. alle

ef age gh h k k i k k g h h k h hgh f e f g g f g
 og nou do mine quia g quita iudi ci lu ia Ante dñe speraui. Amen

Alt Repleantur apli
 of Lau da anima
 co Spiritus ubi uult spirat

Note that some monk came in and wrote some letters under the contour scribbles



Two problems

- Contour is imprecise
- Adding letters can get hard to read

So, some monks starting
writing a reference line

nis romane & aplice sedis ecclesie gl'osissimus & beatus **C**athac luce sub
actus arq; ad ecclesiam est signu sede actus. **Q**uozm
fete luuinauozs sue catipose. et dux uisc in epu uobozoz. **C**athac.
eoz; gregorius uozsone romane; nob hanc ad suoz mofbz; & p'bil
oiazbz deozoz uoz. e. e. u' d' hanc ad huc lupoz uoz d'oz
at si q' bundo p' d'oz o' p' flu. hanc d'oz m' **A**le f' s' d' u' p' coll' g' d' n'

ms 1681

Guido of Arezzo

- Guido basically invents modern musical notation in the early 11th century
- He invents “Staff notation” and the practice of using clefs
- This takes off, and by the 12 century, almost everyone is using this type of music notation

And it looks like this

And it looks like this



As is everything we learn about in this class, staff notation arises from medieval monks trying to solve a problem

Your discussion questions ask you to think about the problems staff notation was trying to solve

Discussion Questions

- Please think of at least two reasons why early Middle-Ages (“early Medieval”) Western European cultures did not need precise musical notation
- What “problem” was staff notation trying to solve?
- What sorts of societal or cultural changes might have been happening around the 11th and 12th centuries to make staff notation so immediately popular?
- In American culture, the percent of the population who can read music peaked in the early 20th century and has been declining ever since (Taruskin 2009). Why do you think this is? Is it because there are aspects of our culture that are similar to that of the Middle Ages? Is it because we are developing some new/novel societal characteristics? In other words, does this trend arise from society regressing or progressing? Or neither?

Now, let's drill!

Please divide into groups
*(perhaps based on your musical
background?)*

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background?)*

Homework 4 Practice will help you gain fluency

Begin *Homework 4* when you are ready to test
your fluency

(And you can peruse the other homeworks,
practices, and the corresponding unit readings!)

Discussion

How we quantify / qualify learning outcomes

- “Do what we used to do just better”:
 - Will grades be higher?
- “Doing a new thing: open up time for developing more musical sophistication”
 - Will musical sophistication increase?
 - Apply a rubric to the questions you first answered
 - The Questionnaire and Rubric are in the GoogleDrive folder

Grades

- Compare to 5 other previous semester this course taught (myself and three other teachers)
- Higher grades than average, but not statistically significant (according to one-sided t -tests)
- But, no D's or F's
 - This is very statistically significant according to two-sided t -tests ($p < .01$) when compared to number of D's and F's (pooled) in other semesters
 - Due to both more drops and (perhaps) a better/consistently prepared student body

The questions

1. How would you define “music”?

2. How confident are you in your answer to #1?

1 2 3 4 5 6 7 8 9 10

3. How does music communicate emotion?

4. How confident are you in your answer to #3?

1 2 3 4 5 6 7 8 9 10

5. What’s your favorite piece of music and why?

The rubric

Category

1. Cause and effect structure

2. Shows awareness of musical values are culturally situated

3. Technical vocabulary

4. Awareness of alternate viewpoints

Category	2 Present - Good	1 Present – Poor	0 Absent
1. Cause and effect structure			
2. Shows awareness of musical values are culturally situated			
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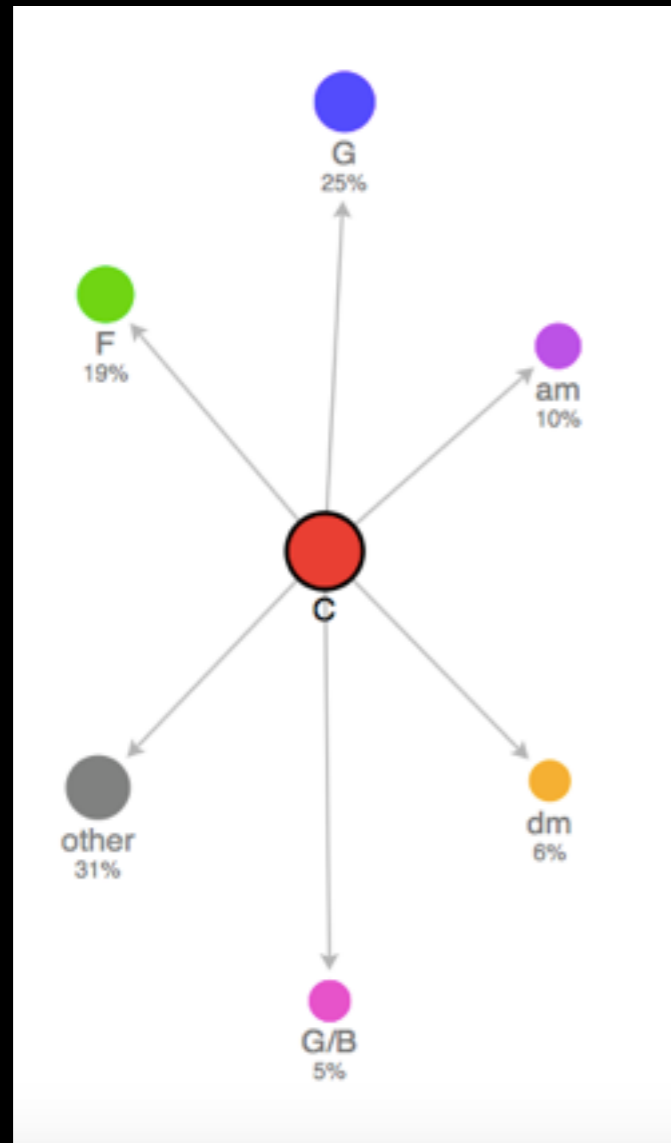
Category	2 Present - Good	1 Present – Poor	0 Absent
1. Cause and effect structure	Mentions of historical or technical specifics but also shows some action of explaining. Hallmarks would include vocabulary like “Because” or “Due to” along with some kind of potentially convincing explanation as to why the effect is happening.	Mentions of historical epochs, styles, composers, or technical language; but, there is no argumentative structure. OR Response implies a cause-and-effect structure, but does not explicate it. OR Has some positive evidence present.	Use of generalizations. No specifics are cited; no causality is argued.
2. Shows awareness of musical values are culturally situated	Shows an understanding that musical expression arises from a historical and cultural context. Includes vocabulary that engaging with the performer, the audience, the surrounding culture, or the relationships between them but also describes the relationships in some specific way.	Hints at the cultural situated-ness of their answer or the relationship between a listener and performer, but does not flesh out these ideas. Hallmarks would include vocabulary mentioning the performer, the audience, or the surrounding culture.	No explicit presence of performing or listening agent. AND No apparent understanding of the cultural context (or expression) of their answers.
3. Technical vocabulary	Mentions at least one specific musical material in their answer. These will include referencing chords, notes, harmonies, meters, rhythms, melodies, pitch, or any other topic discussed in this course.	Points to the music, but does not mention any specifics.	Does not mention anything about the music.
4. Awareness of alternate viewpoints	Explicitly addresses or argues against some alternate way of answering the question and engages with that alternate viewpoint.	Any suggestion of an alternate viewpoints but does not argue against them. OR, shows an implicit awareness of the more sophisticated criteria.	Does not seem to be aware of alternate viewpoints. Generalizations are in this category.

Let's grade some!

Plans Going Forward

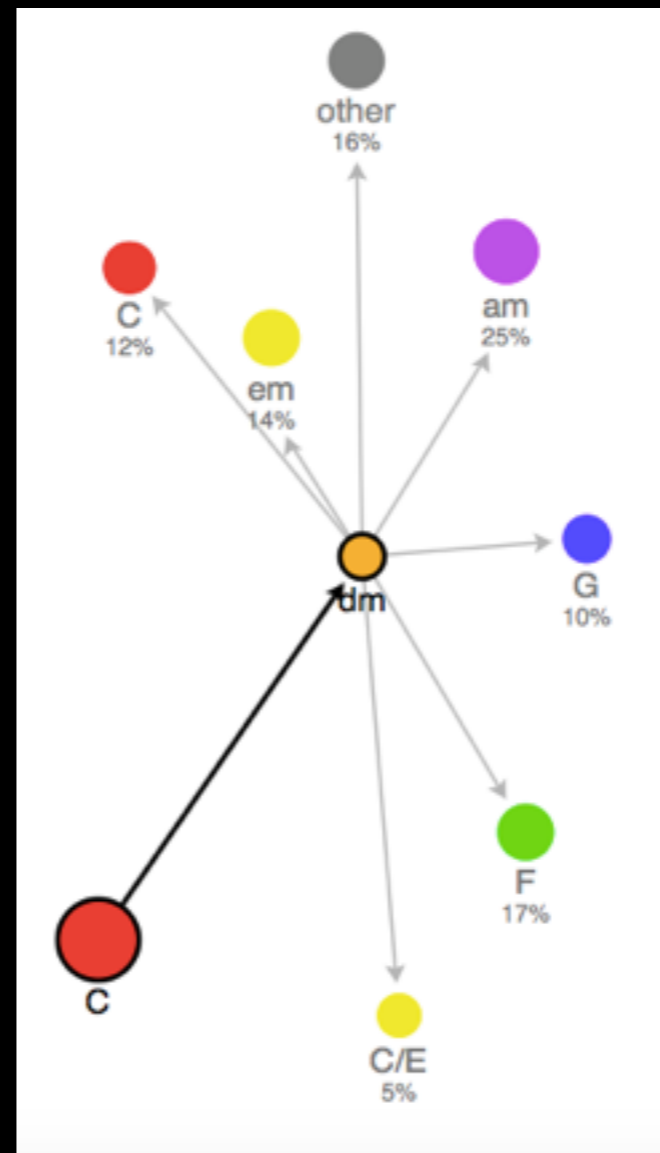
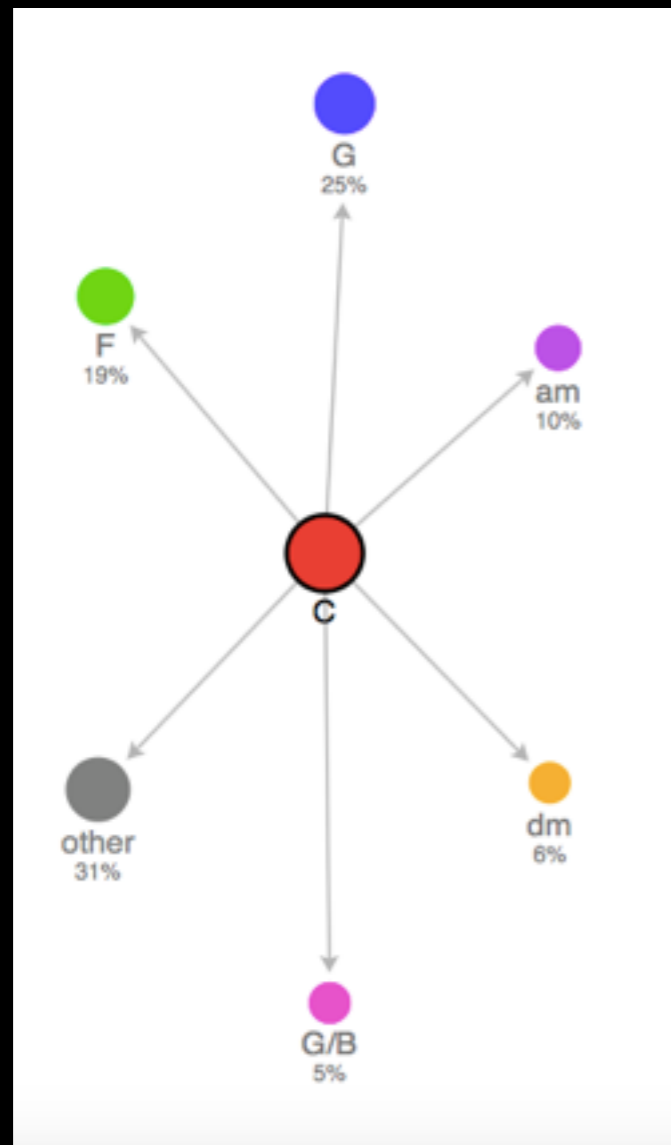
- Add more bells and whistles to our current tools
- “Flip” some lectures by presenting basic material and concepts via video
- Use in other classes
 - Standardizing incoming students’ musical fluency is a huge struggle in virtually all music departments
- Present some more sophisticated musical concepts using internet-facing tools
 - E.g. Have tools to walk students through writing their own music by representing chord-progression and melodic norms

Plans Going Forward



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Plans Going Forward



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Thanks!

Questions?

