

MUSIC THEORY for MUSICIANS and NORMAL PEOPLE

REAL COLLEGE-LEVEL MUSIC THEORY, FROM FUNDAMENTAL CONCEPTS TO ADVANCED CONCEPTS
PRESENTED IN A CONVENIENT, FUN, ENGAGING AND THOROUGH ONE-TOPIC-PER-PAGE FORMAT

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SHARE AND ENJOY!

by Toby W. Rush

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What is Music Theory?



CHANCES ARE THERE'S A PIECE OF MUSIC THAT MOVES YOU IN A PROFOUND WAY...

A WAY THAT IS FRUSTRATINGLY DIFFICULT TO DESCRIBE TO SOMEONE ELSE!

LIKE OTHER FORMS OF ART, MUSIC OFTEN HAS THE CAPABILITY TO CREATE EMOTIONAL REACTIONS IN THE LISTENER THAT TRANSCENDS OTHER FORMS OF COMMUNICATION.

THOUGH A SINGLE PIECE OF MUSIC MAY ELICIT DIFFERENT REACTIONS FROM DIFFERENT LISTENERS, ANY LOVER OF MUSIC WILL TELL YOU THAT THOSE FEELINGS ARE REAL!

AND IF THEY'RE REAL, THEY'RE WORTHY OF STUDY.

ONE OF THE MOST VALUABLE PARTS OF MUSIC THEORY IS GIVING NAMES TO MUSICAL STRUCTURES AND PROCESSES, WHICH MAKES THEM EASIER TO TALK ABOUT!

leading tone (lē'ding tōn),
n. [music] 1. That one note where it's all, like, NNGGG and you just want it to be like AHH yeah and when they don't, you're like UGH man you need to play the



COMING UP WITH TERMINOLOGY DOESN'T JUST HELP US TALK TO OTHERS ABOUT MUSIC, THOUGH... IT ACTUALLY HELPS US LEARN!

BUT WHILE IT'S AN IMPORTANT STEP, AND A GREAT PLACE TO START, MUSIC THEORY IS MUCH MORE THAN JUST COMING UP WITH NAMES FOR THINGS!

WHEN COMPOSERS WRITE MUSIC - WHETHER IT'S A CLASSICAL-ERA SYMPHONY OR A BIT OF JAPANESE POST-SHIBUYA-KEI GLITCH TECHNO - THEY ARE NOT FOLLOWING A PARTICULAR SET OF RULES. IF ANYTHING THEY ARE OFTEN TRYING TO **BREAK THEM!**

SO WHILE A LOT OF PEOPLE THINK MUSIC THEORY IS ABOUT LEARNING THE RULES FOR HOW TO WRITE MUSIC, THAT'S NOT QUITE RIGHT. MUSIC THEORISTS DON'T CREATE RULES FOR WRITING MUSIC; THEY LOOK FOR PATTERNS IN MUSIC THAT IS ALREADY WRITTEN.



COMPOSERS
CREATE...



...THEORISTS
ANALYZE!



WHICH LEADS TO THE MOST IMPORTANT QUESTION... THE ONE THAT, AS YOU STUDY MUSIC THEORY, YOU SHOULD BE CONSTANTLY ASKING YOURSELF:

WHY?

BECAUSE SOMEWHERE IN THERE IS THE REASON WHY THAT PIECE OF MUSIC MOVES YOU.

MAYBE IT'S IN THE NOTES. MAYBE IT'S IN THE SILENCE. MAYBE IT'S SOMEWHERE IN BETWEEN.

THE REASON IT MAKES YOU CRY, GIVES YOU CHILLS, REMINDS YOU OF HOME.

IT MAY TAKE A LONG TIME, OR EVEN CREATE MORE QUESTIONS THAN ANSWERS.

BUT MUSIC THEORISTS ARE GOING TO FIND IT, BECAUSE...

WHY DISSECT MUSIC? WHAT'S THE POINT OF FIGURING OUT RULES THAT COMPOSERS THEMSELVES WEREN'T EVEN WORRIED ABOUT?

MUSIC THEORY IS FIGURING OUT WHAT MAKES MUSIC WORK.

AND YOU JUST JOINED THE TEAM. GRAB YOUR STUFF... LET'S GO!

Notation: Pitch

MUSIC NOTATION IS THE ART OF RECORDING MUSIC IN WRITTEN FORM.

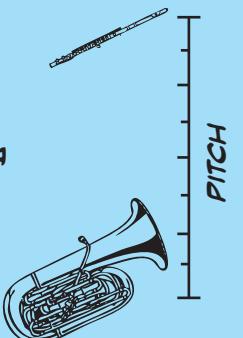


MODERN MUSIC NOTATION IS A PRODUCT OF **CENTURIES** OF TRANSFORMATION... AND IT IS NEITHER **EFFICIENT** NOR **INTUITIVE**!

PITCH IS THE HIGHNESS OR LOWNESS OF A SOUND.

FOR EXAMPLE, A FLUTE HAS A HIGH PITCH, WHILE A TUBA HAS A LOW PITCH.

A NOTE IS A WRITTEN REPRESENTATION OF A PARTICULAR PITCH.



NOTATION IS BASED ON THE PIANO KEYBOARD; LINES AND SPACES ON THE STAFF REPRESENT THE WHITE NOTES ON THE KEYBOARD.

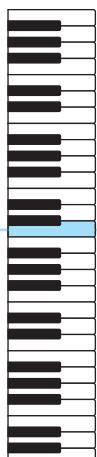
TO DISPLAY NOTES OUTSIDE THE STAFF, WE USE SHORTENED STAFF LINES CALLED LEDGER LINES.



TREBLE CLEF



ALTO CLEF

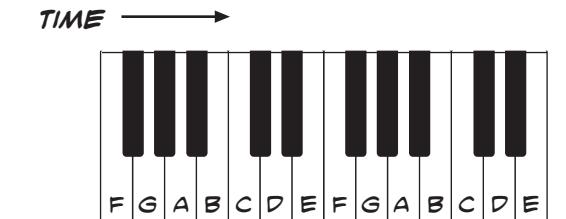


THE CLEF DETERMINES WHAT NOTES EACH STAFF LINE CORRESPONDS TO. THE FOUR MODERN CLEFS ARE SHOWN HERE; THE NOTE DISPLAYED ON EACH STAFF CORRESPONDS TO MIDDLE C.

THE SYSTEM OF MUSICAL NOTATION WE USE IS ESSENTIALLY A **STYLIZED GRAPH OF PITCH VERSUS TIME**.



THE FIVE LINES ON WHICH NOTES APPEAR IS CALLED A STAFF.



THE WHITE NOTES ON THE KEYBOARD ARE LABELED WITH LETTERS FROM A TO G.



TENOR CLEF



BASS CLEF

MIDDLE C IS THE C THAT IS CLOSEST TO THE MIDDLE OF THE PIANO KEYBOARD.

TO NOTATE THE BLACK NOTES ON THE PIANO KEYBOARD, WE USE ACCIDENTALS, WHICH ALTER THE NOTE BY ONE OR TWO HALF STEPS.



THE DOUBLE SHARP RAISES THE NOTE BY TWO HALF STEPS.



THE SHARP RAISES THE NOTE BY ONE HALF STEP.



THE NATURAL CANCELS OUT ANY PREVIOUS ACCIDENTAL.

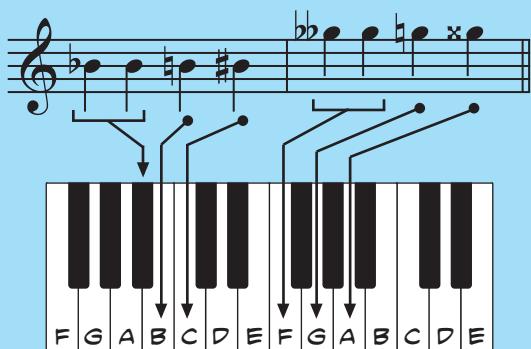


THE FLAT LOWERS THE NOTE BY ONE HALF STEP.



THE DOUBLE FLAT LOWERS THE NOTE BY TWO HALF STEPS.

THESE SYMBOLS ARE PLACED TO THE LEFT OF THE NOTE THAT THEY AFFECT, AND THEY APPLY TO ALL THE NOTES ON THAT LINE OR SPACE FOR THE REST OF THE MEASURE.



TWO NOTES WHICH HAVE THE SAME PITCH (FOR EXAMPLE, F SHARP AND G FLAT) ARE CALLED ENHARMONICS.

Notation: Rhythm



WHILE PITCH IS PRETTY CLEARLY NOTATED ON A VERTICAL AXIS, NOTE LENGTH IS INDICATED USING A SOMEWHAT ARCANE SYSTEM INVOLVING NOTEHEADS, STEMS AND FLAGS.

DOUBLE WHOLE NOTE



WHOLE NOTE



HALF NOTE



QUARTER NOTE



EIGHTH NOTE



SIXTEENTH NOTE



THIRTY-SECOND NOTE



SIXTY-FOURTH NOTE



ONE-HUNDRED-TWENTY-EIGHTH NOTE



IN THIS CHART, EACH SUCCESSIVE TYPE OF NOTE IS HALF AS LONG AS THE NOTE TO ITS LEFT. NONE OF THESE NOTES HAS A STANDARD LENGTH; A HALF NOTE IN ONE PIECE MAY BE THE SAME LENGTH AS AN EIGHTH NOTE IN A DIFFERENT PIECE.

NOTE LENGTHS IN A PIECE ARE INDICATED BY THE TEMPO MARKING AT THE BEGINNING OF A PIECE OR SECTION.

DOUBLE WHOLE REST



WHOLE REST



HALF REST



QUARTER REST



EIGHTH REST



SIXTEENTH REST



THIRTY-SECOND REST



SIXTY-FOURTH REST



ONE-HUNDRED-TWENTY-EIGHTH REST



A REST IS A PERIOD OF SILENCE THE LENGTH OF WHICH CORRESPONDS TO A PARTICULAR NOTE.



USUALLY RESTS ARE PLACED ON THE STAFF AT A PARTICULAR VERTICAL POSITION AS SHOWN HERE.

THE AUGMENTATION DOT IS A DOT PLACED TO THE RIGHT OF A NOTEHEAD. THOUGH SMALL, THIS DOT WIELDS SOME SERIOUS POWER: IT ADDS HALF OF THE ORIGINAL NOTE'S LENGTH!

MULTIPLE DOTS CAN ALSO BE ADDED, EACH ONE ADDING HALF OF THE PREVIOUSLY ADDED VALUE.



TIES ARE CURVED MARKS WHICH CONNECT TWO NOTES TOGETHER TO CREATE A SINGLE, EXTENDED SOUND.



TO TIE MORE THAN TWO NOTES TOGETHER, DRAW TIES BETWEEN EACH NOTE; DO NOT USE A SINGLE, EXTENDED TIE.

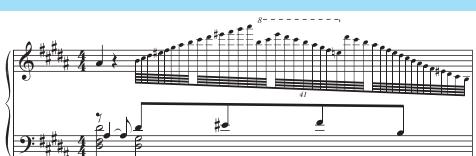


A TUPLET IS ANY NON-STANDARD DIVISION OF A NOTE. THESE ARE USUALLY WRITTEN AS A GROUP OF NOTES DELINEATED WITH A BRACKET AND A NUMBER SHOWING THE DIVISION BEING MADE.

MOST TUPLETS ARE SIMPLE DIVISIONS, LIKE THE TRIPLETS TO THE LEFT. BUT ANYTHING IS POSSIBLE! CHOPIN, FOR EXAMPLE, WOULD OFTEN GO TO TOWN WITH THESE THINGS.



FOR EXAMPLE, THESE AREN'T EXACTLY QUARTER NOTES; THEY ARE EACH A THIRD AS LONG AS A HALF NOTE.



WA... GAH!
CHOPIN, NO!
DOWN, BOY!

Notation: Meter

A FUNDAMENTAL FEATURE OF MOST PIECES OF MUSIC IS A **CONSISTENT RHYTHMIC PULSE**.

THIS PULSE IS CALLED THE **BEAT**, AND A SINGLE PULSE IS CALLED A **BEAT UNIT**.

THERE ARE TWO TYPES OF BEAT UNITS: THOSE CONTAINING TWO DIVISIONS, CALLED **SIMPLE BEAT UNITS**...



...AND THOSE CONTAINING THREE DIVISIONS, CALLED **COMPOUND BEAT UNITS**.

IN MUSIC, BEATS ARE ORGANIZED INTO PATTERNS OF ACCENTED AND UNACCENTED BEAT UNITS. IN FACT, IF YOU LISTEN TO A SEQUENCE OF REPEATED NOTES, YOUR BRAIN WILL PROBABLY START TO PERCEIVE THE NOTES AS GROUPS OF TWO, THREE, OR FOUR, EVEN IF NO ACCENTS ARE PRESENT!

> > > >



THESE GROUPS ARE CALLED **MEASURES**, AND THEY ARE DELINEATED WITH **BARLINES**.

BARLINE

MEASURE

THE ORGANIZATION OF BEAT UNITS AND MEASURES IN A PIECE IS CALLED **METER**. METER IS DESCRIBED BY TWO NUMBERS PLACED AT THE BEGINNING OF THE PIECE: THE **TIME SIGNATURE**.

SIMPLE TIME SIGNATURES ARE EASY.

**3
4**

THE TOP NUMBER INDICATES THE NUMBER OF BEATS IN A MEASURE.

THE BOTTOM NUMBER INDICATES THE TYPE OF NOTE WHICH SERVES AS THE BEAT UNIT.



THE CODE FOR THE BOTTOM NOTE IS PRETTY EASY: 4 REFERS TO A QUARTER NOTE, 8 TO AN EIGHTH NOTE, 16 TO A SIXTEENTH NOTE, AND SO ON.

COMPOUND TIME SIGNATURES ARE KIND OF LYING TO YOU.

**6
8**

THE TOP NUMBER INDICATES THE NUMBER OF DIVISIONS IN A MEASURE. TO GET THE NUMBER OF BEATS, DIVIDE IT BY THREE.

THE BOTTOM NUMBER INDICATES THE TYPE OF NOTE WHICH SERVES AS THE DIVISION. TO GET THE BEAT UNIT, USE THE NOTE THAT IS EQUAL TO THREE OF THESE NOTES. IN A COMPOUND METER, THE BEAT UNIT IS ALWAYS A DOTTED NOTE!

**2.
•**



IN FACT, WOULDN'T THIS BE AN EASIER WAY TO NOTATE COMPOUND METERS?

SORRY... THE MAN SAYS YOU HAVE TO DO IT THE OTHER WAY.

BY LOOKING AT THE TOP NUMBER OF THE TIME SIGNATURE, YOU CAN TELL TWO THINGS ABOUT THE METER: WHETHER IT'S SIMPLE OR COMPOUND, AND HOW MANY BEATS ARE IN A MEASURE.

	SIMPLE	COMPOUND
2	2	6
3	3	9
4	4	12

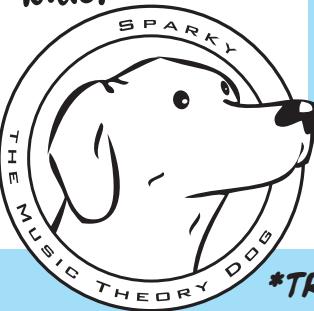
NOTES THAT HAVE FLAGS CAN BE GROUPED TOGETHER BY USING BEAMS IN PLACE OF FLAGS.



HOWEVER, BEAMING IS ONLY USED TO GROUP NOTES WITHIN BEATS. FOR THE MOST PART, YOU SHOULDN'T BEAM NOTES BETWEEN BEATS, NOR SHOULD YOU TIE NOTES WITHIN BEATS.



hey, it's kids! SPARKY THE MUSIC THEORY DOG!



Q: Dear Sparky:

I understand that we're supposed to beam rhythms to show the organization of beats in the measure, but is there an easy way to beam complex rhythms?

--A.Y., Owatonna, MN

A: WOOF!*

***TRANSLATION:** NOTES SHOULD BE BEAMED IN GROUPS THAT ILLUSTRATE THE METER. FOR SIMPLE RHYTHMS, THIS IS PRETTY EASY TO DO; SIMPLY GROUP ANY NOTES THAT CAN BE BEAMED (EIGHTH NOTES AND SMALLER) INTO GROUPS THAT ARE EQUAL TO THE BEAT UNIT OF THE CURRENT METER.

FOR COMPLEX RHYTHMS, HOWEVER, THINGS CAN GET COMPLICATED... WHEN A RHYTHM INCLUDES THINGS LIKE SYNCOPATIONS OR OTHER OFF-BEAT FIGURES, ILLUSTRATING THE METER MAY INVOLVE DIVIDING NOTES ACROSS BEAT UNITS WITH TIES. FORTUNATELY, THERE IS A STEP-BY-STEP SYSTEM FOR CORRECTLY BEAMING THESE COMPLICATED RHYTHMS!

FOR EXAMPLE, LET'S TAKE THIS RHYTHM, WHICH IS WRITTEN WITHOUT BEAMING.

STEP 1: FIND THE SMALLEST NOTE VALUE USED, AND FILL A COMPLETE MEASURE WITH THIS TYPE OF NOTE, BEAMED IN GROUPS THAT ARE EQUAL TO A BEAT UNIT IN THE CURRENT METER.

STEP 2: ADD TIES BETWEEN INDIVIDUAL NOTES TO RECREATE THE ORIGINAL RHYTHM. MAKE SURE THAT EACH TIED GROUP CORRESPONDS TO A NOTE IN THE RHYTHM YOU STARTED WITH!

YES, I KNOW IT LOOKS WEIRD... BUT WE'RE NOT DONE YET!

STEP 3: FIND EVERY GROUP OF TWO OR MORE NOTES THAT ARE BOTH TIED TOGETHER AND BEAMED TOGETHER, AND REPLACE THEM WITH A SINGLE NOTE OF EQUIVALENT VALUE.

IF YOU HAVE NOTES THAT ARE TIED OR BEAMED, BUT NOT BOTH, THEN LEAVE THEM ALONE!



A CORRECTLY BEAMED RHYTHM MAY INCLUDE TIES, BUT IT WILL VERY CLEARLY SHOW THE BEATS IN THE MEASURE... WHICH, IN TURN, MAKES IT EASIER FOR THE PERFORMER TO READ!

DOING STUFF THE SPARKY WAY IS ALWAYS FUN!

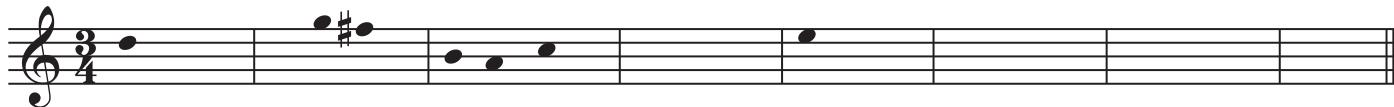
The Major Scale

ONE OF THE REASONS THAT A PARTICULAR PIECE OF MUSIC **SOUNDS THE WAY IT DOES** HAS TO DO WITH THE GROUP OF NOTES THE COMPOSER DECIDED TO USE.



TAKE THIS MELODY, FOR EXAMPLE...

LET'S FIRST REMOVE ALL THE DUPLICATE NOTES, REGARDLESS OF WHICH OCTAVE THEY'RE IN.



NEXT, LET'S PUT THE NOTES IN ALPHABETICAL ORDER, STARTING ON THE NOTE THAT THE MELODY SOUNDED LIKE IT WAS CENTERING ON.

WHAT WE END UP WITH IS THE "PALETTE" FOR THIS PARTICULAR PIECE...



LIKE THE BOARD ON WHICH A PAINTER HOLDS THE BITS OF PAINT BEING USED IN THE PAINTING BEING CREATED.

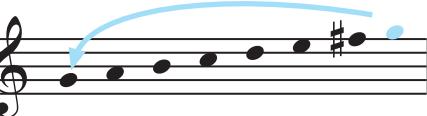
IN MUSIC, THIS "PALETTE" IS CALLED A **SCALE**. THOUGH WE USUALLY WRITE SCALES FROM LOW TO HIGH, THE ORDER IS ACTUALLY UNIMPORTANT; IT'S THE NOTES CONTAINED IN THE SCALE THAT HELP MAKE A PIECE SOUND THE WAY IT DOES.

THIS PARTICULAR ARRANGEMENT, WHERE HALF STEPS OCCUR BETWEEN STEPS THREE AND FOUR AND BETWEEN STEPS SEVEN AND EIGHT (OR BETWEEN SEVEN AND ONE, SINCE EIGHT AND ONE ARE THE SAME NOTE), IS CALLED THE **MAJOR SCALE**.



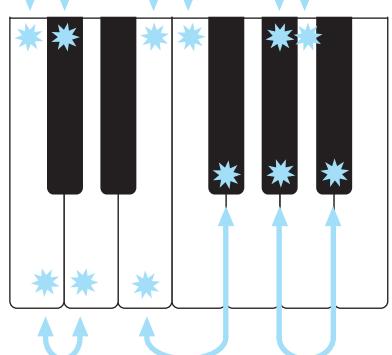
(THIS SCALE, BY THE WAY, IS CALLED THE **G MAJOR SCALE**, BECAUSE IT STARTS ON G.)

KNOWING THIS FORMULA, YOU CAN CREATE A MAJOR SCALE ON ANY NOTE!



THERE ARE ACTUALLY MANY DIFFERENT TYPES OF SCALES, EACH WITH A DIFFERENT PATTERN OF WHOLE STEPS AND HALF STEPS.

A HALF STEP IS THE DISTANCE BETWEEN TWO ADJACENT KEYS ON THE PIANO KEYBOARD, REGARDLESS OF COLOR.



A WHOLE STEP IS THE EQUIVALENT OF TWO HALF STEPS.

BUT REMEMBER... WITH GREAT POWER COMES GREAT RESPONSIBILITY!

Key Signatures

IF YOU START WRITING MAJOR SCALES AND PAY ATTENTION TO THE ACCIDENTALS THAT OCCUR, YOU ARE GOING TO START NOTICING A PATTERN...

FOR EXAMPLE LOOK AT THE FLAT KEYS, STARTING WITH THE KEY THAT HAS **ONE FLAT**, ALL THE WAY THROUGH THE KEY WITH **SEVEN FLATS**: THE FLATS ACCRUE IN A SPECIFIC ORDER. SAME WITH THE SHARP KEYS!

SO IF YOU LOOK FOR A KEY THAT HAS ONLY A **D FLAT**, YOU WON'T FIND IT: IF A KEY HAS A **D FLAT**, IT MUST ALSO HAVE A **B FLAT**, AN **E FLAT** AND AN **A FLAT**!

SINCE WRITING AN ENTIRE PIECE IN **C SHARP MAJOR** WOULD HAVE BEEN A SURE-FIRE WAY TO GET **CARPAL TUNNEL SYNDROME** WITH ALL THE SHARPS INVOLVED, COMPOSERS PRETTY QUICKLY CAME UP WITH A WAY TO SIMPLIFY THINGS: **KEY SIGNATURES**.

A **KEY SIGNATURE** IS A GROUP OF ACCIDENTALS PLACED AT THE BEGINNING OF EVERY LINE OF MUSIC, JUST TO THE RIGHT OF THE CLEF, THAT INSTRUCTS THE PERFORMER TO APPLY THOSE ACCIDENTALS TO **EVERY CORRESPONDING NOTE** IN THE PIECE UNLESS SPECIFIED OTHERWISE.

FOR EXAMPLE, THIS KEY SIGNATURE INDICATES THAT EVERY **F**, **C**, AND **G** IN THE PIECE SHOULD BE SHARPED, REGARDLESS OF OCTAVE!

OH, AND ANOTHER THING: THE ACCIDENTALS HAVE TO BE PLACED IN THE **CORRECT ORDER**, AND THEY NEED TO FOLLOW A **PARTICULAR PATTERN** OF PLACEMENT THAT **VARIABLES** SLIGHTLY DEPENDING ON THE **CLEF** BEING USED! IF YOU DEVIATE FROM THIS, YOU, AS A COMPOSER, WILL BE MOCKED!

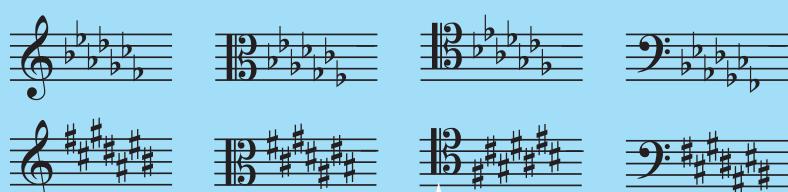
TENOR CLEF SHARPS! WHAT'S YOUR PROBLEM? YOU NEED TO CONFORM!

The grid displays 12 musical staves, each with a treble clef and a specific number of sharps or flats indicated by accidentals. To the right of each staff is a blue speech bubble containing the key signature name and a small circle with a sharp or flat symbol. The staves are arranged in three columns of four rows:

- Ab**: Treble clef, 1 flat (B-flat). Label: **B EAD**, **b**.
- A**: Treble clef, 1 sharp (F-sharp). Label: **FCG**, **#**.
- B_b**: Treble clef, 2 flats (B-flat, E-flat). Label: **BE**, **b**.
- B**: Treble clef, 2 sharps (F-sharp, C-sharp). Label: **FCGDA**, **#**.
- C_b**: Treble clef, 3 flats (B-flat, E-flat, A-flat). Label: **B EAD GCF**, **b**.
- C**: Treble clef, no sharps or flats. Label: .
- C<#>**: Treble clef, 4 sharps (F-sharp, C-sharp, G-sharp, D-sharp). Label: **FCGDAE B**, **#**.
- D_b**: Treble clef, 2 flats (B-flat, E-flat). Label: **B EAD G**, **b**.
- D**: Treble clef, 1 sharp (F-sharp). Label: **FC**, **#**.
- E_b**: Treble clef, 3 flats (B-flat, E-flat, A-flat). Label: **BEA**, **b**.
- E**: Treble clef, 3 sharps (F-sharp, C-sharp, G-sharp). Label: **FCGD**, **#**.
- F_b**: Treble clef, 4 flats (B-flat, E-flat, A-flat, D-flat). Label: **B**, **b**.
- F**: Treble clef, 4 sharps (F-sharp, C-sharp, G-sharp, D-sharp). Label: **FCGDAE**, **#**.
- G_b**: Treble clef, 3 flats (B-flat, E-flat, A-flat). Label: **BEADGC**, **b**.
- G**: Treble clef, 1 sharp (F-sharp). Label: **F**, **#**.



HA HA... NEVER!

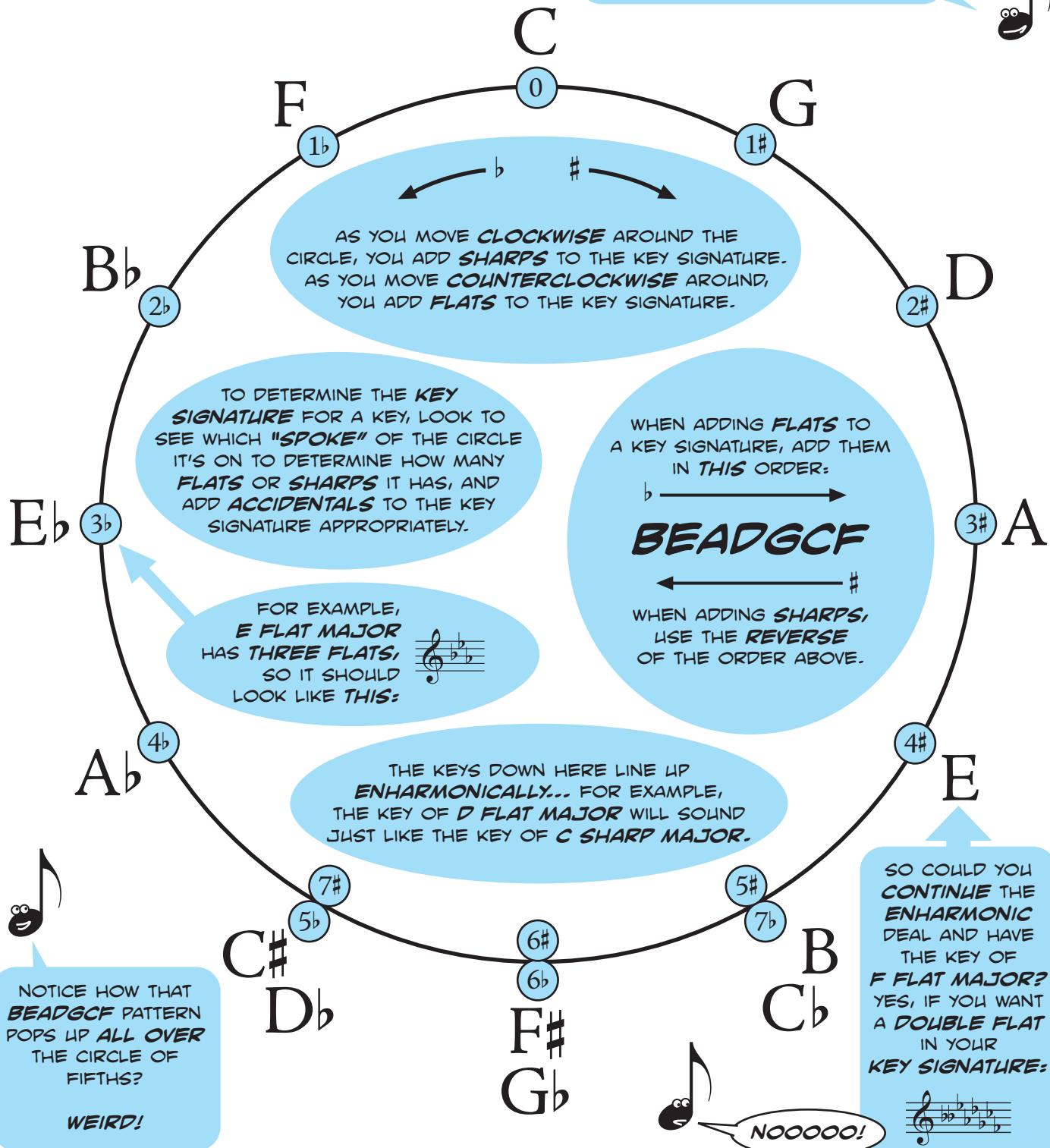


The Circle of Fifths

THIS CHART, CALLED THE CIRCLE OF FIFTHS, DISPLAYS EACH KEY AS A SPOKE ON THE CIRCLE, BEGINNING WITH C MAJOR AT THE TOP AND ADDING ACCIDENTALS, ONE AT A TIME, TO THE KEY SIGNATURES AROUND THE PERIMETER.

THEORISTS FIND IT CONVENIENT TO ORGANIZE ALL THE POSSIBLE KEY SIGNATURES INTO A CHART THAT SHOWS THEIR RELATIONSHIP TO ONE ANOTHER.

WE'LL RETURN TO THIS CHART AS WE CONTINUE LEARNING ABOUT HOW COMPOSERS USE KEYS.



Diatonic Intervals

THE MOST BASIC WAY WHICH WE IDENTIFY DIFFERENT INTERVALS IS BY COUNTING THE STEPS BETWEEN THE TWO NOTES.

AN INTERVAL IS THE DISTANCE IN PITCH BETWEEN TWO NOTES.



SMALLER INTERVALS

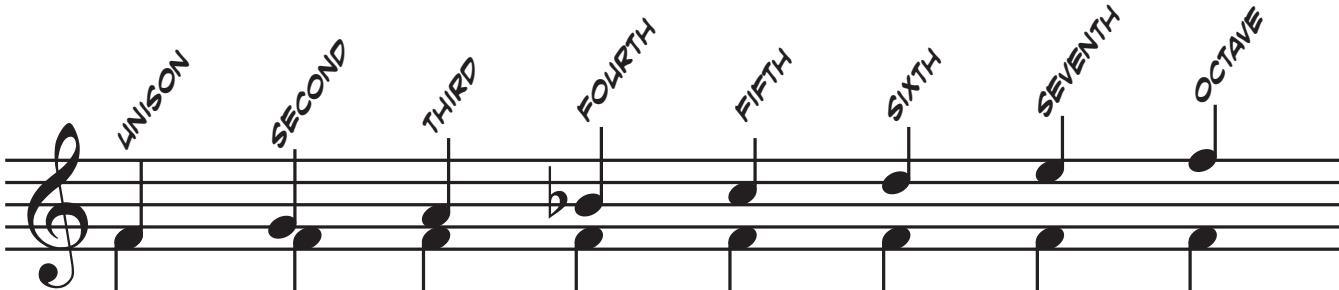
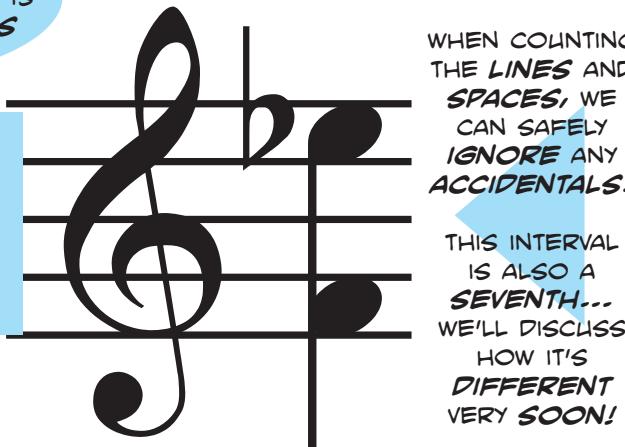
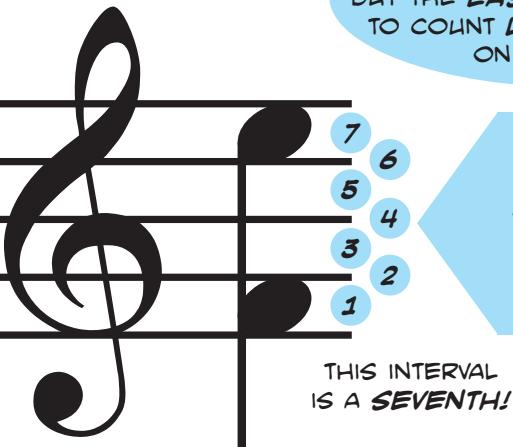


SPECIFICALLY, WE COUNT SCALE DEGREES, BUT THE EASIEST WAY TO DO IT IS TO COUNT LINES AND SPACES ON THE STAFF.

WHEN COUNTING, BEGIN WITH THE BOTTOM NOTE AS ONE AND COUNT UNTIL YOU REACH THE TOP NOTE.

WHEN COUNTING THE LINES AND SPACES, WE CAN SAFELY IGNORE ANY ACCIDENTALS.

THIS INTERVAL IS ALSO A SEVENTH... WE'LL DISCUSS HOW IT'S DIFFERENT VERY SOON!

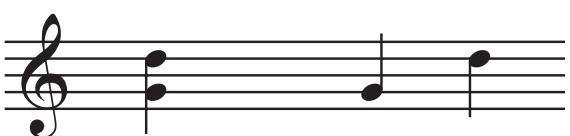


TWO NOTES ON THE SAME LINE OR SPACE IS CALLED A UNISON.

THAT'S LATIN FOR "ONE SOUND!"

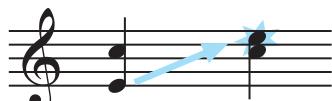
THE DISTANCE FROM A NOTE TO THE NEXT CLOSEST NOTE WITH THE SAME LETTER NAME IS CALLED AN OCTAVE.

WHEN WE ARE TALKING ABOUT INTERVALS WE SOMETIMES DISCUSS HARMONIC INTERVALS AND MELODIC INTERVALS.



A HARMONIC INTERVAL IS SIMPLY TWO NOTES PLAYED SIMULTANEOUSLY; A MELODIC INTERVAL IS ONE NOTE PLAYED AFTER THE OTHER.

AND WHEN YOU SWAP THE TWO NOTES (MOVE THE LOWER NOTE UP BY AN OCTAVE SO IT BECOMES THE HIGHER NOTE), THAT IS CALLED INVERTING THE INTERVAL.



IT'S HELPFUL TO REMEMBER THAT SECONDS ALWAYS INVERT TO SEVENTHS, THIRDS TO SIXTHS, AND SO FORTH...

THE FACT THAT EACH OF THESE PAIRS ADD UP TO NINE IS KNOWN TO THEORISTS AS "THE RULE OF NINES."

THE RULE

2ND	→	7TH
3RD	→	6TH
4TH	→	5TH
5TH	→	4TH
6TH	→	3RD
7TH	→	2ND

OF NINES

Perfect Intervals

THE DISTANCE OF AN INTERVAL IS ONE PART OF ITS NAME, BUT THERE'S MORE: EVERY INTERVAL HAS ANOTHER QUALITY TO IT, WHICH WE'LL CALL INFLECTION.

INFLECTION IS A BIT HARDER TO UNDERSTAND, PARTLY BECAUSE IT DEPENDS ON THE TYPE OF INTERVAL. SO LET'S START BY LOOKING AT UNISONS, FOURTHS, FIFTHS AND OCTAVES.

SOME THEORISTS USE THE TERM **QUALITY** FOR THIS... THAT'S COOL TOO.

UNISONS AND OCTAVES

ARE THE EASIEST TO LABEL: IF THE TWO NOTES ARE THE **SAME** (FOR EXAMPLE, **B FLAT** AND **B FLAT**), THEN THE INFLECTION IS **PERFECT**: SUCH AN INTERVAL IS CALLED A **PERFECT UNISON** OR A **PERFECT OCTAVE**.

FOURTHS AND FIFTHS

REQUIRE A LITTLE MORE EXPLAINING.

IF YOU LOOK AT ALL THE FOURTHS AND FIFTHS YOU CAN CREATE USING ONLY THE **WHITE NOTES** ON THE PIANO KEYBOARD (IN OTHER WORDS, USING ONLY NOTES WITHOUT ACCIDENTALS):

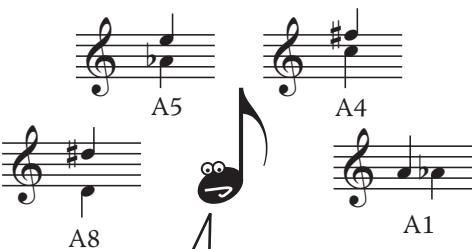
EACH ONE IS **PERFECT** EXCEPT FOR THOSE WHICH USE **F** AND **B**!

WAIT...
WHY ARE THE
B TO **F** INTERVALS
DIFFERENT?

WELL, IF YOU WERE TO COUNT THE **HALF-STEPS** THAT MAKE UP EACH INTERVAL, YOU'D NOTICE THAT ALL THE OTHER ONES ARE **EQUAL IN SIZE**, BUT THE **B** TO **F** INTERVALS ARE NOT: **F** TO **B** IS A **HALF-STEP LARGER** THAN A **PERFECT FOURTH**, AND **B** TO **F** IS A **HALF-STEP SMALLER** THAN A **PERFECT FIFTH**.

WHICH RAISES THE **QUESTION**: IF THE INTERVAL IS NOT **PERFECT**, THEN WHAT **IS** IT?

AN INTERVAL THAT IS A **HALF-STEP LARGER** THAN **PERFECT** IS CALLED AN **AUGMENTED INTERVAL**.



YOU CAN GO **FURTHER**,
TO **DOUBLY AUGMENTED** AND
DOUBLY DIMINISHED INTERVALS,
BUT... DO YOU REALLY WANT TO?

A
AUGMENTED
P
PERFECT
d
DIMINISHED

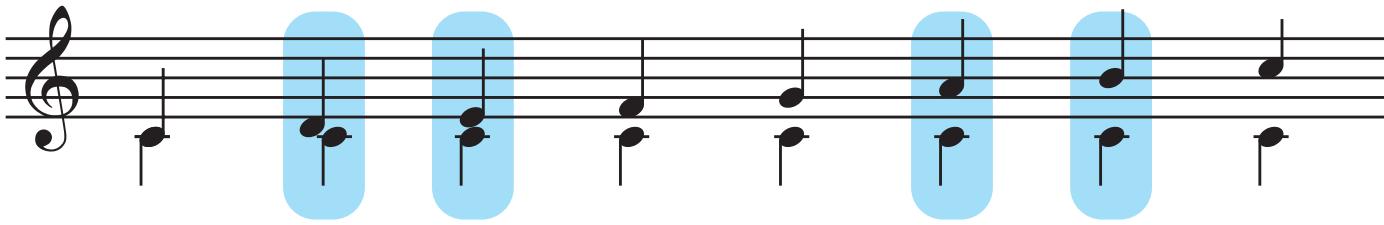


AND THERE'S
**NO SUCH THING AS A
DIMINISHED UNISON...**
JUST LIKE TWO THINGS
CAN'T BE **NEGATIVE TWO FEET**
AWAY FROM EACH OTHER!

AN INTERVAL THAT IS A **HALF-STEP SMALLER** THAN **PERFECT** IS CALLED A **DIMINISHED INTERVAL**.

Imperfect Intervals

WE'VE TALKED ABOUT UNISONS, FOURTHS, FIFTHS AND OCTAVES, BUT WHAT ABOUT THE REST? ARE THESE OTHER INTERVALS SOMEHOW *IMPERFECT*?



WELL, YES, BUT NOT BECAUSE THEY ARE SOMEHOW *INFERIOR* TO PERFECT INTERVALS... **SECONDS, THIRDS, SIXTHS AND SEVENTHS** JUST WORK A LITTLE DIFFERENTLY!

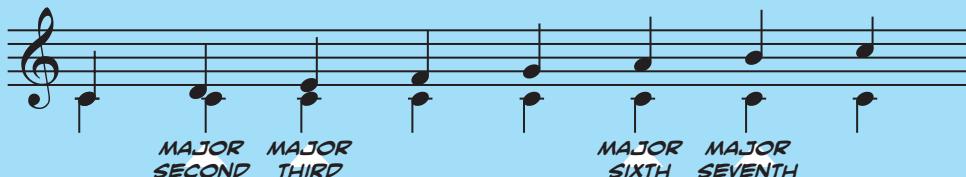
AUGMENTED

FOR ONE THING, THE INFLECTION FOR THESE INTERVALS IS NEVER **PERFECT**; IT WILL BE EITHER **MAJOR** OR **MINOR**. MINOR INTERVALS ARE A HALF-STEP SMALLER THAN MAJOR INTERVALS. LIKE PERFECT INTERVALS, THOUGH, THEY CAN ALSO BE **AUGMENTED** OR **DIMINISHED**; AUGMENTED INTERVALS ARE A HALF-STEP LARGER THAN MAJOR, AND DIMINISHED INTERVALS ARE A HALF-STEP SMALLER THAN MINOR.

MAJOR

HOW DO WE KNOW IF AN INTERVAL IS **MAJOR** OR **MINOR**? WE CAN ACTUALLY USE THE **MAJOR SCALE** TO FIND OUT. NOTICE THAT, IN THE MAJOR SCALE, INTERVALS FROM THE **TONIC** UP TO ANOTHER SCALE DEGREE ARE **MAJOR**.

MINOR



LIKewise, intervals from the tonic **DOWN** to another scale degree are **MINOR**.

DIMINISHED



KNOWING THIS, WHEN YOU ARE CONFRONTED WITH A **SECOND, THIRD, SIXTH OR SEVENTH**, YOU CAN FIND ITS INFLECTION BY THINKING ABOUT THE KEY SIGNATURE OF THE TOP AND/OR BOTTOM NOTE.

WE KNOW THIS IS A **MAJOR SIXTH** BECAUSE **D**, THE TOP NOTE, IS IN THE KEY OF **F MAJOR** (THE BOTTOM NOTE).



AND THIS IS A **MINOR SEVENTH** BECAUSE **B**, BOTTOM NOTE, IS IN THE KEY OF **A MAJOR** (THE TOP NOTE).

** IF THE **TOP NOTE** IS IN THE MAJOR KEY OF THE **BOTTOM NOTE**, THE INTERVAL IS **MAJOR**. IF THE **BOTTOM NOTE** IS IN THE MAJOR KEY OF THE **TOP NOTE**, THE INTERVAL IS **MINOR**. **

WHEN THE NOTES OF THE INTERVAL HAVE ACCIDENTALS, THE ASSOCIATED KEY SIGNATURES CAN BE MORE COMPLICATED... SO IT'S EASIEST TO TEMPORARILY IGNORE THE ACCIDENTALS, DETERMINE THE INTERVAL, AND THEN ADD THE ACCIDENTALS BACK ONE AT A TIME AND TRACK HOW THE INTERVAL CHANGES!



ACK! WHAT IS THAT? LET'S FIRST HIDE THE ACCIDENTALS...



E IS IN THE KEY OF G, SO WE KNOW THIS IS A **MAJOR SIXTH**.



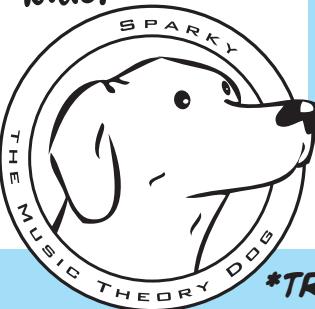
ADDING BACK THE FLAT MAKES THE INTERVAL **SMALLER**, SO IT'S NOW A **MINOR SIXTH**...



ADDING BACK THE SHARP MAKES IT EVEN **SMALLER**... A **DIMINISHED SIXTH**!

hey, it's
kids!

SPARKY THE MUSIC THEORY DOG!



Q: Dear Sparky:

Since we are supposed to use different approaches for identifying perfect and imperfect intervals, can you summarize them all into one system?

--I.M., Staten Island, NY

A: WOOF!*

***TRANSLATION:** THE FOLLOWING CHART SHOWS AN APPROACH FOR IDENTIFYING ANY INTERVAL. A SIMILAR APPROACH CAN BE USED WHEN YOU NEED TO WRITE A PARTICULAR INTERVAL ABOVE OR BELOW A GIVEN NOTE: FIRST, ADD A NOTE ABOVE OR BELOW THE GIVEN NOTE AT THE CORRECT DISTANCE, THEN FOLLOW STEPS 2 THROUGH 4 OF THIS CHART TO IDENTIFY IT. THEN, IF NECESSARY, ALTER THE NOTE YOU ADDED WITH AN ACCIDENTAL TO CREATE THE INTERVAL CALLED FOR.

STEP 1:

DETERMINE THE **DISTANCE** OF THE INTERVAL BY COUNTING **LINES** AND **SPACES**.



COUNT THE BOTTOM NOTE AS ONE, AND CONTINUE UNTIL YOU REACH THE TOP NOTE.

STEP 2:

COVER UP ALL ACCIDENTALS.



STEP 3:

DETERMINE THE **INFLECTION** OF THE INTERVAL IN FRONT OF YOU (THE ONE WITHOUT ACCIDENTALS!) AS FOLLOWS:

IF IT IS A UNISON OR OCTAVE:

THE INTERVAL SHOWN IS A **PERFECT UNISON** OR **PERFECT OCTAVE**.

REALLY.
IT JUST IS.

IF IT IS A FOURTH OR FIFTH:

IF THE INTERVAL USES THE NOTES **F** AND **B**, IT IS EITHER AN **AUGMENTED FOURTH** OR A **DIMINISHED FIFTH**. OTHERWISE, THE INTERVAL IS **PERFECT**.

IF IT IS A SECOND, THIRD, SIXTH OR SEVENTH:

IF THE **TOP NOTE** IS IN THE MAJOR KEY OF THE **BOTTOM NOTE**, THE INTERVAL IS **MAJOR**.

IF THE **BOTTOM NOTE** IS IN THE MAJOR KEY OF THE **TOP NOTE**, THE INTERVAL IS **MINOR**.

STEP 4:

ADD THE **ORIGINAL ACCIDENTALS** BACK, ONE AT A TIME, AND TRACK HOW THE INTERVAL CHANGES INFLECTION.



REMEMBER: ACCIDENTALS CAN NEVER AFFECT THE **DISTANCE** OF AN INTERVAL... ALL THEY CAN EVER DO IS CHANGE THE **INFLECTION**!

THIS METHOD MAY SEEM COMPLICATED AT FIRST, BUT IT BECOMES EASIER AND FASTER WITH PRACTICE... AND IT GIVES YOU THE **CORRECT ANSWER** EVERY TIME!

DOING STUFF THE SPARKY WAY IS ALWAYS FUN!

The Minor Scales

THIS KEY IS DEFINED BY A KEY SIGNATURE OF NO SHARPS AND FLATS, BUT ALSO BY THE FACT THAT IT CENTERS AROUND C.

THERE ARE ACTUALLY TWO THINGS THAT DEFINE A KEY: THE KEY SIGNATURE IS THE MOST OBVIOUS ONE, BUT ANOTHER IMPORTANT PART OF A KEY IS THE TONIC... THE NOTE AROUND WHICH THE KEY CENTERS.



BUT WHAT IF WE CHANGE THE TONIC? WHAT IF WE USE THE SAME NOTES FOR THE KEY SIGNATURE, BUT CHANGE THE NOTE THAT THE KEY IS CENTERED AROUND?

IF WE CENTER THE KEY AROUND THE SIXTH SCALE DEGREE OF THE MAJOR SCALE, WE GET A NEW SCALE: THE MINOR SCALE.

THE
NATURAL
MINOR
SCALE



THE THING IS, COMMON PRACTICE PERIOD COMPOSERS WEREN'T ALL THAT CRAZY ABOUT THIS SCALE, BECAUSE IT LACKS SOMETHING THE MAJOR SCALE HAS: A HALF-STEP FROM SEVEN TO ONE.

THE WHOLE STEP HERE DIDN'T HAVE THE TENSION THEY LIKED GOING INTO THE TONIC!

SO HERE'S WHAT THEY DID: THEY RAISED THE LEADING-TONE BY A HALF-STEP WITH AN ACCIDENTAL. THIS GAVE THEM THE TENSION THEY WERE LOOKING FOR!

THE
HARMONIC
MINOR
SCALE

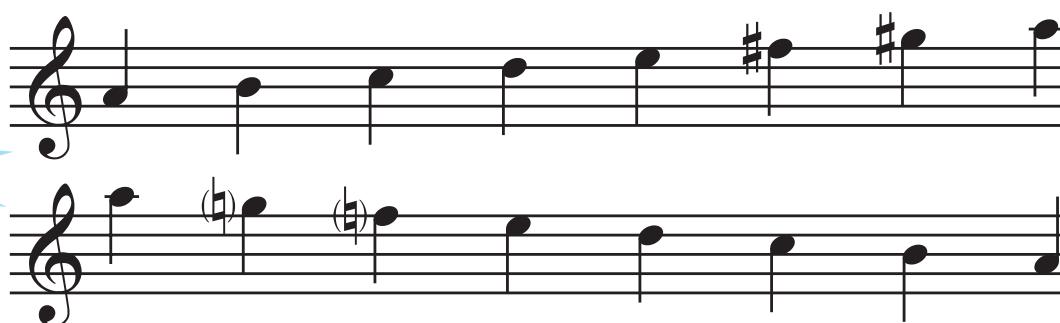


THIS SCALE IS GREAT FOR BUILDING CHORDS, SO WE REFER TO IT AS THE HARMONIC MINOR SCALE. HOWEVER, COMPOSERS DIDN'T USE IT FOR WRITING MELODIES, BECAUSE IT HAD A PROBLEM: AN AUGMENTED SECOND BETWEEN THE SIXTH AND SEVENTH SCALE DEGREES.

SO, FOR MELODIES, THEY MADE ANOTHER CHANGE: THEY ADDED ANOTHER ACCIDENTAL TO RAISE THE SIXTH SCALE DEGREE BY A HALF-STEP.

NOW WE ONLY HAVE WHOLE STEPS AND HALF-STEPS!

THE
MELODIC
MINOR
SCALE



NOW, REMEMBER... THE REASON WE RAISED THE LEADING TONE IN THE FIRST PLACE WAS TO CREATE TENSION FROM THE SEVENTH SCALE DEGREE TO TONIC. BUT IN A MELODY, IF THE SEVENTH SCALE DEGREE IS FOLLOWED BY THE SIXTH SCALE DEGREE, WE DON'T NEED THAT TENSION, SO WE DON'T NEED TO RAISE THE LEADING-TONE AT ALL.

THE WAY WE ILLUSTRATE THIS IS BY DIFFERENTIATING BETWEEN ASCENDING MELODIC MINOR AND DESCENDING MELODIC MINOR; FOR DESCENDING MELODIC MINOR, WE DON'T RAISE ANYTHING!

hey, it's
kids!

SPARKY THE MUSIC THEORY DOG!



Dear Sparky:

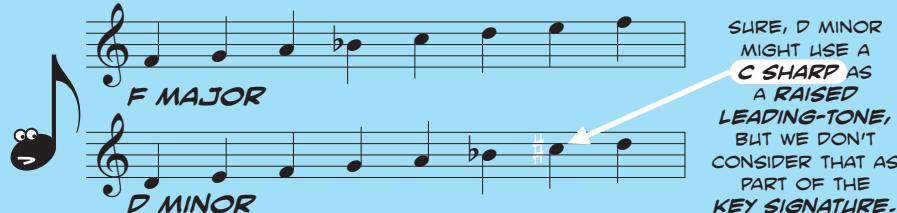
Q: What does it mean when music theorists talk about “relative minor” and “parallel minor”? In what ways can major and minor keys be connected?

-M.T., Canton, OH

A: WOOF!*

***TRANSLATION=**

SINCE D MINOR HAS THE SAME
KEY SIGNATURE AS F MAJOR,
WE SAY THAT D MINOR IS THE
RELATIVE MINOR OF F MAJOR.



PARALLEL KEYS, ON THE OTHER HAND, ARE KEYS THAT HAVE THE SAME TONIC NOTE, BUT DIFFERENT KEY SIGNATURES.

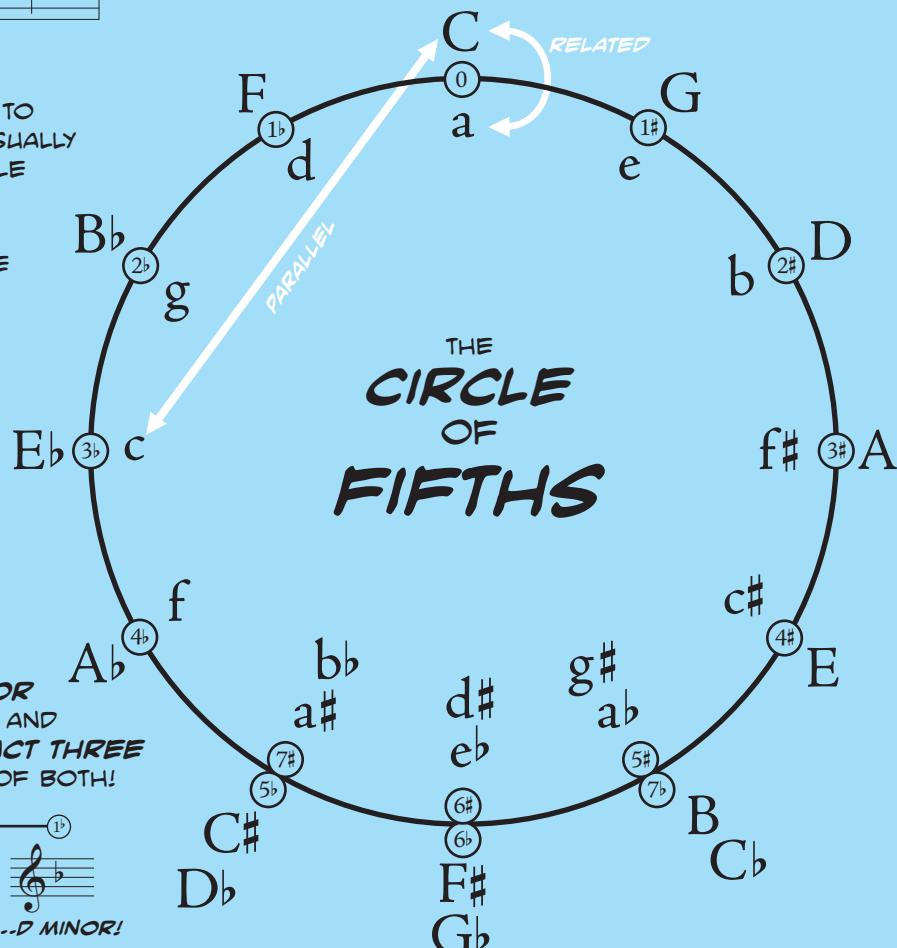
SO F MINOR IS THE PARALLEL MINOR OF F MAJOR!

IT'S CONVENIENT TO ADD MINOR KEYS TO THE **CIRCLE OF FIFTHS**; THEY'RE USUALLY PLACED ON THE INSIDE OF THE CIRCLE IN LOWER CASE.

BECUSE RELATIVE KEYS SHARE THE SAME KEY SIGNATURE, THEY ALSO SHARE THE SAME POSITION ON THE CIRCLE OF FIFTHS!

PARALLEL KEYS HAVE DIFFERENT KEY SIGNATURES, BUT SEEING THEM ON THE CIRCLE OF FIFTHS ILLUSTRATES THEIR **CONSISTENT KEY RELATIONSHIP**: MINOR KEYS ALWAYS APPEAR **THREE DEGREES COUNTERCLOCKWISE** FROM THEIR PARALLEL MAJOR KEY.

SO TO FIND THE KEY SIGNATURE FOR A MINOR KEY, START WITH THE MAJOR KEY SIGNATURE WITH THE SAME TONIC AND EITHER ADD THREE FLATS, SUBTRACT THREE SHARPS, OR SOME COMBINATION OF BOTH!



DOING STUFF THE SPARKY WAY IS ALWAYS FUN!

Dynamics and Articulations

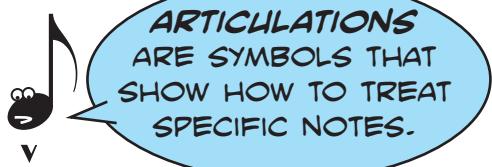
MUSIC IS MADE UP OF A LOT MORE THAN PITCH AND RHYTHM!



DYNAMICS ARE SYMBOLS THAT SHOW HOW LOUD TO PLAY OR SING.

fff	ff	f	mf	mp	p	pp	ppp	n
FORTISSISSIMO VERY VERY LOUD	FORTISSIMO VERY LOUD	FORTE LOUD	MEZZO FORTE MEDIUM LOUD	MEZZO PIANO MEDIUM SOFT	PIANO SOFT	PIANISSIMO VERY SOFT	PIANISSISSIMO VERY VERY SOFT	NIENTE INAUDIBLE
NOTATED MUSIC USES ITALIAN TERMS TO SHOW RELATIVE VOLUME.				SPECIFIC INTERPRETATION IS LEFT TO THE PERFORMER!				
CRESCE.	GRADUAL DYNAMIC CHANGES ARE INDICATED WITH HAIRPIN SYMBOLS OR THE ITALIAN TERMS CRESCENDO (INCREASE VOLUME) OR DIMINUENDO (DECREASE VOLUME).					dim.		

DYNAMICS ARE USUALLY PLACED BELOW THE STAFF ON INSTRUMENTAL PARTS, AND ABOVE THE STAFF FOR VOCAL PARTS... TO STAY OUT OF THE WAY OF THE LYRICS!



OTHER SYMBOLS AFFECT GROUPS OF NOTES...

8va

ALL' OTTAVA: PLAY THE NOTES AN OCTAVE HIGHER OR LOWER, DEPENDING ON WHERE THE SYMBOL IS. (TWO OCTAVES IS 15^{ma}, AND THREE OCTAVES IS 22^{ma}!)



PEDALING: ON THE PIANO, THIS SYMBOL INDICATES WHEN THE DAMPER PEDAL SHOULD BE HELD DOWN, ALLOWING THE PIANO STRINGS TO RING FREELY. OLDER SCORES USE ♫ FOR DOWN AND ♪ FOR UP.



AND THEN THERE'S THIS THING...



A SIMPLE SHAPE WITH A BUNCH OF DIFFERENT USES!

IN MOST MUSIC IT'S A SLUR, GROUPING NOTES WHICH SHOULD BE PLAYED SMOOTHLY AND CONNECTED!

IN VOCAL PARTS, IT SHOWS MELISMAS: GROUPS OF NOTES SUNG ON A SINGLE SYLLABLE!

FOR BOWED STRINGS LIKE VIOLIN, IT'S A BOW MARKING, SHOWING NOTES THAT SHOULD BE PLAYED WITHOUT SWITCHING THE BOW'S DIRECTION.

IN ANY SCORE, IT CAN ALSO BE USED ON LARGER GROUPS OF NOTES, WHERE IT SERVES AS A PHRASE MARKING... HELPING THE PERFORMER SEE THE OVERALL SHAPE OF THE MUSIC!

ACCENT	>	WITH ADDITIONAL EMPHASIS
STACCATO	•	SHORT AND DETACHED
TENUTO	-	EMPHASIZED AND HELD FOR FULL VALUE
MARCATO	^	SHORT AND ACCENTED
STACCATISSIMO	▼	VERY SHORT AND FORCEFUL
SFORZANDO	<i>sfz</i>	SUDDENLY LOUD AND ACCENTED
FERMATA	♪	HOLD LONGER THAN INDICATED
TREMOLÒ	≡	RAPIDLY ALTERNATE BETWEEN TWO NOTES
UP BOW	＼	(BOWED INSTRUMENTS) START AT TIP OF BOW
DOWN BOW	／	(BOWED INSTRUMENTS) START AT FROG OF BOW
TRILL	<i>tr</i>	RAPIDLY ALTERNATE TWO ADJACENT NOTES
ARPEGGIO	{}	"ROLL" CHORD: NOTES ADDED SEPARATELY

Complex Meter

SIMPLE METERS AND COMPOUND METERS ARE BOTH USED QUITE A BIT IN THE COMMON PRACTICE PERIOD, BUT THEY WERE RARELY FOUND **TOGETHER...** MOST PIECES EXCLUSIVELY USED **ONE OR THE OTHER!**

COMPOUND METER,
COMPOUND METER,
WHEREFORE ART THOU
COMPOUND?

ON THE RARE OCCASION THAT THEY WERE COMBINED, IT WAS GENERALLY AS **MIXED METER**, WHEN THE METER CHANGES FROM ONE MEASURE TO THE NEXT.

UH, BECAUSE
OF THIS DOT...?



CONSISTENT ALTERNATIONS LIKE THIS ARE OFTEN WRITTEN WITH TWO TIME SIGNATURES AT THE BEGINNING, LIKE THIS: **6 3 / 8 4**

BUT TWENTIETH-CENTURY COMPOSERS - ESPECIALLY THOSE WHO WERE WORKING IN A STYLE CALLED PRIMITIVISM, WHICH FEATURED PRIMAL, UNPREDICTABLE RHYTHMS - WOULD TAKE THE COMBINATION OF SIMPLE AND COMPOUND RHYTHMS TO THE NEXT LEVEL!

SIMPLE METER

BEAT UNIT DIVISIBLE BY TWO

BEAT SHOWN BY UNDOTTED NOTE

COMPLEX METER

INCLUDES SIMPLE AND COMPOUND BEATS



SIMPLE BEAT!

COMPOUND BEAT!

COMPOUND METER

BEAT UNIT DIVISIBLE BY THREE

BEAT SHOWN BY DOTTED NOTE

IN THESE METERS, THE BEATS WILL BE UNEVEN! THE NOTE THAT SERVES AS THE DIVISION OF THE BEAT REMAINS CONSTANT THROUGHOUT THE MEASURE.



SO THESE EIGHTH NOTES SHOULD ALL BE THE SAME LENGTH!

LIKE COMPOUND METERS, THE TIME SIGNATURE FOR COMPLEX METERS IS BASED ON THE DIVISION OF THE BEAT. BUT, IN FACT, THESE METERS STILL HAVE TWO, THREE OR FOUR BEATS PER MEASURE!

5

CAN BE
WRITTEN AS



7

CAN BE
WRITTEN AS



8

CAN BE
WRITTEN AS



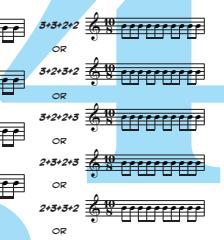
9

CAN BE
WRITTEN AS



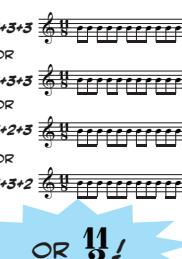
10

CAN BE
WRITTEN AS



11

CAN BE
WRITTEN AS



OF COURSE, WHILE USING **8** FOR THE BOTTOM NUMBER IS MOST COMMON IN MODERN SCORES, ANY NOTE CAN BE USED AS THE DIVISION!

LIKE
7
16...

OR **11**
2!

Triads

ALTHOUGH A **CHORD** IS TECHNICALLY ANY COMBINATION OF NOTES PLAYED SIMULTANEOUSLY, IN MUSIC THEORY WE USUALLY DEFINE CHORDS AS THE COMBINATION OF THREE OR MORE NOTES.

SECUNDAL HARMONY



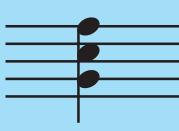
CHORDS BUILT FROM **SECONDS** FORM **TONE CLUSTERS**, WHICH ARE NOT HARMONIC SO MUCH AS TIMBRAL.

TERTIAL HARMONY



CHORDS BUILT FROM **THIRDS** (MORE SPECIFICALLY, FROM **MAJOR THIRDS** AND **MINOR THIRDS**) FORM THE BASIS OF MOST HARMONY IN THE COMMON PRACTICE PERIOD.

QUARTAL HARMONY



CHORDS BUILT FROM **PERFECT FOURTHS** CREATE A DIFFERENT SOUND, USED IN COMPOSITIONS FROM THE **EARLY 1900S** AND ONWARD.

QUINTAL HARMONY?



CHORDS BUILT FROM **PERFECT FIFTHS** CAN BE RESENDED AS **QUARTAL CHORDS**, AND AS SUCH THEY DO NOT CREATE A SEPARATE SYSTEM OF HARMONY.

SEXTAL HARMONY? **SEPTAL HARMONY?**
AS WITH QUINTAL HARMONY, THESE ARE THE SAME AS TERTIAL AND SECUNDAL HARMONY, RESPECTIVELY.

IS THE CHORD STILL TERTIAL IF IT IS BUILT FROM DIMINISHED THIRDS OR AUGMENTED THIRDS?

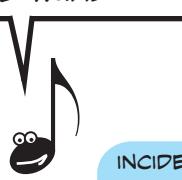


WHEN WE STACK THE CHORD IN **THIRDS** WITHIN **ONE OCTAVE**, WE GET WHAT IS CALLED THE **SIMPLE FORM** OF THE CHORD.

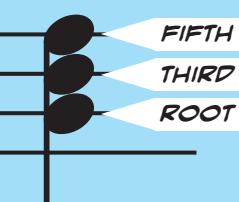
WELL, DIMINISHED THIRDS SOUND JUST LIKE **MAJOR SECONDS**, AND AUGMENTED THIRDS SOUND JUST LIKE **PERFECT FOURTHS**. SO...

NO.

LET'S GET STARTED ON TERTIAL HARMONY WITH THE SMALLEST CHORD POSSIBLE: **THE TRIAD**.



THE LOWEST NOTE IN THE CHORD WHEN THE CHORD IS IN **SIMPLE FORM** IS CALLED **THE ROOT**. THE NAMES OF THE OTHER NOTES ARE BASED ON THEIR INTERVAL ABOVE THE ROOT.



A TRIAD IS DEFINED AS A **THREE-NOTE CHORD**, BUT IN PRACTICE IT IS ALMOST ALWAYS USED TO REFER TO TERTIAL THREE-NOTE CHORDS.

INCIDENTALLY, **FOUR-NOTE CHORDS** ARE TECHNICALLY CALLED **TETRADS**, BUT WE USUALLY CALL THEM **SEVENTH CHORDS**, SINCE THEY ADD A **SEVENTH**.

THERE ARE **FOUR** WAYS TO CREATE A TRIAD USING MAJOR AND MINOR THIRDS:

THE DIMINISHED TRIAD

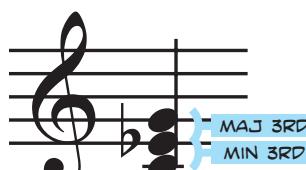
TWO MINOR THIRDS STACKED TOGETHER



C°

THE MINOR TRIAD

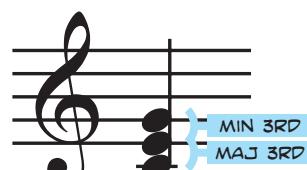
A MAJOR THIRD ON TOP A MINOR THIRD ON BOTTOM



C

THE MAJOR TRIAD

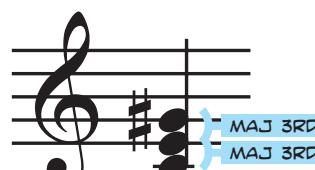
A MINOR THIRD ON TOP A MAJOR THIRD ON BOTTOM



C

THE AUGMENTED TRIAD

TWO MAJOR THIRDS STACKED TOGETHER



C⁺

WE LABEL TRIADS USING THEIR **ROOT** ("A C MINOR TRIAD"). THE ABBREVIATIONS SHOWN ABOVE, WHICH USE **UPPER CASE**, **LOWER CASE**, AND **SYMBOLS** TO SHOW CHORD TYPE, ARE CALLED **MACRO ANALYSIS**.

Triads in Inversion



LADIES AND GENTLEMEN, IT'S
FRANZ JOSEPH HAYDN!

AND HE'S BROUGHT A
MOVEMENT FROM HIS 1767
SONATA IN G MAJOR.

OOH! LET'S
SEE 'EM!

THANK YOU FOR HAVING ME.
IN THIS PIECE I USE QUITE A
FEW TRIADS.



HERE'S ONE: IT HAS THE NOTES
C, E AND G. IT'S A C MAJOR
TRIAD! VERY NICE.

THANK YOU. SEE HOW THE NOTES
ARE SPREAD OUT, AND NOT JUST
STACKED IN THIRDS? IT'S STILL
A TRIAD, THOUGH.

THIS ONE IS G, B, AND D...
A G MAJOR TRIAD! BUT IT SOUNDS
DIFFERENT, SOMEHOW.

THAT'S BECAUSE THE THIRD OF THE
CHORD IS IN THE BASS... WHEN THAT HAPPENS,
WE SAY THE CHORD IS IN FIRST INVERSION.

FIRST INVERSION? WHAT IS IT
CALLED WHEN THE ROOT IS IN THE
BASS, LIKE THE FIRST CHORD
WE LOOKED AT?

THAT'S CALLED
ROOT POSITION.

SO THIS ONE WITH D, F#, AND A
IS A D MINOR TRIAD... IN
SECOND INVERSION!

EXACTLY! BECAUSE THE
FIFTH IS IN THE BASS.



SO THE THING THAT MAKES A
TRIAD ROOT POSITION, FIRST INVERSION
OR SECOND INVERSION IS SIMPLY
WHICH NOTE IS IN THE BASS?

IT'S HARD TO BELIEVE THAT THE
SOUND OF THE CHORD CAN CHANGE SO
MUCH JUST BECAUSE OF THE
BASS NOTE.

THAT'S RIGHT!
AND EACH ONE
HAS ITS OWN
CHARACTER.

I KNOW, RIGHT?
IT'S AWESOME.



Figured Bass



Figure 1. The Basso Continuo

MUSICAL WORKS WRITTEN IN THE BAROQUE ERA WOULD OFTEN INCLUDE A PART CALLED THE **BASSO CONTINUO** WHICH WOULD CONSIST OF A **SINGLE BASS CLEF MELODIC LINE** WITH VARIOUS NUMBERS AND ACCIDENTALS PRINTED BENEATH THE NOTES.

NO, NO, NO... THERE WASN'T AN ACTUAL INSTRUMENT CALLED A **BASSO CONTINUO!** THE PART WAS PLAYED BY TWO INSTRUMENTS: A BASS CLEF INSTRUMENT LIKE **CELLO** OR **BASSOON**, AND A KEYBOARD INSTRUMENT LIKE A **HARPSICHORD**.

IN PERFORMANCES, THE BASS CLEF INSTRUMENT WOULD SIMPLY PLAY THE **GIVEN NOTES**, BUT THE KEYBOARD PLAYER WOULD IMPROVISE A PART BASED ON THE **NOTES AND THE SYMBOLS BELOW THE PART!**

SO THIS...

COULD BE PLAYED AS THIS!

THE NUMBERS AND SYMBOLS PRINTED BELOW THE BASSO CONTINUO PART ARE CALLED THE **FIGURED BASS**. SO HOW DO YOU TURN FIGURED BASS INTO CHORDS?

FIRST OF ALL, IT'S IMPORTANT TO KNOW THAT THE **NOTE** GIVEN ON THE BASS CLEF PART IS ALWAYS THE **BASS NOTE OF THE CHORD**. AND REMEMBER: THE **BASS** IS NOT NECESSARILY THE **ROOT**!

SECOND, THE NUMBERS REPRESENT INTERVALS ABOVE THE **BASS**, EVEN THOUGH SOME NUMBERS ARE USUALLY LEFT OUT.

NOTE THAT THE INTERVALS ARE ALWAYS DIATONIC. DON'T WORRY ABOUT INFLECTION... JUST USE THE NOTES FROM THE KEY SIGNATURE!

IF THERE ARE NO NUMBERS, ADD A THIRD AND A FIFTH ABOVE THE BASS... YOU GET A ROOT POSITION TRIAD!

A SIX BY ITSELF INDICATES A SIXTH AND A THIRD ABOVE THE BASS, WHICH CREATES A FIRST INVERSION TRIAD!

A SIX AND A FOUR INDICATE A SIXTH AND A FOURTH ABOVE THE BASS, GIVING YOU A SECOND INVERSION TRIAD!

#6

HERE, THE **SHARP** APPLIES TO THE **SIXTH** ABOVE THE BASS, SO WE ADD A **SHARP** TO THE **G**.

#

HERE, THERE IS **NO NUMBER** NEXT TO THE **SHARP**, SO WE APPLY IT TO THE **THIRD** ABOVE THE BASS NOTE.

16

NOTE THAT THERE IS A **NATURAL**, NOT A **FLAT**, NEXT TO THE **SIX...** IF IT WERE A **FLAT**, WE WOULD WRITE A **C FLAT**.

LASTLY, ACCIDENTALS ARE APPLIED TO THE INTERVAL THEY APPEAR WITH. IF YOU HAVE AN ACCIDENTAL BY ITSELF, IT APPLIES TO THE **THIRD** ABOVE THE **BASS**.

DON'T OVERTHINK THESE: IF THE COMPOSER WANTS A NOTE RAISED BY A HALF-STEP AND IT'S FLATTED IN THE KEY SIGNATURE, THE FIGURED BASS WILL HAVE A **NATURAL**, NOT A **SHARP**.

BY THE TIME THE **CLASSICAL PERIOD** GOT GOING, COMPOSERS STOPPED INCLUDING A **BASSO CONTINUO** PART, AND SO FIGURED BASS FELL OUT OF USE... WITH ONLY ONE EXCEPTION: **MUSIC THEORY CLASSES!**



REALIZING FIGURED BASS (WRITING CHORDS GIVEN A FIGURED BASS LINE) MAKES FOR AN EXCELLENT EXERCISE FOR STUDENTS TO LEARN HOW TO WRITE IN THE COMMON PRACTICE PERIOD STYLE!

WOOO!

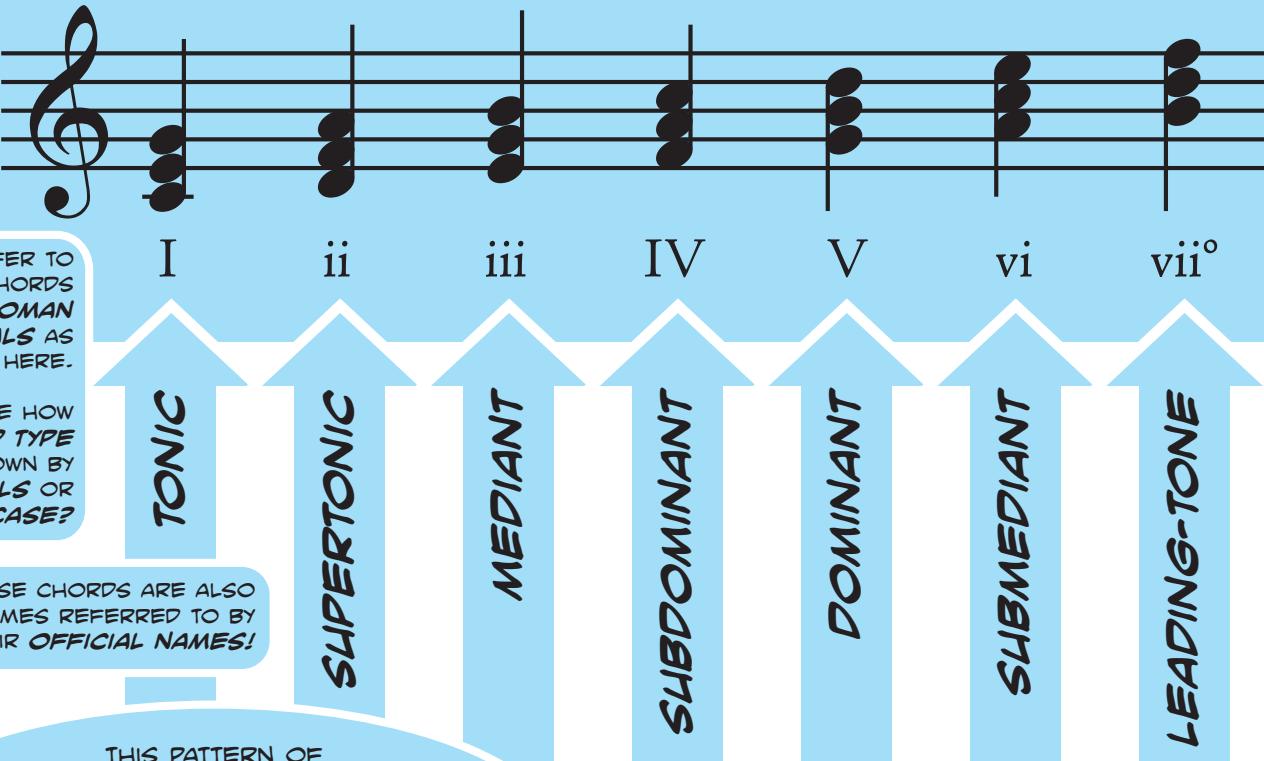
Triads Within Tonality

NOW THAT WE'RE FAMILIAR WITH HOW **TRIADS** WORK, IT'S TIME TO PUT THEM INTO THE CONTEXT OF A **KEY**.

SINCE WRITING MUSIC IN A PARTICULAR **KEY** MEANS USING THE NOTES IN THAT KEY SIGNATURE, IT STANDS TO REASON THAT MOST OF THE **CHORDS** WILL BE BUILT FROM THOSE SAME NOTES!

CHORDS WHICH USE NOTES FROM A PARTICULAR KEY SIGNATURE ARE SAID TO BE DIATONIC TO THAT KEY. DIATONIC MEANS "FROM THE KEY..." THAT MEANS NO ACCIDENTALS!

WE CAN QUICKLY SHOW ALL THE DIATONIC TRIADS IN A PARTICULAR KEY BY WRITING A SCALE IN THAT KEY AND BUILDING TRIADS ON EACH NOTE, USING ONLY THE NOTES IN THAT KEY.



THIS PATTERN OF MAJOR, MINOR AND DIMINISHED TRIADS IS THE SAME IN EVERY MAJOR KEY! THE SUBDOMINANT TRIAD IS ALWAYS MAJOR, AND THE LEADING-TONE TRIAD IS ALWAYS DIMINISHED, WHETHER YOU'RE IN C MAJOR OR F SHARP MAJOR!

WHY IS THE SIXTH CHORD CALLED THE SUBMEDIAN? WELL, JUST AS THE MEDIAN CHORD IS HALFWAY BETWEEN THE TONIC AND DOMINANT CHORDS, THE SUBMEDIAN CHORD IS HALFWAY BETWEEN THE TONIC... AND THE SUBDOMINANT A FIFTH BELOW!

BECAUSE THE DOMINANT AND LEADING-TONE TRIADS BOTH HAVE A STRONG TENDENCY TO RESOLVE TO TONIC, WE SAY THEY HAVE A "DOMINANT FUNCTION." THE SUBDOMINANT AND SUPERTONIC CHORDS BOTH TEND TO RESOLVE TO THE DOMINANT, SO WE SAY THEY BOTH HAVE A "SUBDOMINANT FUNCTION."

THE DIATONIC TRIADS IN MINOR WORK THE SAME WAY... SINCE WE'RE DEALING WITH CHORDS, WE USE THE HARMONIC MINOR SCALE. HOWEVER, IT'S IMPORTANT TO NOTE THAT COMMON PRACTICE PERIOD COMPOSERS RAISED THE LEADING TONE ONLY OVER DOMINANT FUNCTION HARMONY: THE DOMINANT AND LEADING-TONE TRIADS!



Introduction to Part-Writing

AS WE LOOK AHEAD, WE'RE CONFRONTED WITH AN UGLY TRUTH:

THERE IS A LOT OF MUSIC IN THE HISTORY OF THE WORLD THAT IS WORTH STUDYING...

MUCH MORE THAN WE CAN HOPE TO COVER IN THE SPAN OF A FEW SEMESTERS.

SINCE WE CAN'T COVER IT ALL, WE HAVE TO CHOOSE A **SPECIFIC MUSICAL LANGUAGE** TO STUDY IN DEPTH.

LET'S START BY NARROWING THINGS DOWN TO THE **COMMON PRACTICE PERIOD**.



THE COMMON PRACTICE PERIOD IS THE MUSIC OF THE **BAROQUE, CLASSICAL AND ROMANTIC ERAS IN **EUROPE AND AMERICA**. THE NAME COMES FROM THE FACT THAT MOST COMPOSERS USED A **COMMON MUSICAL LANGUAGE** DURING THIS TIME.**

IT'S ESPECIALLY WORTH STUDYING BECAUSE MOST OF THE PIECES COMMONLY PERFORMED IN CONCERT ARE FROM THIS PERIOD...

BUT THERE IS A TON OF COMMON PRACTICE PERIOD MUSIC... MORE THAN WE CAN HOPE TO COVER. IS THERE A **REPRESENTATIVE STYLE** WE CAN SINK OUR ACADEMIC TEETH INTO?

...AND THE LANGUAGE FORMS THE BASIS FOR THE MOST POPULAR MUSICAL STYLES TODAY.

FOUR-VOICE CHORALE WRITING IS A GOOD STYLE TO STUDY FOR SEVERAL REASONS:

CHORALES HAVE A FAST HARMONIC RHYTHM, ALLOWING FOR A LARGER NUMBER OF CHORDS PER EXERCISE.

A LARGE PERCENTAGE OF COMMON PRACTICE PERIOD MUSIC CAN BE EASILY REDUCED TO **FOUR-VOICE COUNTERPOINT**.

THE **CANTATAS** OF J.S. BACH PROVIDE US WITH A TREMENDOUS AMOUNT OF CONSISTENTLY-WRITTEN FOUR-VOICE CHORALES.

ONE OF THE CHANGES TO THE CATHOLIC CHURCH PROPOSED BY **MARTIN LUTHER** WAS TO ALLOW MEMBERS OF THE CONGREGATION TO PARTICIPATE IN THE SINGING OF THE LITURGY.



OF COURSE, LUTHER WAS BRANDED A HERETIC FOR HIS PROPOSALS, AND BEGAN HIS OWN CHURCH IN WHICH TO IMPLEMENT HIS IDEAS.

MORE THAN TWO HUNDRED YEARS LATER, J.S. BACH WAS APPOINTED MUSICAL DIRECTOR AT THE ST. THOMAS CHURCH IN LEIPZIG, GERMANY, AND, IN THE SPIRIT OF LUTHER, WROTE FIVE YEARS' WORTH OF LITURGICAL MUSIC.

EACH OF THESE WORKS, CALLED **CANTATAS**, WERE BUILT AROUND A HYMN MELODY HARMONIZED IN **FOUR PARTS** FOR CONGREGATIONAL SINGING.



BY ANALYZING BACH'S CANTATAS, WE CAN CONSTRUCT A **SET OF "RULES"** FOR WRITING IN FOUR-VOICE COMMON PRACTICE PERIOD MUSICAL STYLE, ALLOWING US TO STUDY IT IN DEPTH.

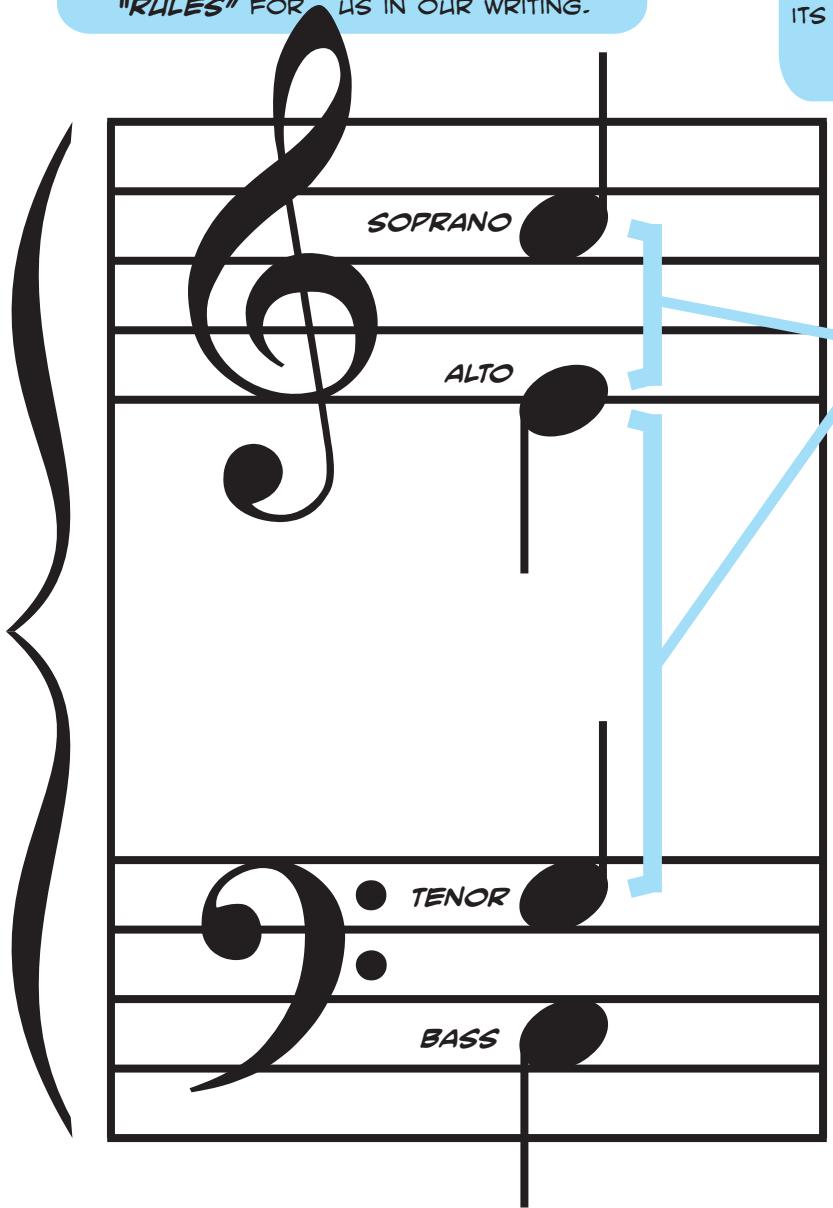
Part-Writing: The Vertical Rules

To best understand how common practice period composers wrote music, we are going to learn how to write music using their musical style.

So the patterns we see in their music, the things they consistently **DID** or **DIDN'T DO**, are going to become "rules" for us in our writing.

 It's wrong to think these were "rules" for the composers... they were just writing what sounded good to them.

Nor should we treat these as rules for writing music in **GENERAL**... each style of writing has its own set of patterns, and thus its own "rulebook." As a composer, you get to write your own rules for your own style!



LASTLY, EACH VOICE SHOULD STAY IN ITS **RANGE**. THESE ARE CONSERVATIVE RANGES FOR MODERN SINGERS, BUT REMEMBER THAT BACH'S CHORALEs WERE REALLY WRITTEN FOR AMATEURS: THE COMMON PEOPLE WHO ATTENDED CHURCH IN LEIPZIG!

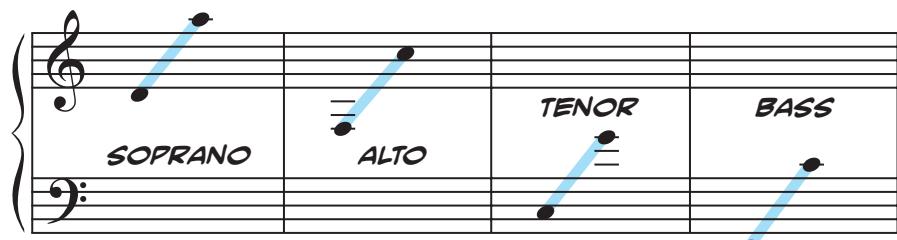
We're going to start with the **VERTICAL RULES**... that is, the rules that pertain to building a **SINGLE CHORD** in four-voice harmony.

First, the distance between **Soprano and Alto** and between **Alto and Tenor** must be an **OCTAVE OR LESS**.

The Tenor and Bass can be as far apart as you want!

Second, the voices must be kept in their **PROPER ORDER**; for example, the **Tenor** shouldn't be **HIGHER** than the **Alto**. (Bach did this now and then, but it was only when he wanted to incorporate some **SPECIAL MELODIC SHAPES**.)

Third, since we have **FOUR VOICES** and only **THREE NOTES** in a triad, one of the notes should be **DOUBLED**. For triads in **ROOT POSITION**, we typically double the **ROOT** of the chord unless forced (by other rules) to do otherwise.



Part-Writing: The Horizontal Rules



THE SUPREME GOAL OF PART-WRITING IS GOOD VOICE LEADING...
MAKING EACH INDIVIDUAL VOICE PART EASY TO SING BY AVOIDING
AWKWARD INTERVALS OR LARGE LEAPS!

BEFORE WE GET TO THE SPECIFIC DOS AND DON'TS, LET'S TAKE A LOOK AT SOME IMPORTANT CHARACTERISTICS OF FOUR-VOICE PART-WRITING:

NOTE HOW EACH VOICE MOVES AS LITTLE AS POSSIBLE, GOING TO THE NEAREST CHORD TONE IN EACH SUBSEQUENT CHORD!

IN SOME CASES, THE VOICE CAN SIMPLY STAY ON THE SAME NOTE. THIS IS CALLED KEEPING THE COMMON TONE, AND IT'S ALWAYS COOL!

IT'S COMMON FOR THE BASS TO MOVE IN THE OPPOSITE DIRECTION OF THE UPPER THREE VOICES. THIS IS CALLED CONTRARY MOTION AND IT HELPS MAINTAIN VOICE INDEPENDENCE.

THE BASS LINE, SINCE IT PROVIDES THE FOUNDATION OF THE HARMONY IN EACH CHORD, TENDS TO INCLUDE LARGER LEAPS THAN THE OTHER THREE VOICES, BUT THAT'S OKAY.



VOICE INDEPENDENCE?

FOUR-VOICE HARMONY IS A FORM OF COUNTERPOINT, WHICH IS THE COMBINATION OF MORE THAN ONE MELODY PLAYED SIMULTANEOUSLY. IN COUNTERPOINT, EACH VOICE IS EQUALLY IMPORTANT; NO VOICE IS GIVEN A ROLE OF ACCOMPANIMENT TO ANOTHER VOICE.

IN COUNTERPOINT, IT IS IMPORTANT FOR EACH VOICE TO BE INDEPENDENT; THAT IS, NO TWO VOICES SHOULD BE DOING THE EXACT SAME THING. IF TWO (OR MORE) VOICES WERE MOVING IN PARALLEL, THE RICHNESS OF THE TEXTURE WOULD BE REDUCED.

AS A RESULT, COMMON PRACTICE COMPOSERS WERE VERY CONSISTENT IN AVOIDING TWO OR MORE VOICES THAT MOVED IN PARALLEL PERFECT OCTAVES, PARALLEL PERFECT FIFTHS, OR PARALLEL PERFECT UNISONS!

PARALLEL OCTAVES!

PARALLEL FIFTHS!

PARALLEL UNISONS!

THERE ARE ALSO A FEW OTHER RULES THAT APPLY TO THIS STYLE:

WHEN YOU HAVE THE LEADING TONE IN AN OUTER VOICE (SOPRANO OR BASS) IT MUST RESOLVE TO THE TONIC IN THE NEXT CHORD.

YOU MAY NOT MOVE ANY VOICE BY AN INTERVAL OF AN AUGMENTED SECOND OR AN AUGMENTED FOURTH.

THE GOOD NEWS:
YOU CAN AVOID ALL THREE OF THESE BY DOING THE FOLLOWING WHENEVER POSSIBLE:

1. KEEP THE COMMON TONE!
2. MOVE TO THE NEAREST CHORD TONE!
3. USE CONTRARY MOTION!



Part-Writing: Using Inversions

WHEN COMMON PRACTICE COMPOSERS USED INVERTED CHORDS IN FOUR-VOICE WRITING, THEY FOLLOWED SOME GENERAL PATTERNS REGARDING WHICH NOTE OF THE CHORD SHOULD BE DOUBLED.

ROOT POSITION

IN ROOT POSITION TRIADS, COMPOSERS USUALLY DOUBLED THE ROOT, WHICH IS IN THE

BASS

OF THE CHORD.



FIRST INVERSION

THE DOUBLING OF FIRST INVERSION TRIADS DEPENDS ON THE TYPE OF THE CHORD BEING WRITTEN.

IN MAJOR FIRST INVERSION TRIADS, COMPOSERS DOUBLED THE

SOPRANO

OF THE CHORD.

IN MINOR FIRST INVERSION TRIADS, COMPOSERS DOUBLED THE

BASS
OR
SOPRANO

OF THE CHORD.



IN DIMINISHED FIRST INVERSION TRIADS, THEY DOUBLED THE

BASS

OF THE CHORD.



SECOND INVERSION

IN SECOND INVERSION TRIADS, COMPOSERS USUALLY DOUBLED THE FIFTH, WHICH IS IN THE

BASS

OF THE CHORD.



HERE'S ANOTHER WAY TO THINK OF IT: THE ONLY TIME YOU CAN'T DOUBLE THE **BASS** IS IN FIRST INVERSION MAJOR TRIADS, WHERE YOU SHOULD DOUBLE THE **SOPRANO** INSTEAD.



OKAY, WE KNOW HOW TO USE INVERSIONS IN FOUR-PART WRITING... BUT WHEN CAN WE USE THEM?

THE ONLY "RULE" REGARDING ROOT POSITION TRIADS AND FIRST INVERSION TRIADS IS THAT DIMINISHED TRIADS ARE ALWAYS PLACED IN FIRST INVERSION.

THE CADENTIAL $\frac{6}{4}$ CHORD IS A TONIC TRIAD IN SECOND INVERSION FOLLOWED BY A ROOT-POSITION DOMINANT CHORD AT A CADENCE.

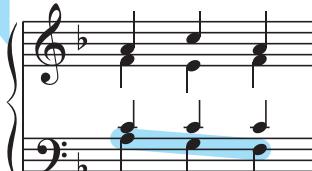


F: I $\frac{6}{4}$ V I

OTHER THAN THAT, YOU CAN USE ROOT POSITION AND FIRST INVERSION ESSENTIALLY WHENEVER YOU WANT!

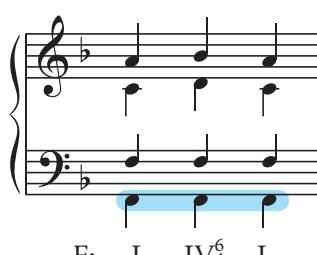
IT'S SECOND INVERSION TRIADS THAT HAVE THE BIG RESTRICTIONS.

THE PASSING $\frac{6}{4}$ CHORD IS A CHORD PLACED IN SECOND INVERSION WHERE THE BASS IS TREATED LIKE A PASSING TONE: THE MIDDLE NOTE OF A STEPWISE LINE MOVING UP OR DOWN.



F: I $\frac{6}{4}$ V $\frac{6}{4}$ I

THE PEDAL $\frac{6}{4}$ CHORD IS A SECOND INVERSION CHORD WHERE THE BASS IS TREATED LIKE A PEDAL TONE: A NOTE PRECEDED AND FOLLOWED BY THE SAME NOTE.



F: I IV $\frac{6}{4}$ I

IF YOU WRITE A SECOND INVERSION TRIAD AND IT'S NOT ONE OF THESE THREE SITUATIONS, THEN YOU ARE NOT WRITING IN THE COMMON PRACTICE PERIOD STYLE! THE COMPOSERS OF THE STYLE JUST DIDN'T USE THESE CHORDS WILLY-NILLY.



Part-Writing: Melodic Minor

SO ANYWAY,
AFTER WE GOT
HIM TRANPOSED
BACK TO TONIC, HE
BEGAN TO MODULATE
AGAIN, AND...

ATTENTION! ATTENTION!
WE NEED ASSISTANCE
WITH A NEW PATIENT
IN EMERGENCY TREATMENT
ROOM 3B... STAT!

IN THE COMMON PRACTICE PERIOD, COMPOSERS USED HARMONIC MINOR BY DEFAULT. BUT WHEN AUGMENTED SECONDS OCCURRED, THEY TURNED TO A HERO FOR HELP: MELODIC MINOR!

WHAT SEEMS TO BE
THE PROBLEM, SIR?

WELL, I THOUGHT I'D TRANPOSE TO MINOR, YOU KNOW, TO SURPRISE THE FAMILY... SO I DID, AND THEN I RAISED ALL MY LEADING TONES, BECAUSE I'M A COMMON PRACTICE PERIOD PROGRESSION, RIGHT?

OKAY, SURE. SO WHAT'S WRONG?

I'VE GOT
AUGMENTED
SECONDS!

GASP

PAGING... DR. MELODIC MINOR!

DOCTOR, WHAT
CAN WE DO?

FOR THIS CASE OF ASCENDING AUGMENTED SECONDS, I PRESCRIBE A RAISED SIXTH SCALE DEGREE!

IV⁶

AND THAT
MAKES A
MINOR V
CHORD!

AND FOR THESE DESCENDING AUGMENTED SECONDS, WE'RE GOING TO USE AN UNRAISED SEVENTH!

MY
AUGMENTED
SECONDS...
THEY'RE
CURED!

ALL IN A DAY'S WORK,
MY GOOD MAN.
NOW LET'S TURN TO
THE UNPLEASANT MATTER
OF THE BILL.

CURE YOUR AUGMENTED SECONDS WITH MELODIC MINOR TODAY!

The Harmonic Cadences



A CADENCE IS GENERALLY CONSIDERED TO BE THE LAST TWO CHORDS OF A PHRASE, SECTION OR PIECE. THERE ARE FOUR TYPES OF CADENCES, EACH WITH THEIR OWN SPECIFIC REQUIREMENTS AND VARIATIONS.

AN AUTHENTIC CADENCE CONSISTS OF A DOMINANT FUNCTION CHORD (V OR VII) MOVING TO TONIC. TO BE CONSIDERED A PERFECT AUTHENTIC CADENCE, A CADENCE MUST MEET ALL OF THE FOLLOWING CRITERIA:

IT MUST USE A V CHORD (NOT A VII)

BOTH CHORDS MUST BE IN ROOT POSITION

THE SOPRANO MUST END ON THE TONIC

THE SOPRANO MUST MOVE BY STEP

G: V I

IF THE CADENCE DOESN'T MEET ALL OF THOSE CRITERIA, IT'S CONSIDERED TO BE AN IMPERFECT AUTHENTIC CADENCE!

G: vii^o I

G: V⁴ I

A PLAGAL CADENCE CONSISTS OF A SUBDOMINANT FUNCTION CHORD (IV OR II) MOVING TO TONIC.

TO BE CONSIDERED A PERFECT PLAGAL CADENCE,

A CADENCE MUST MEET ALL OF THE FOLLOWING CRITERIA:

IT MUST USE A IV CHORD (NOT A II)

BOTH CHORDS MUST BE IN ROOT POSITION

THE SOPRANO MUST END ON THE TONIC

THE SOPRANO MUST KEEP THE COMMON TONE

G: IV I

IF THE CADENCE DOESN'T MEET ALL OF THOSE CRITERIA, IT'S CONSIDERED TO BE AN IMPERFECT PLAGAL CADENCE!

G: IV⁶ I

G: ii I⁶

A HALF CADENCE IS ANY CADENCE THAT ENDS ON THE DOMINANT CHORD (V).

G: I V

A SPECIFIC TYPE OF HALF CADENCE IS THE PHRYGIAN CADENCE, WHICH MUST MEET THE FOLLOWING CRITERIA:
IT OCCURS ONLY IN MINOR
IT USES A IV CHORD MOVING TO V
THE SOPRANO AND BASS MOVE BY STEP IN CONTRARY MOTION
THE SOPRANO AND BASS BOTH END ON THE FIFTH SCALE DEGREE

e: iv V

e: iv V

A DECEPTIVE CADENCE IS A CADENCE WHERE THE DOMINANT CHORD (V) RESOLVES TO SOMETHING OTHER THAN TONIC... ALMOST ALWAYS THE SUBMEDIAN CHORD (VI).

G: V vi

REALLY, IT'S THE PSYCH-OUT CADENCE, IN THAT YOU EXPECT IT TO RESOLVE TO TONIC, BUT IT DOESN'T.



AND, IN FACT, IT'S MORE COMMON TO SEE THIS IN THE MIDDLE OF THE PHRASE RATHER THAN THE END... WHERE YOU MIGHT CALL IT A "CADENCE-LIKE STRUCTURE"!

Harmonic Progression

HOW DID COMPOSERS OF THE COMMON PRACTICE PERIOD DECIDE WHICH ORDER TO PUT CHORDS IN? DID THEY JUST THROW THEM DOWN ON PAPER HAPHAZARDLY?



AS A MATTER OF FACT, THERE ARE CERTAIN CHORD PROGRESSIONS THAT APPEAR MORE FREQUENTLY, AND THERE ARE OTHERS THAT ARE AVOIDED PRETTY CONSISTENTLY. WHILE THE CHOICES WERE ALWAYS BASED ON WHAT **SOUNDED GOOD** TO THE COMPOSER, THEORISTS CAN FIND A **PATTERN** IN THEIR CHOICES THAT WE CAN USE TO EASILY REMEMBER WHICH CHORD PROGRESSIONS **WORK** AND WHICH ONES **DON'T**.

ONE WAY TO UNDERSTAND THIS PATTERN IS TO THINK IN TERMS OF **ROOT MOVEMENTS**. A ROOT MOVEMENT IS THE BASIC INTERVAL BETWEEN THE ROOT OF ONE CHORD AND THE ROOT OF THE NEXT CHORD. YOU DON'T HAVE TO WORRY ABOUT THE INTERVAL'S **INFLECTION**, JUST ITS **DISTANCE** AND **DIRECTION**.

FOR EXAMPLE, TO DETERMINE THE ROOT MOVEMENT HERE, WE LOOK AT THE **ROOT** (NOT **BASS**) OF EACH CHORD AND FIGURE THE **INTERVAL** BETWEEN THEM.



A TO B IS DOWN A SEVENTH, BUT SINCE OCTAVES DON'T MATTER, WE INVERT IT TO UP A SECOND.

SO HERE'S THE PATTERN: COMMON PRACTICE PERIOD COMPOSERS GENERALLY USED ROOT MOVEMENTS OF **UP A SECOND**, **DOWN A THIRD**, AND **DOWN A FIFTH**!



THAT'S NOT SAY THAT THEY NEVER USED OTHER ROOT MOVEMENTS, BUT IT DIDN'T HAPPEN VERY OFTEN.

REMEMBER... SINCE INFLECTION DOESN'T MATTER, WE CAN IGNORE ACCIDENTALS WHEN WE FIGURE THE ROOT MOVEMENTS.



SEQUENCES OF CHORDS THAT DON'T FOLLOW THIS PATTERN ARE CALLED **RETROGRESSIONS**, AND THEY ARE CONSIDERED **UNSTYLISTIC**.



SO, FOR EXAMPLE, A **G CHORD** TO AN **E CHORD** IS DOWN A THIRD, BUT SO IS **G TO E FLAT**, AND **G SHARP TO E FLAT**!



"UNSTYLISTIC" IS A POLITE WAY OF SAYING "THE COMPOSERS DIDN'T DO IT SO YOU SHOULDN'T DO IT EITHER!"

THERE ARE ALSO FOUR SIMPLE EXCEPTIONS TO THIS PATTERN:



ANY CHORD CAN MOVE TO TONIC,



TONIC CAN MOVE TO ANY CHORD,



ANY CHORD CAN MOVE TO DOMINANT,



AND THE LEADING-TONE TRIAD MUST MOVE TO TONIC.

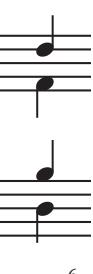


LET'S TRY IT... SAY YOU HAVE A SUPERTONIC CHORD AND YOU ARE TRYING TO DECIDE WHAT CHORD TO USE TO FOLLOW IT.

YOU CAN MOVE UP A SECOND TO A MEDIAN CHORD...



YOU CAN MOVE DOWN A THIRD TO A LEADING-TONE CHORD...



YOU CAN MOVE DOWN A FIFTH TO A DOMINANT CHORD...



OR YOU CAN USE THE FIRST EXCEPTION AND GO TO A TONIC CHORD!



Diatonic Common Chord Modulation

MODULATION IS THE PROCESS OF CHANGING TO A DIFFERENT KEY WITHIN A PIECE OF MUSIC.

THERE ARE SEVERAL DIFFERENT WAYS TO MODULATE; PERHAPS THE SIMPLEST IS THE **UNPREPARED MODULATION**, WHERE THE MUSIC PAUSES AND SUDDENLY CHANGES KEY, OFTEN UP A HALF-STEP.



HEY... WHAT IS THIS PORTRAIT DOING HERE?

COMMON PRACTICE PERIOD COMPOSERS, HOWEVER, PREFERRED A PARTICULAR TYPE OF MODULATION THAT REQUIRED A LITTLE MORE PLANNING: THE **DIATONIC COMMON CHORD MODULATION**. AS THE NAME SUGGESTS, THIS USES A CHORD WHICH IS **DIATONIC** IN BOTH THE **OUTGOING KEY** AND THE **NEW KEY**.

LET'S SAY WE'RE STARTING OFF IN **C MAJOR**... HERE IS A LIST OF ALL THE KEYS WHICH HAVE CHORDS IN COMMON WITH C MAJOR (THE SPECIFIC CHORDS ARE HIGHLIGHTED):

FOR INSTANCE,
THE **I CHORD**
IN **G MAJOR**
IS **G-B-D...**

G: I ii iii IV V vi vii°

...WHICH IS
THE **V CHORD**
IN **C MAJOR!**

F: I ii iii IV V vi vii°

a: i ii° III iv V VI vii°

e: i ii° III iv V VI vii°

KEYS WHICH HAVE CHORDS IN COMMON LIKE THIS ARE CALLED **RELATED KEYS**.

C: I ii iii IV V vi vii°

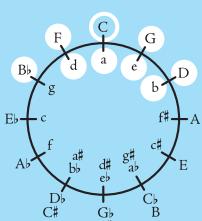
NOTICE HOW THESE KEYS ARE ALL CLOSE TO ONE ANOTHER ON THE **CIRCLE OF FIFTHS**.

D: I ii iii IV V vi vii°

d: i ii° III iv V VI vii°

B: I ii iii IV V vi vii°

b: i ii° III iv V VI vii°



TO USE THIS TYPE OF MODULATION, A COMPOSER WOULD **PIVOT** THE HARMONY AROUND THE CHORD THAT FIT INTO BOTH KEYS. AS THEORISTS, WE SHOW THIS **PIVOT CHORD** BY ANALYZING THE CHORD IN **BOTH KEYS**.

C: I ii V I e: iv V VI iv V i

NOTE THAT THE **PIVOT CHORD** IS **ALWAYS THE LAST CHORD** THAT CAN BE ANALYZED IN THE **OLD KEY**... THE FIRST ACCIDENTALS WILL ALWAYS OCCUR IN THE CHORD IMMEDIATELY FOLLOWING THE **PIVOT CHORD**!

Non-Harmonic Tones

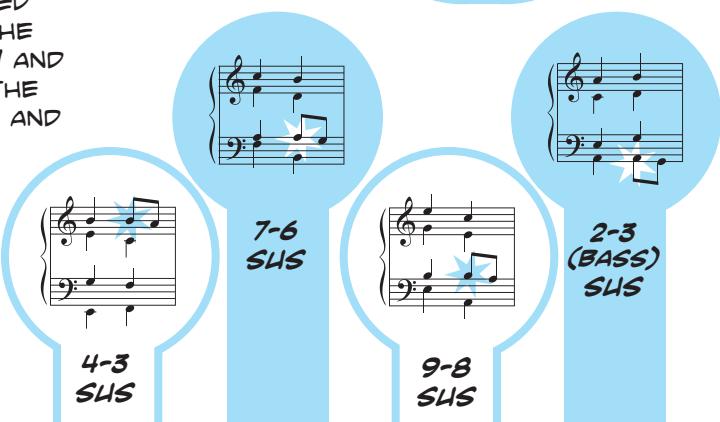


A NON-HARMONIC TONE IS A NOTE THAT DOESN'T FIT INTO A CHORD. WE CLASSIFY NON-HARMONIC TONES BY HOW THEY ARE APPROACHED AND RESOLVED!

NAME	ABBREVIATION	APPROACH	RESOLUTION	NOTES	EXAMPLE
PASSING TONE	PT	STEP	STEP	RESOLVES BY CONTINUING IN THE SAME DIRECTION AS THE APPROACH.	
NEIGHBORING TONE	NT	STEP	STEP	RESOLVES BY RETURNING TO THE NOTE PRECEDING THE NON-HARMONIC TONE.	
APPOGGIATURA	APP	LEAP	STEP	RESOLVES IN OPPOSITE DIRECTION FROM APPROACH.	
ESCAPE TONE	ET	STEP	LEAP	RESOLVES IN OPPOSITE DIRECTION FROM APPROACH.	
CHANGING TONES	CT	ANY	STEP	TWO NON-HARMONIC TONES ON EITHER SIDE OF THE NOTE OF RESOLUTION.	
ANTICIPATION	ANT	ANY	COMMON TONE	A CHORD TONE PLAYED BEFORE THE REST OF THE CHORD ARRIVES.	
SUSPENSION	SUS	COMMON TONE	STEP	A NOTE HELD OVER FROM A PREVIOUS CHORD AND RESOLVED DOWN.	
RETARDATION	RET	COMMON TONE	STEP	A NOTE HELD OVER FROM A PREVIOUS CHORD AND RESOLVED UP.	
PEDAL TONE	PED	COMMON TONE	COMMON TONE	A CHORD TONE WHICH TEMPORARILY BECOMES A NON-HARMONIC TONE.	

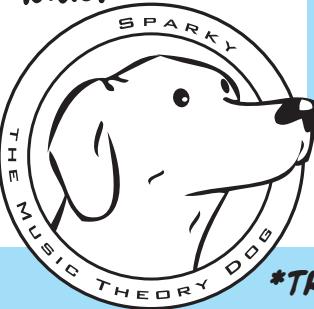
SUSPENSIONS ARE TYPICALLY FURTHER IDENTIFIED BY NUMBER. THE FIRST NUMBER REPRESENTS THE INTERVAL BETWEEN THE NOTE OF SUSPENSION AND THE BASS. THE SECOND NUMBER REPRESENTS THE INTERVAL BETWEEN THE NOTE OF RESOLUTION AND THE BASS.

THE EXCEPTION TO THIS RULE IS THE 2-3 OR BASS SUSPENSION, WHERE THE NUMBERS REPRESENT THE INTERVALS BETWEEN THE BASS (WHERE THE SUSPENSION OCCURS) AND WHICHEVER VOICE HAS THE NOTE WHICH IS A SECOND (NOT COUNTING OCTAVES) ABOVE THE BASS.



hey, it's
kids!

SPARKY THE MUSIC THEORY DOG!



Q: Dear Sparky:

Can you elaborate on why suspensions are identified by numbers? Also, what should one watch out for when writing suspensions in four-part harmony?

--S.S., Detroit, MI

A: **WOOF!***

***TRANSLATION:** WHEN ANALYZING SUSPENSIONS, IT IS IMPORTANT TO IDENTIFY BOTH THE **NOTE OF SUSPENSION** (THE NON-HARMONIC TONE ITSELF) AND THE **NOTE OF RESOLUTION** (THE NOTE THAT COMES RIGHT AFTER THE NON-HARMONIC TONE IN THE SAME VOICE).

C: IV V⁶

THIS A IS THE
NOTE OF SUSPENSION...
IT DOESN'T BELONG IN
THIS G MAJOR TRIAD.

IT RESOLVES TO
THIS G, WHICH **DOES**
FIT IN THE CHORD.
IT'S THE **NOTE OF
RESOLUTION**!

IN ALMOST EVERY CASE,
THE SUSPENSION IS
THEN LABELED USING
TWO INTERVALS: THE
**INTERVAL BETWEEN THE
NOTE OF SUSPENSION
AND THE BASS**, AND THE
**INTERVAL BETWEEN THE
NOTE OF RESOLUTION
AND THE BASS**.

C: IV V⁶

...SO IT'S A
7-6 SUSPENSION!

WHEN WRITING AN EXAMPLE WHICH INCLUDES A SUSPENSION, IT IS VERY OFTEN USEFUL TO **BEGIN** BY WRITING THE CHORD THAT IS GOING TO CONTAIN THE SUSPENSION, **THEN** ADDING THE SUSPENSION, AND FINISHING BY WRITING THE **CHORD OF APPROACH**.

THE REAL TRICK, THOUGH, IS TO **PLAN AHEAD**... IF YOU ARE PLANNING TO WRITE A PARTICULAR TYPE OF SUSPENSION, YOU NEED TO THINK ABOUT THE **INTERVAL THAT NEEDS TO BE PRESENT** IN THE CHORD THAT INCLUDES YOUR SUSPENSION.

FOR THE **9-8 SUSPENSION**,
THE SUSPENSION RESOLVES
TO AN OCTAVE ABOVE THE
BASS... THAT'S EASY, SINCE
ANY CHORD CAN INCLUDE
AN OCTAVE.

FOR THE **7-6 SUSPENSION**,
THE SUSPENSION RESOLVES
TO A SIXTH ABOVE THE
BASS. THAT MEANS YOU
CAN'T USE A CHORD IN
ROOT POSITION, BECAUSE
THEY HAVE A FIFTH AND A
THIRD ABOVE THE BASS.
YOU NEED A **FIRST OR
SECOND INVERSION** TRIAD!

THE ONLY EXCEPTION TO THIS
IS THE **2-3 SUSPENSION**, WHERE
THE SUSPENSION OCCURS IN THE
BASS. FOR THIS ONE, WE LOOK
AT THE INTERVAL BETWEEN THE
NOTES OF SUSPENSION AND
RESOLUTION AND THE **NEAREST
CHORD TONE**, WHICHEVER VOICE
IT MAY BE IN.

C: vi V

...SO IT'S A
2-3 SUSPENSION!

FOR THE **4-3 SUSPENSION**
AND **2-3 SUSPENSION**, YOU
NEED A CHORD WITH A
THIRD ABOVE THE BASS...
WHICH MEANS YOU CAN
USE ANYTHING EXCEPT A
SECOND INVERSION TRIAD.

DOING STUFF THE SPARKY WAY IS ALWAYS FUN!

Diatonic Seventh Chords



WHAT ARE THEY?

DIATONIC SEVENTH CHORDS ARE THE SEVENTH CHORDS YOU CAN CREATE USING ONLY THE NOTES IN A PARTICULAR KEY.

HERE THEY ARE IN MAJOR AND MINOR.

REMEMBER:
WE ONLY RAISE THE LEADING-TONE OVER DOMINANT-FUNCTION HARMONY!

C: I⁷ ii⁷ iii⁷ IV⁷ V⁷ vi⁷ vii^{⁹⁷}

a: i⁷ ii^{⁹⁷} III⁷ iv⁷ V⁷ VI⁷ vii^{⁹⁷}

IN HARMONIC PROGRESSIONS, DIATONIC SEVENTHS CAN BE USED ANYWHERE YOU CAN USE A DIATONIC TRIAD WITH THE SAME ROOT.

V I IV vii^⁹

IN FACT, THESE CHORDS CAN BE APPROACHED AND RESOLVED USING ANY OF THE SAME THREE ROOT MOVEMENTS AS TRIADS USE.

WITH THE DIATONIC SEVENTH CHORDS, WE ADD A FOURTH ROOT MOVEMENT: **THE COMMON ROOT**. HOWEVER, THIS ROOT MOVEMENT CAN ONLY BE USED TO **INCREASE TENSION**, SO GOING FROM A **SEVENTH CHORD** TO A **TRIAD** IS AVOIDED.

✗ V⁷ → V

✓ V → V⁷

WHEN USING THESE CHORDS IN FOUR-PART WRITING - IN FACT, WHEN YOU USE ANY SEVENTH CHORD IN FOUR-PART WRITING, YOU MUST ALWAYS, **ALWAYS REMEMBER TO...**

THE SEVENTH OF THE CHORD IS MOST OFTEN APPROACHED BY **THE COMMON TONE**.

HOWEVER, IT IS OKAY TO APPROACH THE SEVENTH FROM BELOW BY A STEP OR A LEAP, OR FROM ABOVE BY A STEP.

YOU MUST **NEVER** APPROACH THE SEVENTH BY A LEAP FROM ABOVE!



THERE ARE EIGHT POSSIBLE TYPES OF SEVENTH CHORDS IN TERTIAL HARMONY, BUT THE COMPOSERS OF THE COMMON PRACTICE PERIOD ONLY USED **FIVE**:

THE MAJOR SEVENTH
MAJOR 7TH ABOVE ROOT
MAJOR TRIAD

THE MAJOR-MINOR SEVENTH
MINOR 7TH ABOVE ROOT
MAJOR TRIAD

THE MINOR SEVENTH
MINOR 7TH ABOVE ROOT
MINOR TRIAD

THE HALF-DIMINISHED SEVENTH
MINOR 7TH ABOVE ROOT
DIMINISHED TRIAD

THE FULLY DIMINISHED SEVENTH
DIMINISHED 7TH ABOVE ROOT
DIMINISHED TRIAD

WE USE "⁹⁷" FOR HALF-DIMINISHED SEVENTHS AND "⁹⁷" FOR FULLY DIMINISHED SEVENTHS.

SEVENTH CHORDS HAVE FOUR NOTES, SO DOUBLING IN FOUR-PART HARMONY IS NOT AN ISSUE... BUT IF YOU NEED TO USE IRREGULAR DOUBLING, **DOUBLE THE ROOT AND OMIT THE FIFTH**.

RESPECT THE SEVENTH!

THE SEVENTH OF THE CHORD IS ALWAYS RESOLVED DOWN BY STEP. ALWAYS!

NO, I'M SERIOUS. DON'T EVER RESOLVE THE SEVENTH OF A SEVENTH CHORD ANY OTHER WAY.

DOING SO WILL CAUSE YOU CERTAIN DEATH!



The Dominant Seventh

THE DOMINANT SEVENTH IS THE DIATONIC SEVENTH CHORD BUILT ON THE FIFTH SCALE DEGREE. WE ALREADY DISCUSSED DIATONIC SEVENTH CHORDS... WHY GIVE THIS ONE ALL THIS SPECIAL ATTENTION?

FOR ONE THING, THE DOMINANT SEVENTH IS, BY FAR, THE MOST COMMON SEVENTH CHORD USED BY THE COMPOSERS OF THE COMMON PRACTICE PERIOD.

BUT ANOTHER REASON FOR SPENDING A LITTLE EXTRA TIME WITH IT IS THE FACT THAT THERE ARE A FEW THINGS THAT APPLY TO IT THAT DON'T APPLY TO THE OTHER DIATONIC SEVENTH CHORDS.

FIRST, A NOTE ON TERMINOLOGY:

THE TERMS "MAJOR-MINOR SEVENTH" AND "DOMINANT SEVENTH" ARE NOT INTERCHANGEABLE! "MAJOR-MINOR SEVENTH" IS THE CHORD'S TYPE, AND "DOMINANT SEVENTH" IS THE ROLE THE CHORD PLAYS IN THE CONTEXT OF A PARTICULAR KEY.

IT'S JUST A MAJOR-MINOR SEVENTH...



UNTIL IT'S PLACED IN A PARTICULAR KEY!



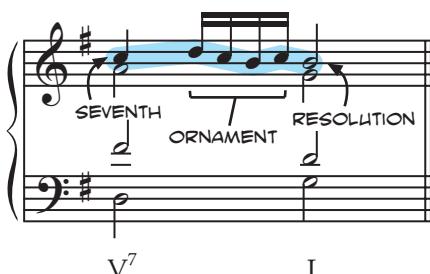
THE REASON THESE ARE OFTEN CONFUSED IS THAT IN POPULAR AND JAZZ THEORY, THE TERM "DOMINANT" IS USED TO LABEL THE CHORD TYPE INSTEAD OF THE CHORD'S ROLE.



THE OTHER IMPORTANT THING TO KNOW ABOUT THE DOMINANT SEVENTH CHORD IS THAT COMMON PRACTICE PERIOD COMPOSERS WOULD SOMETIMES USE SOME NON-STANDARD WAYS OF RESOLVING THE SEVENTH!

THE ORNAMENTAL RESOLUTION

IN THIS RESOLUTION, THE SEVENTH IS STILL RESOLVED DOWN BY STEP, BUT IT TAKES AN ORNAMENTAL "DETOUR" BEFORE GETTING THERE.

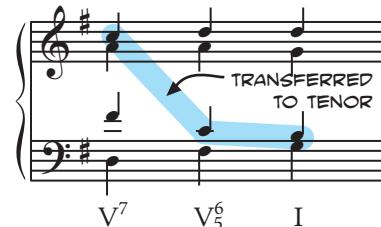


THE ORNAMENT CAN BE ANY SHAPE OR LENGTH, BUT IT **MUST** RESOLVE TO THE NOTE DOWN A STEP FROM THE SEVENTH OF THE SEVENTH CHORD.

THE TRANSFERRED RESOLUTION

THIS IS THE "HOT POTATO" RESOLUTION: INSTEAD OF BEING RESOLVED DOWN BY STEP IN THE SAME VOICE, THE SEVENTH IS PASSED TO ANOTHER VOICE IN ANOTHER DOMINANT SEVENTH CHORD.

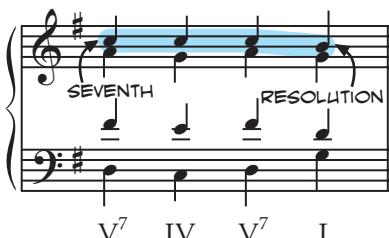
THE SEVENTH STILL NEEDS TO RESOLVE DOWN BY STEP BY WHATEVER VOICE IS THE LAST TO HAVE IT.



IF THE BASS VOICE GETS IT, HE **RESOLVES IT IMMEDIATELY**, ENDING THE FUN FOR EVERYONE.

THE DELAYED RESOLUTION

HERE, THE RESOLUTION OF THE SEVENTH IS **DELAYED** BY MOVING TO SOME OTHER CHORD (USUALLY THE SUBDOMINANT) AND HAVING THE SEVENTH OF THE CHORD **HOLD OUT** UNTIL THE DOMINANT SEVENTH RETURNS.



AFTER THE V⁷ RETURNS, THE VOICE THAT HAS THE SEVENTH SHOULD STILL RESOLVE IT APPROPRIATELY!

THE BASS RESOLUTION

IN THIS RESOLUTION, THE SEVENTH OF THE CHORD IS STILL RESOLVED DOWN BY STEP, BUT THE NOTE IT RESOLVES TO APPEARS IN THE **BASS VOICE**.



THE VOICE THAT HAD THE SEVENTH RESOLVES UP, USUALLY BY STEP.



Extended Harmonies

DIMINISHED TRIAD MINOR TRIAD MAJOR TRIAD AUGMENTED TRIAD

SO FAR, WE'VE TALKED ABOUT TWO TYPES OF TERTIAL CHORDS: **TRIADS** AND **SEVENTH CHORDS**. REMEMBER, TERTIAL CHORDS ARE CHORDS CONSTRUCTED BY STACKING MAJOR AND MINOR THIRDS!

NOW, THERE ARE **FOUR TYPES OF TRIADS** AND **EIGHT TYPES OF SEVENTH CHORDS**, EVEN THOUGH COMMON PRACTICE PERIOD COMPOSERS ONLY USED **FIVE** OF THEM.



DIMINISHED DIMINISHED SEVENTH CHORD DIMINISHED MINOR SEVENTH CHORD MINOR MINOR SEVENTH CHORD MINOR MAJOR SEVENTH CHORD
 MAJOR MINOR SEVENTH CHORD MAJOR MAJOR SEVENTH CHORD AUGMENTED MAJOR SEVENTH CHORD AUGMENTED AUGMENTED SEVENTH CHORD

SO THAT MAKES FOR **TWELVE** CHORD TYPES SO FAR... BUT WHAT IF WE KEEP GOING? WHAT OTHER CHORD TYPES CAN WE MAKE BY STACKING MAJOR AND MINOR THIRDS? TERTIAL CHORDS WITH **FIVE**, **SIX** AND **SEVEN** NOTES ARE CALLED **NINTH CHORDS**, **ELEVENTH CHORDS** AND **THIRTEENTH CHORDS** RESPECTIVELY.

SUDDENLY THE POSSIBILITIES INCREASE FROM TWELVE...

...TO 124!

THE GOOD NEWS: COMMON PRACTICE PERIOD COMPOSERS ONLY USED THESE "EXTENDED HARMONIES" AS DIATONIC CHORDS ON THE DOMINANT.



SERIOUSLY: THESE ARE THE ONLY EXTENDED HARMONIES USED BY COMMON PRACTICE PERIOD COMPOSERS. IN FACT, THE **V¹¹** AND **V¹³** WEREN'T USED MUCH BEFORE THE ROMANTIC ERA.

G: V⁹ G: V¹¹

G: V¹³

WHAT ABOUT A **FIFTEENTH CHORD?**
TRY IT: IF YOU ADD ANOTHER THIRD ON TOP OF A THIRTEENTH, YOU ARE JUST DOUBLING THE ROOT, SO TERTIAL HARMONY STOPS AT 13!

NOW, WHEN WE PUT THESE CHORDS INTO **FOUR-PART HARMONY**, WE'VE GOT A PROBLEM: THEY ALL HAVE MORE THAN FOUR NOTES. SO WE HAVE TO MAKE THE TOUGH CALL: WHICH ONES DO WE CUT FROM THE TEAM?

WE NEED TO KEEP THE **ROOT** BECAUSE IT DEFINES THE CHORD. SIMILARLY, THE **THIRD** IS WHAT MAKES THE CHORD TERTIAL.

THE **SEVENTH** ACTS AS A **BRIDGE** TO THE EXTENDED HARMONY, PREVENTING THE CHORD FROM COMING ACROSS AS **TWO SEPARATE HARMONIES** PLAYED AT THE SAME TIME.

FINALLY, THE **NINTH**, **ELEVENTH** OR **THIRTEENTH** OF THE CHORD IS WHAT DEFINES IT AS A NINTH, ELEVENTH OR THIRTEENTH CHORD.

SO HOW DO YOU PUT THESE IN **FOUR-PART HARMONY**? OMIT THE FIFTH AND USE ONLY THE **NINTH**, **ELEVENTH** OR **THIRTEENTH** AS NECESSARY.

C: V¹³

OH, AND IF YOU'RE WORRIED ABOUT INVERSIONS: **STOP**. IN THE COMMON PRACTICE PERIOD, EXTENDED HARMONIES ARE ALMOST ALWAYS FOUND IN **ROOT POSITION**.

Motivic Development

WE'RE GOING TO TAKE A LITTLE BREAK FROM THE USUAL STUFF AND... HEY, IT'S LUDWIG VAN BEETHOVEN!

WHAT'S GOING ON, MAESTRO?

ORIGINAL MOTIVE



I'LL TELL YOU WHAT'S GOING ON: I'M GRUMPY! I BET ARCHDUKE RUDOLPH 20 GULDEN THAT I COULD WRITE 500 MEASURES OF MUSIC THIS WEEK AND SO FAR I'VE ONLY COME UP WITH FOUR STINKIN' NOTES!

HEY, IT'S COOL, MR. B... WE CAN USE THESE NOTES AS A MOTIVE, AND CREATE A TON MORE MUSIC BASED ON THEM. WATCH!

REPETITION

THE SIMPLEST FORM OF MOTIVIC DEVELOPMENT: REPEATING A PHRASE IMMEDIATELY GIVES YOU TWICE AS MUCH MUSIC!



SEQUENCE

REPEATING A MOTIVE AT A HIGHER OR LOWER LEVEL PITCH. AS WITH ALL OF THESE, THE INTERVALS DON'T HAVE TO MATCH EXACTLY.



INVERSION

FLIPPING THE MOTIVE UPSIDE-DOWN: IF THE ORIGINAL MOTIVE LEAPS DOWNWARD, AN INVERSION WILL LEAP UPWARD.



INTERVAL CONTRACTION
INTERVAL EXPANSION

MAKING THE INTERVALS WITHIN THE MOTIVE SMALLER (CONTRACTION) OR LARGER (EXPANSION).



DIMINUTION
AUGMENTATION

CHANGING THE SPEED OF THE MOTIVE SO IT IS PLAYED FASTER (DIMINUTION) OR SLOWER (AUGMENTATION).



RHYTHMIC
METAMORPHOSIS

ANY CHANGE OF THE MOTIVE'S RHYTHM (OTHER THAN JUST CHANGING THE TEMPO, AS DESCRIBED ABOVE)



IMITATION

AN "ECHO" EFFECT BETWEEN DIFFERENT VOICES (BETWEEN INSTRUMENTS IN AN ENSEMBLE, FOR EXAMPLE, OR BETWEEN REGISTERS ON THE PIANO)



SO, HEH HEH.... THAT GETS US TO 253 MEASURES...



UH, YEAH...

WAIT... WE ARE IN 4/4 TIME, RIGHT?

SO LET'S USE 2/4 TIME INSTEAD!

YOU SLY FOX... 506 MEASURES!

WOOOOT! READ IT AND WEEP, RUDY!

AW, DANG!

LET'S GO DOUBLE OR NOTHING!

BEETHOVEN

Binary Form



WHEN WE TALK ABOUT THE **FORM** OF A PIECE, WE ARE REFERRING TO THE LARGE-SCALE LAYOUT OF THE PIECE... SPECIFICALLY, THE ARRANGEMENT OF SECTIONS OF MUSIC, HOW AND WHEN THEY ARE REPEATED, AND WHAT KEYS ARE BEING USED.

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ONE OF THE SIMPLEST FORMS IS **BINARY FORM**, WHICH CONSISTS OF **TWO CONTRASTING SECTIONS**. WE REFER TO THESE TWO SECTIONS AS **A** AND **B**.

THE SECTIONS MIGHT BE CONTRASTING IN **MOOD**, **TEMPO**, **KEY**, OR EVEN IN A COMBINATION OF THESE CHARACTERISTICS.

A B

BINARY FORM

00001011100100110010100100000011100100110010101100001011010001101100011110



BINARY FORM IS USED IN **BAROQUE DANCE SUITES** IN A VERY SPECIFIC WAY. IN THESE PIECES, BOTH SECTIONS ARE REPEATED. THE **A** SECTION BEGINS IN THE PRIMARY KEY AND MODULATES TO THE **KEY OF THE DOMINANT**, AND THE **B** SECTION BEGINS IN THAT KEY AND MODULATES BACK TO THE **ORIGINAL KEY**. PERFORMERS OF THE TIME WOULD TYPICALLY IMPROVISE ORNAMENTATION WHEN REPEATING EACH SECTION.

01001000001101001011011001100011011100100100101010110010001101001011000100

BAROQUE DANCE SUITES WERE WRITTEN FOR VARYING INSTRUMENTATION; MANY WERE WRITTEN FOR **KEYBOARD** (USUALLY **HARPSICHORD** OR **CLAVICHORD**), OTHERS WERE WRITTEN FOR CHAMBER GROUPS, AND SOME WERE EVEN WRITTEN FOR **FULL ORCHESTRA**.

EACH MOVEMENT OF THESE SUITES WOULD BE WRITTEN IN THE STYLE OF A PARTICULAR BAROQUE DANCE: **ALLEMANDE**, **GAVOTTE**, **BOUREE**, **COURANTE**, **SARABANDE**, **LOURE**, **GIGUE**, AND OTHERS, EACH OF WHICH HAD A SPECIFIC CHARACTER.

BECAUSE BAROQUE DANCE FORM IS SO COMMON IN BAROQUE INSTRUMENTAL MUSIC, WHEN THEORISTS AND MUSICOLOGISTS ARE TALKING ABOUT BAROQUE MUSIC AND SAY "**BINARY FORM**," THEY ARE ACTUALLY REFERRING TO **BAROQUE DANCE FORM**.

11011000111001001000000110011101100101010110010101101111001001011110

ANOTHER SOMETHING RARE VARIATION OF BINARY FORM IS **ROUNDED BINARY FORM**, WHERE THE **A** SECTION RETURNS AFTER THE END OF THE **B** SECTION. THIS REPRISE OF THE **A** SECTION, HOWEVER, IS **SHORTENED**, SO WE REFER TO IT AS "**A PRIME**."

A B A'

ROUNDED BINARY FORM

Ternary Form

TERNARY FORM IS A THREE-PART FORM. RATHER THAN USING THREE COMPLETELY DIFFERENT SECTIONS, MOST PIECES IN TERNARY FORM CONSIST OF TWO SECTIONS, THE FIRST OF WHICH IS REPRISED.



IN TERNARY FORM, THE **A** SECTION APPEARS BOTH AT THE BEGINNING AND AT THE END; LIKE BINARY FORM, THE **B** SECTION IS **CONTRASTING** IN CHARACTER.

THE REPRISED **A** SECTION MAY BE AN EXACT REPEAT OF THE FIRST **A**, OR IT MAY BE SLIGHTLY DIFFERENT, BUT THE LENGTH OF THE **A** SECTIONS SHOULD BE SIMILAR.

A B A

TERNARY FORM

THIS IS DIFFERENT FROM **ROUNDED BINARY**, WHERE THE REPRISED **A** SECTION (WHICH WE CALLED **A PRIME**) IS **SIGNIFICANTLY SHORTER** THAN THE FIRST **A** SECTION.

A
MINUET

Fine

B
TRIO

Da capo
al Fine

MINUET & TRIO FORM

THE **MINUET AND TRIO** IS A VARIATION ON TERNARY FORM USED FOR INSTRUMENTAL MUSIC. INSTEAD OF WRITING OUT THE REPRISED **A** SECTION, THE SCORE WILL PLACE THE INSTRUCTION "**DA CAPO AL FINE**" AFTER THE **B** SECTION, WHICH MEANS TO RETURN TO THE BEGINNING, PLAY THROUGH THE **A** SECTION, AND END THE PIECE.

THIS SAME FORM IS COMMONLY USED IN BAROQUE AND CLASSICAL OPERA, WHERE IT IS CALLED **A DA CAPO ARIA**. IN BOTH MINUET & TRIO AND DA CAPO ARIA, ANY **REPEATS** ARE **IGNORED** WHEN PLAYING THROUGH THE REPRISED **A** SECTION.

IT'S WORTH MENTIONING THAT THERE IS A COMMON FORM THAT IS DESCENDED FROM **MINUET AND TRIO FORM**: **THE MILITARY MARCH FORM** FAVORED BY JOHN PHILIP SOUSA AND OTHER AMERICAN MARCH COMPOSERS.



FANFARE

A
1ST & 2ND STRAINS

I

||: **B** TRIO :||
(DOGFIGHT)

IV

MILITARY MARCH FORM

IN THE **MILITARY MARCH FORM**, THE **A** SECTION IS SPLIT INTO TWO SUBSECTIONS, CALLED THE **FIRST STRAIN** AND **SECOND STRAIN**. THE **TRIO** ADDS A FLAT (OR REMOVES A SHARP) FROM THE KEY SIGNATURE, MODULATING TO THE KEY OF THE **SUBDOMINANT**. MOST MARCHES BEGIN WITH A SHORT **FANFARE**, AND REPEAT THE **TRIO**, PLACING A SHORT, INTENSELY DRAMATIC PASSAGE BETWEEN REPETITIONS CALLED THE **DOGFIGHT** OR **BREAKSTRAIN**.

Sonata Allegro Form

THE FORM ITSELF IS BASED FROM **TERNARY FORM**, IN THAT THE FIRST LARGE SECTION IS REPRISED AT THE END OF THE FORM.

SONATA ALLEGRO FORM IS A SPECIFIC FORM FIRST USED BY **EARLY CLASSICAL** COMPOSERS IN OPENING MOVEMENTS OF MULTI-MOVEMENT WORKS FOR SOLO, CHAMBER OR LARGE GROUPS.

IT WAS EVENTUALLY ADOPTED BY OTHER COMPOSERS OF THE CLASSICAL AND EARLY ROMANTIC ERAS.



FIRST THEME

MAJOR KEYS:
I

MINOR KEYS:
i

SECOND THEME

V

III



DEVELOPMENT OF MAIN THEMES



FIRST THEME

I

SECOND THEME

I

SONATA ALLEGRO FORM

ONE OF THE MOST IMPORTANT FEATURES OF SONATA ALLEGRO FORM IS THE **TWO PRIMARY THEMES** THAT MAKE UP THE EXPOSITION. THESE TWO THEMES WILL BE **CONTRASTING IN CHARACTER** AND, AT LEAST IN THE EXPOSITION, WILL BE IN **DIFFERENT KEYS**. IN A MAJOR WORK, THE SECOND THEME WILL BE IN THE KEY OF THE **DOMINANT**; IN A MINOR PIECE, THE SECOND THEME WILL BE IN THE **RELATIVE MAJOR**. IN THE **RECAPITULATION**, HOWEVER, **BOTH THEMES ARE PLAYED IN THE TONIC!**

THE DIAGRAM ABOVE SHOWS THE **REQUIRED ELEMENTS** OF SONATA FORM; IN THE DIAGRAM BELOW, SEVERAL OTHER ELEMENTS, WHICH ARE **OPTIONALLY INCLUDED**, ARE ALSO SHOWN.



INTRODUCTION

FIRST THEME

MAJOR KEYS:
I

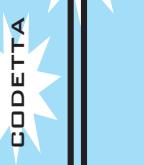
MINOR KEYS:
i

SECOND THEME

V

III

TRANSITION



DEVELOPMENT OF MAIN THEMES
ADDITION OF OTHERS



FIRST THEME

I

SECOND THEME

I

CODA

SONATA ALLEGRO FORM (WITH OPTIONAL ELEMENTS)

BEAR IN MIND THAT COMPOSERS DID WHAT THEY WANTED TO... SOME OF THE GREATEST PIECES WRITTEN IN SONATA ALLEGRO FORM FEATURE PLACES WHERE THE COMPOSER ARTFULLY **BROKE THESE "RULES"**!!

Altered Chords

UP TO THIS POINT, ALL THE CHORDS WE'VE BEEN TALKING ABOUT HAVE BEEN BUILT USING ONLY THE NOTES IN THE CURRENT KEY.

ESSENTIALLY, THIS MEANS NO ACCIDENTALS, WITH THE EXCEPTION OF THE RAISED SIXTH AND SEVENTH SCALE DEGREES IN MINOR, WHICH WE CONSIDER TO BE PART OF THE KEY.

DIATONIC
ALTERED (CHROMATIC)

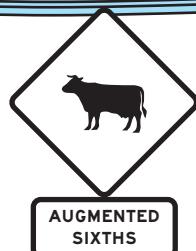


NOW THAT WE'VE COVERED ALL THE POSSIBLE DIATONIC CHORDS IN TERTIAL HARMONY, IT'S TIME TO OPEN THE DOOR TO NOTES OUTSIDE THE KEY...

THESE "ALTERED CHORDS" ADD A CERTAIN RICHNESS TO THE HARMONY BY USING ONE OR MORE NOTES THAT ARE NOT IN THE KEY SIGNATURE AND THIS REQUIRE ACCIDENTALS.

WE'LL BE COVERING SEVERAL CATEGORIES OF ALTERED CHORDS, EACH OF WHICH HAVE THEIR OWN UNIQUE RULES FOR USE.

HOWEVER, THERE ARE A FEW THINGS THAT THEY ALL HAVE IN COMMON!



FIRST, EVERY ALTERED CHORD HAS TO HAVE AT LEAST ONE ACCIDENTAL... IF IT DOESN'T HAVE ANY ACCIDENTALS, THEN BY DEFINITION IT'S A DIATONIC CHORD!

V/V
ALTERED

ii
DIATONIC

SECOND, ALTERED CHORDS CAN BE EASILY USED IN PLACE OF THEIR DIATONIC COUNTERPARTS. IN OTHER WORDS, YOU CAN ADD SOME PIZAZZ TO A COMPOSITION BY REPLACING A DIATONIC CHORD WITH AN ALTERED CHORD THAT HAS THE SAME ROOT.

IN GENERAL, AVOID CROSS RELATIONS. A CROSS RELATION OCCURS WHEN A NOTE APPEARS WITH TWO DIFFERENT ACCIDENTALS IN TWO CONSECUTIVE CHORDS, IN TWO DIFFERENT VOICES.

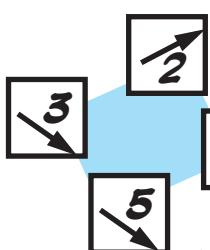
LASTLY, WHEN YOU USE THESE CHORDS IN PART-WRITING, YOU SHOULD, WHENEVER POSSIBLE, RESOLVE THE ALTERED TONES IN THE DIRECTION OF THEIR ALTERATION.

SO IF A NOTE HAS A FLAT, TRY TO RESOLVE IT DOWN BY STEP OR BY LEAP.

AND WE GENERALLY AVOID DOUBLING ALTERED NOTES, SINCE DOING SO WOULD TEND TO CAUSE PARALLEL OCTAVES.

WITH FEW EXCEPTIONS, ALTERED CHORDS CAN USE THE SAME BASIC ROOT MOVEMENTS THAT WE'VE BEEN USING.

LIKE THE DIATONIC SEVENTHS, HOWEVER, THE COMMON ROOT SHOULD ONLY INCREASE TENSION... DON'T MOVE FROM AN ALTERED CHORD TO ITS DIATONIC COUNTERPART.



1
2
5

1
2
5

Borrowed Chords

ALTERED CHORDS USE NOTES OUTSIDE THE SCALE AS A MEANS OF ADDING A DIFFERENT "COLOR" TO THE CHORD.



HOW DOES A COMPOSER DECIDE WHICH ALTERED NOTES TO USE? IN A MAJOR KEY, ONE POSSIBILITY IS USING NOTES AND CHORDS FROM THE PARALLEL MINOR.

FOR EXAMPLE, THE FOLLOWING CHORDS ARE DIATONIC CHORDS IN C MINOR:

c: ii° ii^⁷ III iv VI vii^⁷

HEY, MINOR! I'LL HAVE THEM BACK BY TUESDAY THIS TIME, I PROMISE!

BUT IF WE USE THEM IN A MAJOR KEY, THEY REQUIRE ACCIDENTALS AND ARE THEREFORE ALTERED CHORDS. WE CALL THESE BORROWED CHORDS BECAUSE THEY ARE BORROWED FROM THE PARALLEL MINOR.

C: ii° ii^⁷ bIII iv bVI vii^⁷

SOME THEORISTS REFER TO THE USE OF THESE CHORDS AS MODE MIXTURE.

AND, IN FACT, THESE SIX CHORDS ARE THE SIX MOST COMMONLY USED BORROWED CHORDS IN THE COMMON PRACTICE PERIOD. (ONE OF THEM, THE MAJOR TRIAD ON THE LOWERED MEDIAN, OR "FLAT THREE," WAS NOT USED MUCH BY COMPOSERS BEFORE THE ROMANTIC ERA.)

ALL THE USUAL PART-WRITING RULES APPLY TO THESE CHORDS. FOR EXAMPLE:

ii^⁶
ii^⁷

THE BORROWED SUPERTONIC IS A DIMINISHED TRIAD, AND IS THEREFORE ALWAYS USED IN FIRST INVERSION.

THE BORROWED SEVENTH CHORDS CAN BE USED IN ANY INVERSION, BUT THE SEVENTH MUST BE APPROACHED AND RESOLVED PROPERLY.

ii^{⁰⁷}
VII^{⁰⁷}

bIII
bVI

IT'S USUALLY BEST TO RESOLVE ALTERED NOTES IN THE DIRECTION OF THEIR ALTERATION, BUT DOING SO IN THE TWO ALTERED ROOT CHORDS WON'T WORK.

THE LEADING-TONE FULLY DIMINISHED SEVENTH IS THE KING OF DOMINANT FUNCTION. DON'T EVEN THINK OF RESOLVING IT TO ANYTHING BUT TONIC!

VII^{⁰⁷}

TWO OF THESE CHORDS, THE "FLAT THREE" AND "FLAT SIX," HAVE ALTERED TONES AS ROOTS. WE PLACE A FULL-SIZED FLAT SYMBOL BEFORE THE ROMAN NUMERAL ITSELF TO INDICATE THIS ALTERED ROOT.

WAIT... WHY? SINCE WE DOUBLE THE ROOT, MOVING BOTH ROOTS THE SAME DIRECTION CAN OFTEN RESULT IN PARALLEL OCTAVES.

bVI V

bVI V

IT'S MORE IMPORTANT TO AVOID PARALLELISM THAN TO RESOLVE THE NOTES A CERTAIN WAY, SO THIS USE OF CONTRARY MOTION IS BETTER.

THE PICARDY THIRD IS A MAJOR TONIC CHORD AT THE END OF A MINOR PIECE, SO MANY THEORISTS CONSIDER IT A BORROWED CHORD. REALLY, THOUGH, IT'S NOT ADDING CHROMATIC VARIETY... IT'S A LAST-MINUTE MODULATION!

g: i V^⁷ i VI ii^⁶ V I

NAMED FOR 24TH-CENTURY EXPLORER JEAN-LUC PICARD!*

*NOPE.

The Neapolitan Six

IN ADDITION TO THE ALTERED ROOT BORROWED CHORDS, THERE IS ANOTHER ALTERED ROOT CHORD THAT FITS WELL WITH THE BORROWED CHORDS, EVEN THOUGH IT IS NOT ACTUALLY BORROWED FROM THE PARALLEL MINOR.

THAT CHORD IS A MAJOR TRIAD BUILT ON THE LOWERED SECOND SCALE DEGREE.

SINCE IT'S NOT A BORROWED CHORD, THIS CHORD CAN BE USED IN BOTH MAJOR AND MINOR.

THERE ARE A COUPLE OF INTERESTING THINGS ABOUT THIS CHORD. ONE IS THE FACT THAT IT IS ALMOST EXCLUSIVELY USED IN FIRST INVERSION.

SERIOUSLY! ALTHOUGH THIS CHORD IS EXTREMELY COMMON IN THE COMMON PRACTICE PERIOD, THERE ARE VERY FEW EXAMPLES OF IT USED IN ROOT POSITION. SECOND INVERSION IS EVEN RARER.

THE SECOND INTERESTING THING ABOUT THE CHORD IS ITS NAME: YOU MIGHT EXPECT IT TO BE CALLED A "FLAT TWO," IN KEEPING WITH THE OTHER ALTERED ROOT CHORDS.

THE NEAPOLITAN SIX CHORD, SINCE IT IS BUILT ON A FORM OF THE SUPERTONIC, HAS SOME CHARACTERISTICS OF A SUBDOMINANT FUNCTION CHORD

IN THAT IT OFTEN RESOLVES TOWARD A DOMINANT FUNCTION. IN FACT, IT IS VERY COMMON TO SEE THE NEAPOLITAN CHORD RESOLVE TO A DOMINANT SEVENTH IN THIRD INVERSION, OR TO A CADENTIAL SIX-FOUR CHORD.

C: N⁶ → V⁴₂ → N⁶ → I⁶

(EVEN THOUGH THE NEAPOLITAN CHORD HAS A LOT IN COMMON WITH OTHER SUBDOMINANT FUNCTION CHORDS, IT IS MOST OFTEN REFERRED TO AS PART OF A LARGER GROUP OF CHORDS CALLED PREDOMINANTS, AND THE LABEL OF "SUBDOMINANT FUNCTION" IS GENERALLY LIMITED TO THE SUBDOMINANT AND SUPERTONIC CHORDS AND THEIR VARIANTS.)

BUT, IN FACT, THIS IS THE FIRST OF A FEW CHORDS THAT HAVE SPECIAL NAMES. THIS PARTICULAR ONE IS CALLED THE NEAPOLITAN CHORD.

"NEAPOLITAN" MEANS "FROM NAPLES," REFERRING TO THE CITY OF NAPLES, ITALY. THE CHORD ISN'T ACTUALLY FROM NAPLES, THOUGH; IT WAS JUST ASSOCIATED WITH THE OPERAS WRITTEN BY NEAPOLITAN COMPOSERS LIKE ALESSANDRO SCARLATTI.



NAPLES

FUNNY THING IS, THIS CHORD WAS USED PRETTY COMMONLY BEFORE SCARLATTI'S TIME, IN COMPOSITIONS FAR FROM THE COURTS OF ITALY.

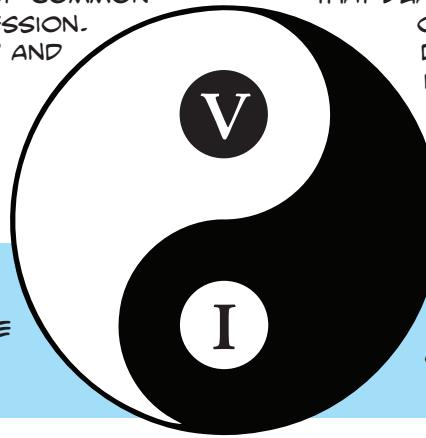
IT'S ALSO WORTH NOTING THAT ALTHOUGH NEARLY EVERY THEORIST AND THEORY TEXTBOOK CALLS THE CHORD A "NEAPOLITAN SIXTH CHORD," IT IS MORE PROPERLY CALLED A "NEAPOLITAN SIX CHORD." THAT'S BECAUSE IN THE RARE SITUATIONS WHERE IT IS USED IN ROOT POSITION, IT IS SIMPLY CALLED THE NEAPOLITAN CHORD, AND WHEN IT IS FOUND IN SECOND INVERSION, IT'S CALLED THE NEAPOLITAN SIX-FOUR.

SINCE WE DON'T PRONOUNCE I⁶ AS "ONE SIXTH," WE SHOULDN'T SAY "NEAPOLITAN SIXTH" FOR N⁶!

Secondary Dominants

THERE IS A DUALITY AT THE HEART OF COMMON PRACTICE PERIOD HARMONIC PROGRESSION. LIKE THE ANCIENT CONFLICT OF JEDI AND SITH, IT CONSISTS OF FORCES THAT, AT ONE LEVEL, WORK **AGAINST** EACH OTHER... BUT AT ANOTHER, HIGHER LEVEL, WORK **TOGETHER**, CREATING ENERGY THAT DRIVES ALL ELSE.

THE PROGRESSION OF DOMINANT MOVING TO TONIC IS SO STRONG, IT WOULD BE NICE TO BE ABLE TO USE IT TO PROVIDE MOTION TO CHORDS **OTHER THAN TONIC**.

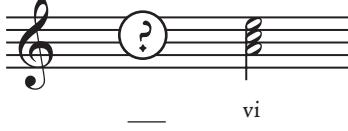


THAT DUALITY, OF COURSE, IS THE RELATIONSHIP OF **DOMINANT FUNCTION** AND **TONIC**. DOMINANT HARMONY TYPIFIES **TENSION** IN THE COMMON PRACTICE PERIOD, AND THE TONIC REPRESENTS **RELEASE**. ITS SIMPLEST FORM, THE **AUTHENTIC CADENCE**, HAS BEEN UBIQUITOUS IN WESTERN MUSIC FOR CENTURIES.

BUT THAT'S **CRAZY TALK**, THOUGH, ISN'T IT? I MEAN, HOW COULD WE **CONTROL** THAT MAGIC AND MAKE IT OBEY OUR **COMPOSITIONAL WHIM**?

THE ANSWER, OF COURSE, IS WITH **SECONDARY DOMINANTS**.

LET'S SAY WE WANTED TO APPROACH THIS **VI** CHORD.

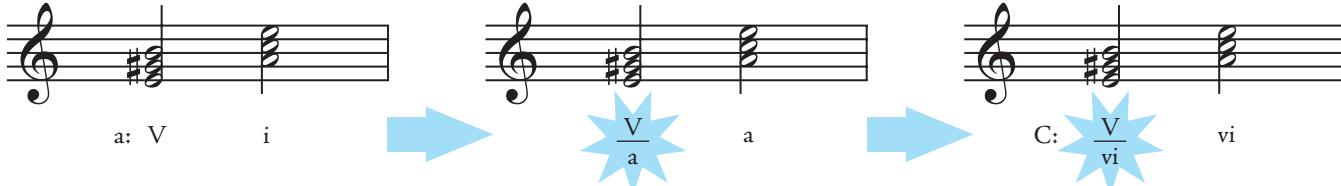


WE COULD USE ONE OF THE USUAL DIATONIC CHORDS, THE TONIC, THE SUBDOMINANT, THE MEDiant... BUT WHAT IF WE'RE LOOKING FOR A BIT MORE **TENSION AND RELEASE**?

WHAT IF WE WANTED TO USE THAT **DOMINANT-TONIC MAGIC**?



IF WE PRETEND FOR A MOMENT THAT THE CHORD WE'RE RESOLVING TO IS A **TONIC** CHORD, WHAT WOULD THE CORRESPONDING **DOMINANT** CHORD BE? **ALTERED**, YES, BUT WE'RE NOT AFRAID OF THOSE ANYMORE:



WHILE WE MIGHT HAVE ONCE CALLED THIS A **SHORT MODULATION**, IT IS REALLY MORE LIKE BORROWING ANOTHER KEY'S DOMINANT CHORD.

IF WE THINK OF THE **V** CHORD IN THE KEY AS THE **PRIMARY DOMINANT**, **V** CHORDS OF RELATED KEYS ARE **SECONDARY DOMINANTS**.

NOW, WE'RE NOT JUST LIMITED TO THE **V** CHORD: THERE ARE **FIVE** CHORDS WITH A DOMINANT FUNCTION!

V V⁷ vii° vii^{ø7} vii^{o7}

DOMINANT FUNCTION CHORDS

THAT GIVES US A HUGE LIST OF POSSIBILITIES!

V V⁷ vii° vii^{ø7} vii^{o7}

THE SECONDARY DOMINANTS

IN MAJOR KEYS, THE "X" ABOVE CAN BE ANY DIATONIC CHORD OTHER THAN TONIC (OBVIOUSLY) OR THE LEADING-TONE TRIAD. WHY? BECAUSE A DIMINISHED TRIAD HAS A HARD TIME ACTING LIKE A TEMPORARY TONIC CHORD.

IN MINOR KEYS, THE COMPOSERS GENERALLY ONLY USED SECONDARY DOMINANTS OF IV AND OF V.

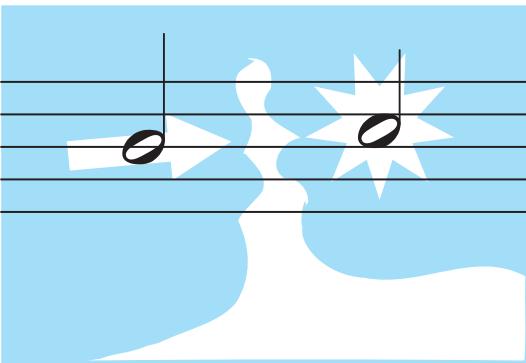
THESE CHORDS OFTEN RESOLVE TO THE CHORD "UNDER THE SLASH," BUT THEY CAN ACTUALLY BE APPROACHED AND RESOLVED USING THE **BASIC ROOT MOVEMENTS**!



THE BASIC ROOT MOVEMENTS ROCK!
YES. YES THEY DO.

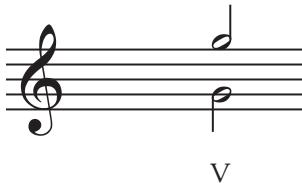
Augmented Sixth Chords

LIKE THAT MOMENT OF INCREDIBLE TENSION JUST BEFORE THE HERO FINALLY KISSES THE LEADING LADY, THE HALF-STEP IS THE GO-TO INTERVAL FOR CREATING TENSION IN MUSIC OF THE COMMON PRACTICE PERIOD. IT DRIVES THE ENTIRE STYLE!

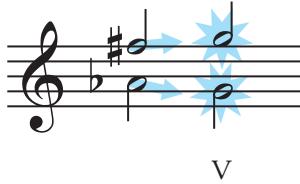


IF ONE HALF-STEP CAN CREATE SUCH STRONG TENSION, HOW ABOUT TWO HALF-STEPS SOUNDING SIMULTANEOUSLY? LET'S GET CREATIVE HERE FOR A MINUTE TO FIND A COOL NEW WAY TO APPROACH A DIATONIC CHORD. IN THIS CASE, WE'LL USE THEM TO APPROACH THE DOMINANT TRIAD.

FIRST, WE'LL START WITH THE DOUBLED ROOT OF A V CHORD...



...AND APPROACH THAT OCTAVE WITH A HALF STEP BELOW THE TOP NOTE,



...AND A HALF STEP ABOVE THE BOTTOM NOTE...



...AND, FINALLY, ADD THE TONIC AS THE THIRD NOTE.

THE RESULT IS A NEW CHORD; ONE WE CALL THE AUGMENTED SIXTH CHORD, AFTER THE INTERVAL CREATED BY THE TOP AND BOTTOM NOTES.

IF WE JUST USE THREE NOTES AND DOUBLE THE TONIC, WE GET THE ITALIAN AUGMENTED SIXTH.



AUGMENTED SIXTH CHORDS ARE PREDOMINANT CHORDS, MEANING THEY ARE USED TO APPROACH DOMINANT CHORDS. THEY ARE USUALLY USED TO APPROACH DOMINANT TRIADS, NOT DOMINANT SEVENTHS, BECAUSE OF THE DOUBLED ROOTS PRESENT IN DOMINANT TRIADS.

HOWEVER, THEY ALSO OFTEN APPROACH TONIC CHORDS IN SECOND INVERSION, WHICH ALSO CONTAIN A DOUBLED FIFTH SCALE DEGREE.



Ger.6 I⁶

IF WE ADD THE SECOND SCALE DEGREE INSTEAD OF DOUBLING THE TONIC, WE GET THE FRENCH AUGMENTED SIXTH.



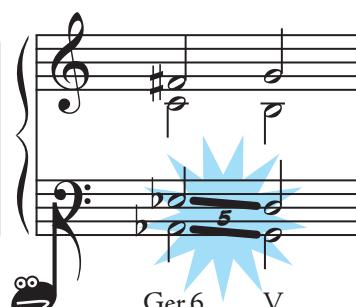
Fr.6 I
on b2

RARELY, AUGMENTED SIXTH CHORDS ARE FOUND TRANSPOSED DOWN A PERFECT FIFTH, ANALYZED AS "ON FLAT TWO," AND USED TO APPROACH A TONIC CHORD IN ROOT POSITION.

AND IF WE REPLACE THE SECOND SCALE DEGREE WITH THE LOWERED THIRD SCALE DEGREE, WE GET THE GERMAN AUGMENTED SIXTH.



AND, FINALLY, WHEN RESOLVING THE GERMAN AUGMENTED SIXTH CHORD TO A DOMINANT TRIAD, YOU MIGHT FIND YOURSELF WRITING PARALLEL FIFTHS... BUT IT'S PERFECTLY OKAY! MOZART DID IT ALL THE TIME!



Ger.6 V

Altered and Enharmonic Modulation



F: I IV V
C: I V I

ALTERED COMMON CHORD MODULATION
IS EASY: REMEMBER DIATONIC COMMON CHORD MODULATION, WHERE WE USED A CHORD THAT WAS DIATONIC IN BOTH THE OLD AND NEW KEYS?

ALTERED COMMON CHORD MODULATION
IS THE SAME THING, ONLY USING THE PIVOT CHORD AS AN **ALTERED CHORD** IN EITHER THE **OLD KEY**, THE **NEW KEY**, OR **BOTH**.

F: I IV V
E: bVI V I

NOW, IN BOTH DIATONIC MODULATION AND ALTERED MODULATION, WE HAVE **ONE** CHORD THAT PLAYS **TWO DIFFERENT ROLES**, ONE FOR EACH KEY. BUT THE CHORD TYPE DOESN'T CHANGE... IF IT WAS A MAJOR CHORD IN THE OLD KEY, IT'S STILL A MAJOR CHORD IN THE NEW KEY.

...BUT WHAT IF THE CHORD TYPE **DID** CHANGE?

IN ENHARMONIC MODULATION, WE RESPELL A CHORD ENHARMONICALLY SO THE CHORD TYPE ITSELF IS DIFFERENT IN THE OLD AND NEW KEYS.

THIS TECHNIQUE IS SO - WELL, **ODD** - THAT THERE ARE ONLY **TWO SPECIFIC WAYS** TO DO IT.

EVER NOTICE THAT THE **GERMAN AUGMENTED SIXTH CHORD** IS JUST LIKE A MAJOR-MINOR SEVENTH CHORD WITH THE SEVENTH RESPELLED ENHARMONICALLY?

C: Ger.6 D♭: V⁷

WE CAN TAKE ADVANTAGE OF THIS AND USE IT AS A PIVOT CHORD... WHERE IT ACTS LIKE A GERMAN AUGMENTED SIXTH IN ONE KEY BUT LIKE A V⁷ (OR A V/X SECONDARY DOMINANT) IN THE OTHER KEY!

G: I vii^{o7}

D♭: IV⁶ V⁷

C: Ger.6 V I

NOTE THAT THE PIVOT CHORD ABOVE IS APPROACHED LIKE A DOMINANT SEVENTH, BUT RESOLVED LIKE AN AUGMENTED SIXTH CHORD!

FULLY DIMINISHED SEVENTH CHORDS ARE COOL FOR A LOT OF REASONS, AND ONE OF THEM IS THAT THEY ARE **EQUIDISTANT CHORDS**: INVERTING A FULLY DIMINISHED SEVENTH YIELDS ANOTHER ROOT-POSITION FULLY DIMINISHED SEVENTH CHORD.

a^{o7} INVERT a^{o6} RESPELL c^{o7}

MEANING THAT A **FULLY DIMINISHED LEADING TONE SEVENTH CHORD** CAN BE A PIVOT CHORD INTO **THREE** OTHER POSSIBLE KEYS:

G: I vii^{o7} WHICH CAN BE RESPELLED AS
E: vii^{o5} I

G: I vii^{o7} WHICH CAN BE RESPELLED AS
D^b: vii^{o4} I

G: I vii^{o7} WHICH CAN BE RESPELLED AS
B^b: vii^{o2} I

Secondary Subdominants



AFTER LEARNING ABOUT **SECONDARY DOMINANTS**, YOU MIGHT WONDER IF IT'S POSSIBLE TO EXTEND THE CONCEPT TO **OTHER CHORDS**.

FOR EXAMPLE, IF WE CAN USE A **DOMINANT FUNCTION CHORD** FROM A RELATED KEY, WHAT ABOUT A **SUBDOMINANT FUNCTION CHORD** FROM A RELATED KEY, LIKE **IV OF V?**

WELL, THE ANSWER IS **YES**, AND THE CHORDS THAT RESULT ARE CALLED **SECONDARY SUBDOMINANTS**. BUT BEFORE WE TALK ABOUT THEM, YOU NEED TO **UNDERSTAND** A FEW THINGS.

FIRST OF ALL, THE VERY EXISTENCE OF THESE CHORDS IS **DEBATABLE**.

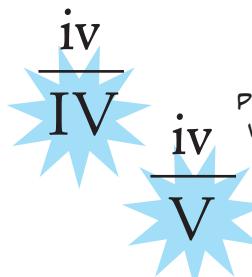
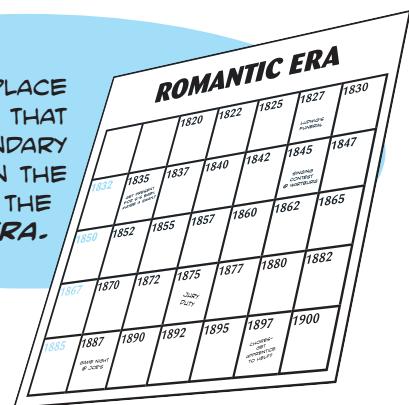
WHAT ONE THEORIST MIGHT CALL A **SECONDARY SUBDOMINANT**:

C: $\frac{\text{ii}^7}{\text{V}}$ $\frac{\text{V}^2}{\text{V}}$ V^6 I

ANOTHER MIGHT CALL A SHORT MODULATION.

G: ii^7 $\frac{\text{V}^2}{\text{V}}$ I^6
C: V^6 I

SECOND, THE ONLY PLACE WE FIND CHORDS THAT WE CAN CALL **SECONDARY SUBDOMINANTS** IS IN THE MUSIC OF THE **ROMANTIC ERA**.



LASTLY, SINCE THESE CHORDS ARE ALREADY PUSHING THE LIMITS OF TONALITY, COMPOSERS WOULD ONLY USE **SECONDARY SUBDOMINANTS** FROM **CLOSELY RELATED KEYS**. IN OTHER WORDS, **SECONDARY SUBDOMINANTS** SHOULD ONLY BE "**OF IV**" AND "**OF V.**"

KEEPING THESE THINGS IN MIND, LET'S LOOK AT THE POSSIBILITIES: WHAT ARE ALL THE **SUBDOMINANT FUNCTION CHORDS** WE'VE ENCOUNTERED?

FIRST, THERE ARE THE **DIATONIC TRIADS**:

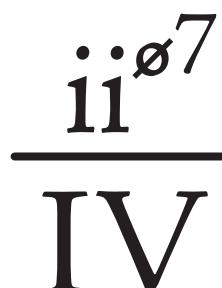
ii IV

NEXT, THE **DIATONIC SEVENTH CHORDS**:

ii^7 IV^7

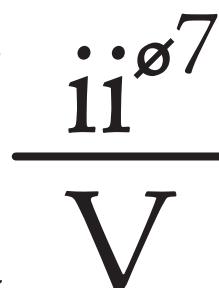
AND, LASTLY, A FEW **BORROWED CHORDS**:

ii° $\text{ii}^{\beta 7}$ iv



SO A **SECONDARY SUBDOMINANT** CAN HAVE ANY **SUBDOMINANT FUNCTION CHORD ABOVE THE SLASH**, AND A **IV OR V BELOW THE SLASH**.

HOWEVER, THE MOST COMMONLY FOUND **SECONDARY SUBDOMINANTS** ARE THOSE THAT USE THE **HALF-DIMINISHED SUPERTONIC SEVENTH**.



TO APPROACH THESE CHORDS, USE ANY OF THE **BASIC ROOT MOVEMENTS**. WHICH ARE AWESOME.

THE MOST COMMON WAY TO **RESOLVE** **SECONDARY SUBDOMINANTS** IS TO THE CORRESPONDING **SECONDARY DOMINANT**.

$\frac{\text{ii}^{\beta 7}}{\text{V}}$ $\frac{\text{V}^7}{\text{V}}$

Romantic Era Techniques



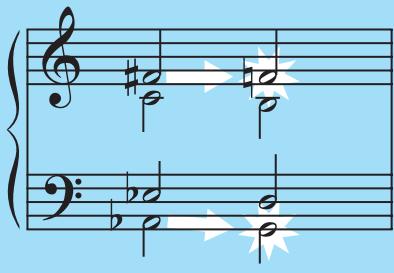
THE MUSIC OF THE BAROQUE, CLASSICAL AND ROMANTIC ERAS SHARE A CONSISTENT USE OF HARMONY AND COUNTERPOINT, ENOUGH TO CAUSE THEORISTS AND HISTORIANS TO GROUP THEM TOGETHER AS THE "COMMON PRACTICE PERIOD."

HOWEVER, THE MUSIC OF THE ROMANTIC ERA EMPLOYED SOME INTERESTING TECHNIQUES THAT SET IT APART FROM THE BAROQUE AND CLASSICAL ERAS...

- V¹¹ WE'VE ALREADY MENTIONED A FEW CHORDS THAT WERE SPECIFIC TO THE ROMANTIC ERA: **DOMINANT ELEVENTH AND THIRTEENTH CHORDS,** THE "**FLAT THREE**" BORROWED CHORD, AND **SECONDARY SUBDOMINANTS.**
- V¹³
- bIII

- ii°
IV
- ii°
V
- iv
IV

...AND FORESHADOW SOME OF THE BIG CHANGES COMING IN THE TWENTIETH CENTURY!



ANOTHER TECHNIQUE THAT IS UNIQUE TO THE ROMANTIC ERA IS THE RESOLUTION OF AN **AUGMENTED SIXTH CHORD** TO A **DOMINANT SEVENTH CHORD** RATHER THAN A DOMINANT TRIAD, CAUSING THE INTERVAL OF THE AUGMENTED SIXTH TO RESOLVE **OBliquely** INSTEAD OF MOVING OUTWARD TO THE OCTAVE.

FINALLY, ROMANTIC ERA COMPOSERS WOULD SOMETIMES USE A PARTICULAR TYPE OF CHORD PROGRESSION THAT HAD THE EFFECT OF **SUSPENDING TONALITY** FOR A PORTION OF THE PIECE. BY TEMPORARILY REMOVING THE FEELING OF BEING IN A CERTAIN KEY, THE COMPOSER COULD EASILY MODULATE TO A DISTANT KEY!

THIS TECHNIQUE IS CALLED **THIRD RELATIONS** BECAUSE IT INVOLVES MOVING BY ROOT MOVEMENTS OF A **MAJOR OR MINOR THIRD** WITHOUT RESPECT TO KEY SIGNATURE.

FOR EXAMPLE...

The diagram illustrates the concept of "Third Relations" using a musical example and a room metaphor. On the left, a musical staff shows a progression from F: I to IV to V to I, followed by a modulation to D major (DM) and then to B-flat major (B♭M). A large blue arrow points from F: I to B♭M, representing a movement of a minor third. On the right, a room metaphor shows a character moving from a chair in a room (representing F: I) through various positions (representing IV, V, DM, B♭M) before finally "WHIMP!"ing back to the original chair (representing I).

HERE, WE'RE IN F MAJOR...

...HERE, WE'RE JUST MOVING DOWN BY THIRDS...

...WHICH OBSCURES ANY SENSE OF KEY WE HAD...

B: I IV V I

F♯M E♭M

AND THEN WE LAND IN B MAJOR!

IF YOU THINK OF TONALITY LIKE BEING IN A ROOM...

...THIRD RELATIONS ARE LIKE TURNING OFF THE GRAVITY IN THE ROOM FOR A BIT...

WHIMP

...AND THEN TURNING THE GRAVITY BACK ON... BUT IN A DIFFERENT DIRECTION!

Introduction to Species Counterpoint

IN 1725, AN AUSTRIAN COMPOSER AND THEORIST NAMED JOHANN JOSEPH FLUX WROTE A THEORY TEXTBOOK CALLED *GRADUS AD PARNASSUM*, IN WHICH HE OUTLINED HIS METHOD OF TEACHING HOW TO WRITE GOOD COUNTERPOINT.

COUNTERPOINT IS THE COMBINATION OF TWO OR MORE MELODIES, EACH ONE AS IMPORTANT AND INTERESTING AS THE OTHER.

GRADUS AD PARNASSUM MEANS "STEPS TO PARNASSUS." PARNASSUS REFERRED TO THE HIGHEST PEAK IN GREECE, AND WAS USED AS A METAPHOR FOR PERFECTION.

GRADUS AD PARNASSUM WAS A BIG HIT, USED (OR AT LEAST PRAISED) BY COMPOSERS LIKE MOZART, BEETHOVEN, AND HAYDN. THE SYSTEM THAT FLUX USED IS REFERRED TO AS **SPECIES COUNTERPOINT**, BECAUSE IT INVOLVES GOING THROUGH INCREASING LEVELS OF RHYTHMIC COMPLEXITY WHICH ARE LABELED AS **SPECIES I**, **SPECIES II**, AND SO FORTH.



1660-1741

1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950

1525-1594



INTERESTINGLY ENOUGH, THE LANGUAGE FLUX WAS ADVOCATING WAS NOT THE COUNTERPOINT OF THE COMMON PRACTICE PERIOD TO WHICH HE BELONGED, BUT THE MORE STRICT RULES OF COUNTERPOINT USED BY COMPOSERS OF THE RENAISSANCE MORE THAN A CENTURY EARLIER.

SPECIFICALLY, FLUX WAS A STARRY-EYED ADMIRER OF THE ITALIAN RENAISSANCE COMPOSER GIOVANNI PIERLUIGI DA PALESTRINA, WHO HE CONSIDERED TO REPRESENT THE PEAK OF COMPOSITIONAL ARTISTRY... SOMETHING HE FELT WAS BEING LOST OR EVEN SQUANDERED BY HIS BAROQUE AND CLASSICAL CONTEMPORARIES.

RIGHT. SO THE LANGUAGE FLUX IS TEACHING IS REALLY AN INTERESTING IDEAL: BASED PARTLY ON HIS PERCEPTIONS OF PALESTRINA'S MUSICAL LANGUAGE AS DELIVERED TO HIM THROUGH ITALIAN THEORISTS, AND PARTLY ON HIS OWN IDEAS OF WHAT HE THOUGHT THE LANGUAGE SHOULD BE.

BUT LET'S CUT FLUX SOME SLACK HERE: AS THEORISTS, WE'RE ALL GUILTY OF THIS TO SOME DEGREE.

ANYWAY, LET'S GET STARTED! GOING THROUGH FLUX'S STEPS FOR LEARNING COUNTERPOINT GIVES US A GLIMPSE OF HOW THE MASTERS LEARNED THEIR CRAFT AND A FEEL FOR THE ENVIRONMENT IN WHICH THEY DEVELOPED THEIR OWN MUSICAL LANGUAGES.

HURRAY! LET'S GO, GIOVANNI, AND BRING THE BEAUTIFUL LIGHT OF PERFECT COMPOSITION TO THESE EAGER STUDENTS!

YEAH, JOE, ABOUT THAT... YOU DO REALIZE THAT YOUR IDEA OF PERFECT COMPOSITION IS JUST A

BLISSFULLY AWESOME THING?
YES, THAT'S JUST WHAT I WAS THINKING!

NO, I MEAN THAT IT'S SUPER FUN? YAYYYY!!!!!!



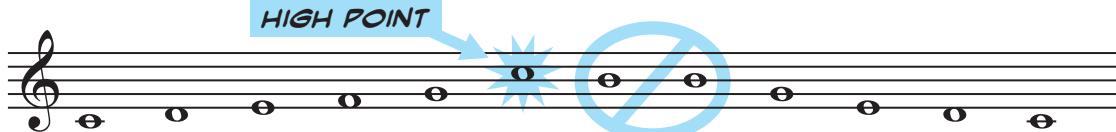
Species Counterpoint: Melody



BEFORE WE START COMBINING MELODIES, WE NEED TO UNDERSTAND WHAT CONSTITUTES A **GOOD MELODY** IN THE SYSTEM OF SPECIES COUNTERPOINT.

AND REALLY, TO BE FAIR, THESE ARE GOOD GUIDELINES FOR ANY MELODY... IT'S JUST THAT FLUX IS A LITTLE MORE STRICT ABOUT IT.

IN GENERAL, MELODIES SHOULD BE PRIMARILY **STEPWISE**, WITH A **SINGLE, DEFINITE HIGH POINT OR LOW POINT**. EFFECTIVE MELODIES TEND TO PROGRESS SLOWLY TOWARD THE HIGH OR LOW POINT AND THEN MOVE BACK TOWARD THE STARTING PITCH.



OH, AND DON'T **REPEAT NOTES** LIKE THIS. CONTRAPUNTAL MELODIES NEED TO BE **INTERESTING, NOT BORING.**

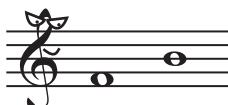


YEAH, YEAH, PALESTRINA, WE KNOW YOU REPEATED NOTES ALL THE TIME. BUT FLUX WAS PURSHING AN IDEAL. MAYBE HE FELT YOU COULD DO... BETTER?

AS YOU CAN SEE ABOVE, OCCASIONAL LEAPS ARE OKAY... BUT THEY COME WITH A **BUNCH OF RESTRICTIONS**.

WHY, I SHHHH. LET'S JUST MOVE ON.

FIRST, LEAPS SHOULD BE NO LARGER THAN A **PERFECT FIFTH**, WITH TWO EXCEPTIONS: LEAPING BY A **PERFECT OCTAVE**, AND LEAPING UPWARD BY A **MINOR SIXTH**. DON'T DO THESE VERY OFTEN, THOUGH!

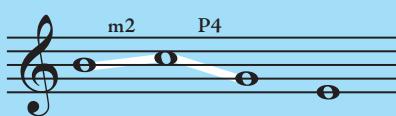


SECOND, FOR HEAVEN'S SAKE, AVOID THE **TRITONE**! THIS INTERVAL (AN AUGMENTED FOURTH OR DIMINISHED FIFTH) WAS ACTIVELY AVOIDED SO CONSISTENTLY THAT FLUX AND HIS PALS CALLED IT THE **DIABOLUS IN MUSICA**... THE "DEVIL IN MUSIC!"

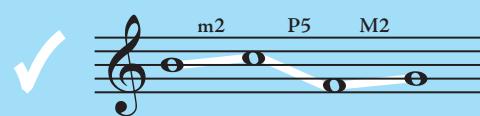
LEAPING BY A TRITONE IS BAD, BUT IT'S ALSO IMPORTANT TO AVOID THE TRITONE IN OTHER WAYS... FOR EXAMPLE, THIS PATTERN, WHERE A TRITONE IS OUTLINED IN THE MELODIC LINE, WOULD BE CONSIDERED INAPPROPRIATE.



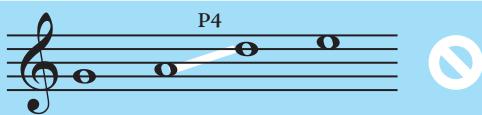
THIRD, LEAPS OF A **PERFECT FOURTH** NEED TO BE **PRECEDED OR FOLLOWED BY STEPWISE MOTION IN THE OPPOSITE DIRECTION**, TO **COUNTERBALANCE** THE LEAP. AND IF A LEAP IS **LARGER** THAN A PERFECT FOURTH, IT NEEDS TO BE COUNTERBALANCED **BOTH BEFORE AND AFTER**!



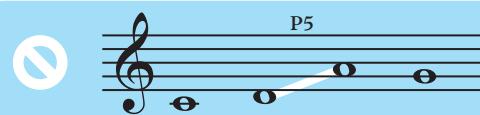
THIS **PERFECT FOURTH** IS COUNTERBALANCED BY THE STEP THAT OCCURS BEFORE THE LEAP.



THIS **PERFECT FIFTH** IS COUNTERBALANCED BY STEPS ON BOTH SIDES OF THE LEAP.



THIS **PERFECT FOURTH** IS SURROUNDED BY STEPS, BUT THEY AREN'T IN THE OPPOSITE DIRECTION.



THIS **PERFECT FIFTH** HAS STEPS ON BOTH SIDES, BUT THE FIRST ONE ISN'T IN THE OPPOSITE DIRECTION.

LASTLY, DON'T WRITE **THREE OR MORE LEAPS** IN A ROW. YOU CAN WRITE **TWO LEAPS** IN A ROW, BUT THEY NEED TO OUTLINE A **MAJOR OR MINOR TRIAD**. NO DIMINISHED TRIADS... THEY HAVE **TRITONES** IN THEM!

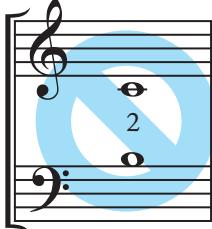
EVIL!



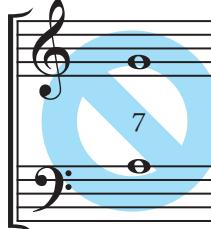
Species Counterpoint: Species I

"FIRST SPECIES" COUNTERPOINT IS THE MOST RHYTHMICALLY SIMPLE TYPE OF COUNTERPOINT: BOTH VOICES HAVE THE EXACT SAME RHYTHM. AS A RESULT, IT'S ALL ABOUT THE INTERVALS!

AND THAT TAKES US TO THE **FIRST RULE:**
ONLY USE CONSONANT INTERVALS.



NO SECONDS!



NO SEVENTHS!

AND IT'S IMPORTANT TO KNOW THAT TO THE SIXTEENTH-CENTURY EAR, THE PERFECT FOURTH WAS ALSO DISSONANT!

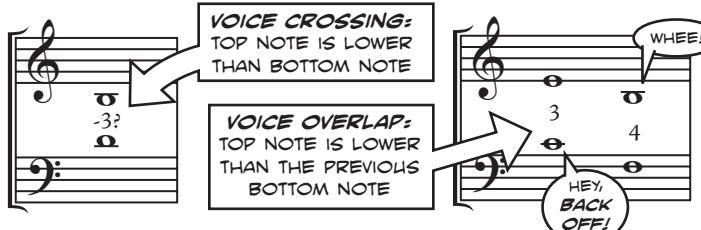


NO FOURTHS!

SEE HOW THE NUMBER OF THE INTERVAL IS WRITTEN IN BETWEEN THE TWO VOICES? YOU SHOULD DO THAT TOO.

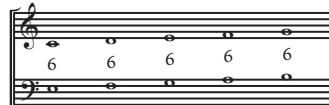
IT'S HOW ROCK STARS DO IT!

NEXT RULE: VOICES CAN'T CROSS OR OVERLAP.



AND THEN: THIRDS AND SIXTHS ARE FINE, BUT NO MORE THAN THREE IN A ROW.

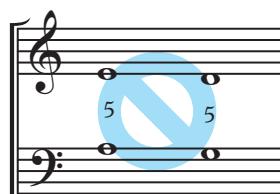
TOO MUCH CONSONANCE, AND THE NATIVES GET RESTLESS.



THE NEXT RULES HAVE TO DO WITH **PERFECT INTERVALS** (P1, P5, AND P8... REMEMBER, P4 IS DISSONANT!), WHICH PLAY **IMPORTANT ROLES** AND REQUIRE SOME **SPECIAL TREATMENT**.

BECAUSE THEY ARE SUCH A **STRONG SONORITY** WHICH CAN **STOP THE COUNTERPOINT IN ITS TRACKS**, **UNISONS** CAN ONLY BE USED ON THE **FIRST OR LAST NOTES** OF AN EXERCISE.

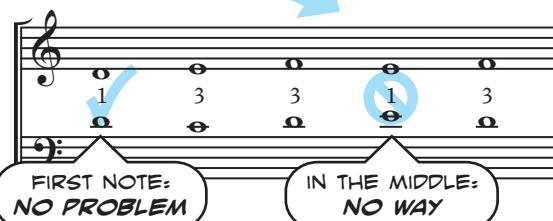
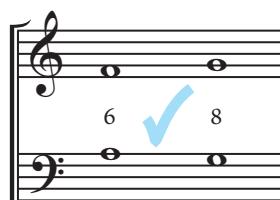
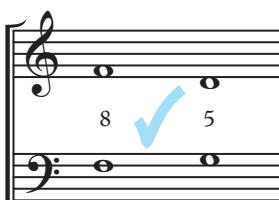
ALL PERFECT INTERVALS MUST BE APPROACHED WITH CARE IN ORDER TO PRESERVE VOICE INDEPENDENCE. FIRST OF ALL, NEVER REPEAT A **PERFECT INTERVAL**!



IN FACT, APPROACHING PERFECT INTERVALS WITH **BOTH VOICES** MOVING IN THE **SAME DIRECTION** IS BAD, EVEN IF IT'S FROM AN **IMPERFECT INTERVAL**.

PLUS, IT'S ALSO NOT OKAY TO APPROACH A **PERFECT INTERVAL** WITH **LEAPS** IN **BOTH VOICES**!

SO IT'S EASIEST TO REMEMBER WHAT YOU CAN DO:
APPROACH PERFECT INTERVALS USING **CONTRARY MOTION**, WITH AT LEAST ONE VOICE MOVING BY STEP.



IN FACT, EACH EXERCISE MUST BEGIN AND END WITH A **PERFECT INTERVAL** WITH THE **TONIC** IN THE **LOWER VOICE**.

WAIT... WHY IS THAT LAST BIT IMPORTANT?

FOR THESE EXERCISES, YOU'LL BE WRITING A MELODY ABOVE OR BELOW AN **ALREADY-WRITTEN MELODY**, CALLED A **CANTUS FIRMIUS**.

THE CANTUS FIRMIUS WILL ALWAYS **START** AND **END** ON THE **TONIC NOTE**... SO IF YOU ARE WRITING COUNTERPOINT **BELLOW** THE CANTUS FIRMIUS, YOU CAN'T START WITH A **PERFECT FIFTH**, BECAUSE YOUR LOWER VOICE WON'T BE THE **TONIC**. YOU'LL HAVE TO START WITH A **UNISON** OR **OCTAVE** INSTEAD!

Species Counterpoint: Species II

SECOND SPECIES
COUNTERPOINT ADDS A
TOUCH MORE
COMPLEXITY:
THERE ARE TWO NOTES
AGAINST EVERY ONE IN
THE CANTUS FIRMIUS.

FORTUNATELY, THAT DOESN'T MAKE IT TWICE AS DIFFICULT: IN FACT, MOST OF THE PREVIOUS RULES STILL APPLY WITHOUT ANY CHANGES.

THERE ARE ONLY A FEW EXCEPTIONS:

**SPECIES I
RULE:**

NO LEAPS
LARGER THAN
A PERFECT
FIFTH*

LEAPS ARE STILL FINE, BUT DON'T LEAP TO A NEW HIGH POINT ON A DOWNBEAT.

**SPECIES II
RULE:**

THE A IN THE THIRD MEASURE IS A NEW HIGH POINT FOR THE LINE, SO LEAPING TO IT ON THE DOWNBEAT PUTS A LOT OF WEIGHT ON THAT ONE NOTE, MAKING IT STICK OUT OF THE TEXTURE.

*EXCEPTING, OF COURSE, ASCENDING MINOR SIXTHS AND PERFECT OCTAVES, BUT YOU ALREADY KNEW THAT.

ONLY USE
CONSONANT
INTERVALS.

STILL TRUE... FOR DOWNBEATS. FOR THE UNACCENTED BEATS, DISSONANT INTERVALS ARE FINE, AS LONG AS THEY HAPPEN AS PASSING TONES: NOTES THAT FILL IN A THIRD CREATED BY SURROUNDING NOTES.

OH, AND NOTICE HOW DISSONANT INTERVALS HAVE THEIR NUMBERS CIRCLED? NICE, HUH. YOU SHOULD DO IT TOO.

UNISONS
CAN ONLY
BE USED
ON THE
FIRST AND
LAST NOTES.

UNISONS CAN BE USED ON UNACCENTED NOTES... JUST BE CAREFUL ABOUT CROSSING OR OVERLAPPING VOICES!

APPROACH
PERFECT
INTERVALS
USING
CONTRARY
MOTION
WITH AT LEAST
ONE VOICE
MOVING
BY STEP.

THIS RULE STILL APPLIES: IF YOU USE A PERFECT INTERVAL ON A DOWNBEAT, YOU NEED TO USE CONTRARY MOTION FROM THE IMMEDIATELY PRECEDING NOTES, AND AT LEAST ONE VOICE MUST MOVE BY STEP.

HOWEVER, YOU MUST ALSO BE CAREFUL NOT TO HAVE THE SAME PERFECT INTERVAL ON TWO SUCCESSIVE DOWNBEATS. THIS IS CALLED PARALLEL PERFECT INTERVALS AND IT'S GOING TO BE A NO-NO FOR A GOOD LONG TIME.

(IN FACT, IT'S ALSO NOT OKAY TO HAVE PARALLEL PERFECT INTERVALS FROM THE UNACCENTED BEAT TO THE DOWNBEAT, BUT IF YOU ARE APPROACHING WITH CONTRARY MOTION, THAT WOULDN'T HAPPEN ANYWAY.)

NOT TOO BAD, IS IT? YEAH! BRING ON THIRD SPECIES!



Species Counterpoint: Species III

A musical staff in G major with a treble clef and a common time signature. It consists of two measures separated by a vertical bar line. The first measure has four notes: a quarter note on the second line, an eighth note on the third line, another eighth note on the third line, and a quarter note on the second line. The second measure has two notes: a quarter note on the second line and a quarter note on the fourth line.

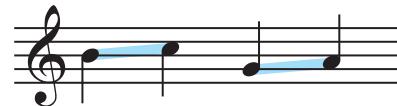
THIRD SPECIES, AS YOU MIGHT HAVE GUessed,
INVOLVES FOUR NOTES AGAINST ONE.

AND, COMPARED TO THE OTHER
SPECIES, IT'S **EASY PEASY!**
IN FACT, THE DIFFERENCES CAN BE
SLIMMED UP INTO **FOUR RULES**.

FIRST: DON'T LEAP MORE THAN ONCE
IN THE SAME DIRECTION.



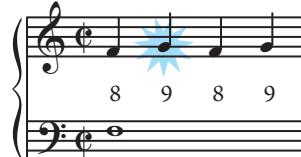
SECOND: ALL INTERVALS LARGER THAN A THIRD,
INCLUDING **PERFECT FOURTHS**, MUST BE
COUNTERBALANCED BY STEPS ON
BOTH SIDES.



THIRD: AS USUAL, THE FIRST NOTE IN EACH MEASURE MUST BE CONSONANT. THE THIRD NOTE IN THE MEASURE IS ALSO USUALLY CONSONANT, BUT IT CAN BE DISSONANT... AS LONG AS IT'S THE ONLY DISSONANT NOTE IN THE MEASURE.

AS FOR THE SECOND AND FOURTH NOTES, THEY CAN BE DISSONANT, AS LONG AS THEY ARE PASSING TONES OR NEIGHBOR TONES.

A NEIGHBOR TONE IS A NOTE APPROACHED BY STEP, WHICH RESOLVES BACK TO THE NOTE IT CAME FROM.



WAIT, DISSONANCES
ON BEAT TWO?
BUT I NEVER

QUIET,
PALESTRINA.

FOURTH: THERE ARE TWO SPECIAL FIGURES WHICH ACT AS EXCEPTIONS TO THE RULES ABOVE.

HEY, THAT MAKES FIVE RULES! NO FAIR!

WELL, THEY'RE KIND OF SIMILAR...

THE DOUBLE NEIGHBOR TONE INVOLVES AN UPPER NEIGHBOR AND A LOWER NEIGHBOR PLAYED ONE AFTER ANOTHER, THEN RETURNING TO THE NOTE THAT APPROACHED IT.



CAN BE
DISSONANT!

THIS FIGURE CAN BE INVERTED,
SO THE UPPER AND LOWER
NEIGHBORS SWITCH PLACES.

THE NOTA CAMBIATA (OR CHANGING TONE) FOLLOWS THE PATTERN OF A STEP DOWN, A THIRD DOWN, THEN TWO STEPS UP. THE MIDDLE NOTE OF THIS FIVE-NOTE FIGURE MUST BE CONSONANT.



CAN BE
DISSONANT!

MUST BE
CONSONANT!

Species Counterpoint: Species IV

WITH THE **FOURTH SPECIES**, WE STOP USING SMALLER NOTE VALUES AND **BACK UP A BIT** TO **SPECIES I**. BUT INSTEAD OF HAVING THE NOTES MOVE AT THE **SAME TIME**, SPECIES IV INVOLVES THE VOICES BEING **OFFSET FROM ONE ANOTHER**.

THE BIGGEST DIFFERENCE WITH **SPECIES IV** IS THE FACT THAT **DISSONANCES** ARE PERMITTED ON THE **DOWNSBEAT**. BUT AS YOU MIGHT EXPECT, THEY HAVE TO FOLLOW CERTAIN **SPECIFIC RULES**.

DISSONANCES IN **SPECIES IV** MUST BE IN THE FORM OF **SUSPENSIONS**. A **SUSPENSION** IS A DISSONANT NOTE THAT IS APPROACHED BY BEING HELD OVER - **SUSPENDED** - FROM THE PREVIOUS NOTE.

ANOTHER IMPORTANT DEFINING CHARACTERISTIC IS THAT THE SUSPENSION **RESOLVES DOWN** BY **STEP**. IF IT DOESN'T RESOLVE DOWN BY STEP, IT'S NOT A SUSPENSION!

WE LABEL SUSPENSIONS BY THE INTERVALS OF THE SUSPENSION AND RESOLUTION, SO THIS ONE WOULD BE CALLED A **7-6 SUSPENSION**.

IN THIS CASE, THE SUSPENSION IS THE F ON THE DOWNSBEAT OF THE SECOND MEASURE. IT'S PREPARED BY THE F IN THE PREVIOUS MEASURE, AND RESOLVES DOWN TO THE E.

SUSPENSIONS ARE GREAT, BY THE WAY, BUT DON'T USE THE SAME ONE MORE THAN THREE TIMES IN A ROW, OR FLUX WILL RELEASE THE HOUNDS.

SIMILARLY, IN THIS EXAMPLE, THE SUSPENDED NOTE IS THE D, WHICH FORMS A FOURTH WITH THE A. IT MOVES TO A C, A THIRD ABOVE THE BASS, MAKING IT A **4-3 SUSPENSION**.

THE 7-6 AND 4-3 SUSPENSIONS ARE THE ONLY ONES FLUX ALLOWS WHEN WRITING COUNTERPOINT ABOVE THE CANTUS FIRMIUS.

THE ONLY SUSPENSION FLUX ALLOWS WHEN WRITING COUNTERPOINT **BELOW** THE CANTUS FIRMIUS IS THE **2-3 SUSPENSION**, IN WHICH THE SUSPENDED NOTE FORMS A **SECOND** WITH THE CANTUS FIRMIUS, THEN RESOLVES DOWN TO A **THIRD**. (WHEN THIS SUSPENSION IS WRITTEN AN OCTAVE LOWER, IT IS SOMETIMES CALLED A **9-10 SUSPENSION**.)

SEE HOW WE RESOLVE TO A **LARGER** INTERVAL, UNLIKE THE 7-6 OR 4-3? WE'RE **BELLOW** THE CANTUS FIRMIUS, SO WE MOVE AWAY FROM IT. BECAUSE **SUSPENSIONS ALWAYS RESOLVE DOWN**!

IN **SPECIES IV**, YOU'RE DEALING WITH A LOT OF **LIMITATIONS** WITH MELODY AND COUNTERPOINT, SO YOU WILL SOMETIMES GET TRAPPED IN A SITUATION WHERE **NOTHING WILL WORK**. WHEN THIS HAPPENS, YOU ARE ALLOWED TO "**BREAK SPECIES**": FORGET THE TIE AND SLIP INTO **SPECIES II** FOR A COUPLE OF NOTES.

FOR EXAMPLE, HERE WE **BREAK SPECIES** SO WE CAN AVOID WRITING A **FLUX-ENRAGING FOUR 4-3 SUSPENSIONS** IN A ROW!

DON'T GO CRAZY WITH THIS, THOUGH... SPECIES IV COUNTERPOINT SHOULD **EMBRACE SUSPENSIONS**, NOT **AVOID THEM**. IT'S BEST TO BREAK SPECIES ONLY **RARELY**. UNFORTUNATELY, SOMETIMES THAT MEANS **BACKING WAY UP** AND **CHOOSING A DIFFERENT STARTING PITCH** FOR YOUR COUNTERPOINT!

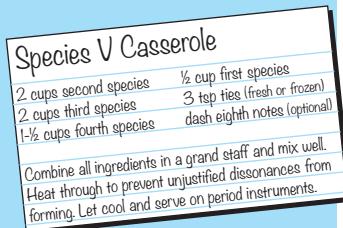
Species Counterpoint: Species V

FIFTH SPECIES COUNTERPOINT IS THE CULMINATION OF ALL THE OTHER SPECIES, AND IT'S THE CLOSEST FLUX GETS TO PALESTRINA'S STYLE OF FLORID COUNTERPOINT THAT FLUX THOUGHT WAS SO AMAZINGLY AWESOME.

THERE AREN'T A LOT OF NEW RULES FOR THIS SPECIES, AND THEY MAINLY DEAL WITH COMBINING THE OTHER SPECIES.

AND THEY'RE ALL ABOUT RHYTHM!

FIRST, AIM FOR A GOOD MIX OF DIFFERENT SPECIES. DON'T STAY TOO LONG WITH ANY PARTICULAR NOTE VALUE BEFORE SWITCHING TO SOMETHING ELSE, SO YOUR COUNTERPOINT REMAINS RHYTHMICALLY INTERESTING.



WHEN YOU'RE USING A PARTICULAR NOTE VALUE, FOLLOW THE RULES OF THE CORRESPONDING SPECIES. SO WHEN YOU ARE USING HALF NOTES, MAKE SURE YOU'RE OBEYING THE RULES OF SPECIES II. IF YOU TIE TWO HALF NOTES TOGETHER, KEEP THE LAWS OF FOURTH SPECIES.

LEAVE THE WHOLE NOTES OUT, THOUGH, UNTIL YOU GET TO THE END OF YOUR EXERCISE. IF YOU GO ALL SPECIES I IN THE MIDDLE, THINGS GET REAL BORING REAL FAST.

Z
OH YEAH!

NEXT, SPECIES III AND IV CAN BE COMBINED BY USING DOTTED HALF NOTES, WHICH ALWAYS HAVE TO START ON A STRONG BEAT.

6 5

6 8 7 6 5

ANY DISSONANCES INVOLVED WITH THIS KIND OF FIGURE HAVE TO FOLLOW THE RULES OF FOURTH SPECIES COUNTERPOINT: THAT IS, THEY NEED TO BE SUSPENSIONS PREPARED AND EXECUTED BY THE DOTTED HALF NOTE AND RESOLVED IMMEDIATELY AFTERWARD.

LASTLY, YOU CAN INCLUDE EIGHTH NOTES TO ADD MORE RHYTHMIC INTEREST, AS LONG AS YOU FOLLOW A FEW RESTRICTIONS:

THEY HAVE TO OCCUR IN PAIRS ON WEAK BEATS,

BOTH NOTES MUST BE APPROACHED AND RESOLVED BY STEP,

EIGHTH NOTES?
I LOVE THOSE GUYS!

ONLY ONE PAIR SHOULD BE USED IN ANY GIVEN MEASURE!

Species Counterpoint: Three Voices

LET'S HEAD BACK TO SPECIES I AGAIN, BUT ADD A THIRD VOICE!



UH... DO WE HAVE TO?

RELAX...

IT ACTUALLY HELPS US SEE HOW THIS ALL RELATES TO THE FOUR-VOICE CHORALE STYLE OF OUR MAN BACH...



...AND EVEN WITH ADDING A WHOLE NEW SET OF INTERVALS TO LOOK AT, IT'S REALLY NOT THAT BAD!

IN GENERAL, THE RULES FOR MELODIES AND COUNTERPOINT ARE THE SAME FOR SPECIES I IN TWO VOICES.

WE STILL NEED TO USE ONLY CONSONANT INTERVALS BETWEEN EACH UPPER VOICE AND THE BASS...

BUT THE INTERVAL BETWEEN THE UPPER TWO VOICES CAN BE DISSONANT... IT CAN EVEN BE A TRITONE!

THE CHORDS CREATED SHOULD BE TRIADS. YOU CAN FORM INCOMPLETE TRIADS OCCASIONALLY BY HAVING A DOUBLED ROOT AND A THIRD, BUT AVOID HAVING OPEN FIFTHS EXCEPT ON THE FIRST OR LAST CHORD.

TECHNICALLY, THE TRIADS MUST BE MAJOR AND MINOR IN ROOT POSITION AND FIRST INVERSION, AND DIMINISHED TRIADS IN FIRST INVERSION ONLY.

BUT IF YOU FOLLOW THE RULES ABOVE ABOUT CONSONANT AND DISSONANT INTERVALS, IT PREVENTS YOU FROM USING THE WRONG INVERSION!

OOH! BECAUSE SECOND-INVERSION TRIADS AND ROOT-POSITION DIMINISHED TRIADS ALL HAVE FOURTHS ABOVE THE BASS!

AS WITH TWO-VOICE COUNTERPOINT, PARALLEL PERFECT INTERVALS ARE FORBIDDEN BETWEEN ANY VOICES!

AND PERFECT INTERVALS STILL NEED TO BE APPROACHED WITH CARE: YOU STILL CAN'T GO WRONG WITH CONTRARY, STEPWISE MOTION!

HOWEVER, IN THREE VOICES, PERFECT INTERVALS CAN ALSO BE APPROACHED WITH BOTH VOICES MOVING IN THE SAME DIRECTION IF THE TOP VOICE MOVES BY STEP, AND IF THE THIRD VOICE MOVES IN CONTRARY MOTION WITH THE OTHERS.

AVOIDING PARALLEL PERFECT INTERVALS AND SECOND INVERSION TRIADS? KEEPING DIMINISHED TRIADS IN FIRST INVERSION? THESE ARE ALL FANTASTIC IDEAS!



USE THEM, BACH!
USE THEM
LIKE THE WIND!

The Modern Modes

MODERN?

WAIT, ISN'T THIS STUFF, LIKE,
100 YEARS OLD?

YES, BUT WE ONLY CALL THEM "MODERN" BECAUSE WE NEED TO DIFFERENTIATE BETWEEN A BUNCH OF UNRELATED THINGS ACROSS MUSIC HISTORY THAT, EVER SO INCONVENIENTLY, USE THE SAME NAMES!



THE MODERN MODES' NAMES CAME FROM THE VARIOUS "KEYS" USED IN MEDIEVAL CHURCH MUSIC



WHICH WERE, IN TURN, NAMED IN HONOR OF THE LUTE RANGES USED IN LATER ANCIENT GREEK MUSIC

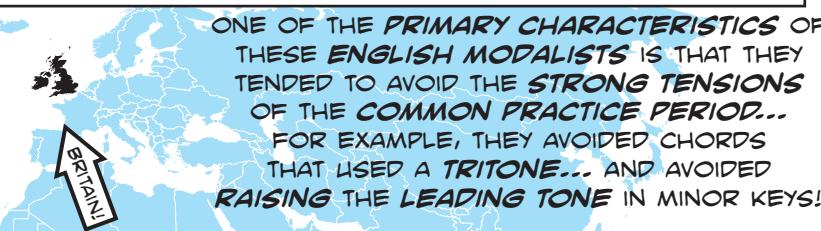


AND THOSE USED THE SAME NAMES AS SCALE TUNINGS DISCUSSED BY PLATO IN 380 BC!



AND, TO MAKE MATTERS WORSE, EACH OF THESE THINGS USE THE NAMES TO REPRESENT DIFFERENT CONCEPTS! FORTUNATELY, RIGHT NOW, WE'RE ONLY WORRIED ABOUT THE MODERN MODES.

THESE MODES ARE USED A LOT...
ESPECIALLY IN FOLK MUSIC. AS FOR
STANDARD WESTERN REPERTOIRE,
THEY ARE FIRST PROMINENTLY FEATURED
IN THE POST-ROMANTIC MUSIC
OF THE EARLY TWENTIETH CENTURY
BRITISH ISLES.



ONE OF THE PRIMARY CHARACTERISTICS OF THESE ENGLISH MODALISTS IS THAT THEY TENDED TO AVOID THE STRONG TENSIONS OF THE COMMON PRACTICE PERIOD...
FOR EXAMPLE, THEY AVOIDED CHORDS THAT USED A TRITONE... AND AVOIDED RAISING THE LEADING TONE IN MINOR KEYS!

SO WHAT ARE THEY?

WELL, REMEMBER WHEN WE CREATED THE NATURAL MINOR SCALE BY STARTING WITH A MAJOR SCALE, BUT USING THE SIXTH NOTE OF THE SCALE AS THE TONIC? IT GAVE US A NEW PATTERN OF WHOLE STEPS AND HALF STEPS... A NEW SCALE.

KEEPING THE SAME KEY SIGNATURE,
WE USE THIS NOTE AS OUR NEW TONIC!



IN FACT, THESE ARE TWO OF THE SEVEN MODERN MODES:
MAJOR IS THE IONIAN MODE, AND NATURAL MINOR IS THE AEOLIAN MODE.

BY STARTING ON THE OTHER NOTES OF THE MAJOR SCALE, WE GET THE OTHER FIVE MODES.



BECAUSE IT HAS A DIMINISHED TONIC, LOCRIAN IS A THEORETICAL MODE... IT'S NOT USED IN ACTUAL PRACTICE.

B TO B: THE LOCRIAN MODE

G TO G: THE MIXOLYDIAN MODE

F TO F: THE LYDIAN MODE

E TO E: THE PHRYGIAN MODE

D TO D: THE DORIAN MODE

THE MODES HERE ALL SHARE THE SAME KEY SIGNATURE... THEY ARE RELATED, LIKE C MAJOR AND A MINOR!



MAJOR + LOWERED 7TH



MAJOR + RAISED 4TH

A MORE EFFECTIVE METHOD OF KEEPING THE MODES STRAIGHT INVOLVES MEMORIZING EACH MODE'S COLOR TONE: THE SCALE DEGREE THAT MAKES IT UNIQUE FROM THE MAJOR OR MINOR SCALE WITH THE SAME TONIC.



MINOR + RAISED 6TH



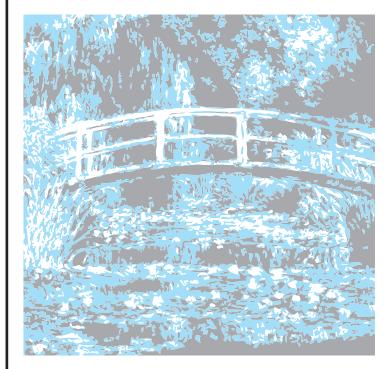
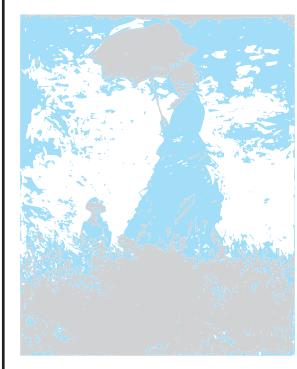
MINOR + LOWERED 2ND



A PHRYGIAN

Impressionism

ALTHOUGH ITS COMPOSERS WERE USUALLY PRETTY **GROUCHY** ABOUT THE COMPARISON, IMPRESSIONISM IN MUSIC HAS A PRETTY CLEAR HERITAGE. IT SHARES A PHILOSOPHY WITH A TYPE OF **VISUAL ART**: SPECIFICALLY, THE WORKS OF THE 19TH-CENTURY FRENCH PAINTER **CLAUDE MONET**!



RATHER THAN REPLICATING FINE DETAILS, IMPRESSIONIST PAINTERS SUCH AS MONET FOCUSED ON **LIGHT** AND **MOVEMENT**, USING **BROAD STROKES OF UNBLENDED COLOR**. THEY LOVED NATURAL SCENES, OFTEN PAINTING **OUTDOORS**, AWAY FROM HOME, AND PRODUCING A FINISHED WORK IN A **FEW HOURS**!



COMPOSERS WHO USED IMPRESSIONISM INCLUDED FELLOW FRENCHMEN **RAVEL** AND **SATIE**, AS WELL AS OTHERS LIKE **GRIFFES**, **RESPIGHI**, **SIBELIUS** AND **HANSON**... BUT IF MONET HAD A COUNTERPART IN MUSIC, IT WAS **CLAUDE DEBUSSY**!

THROUGH DEBUSSY'S MUSIC WE CAN SEE THE COMPOSITIONAL TECHNIQUES THAT TYPIFY IMPRESSIONISM:

PLANNING: PARALLEL FIFTHS AND OCTAVES?
NO PROBLEM! DEBUSSY WOULD PAINT MELODIES WITH ENTIRE CHORDS MOVING IN PARALLEL MOTION.

THE WHOLE-TONE SCALE: THIS SCALE, MADE UP ENTIRELY OF WHOLE STEPS, WAS EMBRACED BY THE IMPRESSIONISTS FOR IT'S LACK OF DISSONANCE.

AUGMENTED TRIADS: UNLIKE DIMINISHED TRIADS, WHICH LISTENERS ASSOCIATED WITH TRADITIONAL CHORD FUNCTIONS, AUGMENTED TRIADS PROVIDED A **LESS TONAL** SOUND WITHOUT ALL THE **TENSION**!

UNEVEN HARMONIC RHYTHM: CHANGING CHORDS IN A LESS PREDICTABLE FASHION DIFFERENTIATED IMPRESSIONISM FROM TRADITIONAL TONAL MUSIC.

INTERESTINGLY, A LOT OF THESE SAME TECHNIQUES WERE ADOPTED INTO **JAZZ**, A STYLE OF MUSIC WHICH BECAME **HUGELY SUCCESSFUL** IN AMERICA... AND FRANCE!

FIRST OF ALL, ONE BIG THEME IS THE **AVOIDANCE OF TRADITIONAL HARMONIC TENSION**. FOR EXAMPLE, CHORDS WITH **TRITONES** TEND TO BE PRETTY HARD TO FIND!

NON-FUNCTIONAL HARMONY: CHORDS WOULD OFTEN BE JUXTAPOSED IN MORE CHROMATIC WAYS... DEFYING TRADITIONAL ROMAN NUMERAL ANALYSIS!

CHORDS WITH ADDED NOTES: ADDING SECONDS, FOURTHS AND SIXTHS TO TRIADS HELP ADD COLOR WITHOUT INTRODUCING HARSH DISSONANCE.

THE PENTATONIC SCALE: SPECIFICALLY, THE ANHemitonic PENTATONIC SCALE... A FIVE NOTE SCALE WITH NO HALF-STEPS IN IT!

EXTENDED HARMONIES: ADDING SEVENTHS, NINTHS AND THIRTEENTHS INTRODUCED A RICH TEXTURE TO ANY CHORD, REGARDLESS OF SCALE DEGREE!

Neoclassicism

Like Impressionism, Neoclassicism is a movement that occurred in a lot of different disciplines.



In architecture, for example, Neoclassicism involved a return to the forms and ideals of Classical Greece.



In the early twentieth century, composers were also hearkening to the past. After the intensity and emotion of the Romantic period, they were looking to the order and restraint of ancient Greece, or more recently, the Classical era.

Neoclassicism in music took on a lot of different forms, varying from country to country and even from composer to composer. However, there are a few compositional techniques that were pretty unique to music of the time!



As it happens, the techniques below can be grouped to show the favored styles of the two most well-known neoclassicists: Paul Hindemith and Igor Stravinsky!



The use of major and minor triads, juxtaposed to deliberately avoid any sense of traditional harmonic function.

TEND TO WORK WELL TOGETHER

PANTRIADISM

f#: i III...ish? bVII
maybe um
no

POLYTONALITY

Combining chords which are dissonant to one another... or playing in multiple keys simultaneously!



THE MORE DISSONANT... THE BETTER!

TEND TO WORK WELL TOGETHER

QUARTAL HARMONY

G_q E^b_Q

QUARTAL CHORD QUINTAL CHORD

CHORDS BUILT USING PERFECT FOURTHS OR PERFECT FIFTHS. (AS OPPOSED TO TERTIAL HARMONY, WHERE CHORDS ARE BUILT USING MAJOR AND MINOR THIRDS.)

RHYTHMIC PRIMITIVISM

POW! BOOM! BLAM! ZING! KAPOW!

USE OF INTENSE, UNPREDICTABLE ACCENTS, EVOCATIVE OF UNBRIDLED PRIMAL ENERGY. IT CAN INCLUDE COMPLEX METERS AND EVEN POLYMETERS: CONFLICTING METERS PLAYED SIMULTANEOUSLY!

TWENTIETH-CENTURY COLINTERPOINT

Unlike the counterpoint of the sixteenth and eighteenth centuries, neoclassicists used dissonance freely, focusing more on melodic lines and rhythmic independence.

WAIT WHAT? RAMPANT DISSONANCE!

ACK - NO! BACK, PALESTRINA!

TEND TO WORK WELL TOGETHER

PANDIATONICISM

Combining diatonic major melodies in multiple lines with no consideration of harmony.

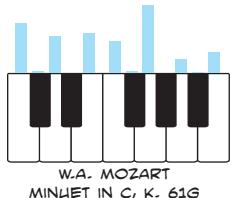
Atonality and Serialism

AFTER THE STEADY INCREASE OF CHROMATICISM THROUGH THE ROMANTIC ERA, COMPOSERS IN THE EARLY TWENTIETH CENTURY WERE READY TO TAKE THINGS TO THEIR NATURAL CONCLUSION!



SINCE TONALITY IS DEFINED AS HOW A PIECE CENTERS AROUND A PARTICULAR NOTE, THE INCLUSION OF MORE AND MORE CHROMATIC NOTES CAN BE THOUGHT OF AS A PROGRESSION TOWARD ATONALITY: THE ABSENCE OF TONALITY!

ENTER ARNOLD SCHOENBERG, AN AUSTRIAN COMPOSER WHO CAME UP WITH A SYSTEM TO CREATE COMPLETE ATONALITY... USING MATH!



SCHOENBERG FIGURED THAT TONAL MUSIC EMPHASIZE PITCHES UNEQUALLY, SO THE WAY TO WRITE A TRULY ATONAL PIECE WAS TO ENSURE THAT EVERY PITCH IS REPRESENTED EQUALLY!

NOOOO!



SCHOENBERG WOULD BEGIN EACH COMPOSITION BY COMING UP A SEQUENCE OF TWELVE NOTES, WHERE EACH PITCH OF THE CHROMATIC SCALE WAS INCLUDED ONLY ONCE... WE CALL THIS A TWELVE-TONE ROW!

C F B B \flat D G G \flat E \flat E A A \flat D \flat

WHEN BUILDING A ROW, AVOID BITS OF TONALITY LIKE TRIADS OR FRAGMENTS OF FAMILIAR SCALES! ONCE YOU HAVE A GOOD ROW, YOU'VE CREATED A PURE (ALBIE SHORT) ATONAL COMPOSITION!

AS A WAY TO COME UP WITH MORE ROWS THAT ARE RELATED TO OUR ORIGINAL ROW, SCHOENBERG USED A TWELVE-TONE MATRIX.

WE CALL THIS ROW P-1: "P" STANDS FOR "PRIME"!!

TO FILL IN THE REST OF THE MATRIX, START BY TAKING THE ORIGINAL ROW AND WRITING ITS INVERSION: A ROW THAT STARTS ON THE SAME PITCH, BUT PROCEEDS UPSIDE-DOWN: IF THE ORIGINAL GOES UP A PERFECT FOURTH, THE INVERSION SHOULD GO DOWN A PERFECT FOURTH!

TAKE THE INVERSION AND WRITE IT GOING DOWN THE LEFT-HAND SIDE OF THE MATRIX.

THE MATRIX IS A 12 X 12 GRID WITH OUR ORIGINAL NOTES PLACED IN THE TOP ROW.

	I-1	I-6	I-12	I-11	I-3	I-8	I-7	I-4	I-5	I-10	I-9	I-2
P-1	C	F	B	B \flat	D	G	G \flat	E \flat	E	A	A \flat	D \flat
P-8	G	C	G \flat	F	A	D	D \flat	B \flat	B	E	E \flat	A \flat
P-2	D \flat	G \flat	C	B	E \flat	A \flat	G	E	F	B \flat	A	D
P-3	D	G	D \flat	C	E	A	A \flat	F	G \flat	B	B \flat	E \flat
P-11	B \flat	E \flat	A	A \flat	C	F	E	D \flat	D	G	G \flat	B
P-6	F	B \flat	E	E \flat	G	C	B	A \flat	A	D	D \flat	G \flat
P-5	G \flat	B	F	E	A \flat	D \flat	C	A	B \flat	E \flat	D	G
P-10	A	D	A \flat	G	B	E	E \flat	C	D \flat	G \flat	F	B \flat
P-7	A \flat	D \flat	G	G \flat	B \flat	E \flat	D	B	C	F	E	A
P-9	E \flat	A \flat	D	D \flat	F	B \flat	A	G \flat	G	C	B	E
P-12	E	A	E \flat	D	G \flat	B	B \flat	G	A \flat	D \flat	C	F
P-1	B	E	B \flat	A	D \flat	G \flat	F	D	E \flat	A \flat	G	C
RI-1	RI-6	RI-12	RI-11	RI-3	RI-8	RI-7	RI-4	RI-5	RI-10	RI-9	RI-2	RI-1

WE CAN MAKE OTHER ROWS BY GOING BACKWARD: "R" IS FOR "RETROGRADE"!!

AFTER PUTTING IN ROW I-1, WE TRANSPOSE THE ORIGINAL ROW SO THAT IT BEGINS ON EACH OF THE NOTES GOING DOWN THE LEFT, CREATING P-2 THROUGH P-12. AND, OF COURSE R-2 THROUGH R-12!

DOING SO WILL ALSO CREATE ROWS I-2 THROUGH I-12. AND READING FROM BOTTOM TO TOP GIVES YOU RI-1 THROUGH RI-12:

RETROGRADE INVERSION!

TO USE THE MATRIX TO CREATE AN ENTIRE TWELVE-TONE ROW COMPOSITION:

THINGS YOU CAN DO:

- USE ANY ROW, ANY TIME
- RESTRIKE NOTES BEFORE MOVING TO THE NEXT ONE

- COMBINE ADJACENT NOTES INTO CHORDS
- PASS ROWS BETWEEN VOICES
- OVERLAP ROWS

THINGS YOU CAN'T DO:

- USE PARTIAL ROWS
- CHANGE ORDER OF NOTES WITHIN A ROW
- TRY TO BEND THINGS TOWARD TONALITY

OH, AND START YOUR PIECE WITH P-1, SO SOMEONE ANALYZING YOUR PIECE CAN FIGURE OUT YOUR MATRIX!

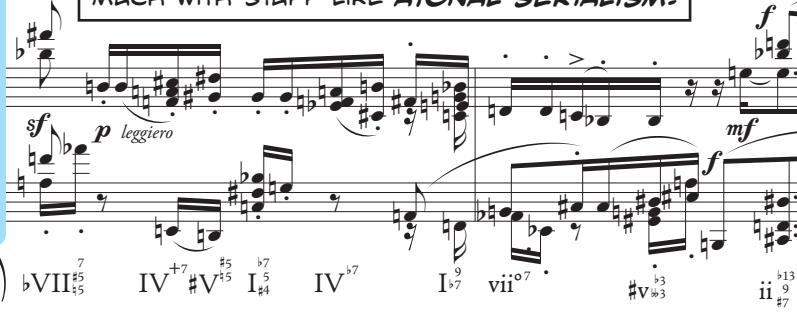
Set Theory



ROMAN NUMERALS WORK FOR CHORDS BUILT FROM THIRDS. BUT WHAT IF WE WANT TO CATEGORIZE EVERY POSSIBLE COMBINATION OF NOTES?

ROMAN NUMERALS CAN'T KEEP UP!

ROMAN NUMERAL ANALYSIS IS GREAT FOR TONAL MUSIC, BUT IT DOESN'T HELP MUCH WITH STUFF LIKE ATONAL SERIALISM.



ONE OF THE MOST BASIC CHARACTERISTICS OF ANY CHORD IS HOW CONSONANT OR DISSONANT IT IS... SOMETHING THAT DEPENDS ENTIRELY ON WHICH INTERVALS ARE PRESENT IN THAT CHORD!

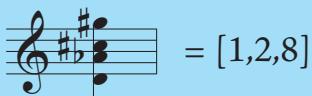
THE GOOD NEWS IS THAT SET THEORY DOES EXACTLY THAT! THE BAD NEWS: SET THEORY IS MATH!

PITCH CLASS SET

THE FIRST STEP TO ANALYZE A CHORD USING SET THEORY IS TO THINK ABOUT THE PITCHES IT CONTAINS. THIS IS MATH, SO INSTEAD OF USING LETTER NAMES WE'LL USE NUMBERS... WHERE C IS ALWAYS ZERO.

TAKE THOSE NUMBERS, REMOVE ANY DUPLICATES, AND LIST THEM IN BRACKETS LIKE THIS: [1,2,3].

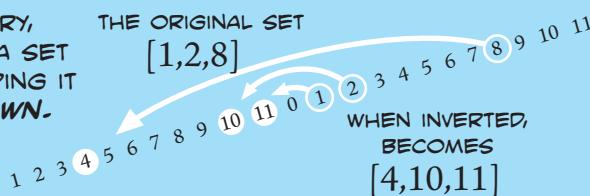
0
1
2
3
4
5
6
7
8
9
10
11



IN THIS CHORD, G SHARP AND A FLAT ARE CONSIDERED THE SAME: ENHARMONICS AND OCTAVES DON'T MATTER!

INVERSION

IN SET THEORY, INVERTING A SET MEANS FLIPPING IT UPSIDE-DOWN.



WE CAN DO THIS WITH MATH BY TAKING ALL NON-ZERO NUMBERS AND SUBTRACTING THEM FROM 12.

$$\text{ORIGINAL: } \left[\frac{1}{12}, \frac{2}{12}, \frac{8}{12} \right]$$

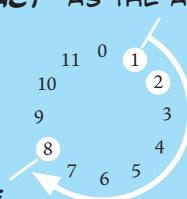
$$\text{INVERSION: } \left[\frac{11}{12}, \frac{10}{12}, \frac{4}{12} \right]$$

NORMAL FORM

THE NORMAL FORM OF A SET IS THE MOST COMPACT ORDERING OF THE SET. WE DEFINE "MOST COMPACT" AS THE ARRANGEMENT WITH THE SMALLEST INTERVALS!

PRIME FORM

IT'S EASIEST TO DO THIS BY THINKING OF THE PITCHES IN A CIRCLE AND MEASURING THE DISTANCE AROUND!



JUST MAKE SURE TO ALWAYS MEASURE GOING CLOCKWISE.

[1,2,8]:	1	2	3	4	5	6	7	8			
[2,8,1]:	2	3	4	5	6	7	8	9	10	11	0
[8,1,2]:	8	9	10	11	0	1	2				

NORMAL FORM!

TO FIND A SET'S PRIME FORM, FIND THE MOST COMPACT OF A SET'S NORMAL FORM AND THE NORMAL FORM OF ITS INVERSION. THEN TRANPOSE THAT SET SO IT STARTS ON ZERO!

$$\text{NORMAL FORM: } [8,1,2]: 8 \ 9 \ 10 \ 11 \ 0 \ 1 \ 2$$

$$\text{NORMAL FORM OF INVERSION: } [10,11,4]: 10 \ 11 \ 0 \ 1 \ 2 \ 3 \ 4$$

THESE SETS SPAN THE SAME DISTANCE... SO TO DECIDE WHICH IS MOST COMPACT, WE COMPARE THE NEXT LARGEST INTERVAL IN EACH SET!

LASTLY, WE TRANPOSE IT SO IT STARTS ON ZERO:

SO THE PRIME FORM OF [1,2,8] IS [0,1,6]!

SO SET THEORY IS TELLING US THAT THESE TWO SETS HAVE SOMETHING IMPORTANT IN COMMON. WHAT IS IT?

LET'S TALLY UP ALL THE INTERVALS IN OUR ORIGINAL SET. (AND INVERT ANY INTERVALS LARGER THAN A TRITONE AND SIMPLIFY ANY ENHARMONICS!)



D-A b	d5	TT
D-C #	m7	m2
D-G #	A4	TT
A b -C #	A3	P4
A b -G #	A7	P1
C # -G #	P5	P4

NOW LET'S DO THE SAME THING FOR THE SET IN ITS PRIME FORM!



C-D b	m2	m2
C-G b	d5	TT
Db-G b	P4	P4

PRIME FORM IS A WAY TO DESCRIBE ANY SET BY ITS BASIC INTERVALS!

hey, it's
kids!

SPARKY THE MUSIC THEORY DOG!



Q:

Dear Sparky:
I understand pitch class sets, normal form and prime form, but are there other ways to describe a chord using set theory?

-G.L., Corona del Mar, CA

A: **WOOF!***

***TRANSLATION:** BECAUSE SET THEORY IS PRIMARILY INTERESTED IN THE INTERVALS WHICH MAKE UP A CHORD, PRIME FORM IS USUALLY THE BEST WAY TO CATEGORIZE CHORDS USING SET THEORY... BUT THERE ARE OTHER WAYS THEORISTS USE TO DESCRIBE SETS IN THEIR PRIME FORM!

HOWARD HANSON, ONE OF THE FIRST PROONENTS OF SET THEORY, CAME UP WITH A CODE WHICH COUNTED EACH TYPE OF BASIC INTERVAL, ORDERED FROM CONSONANCE TO DISSONANCE:

P4	M3	m3	M2	m2	TT
P5	m6	M6	m7	M7	

$$\begin{matrix} [0,3,4,7] = PM^2N^2D \\ [0,1,2,6] = PMSD^2T \end{matrix}$$

TO FIGURE OUT THE HANSON ANALYSIS, LIST THE LETTERS IN THIS ORDER, OMITTING ANY INTERVALS NOT PRESENT AND USING SUPERSCRIPTED NUMBERS TO SHOW DUPLICATES.

YOU COULD USE A MNEMONIC TO REMEMBER THE ORDER... LIKE "PLEASE MAKE NICK STOP DOING THAT!"



WAIT...
DOING
WHAT?

NOWADAYS,
MOST THEORISTS
EXPRESS THIS CONCEPT
IN A MORE MATHEMATICAL
WAY, USING WHAT WE CALL AN
INTERVAL VECTOR:

m2	M2	m3	M3	P4	TT
(#)	(#)	(#)	(#)	(#)	(#)

$$[0,3,4,7] = (102210)$$

$$[0,1,2,6] = (210111)$$

INTERVAL
VECTOR:
(100011)

TWENTIETH-CENTURY THEORIST ALLEN FORTE FIGURED THAT SINCE THERE WAS A FINITE NUMBER OF POSSIBLE SETS, SOMEONE OUGHT TO CATALOG THEM ALL!

OF COURSE, THAT SOMEONE WAS ALLEN FORTE, WHO CAME UP WITH THE SYSTEM OF FORTE NUMBERS: A UNIQUE NUMBER FOR EACH AND EVERY POSSIBLE SET.

HOW DO YOU FIGURE OUT A SET'S FORTE NUMBER?

STEP ONE: LOOK IT UP ON THE CHART.



FORTE
NUMBER:
3-5

THERE IS
NO STEP
TWO!

IN HIS CHART, FORTE LABELED SETS WHICH HAD DIFFERENT PRIME FORMS BUT THE SAME INTERVAL VECTOR WITH A "Z". LIKE 42-15 AND 42-29, WHICH ARE BOTH CALLED ALL-INTERVAL TETRACHORDS... SINCE THEY BOTH HAVE THE INTERVAL VECTOR (1,1,1,1,1,1)!

DOING STUFF THE SPARKY WAY IS ALWAYS FUN!

Aleatoric Music

ALSO KNOWN AS CHANCE MUSIC OR INDETERMINACY, ALEATORIC MUSIC IS MUSIC THAT HAS SOME ELEMENT OF UNPREDICTABILITY TO IT.



THE WORD "ALEATORIC" COMES FROM THE GREEK ROOT ALEA, WHICH MEANS DICE!

YOU COULD ARGUE THAT ALMOST ALL LIVE MUSIC HAS A BIT OF UNPREDICTABILITY... DIFFERENT PERFORMERS MIGHT INTERPRET THE SAME PIECE A LITTLE BIT DIFFERENTLY.



BUT ALEATORIC MUSIC IS DEFINED AS MUSIC WHICH HAS MORE INTENTIONAL UNPREDICTABILITY THAN THAT!

ALEATORIC COMPOSITION

A COMPOSER MIGHT USE RANDOMNESS TO DECIDE HOW TO WRITE A PIECE... WHICH NOTES TO PLAY, HOW LONG THEY SHOULD LAST, OR WHICH INSTRUMENTS TO USE, FOR EXAMPLE.

THE RESULT IS A **FIXED PIECE**: ONE THAT SOUNDS THE SAME EACH TIME IT IS PLAYED!



ONE OF THE PIONEERS OF STOCHASTIC MUSIC IS GREEK COMPOSER IANNIS XENAKIS, WHO WOULD USE SCIENTIFIC PHENOMENA TO COMPOSE MUSIC... LIKE USING PATTERNS OF MOLECULAR MOTION TO WRITE HIS 1975 WORK N'SHIMA FOR BRASS, CELLO AND VOCALISTS.

THIS TYPE OF MUSIC IS OFTEN CALLED STOCHASTIC MUSIC.

ONE OF THE MOST FAMOUS EXAMPLES OF ALEATORIC MUSIC IS JOHN CAGE'S 1952 PIECE 4'33", WHICH INVOLVES ONE OR MORE MUSICIANS ON STAGE, DOING NOTHING, FOR FOUR MINUTES AND THIRTY-THREE SECONDS.

THE PIECE IS SOMETIMES RIDICULED AS AN EXAMPLE OF NONSENSICAL MODERN ART RUN AMOK, BUT CAGE SAW IT AS AN OPPORTUNITY TO TAKE ADVANTAGE OF THE EXPECTATIONS OF CONCERT ETIQUETTE TO FORCE THE AUDIENCE TO ACTIVELY LISTEN TOGETHER IN A SILENT ENVIRONMENT!

CAGE POINTED OUT THAT 4'33" WAS NOT INTENDED TO BE A PERFORMANCE OF SILENCE, BUT A CHANCE TO LISTEN TO AMBIENT SOUNDS: NEARBY TRAFFIC, RAIN FALLING ON THE ROOF, OR EVEN WHISPERED CONVERSATIONS!

ALEATORIC MUSIC CAN BE THOUGHT OF AS BEING IN TWO DIFFERENT CATEGORIES... THOUGH A PIECE COULD USE BOTH KINDS!

ALEATORIC PERFORMANCE

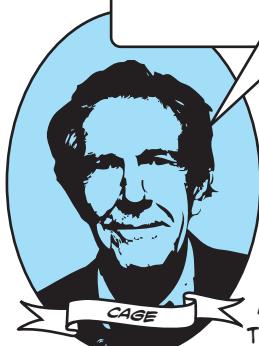
A COMPOSER MIGHT INSTEAD DECIDE TO DESIGN A PIECE TO LEAVE PART OR ALL OF IT TO CHANCE... MAKING THE PIECE SOUND DIFFERENT EVERY TIME IT IS PERFORMED!

FOR EXAMPLE, A PIECE MIGHT HAVE SECTIONS WHERE PERFORMERS ARE INSTRUCTED TO REPEAT A CERTAIN PASSAGE AN UNSPECIFIED NUMBER OF TIMES, AT THEIR OWN TEMPO, INDEPENDENT FROM EACH OTHER. THIS IS CALLED SENZA MISURA!



OF COURSE, THERE ARE ENDLESS POSSIBILITIES: PERFORMERS DIRECTED TO PLAY WHATEVER THEY WANT, SPECIFIC PASSAGES PLAYED AT UNSPECIFIED TIMES, OR PERFORMANCES WHICH DEPEND ON UNPREDICTABLE ELEMENTS, LIKE COIN FLIPS OR AUDIENCE PARTICIPATION!

HEADS AGAIN... TROMBONES, YOU'RE UP!



I LOVE SOUNDS JUST AS THEY ARE... AND I HAVE NO NEED FOR THEM TO BE ANYTHING MORE THAN WHAT THEY ARE! I DON'T WANT THEM TO BE PSYCHOLOGICAL, I DON'T WANT A SOUND TO PRETEND THAT IT'S A BUCKET, OR THAT IT'S PRESIDENT, OR THAT IT'S IN LOVE WITH ANOTHER SOUND; I JUST WANT IT TO BE A SOUND!

JOHN CAGE, 1991

PIECES LIKE 4'33" REPRESENT THE ULTIMATE ALEATORIC EXPERIENCE; THE PERFORMER HAS NO CONTROL OVER THE PIECE, OTHER THAN CREATING THE FRAMEWORK OF A PERFORMANCE.

AS A RESULT, IT CAUSES US, AS LISTENERS AND AS MUSIC THEORISTS, TO CONSIDER THE VERY DEFINITION OF MUSIC ITSELF!

Writing for Voice



THE VOICE PREDATES ANY OTHER INSTRUMENT...
EARLY HUMANS WERE SINGING EVEN
BEFORE THEY DEVELOPED LANGUAGE!

FROM MOTETS TO OPERAS TO POP MUSIC,
MUCH OF THE MOST IMPORTANT MUSIC
IN ALL OF HISTORY USES THE VOICE.

AND WHILE SOMETIMES JUST SPEAKING TEXT OUT
LOUD IS ENOUGH TO COME UP WITH A FITTING MELODY,
SETTING WORDS TO MUSIC CAN OFTEN BE A MUCH
MORE DIFFICULT PROCESS!



HAVEN'T COME UP WITH THE
WORDS YET? IF YOU'RE
WRITING THE MUSIC AND THE
LYRICS, THERE'S MORE WORK...
BUT ALSO MORE FREEDOM!

IT'S USUALLY EASIEST TO COME UP
WITH THE WORDS FIRST AND THEN
SET THEM TO MUSIC... THAT WAY,
THE MELODY AND RHYTHM WILL BE
MORE LIKELY TO FIT THE TEXT.

BUT THERE ARE SOME GREAT SONGS
WHERE THE MUSIC AND LYRICS CAME
ABOUT SIMULTANEOUSLY, OR EVEN
WHERE THE MUSIC WAS WRITTEN FIRST...
SO IT NEVER HURTS TO EXPERIMENT!

OOH, A REST!
SINGERS LOVE TO BREATHE!

THEN IT'S TIME
TO ADD MELODY!



GOOD MELODIES ARE PREDOMINANTLY STEPWISE,
BUT OCCASIONAL LEAPS ARE GOOD... ESPECIALLY
LEADING INTO AN ACCENTED SYLLABLE!

ADDING RHYTHMIC VARIETY
AND TWEAKING THE
SCANSION A BIT HELPS!

OF COURSE, THE RANGE
AND SHAPE OF THE MELODY
SHOULD REFLECT THE TONE
OF THE TEXT!

AS FOR NOTATION, THERE ARE A FEW THINGS SPECIFIC TO VOCAL MUSIC TO BE AWARE OF:

MUSICAL DIRECTIONS LIKE
DYNAMICS GO ABOVE THE
STAFF TO AVOID LYRICS!

mf



SEPARATE SYLLABLES IN
A WORD WITH A SINGLE
CENTERED HYPHEN!

Ex - cel-lent Nou - veau

A SINGLE SYLLABLE SLING
OVER MORE THAN ONE NOTE
IS CALLED A MELISMA, AND
IT'S INDICATED WITH A SLUR...

Mex-i-can Cui - sine

...AND IF THAT SYLLABLE IS AT
THE END OF A WORD,
SHOW THE LENGTH WITH A
WORD EXTENSION LINE!

Guitar



LASTLY, WHEN WRITING
AN ACCOMPANIMENT,
THE GENERAL GUIDELINE
IS TO GIVE THE VOCAL PART
ROOM TO BREATHE!

LOOK FOR WAYS
TO BALANCE THE
VOICE PART'S RANGE:
IF IT GOES HIGH,
TRY GOING LOW!

DON'T DRAW BARLINES
BETWEEN STAVES ON VOCAL
PARTS... IT MAKES THE LYRICS
HARDER TO READ!

AVOID DOUBLING
THE VOICE PART IN
THE ACCOMPANIMENT:
MOVE IN PARALLEL THIRDS,
OR IN SIXTHS, OR IN
COUNTERPOINT!

ADD MOTION DURING
THE VOICE'S LONG
NOTES OR RESTS...
AND WHEN THE VOICE IS
MOVING, HOLD BACK
AND LET IT SHINE!

hey, it's
kids!

SPARKY THE MUSIC THEORY DOG!



Q:

Dear Sparky:
What does it mean that certain instruments are "transposing instruments"? Does that affect how I should write music for them?

-A.M., Dana Point, CA

A: **WOOF!***

***TRANSLATION:** TRANPOSING INSTRUMENTS ARE INSTRUMENTS WHICH PLAY IN A DIFFERENT KEY THAN WHAT IS ON THE PAGE.



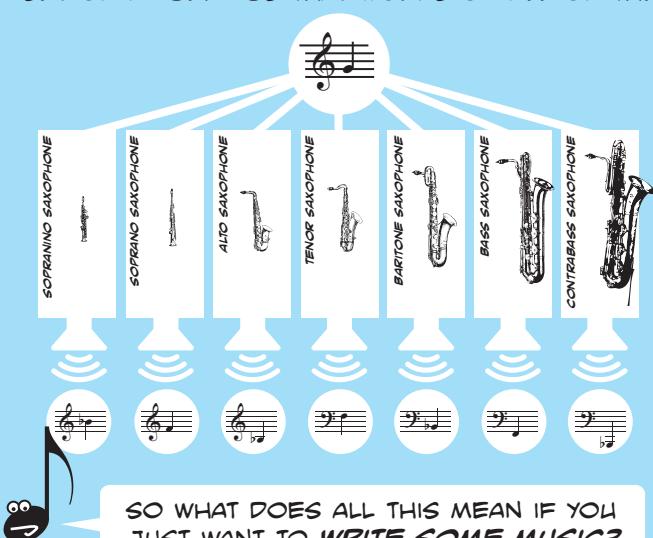
FOR EXAMPLE, WHEN A CLARINETIST
SEES AND PLAYS A G,
IT ACTUALLY SOUNDS LIKE AN F!

WOODWIND INSTRUMENTS
COME IN DIFFERENT SIZES TO
COVER A LARGER RANGE.
RATHER THAN LEARN NEW FINGERINGS FOR EACH
SIZE OF INSTRUMENT, IT'S EASIER TO HAVE ONE
SET OF FINGERINGS THAT WORKS ON ALL OF THEM!

WHY? THE REASON DEPENDS ON
THE TYPE OF INSTRUMENT!

BRASS INSTRUMENTS, LIKE
WOODWINDS, WERE BUILT IN
MANY DIFFERENT KEYS...

ESPECIALLY SINCE EARLY BRASS INSTRUMENTS DIDN'T
HAVE VALVES, AND THUS COULD ONLY PLAY THE
HARMONIC OVERTONES OF A SINGLE NOTE!



SO WHAT DOES ALL THIS MEAN IF YOU
JUST WANT TO WRITE SOME MUSIC?



EVEN AFTER VALVES BECAME COMMON,
INSTRUMENTS WERE STILL AVAILABLE IN A
VARIETY OF KEYS... AND IT MADE SENSE
TO WRITE THEIR MUSIC SO THAT FINGERINGS
WERE CONSISTENT ACROSS THE BOARD!

EVENTUALLY, OF COURSE, INSTRUMENTS IN
CERTAIN KEYS WERE PREFERRED FOR THEIR
TIMBRE AND RANGE, AND BECAME MUCH
MORE COMMON!



WHEN YOU
PLAY A
WRITTEN
NOTE
ON:

BARI SAX	TENOR SAX	CONTRABASSOON	ALTO CLARINET	ENGLISH HORN	AUTO FLUTE	B FLAT CLARINET	FLUTE	PICCOLO	GLOCKENSPIEL
P8+M6 LOWER	P8+M2 LOWER	ONE OCTAVE LOWER	MAJOR SIXTH LOWER	PERFECT FIFTH LOWER	PERFECT FOURTH LOWER	MAJOR SECOND LOWER	AS WRITTEN	MINOR THIRD HIGHER	ONE OCTAVE HIGHER

FIRST, FIGURE OUT IF YOUR INSTRUMENT TRANSPOSES... AND IF IT DOES, HOW:

THEN, ACCOUNT FOR IT!

IF AN INSTRUMENT SOUNDS A PERFECT FIFTH LOWER,
TRANPOSE THEIR PART A PERFECT FIFTH HIGHER!

WANT THIS?

WRITE THIS!

THE GOOD NEWS:
MOST MUSIC NOTATION
SOFTWARE CAN HANDLE
ALL THIS AUTOMATICALLY!

DOING STUFF THE SPARKY WAY IS ALWAYS FUN!