¶ 5.1

The Architecture of Sound: Chords and Triads



Lecture 5 at a glance: Stacked thirds; major, minor, diminished, and augmented triads; diatonic chords and Roman numerals; seventh chords; inversions; and functional harmony.

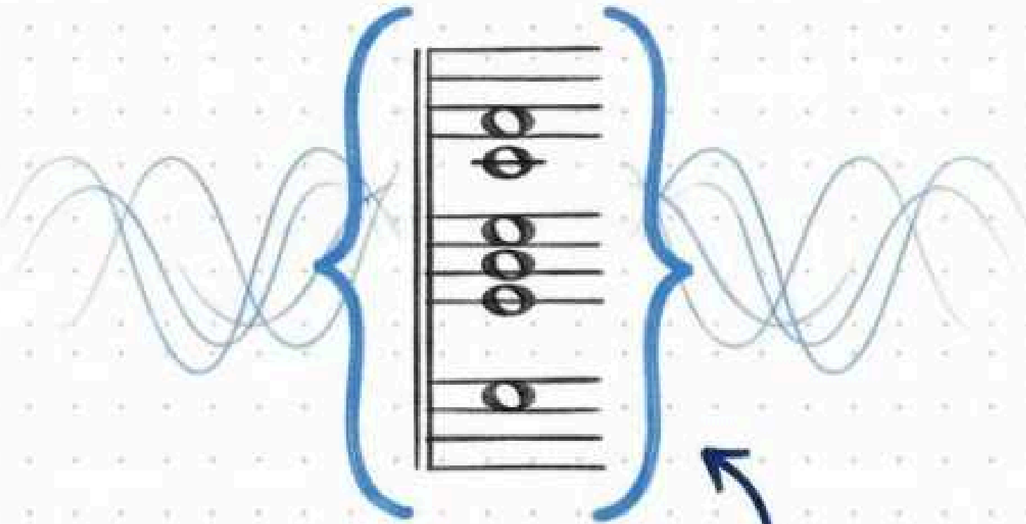
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The Foundational Units: Melody vs. Harmony

§ 5.2



Melody: A line of single notes played sequentially.

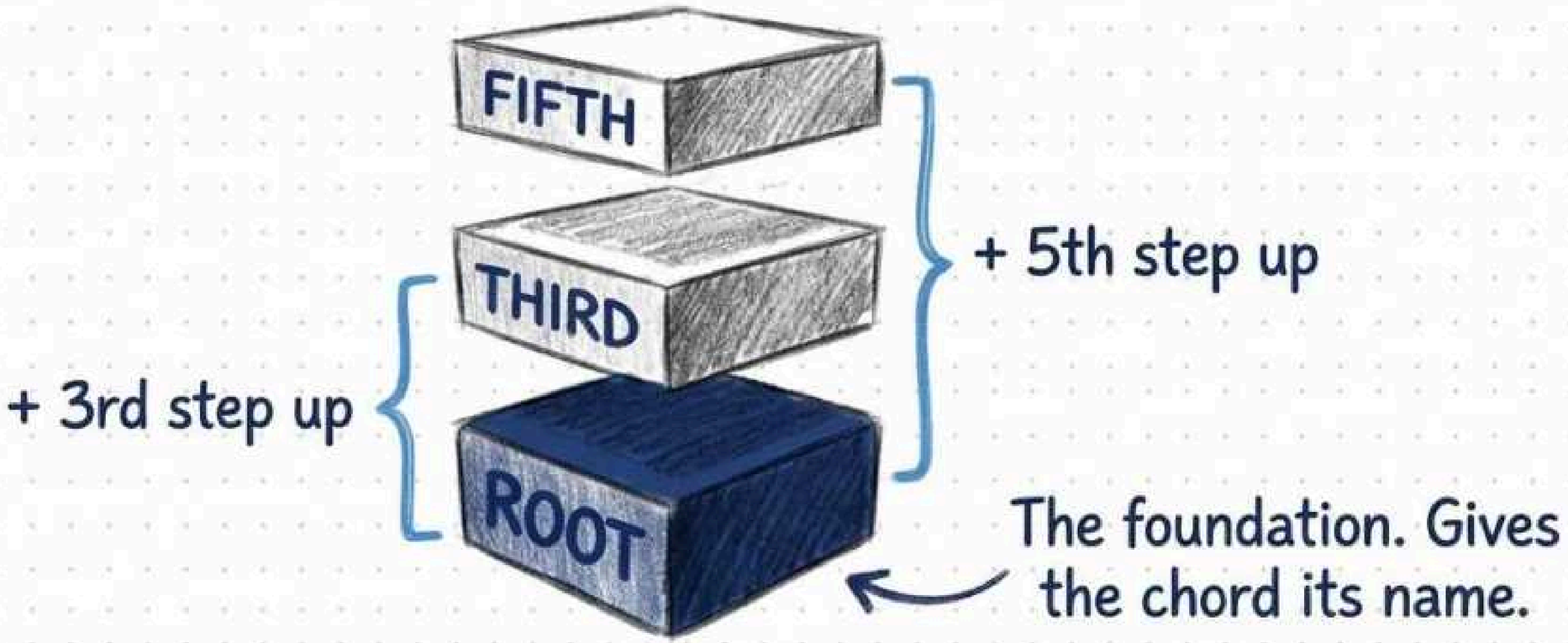


Harmony: Notes sounding simultaneously. The most important unit of harmony is the Chord.

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The Anatomy of a Triad

¶ 5.3

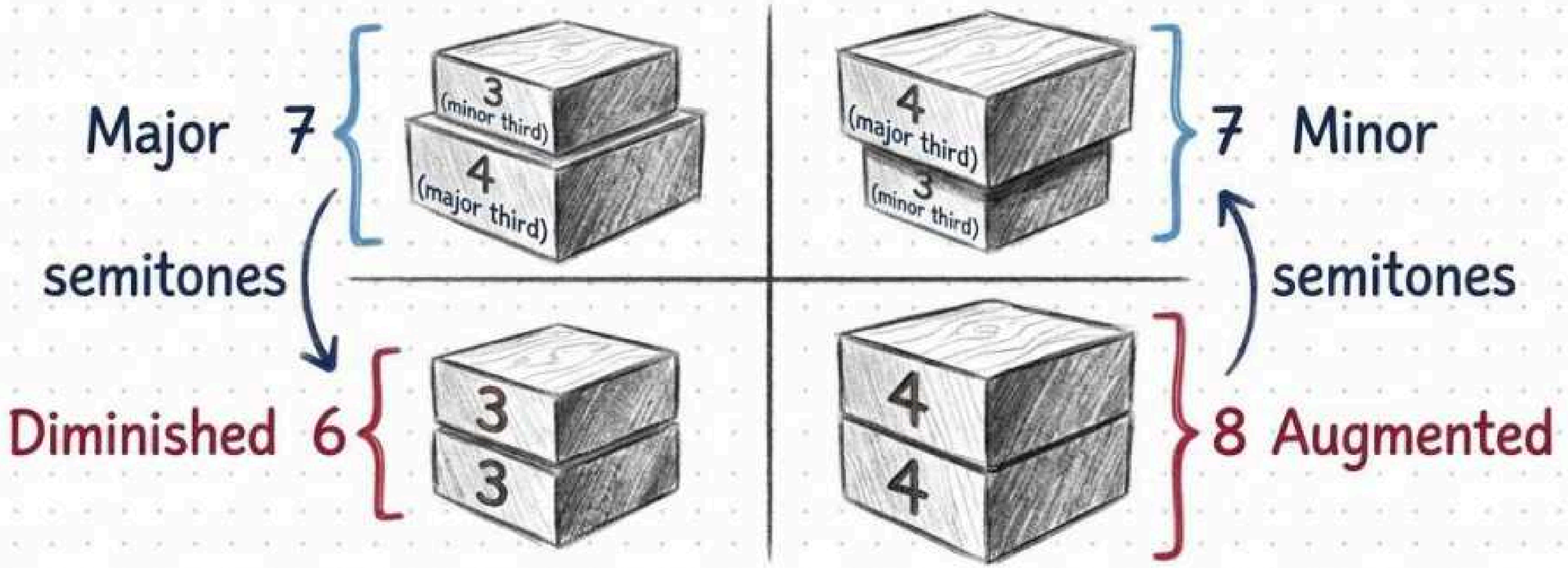


A chord is three or more different notes sounded together. The simplest and most common is the triad, built by stacking thirds.

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The Mathematical Formulas of Triad Qualities

¶ 5.4



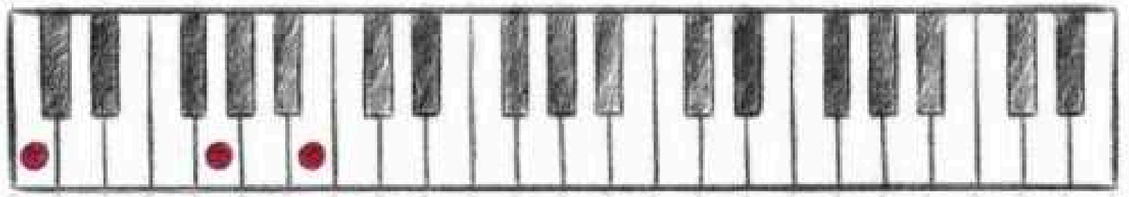
Triads come in four qualities. They are constructed by stacking specific intervals of semitones (half-steps).

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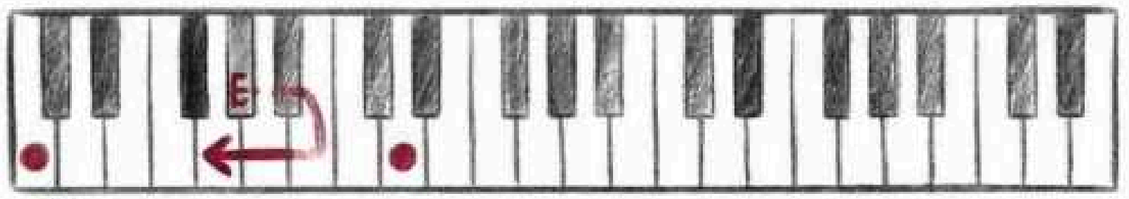
Applying the Formulas: The C Triads in Action

¶ 5.5

C Major

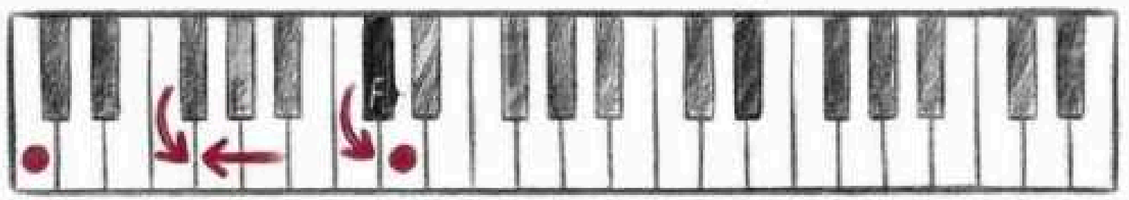


C Minor

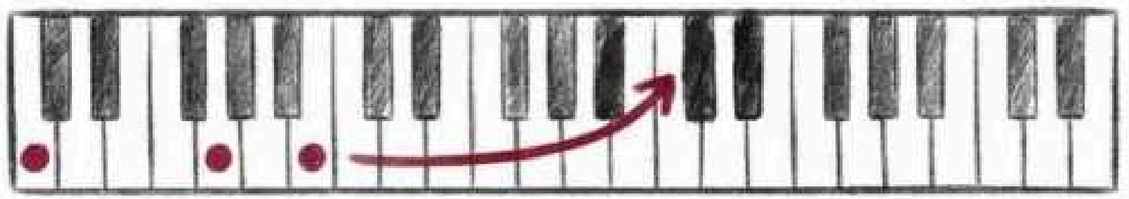


The third alone decides major or minor.

C Diminished

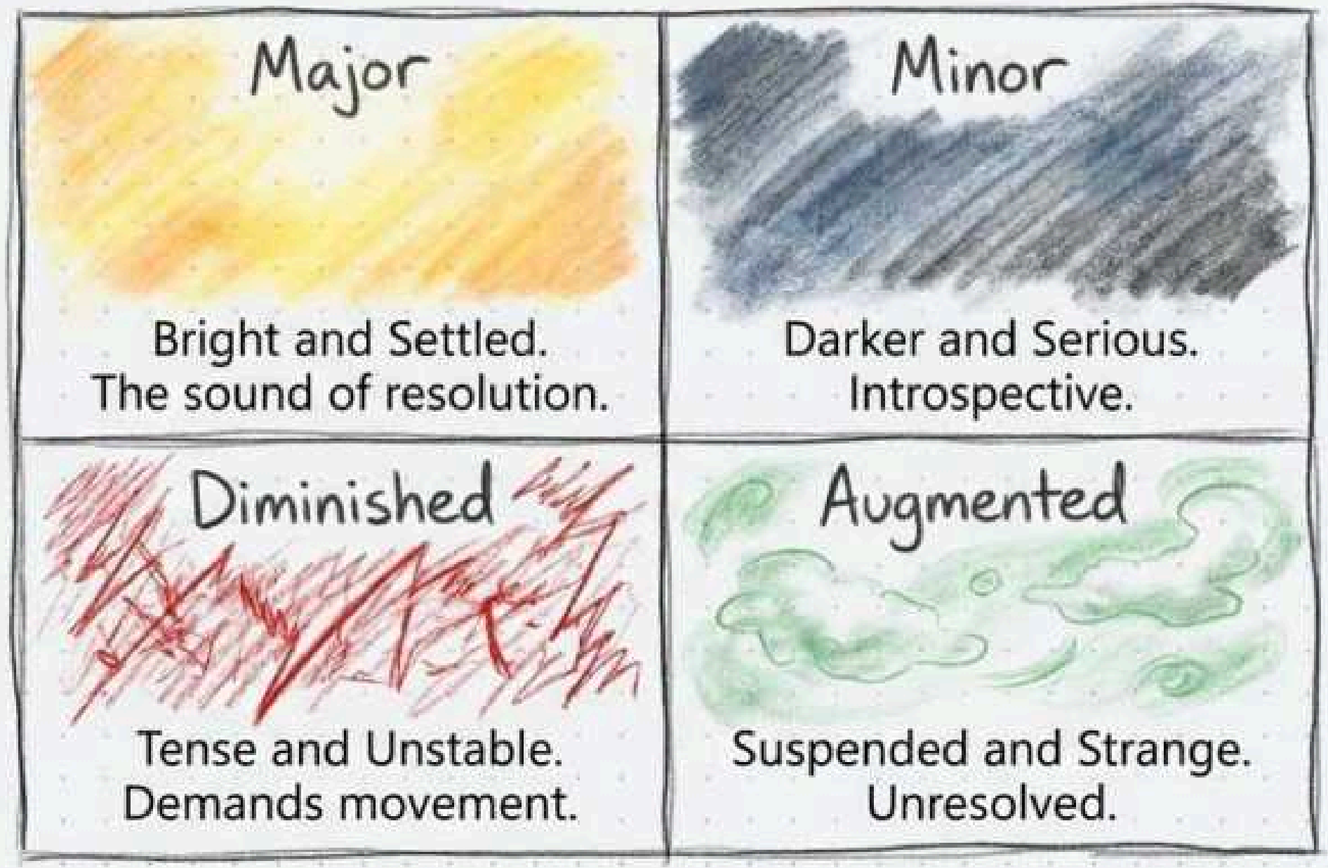


C Augmented



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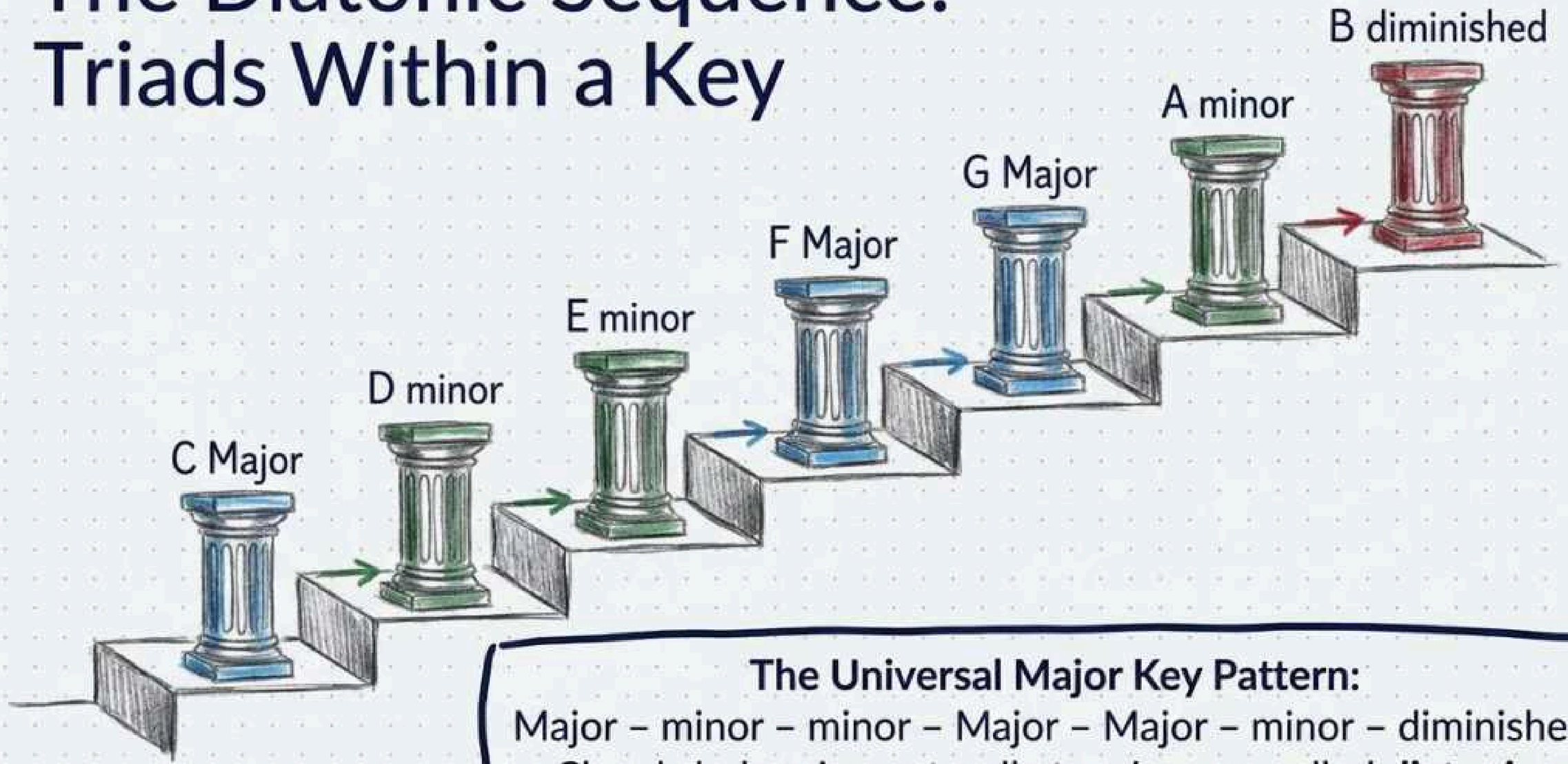
The Psychology of Chord Qualities



While partly learned and culturally varied, these emotional associations remain remarkably consistent in Western music.

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The Diatonic Sequence: Triads Within a Key



The Universal Major Key Pattern:
Major – minor – minor – Major – Major – minor – diminished.
Chords belonging naturally to a key are called **diatonic**.

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¶5.8

The Roman Numeral System

C Major	D minor	E minor	F Major	G Major	A minor	B diminished
I	ii	iii	IV	V	vi	vii°

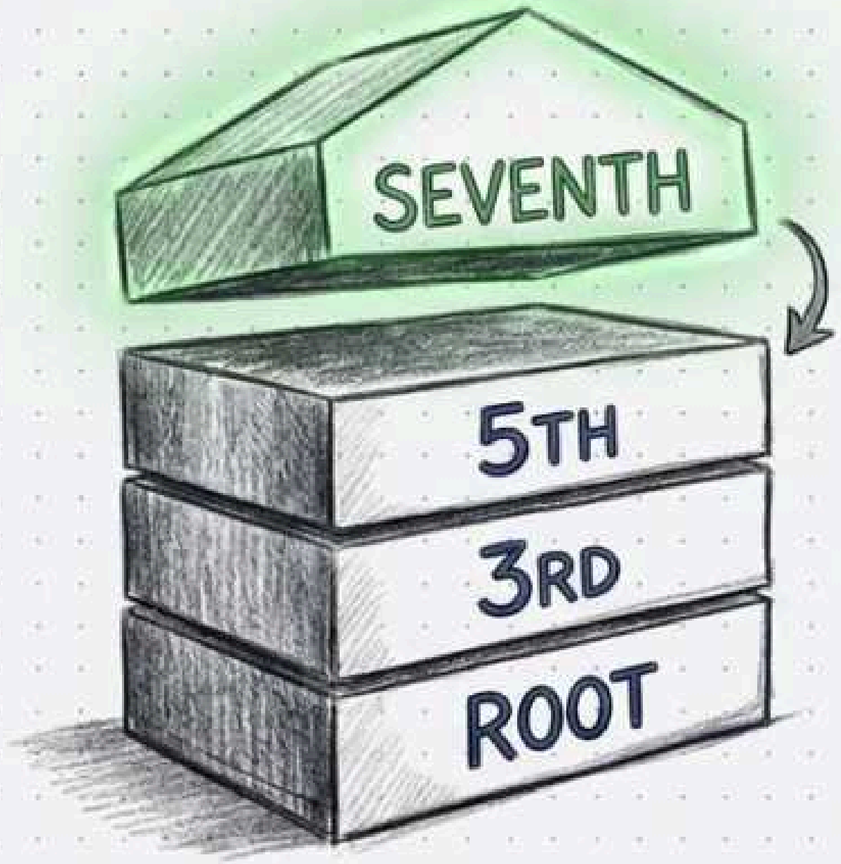
Musicians use Roman numerals, one to seven, to describe this pattern in any key.

In the Key of G:
The I chord is G major.
The V chord is D major.

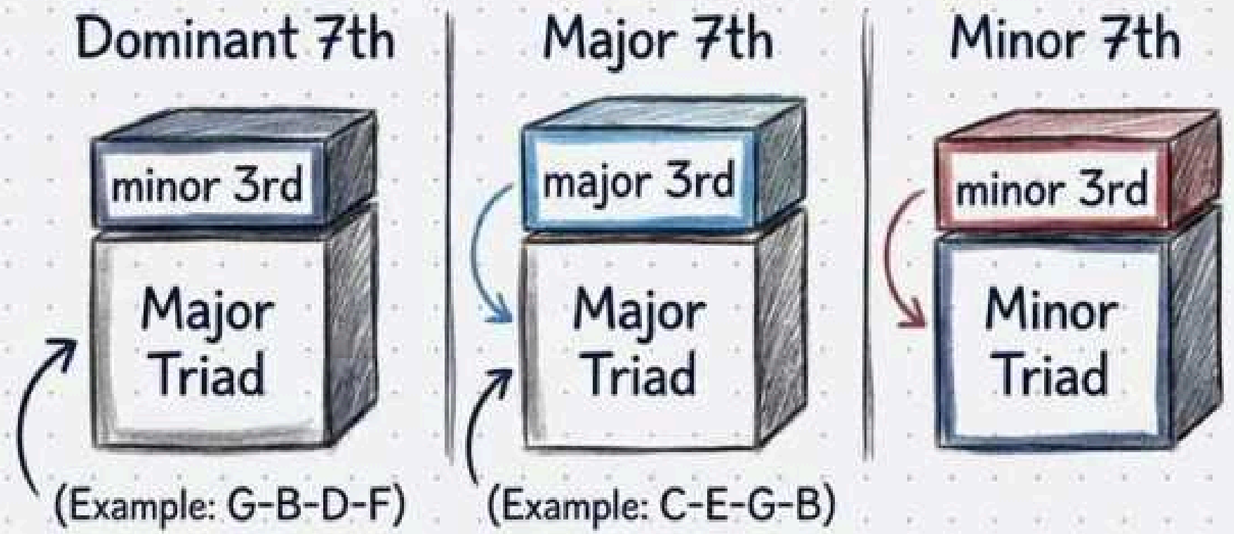
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¶5.9

Reaching Higher: Seventh Chords



Seventh Chord Formulas

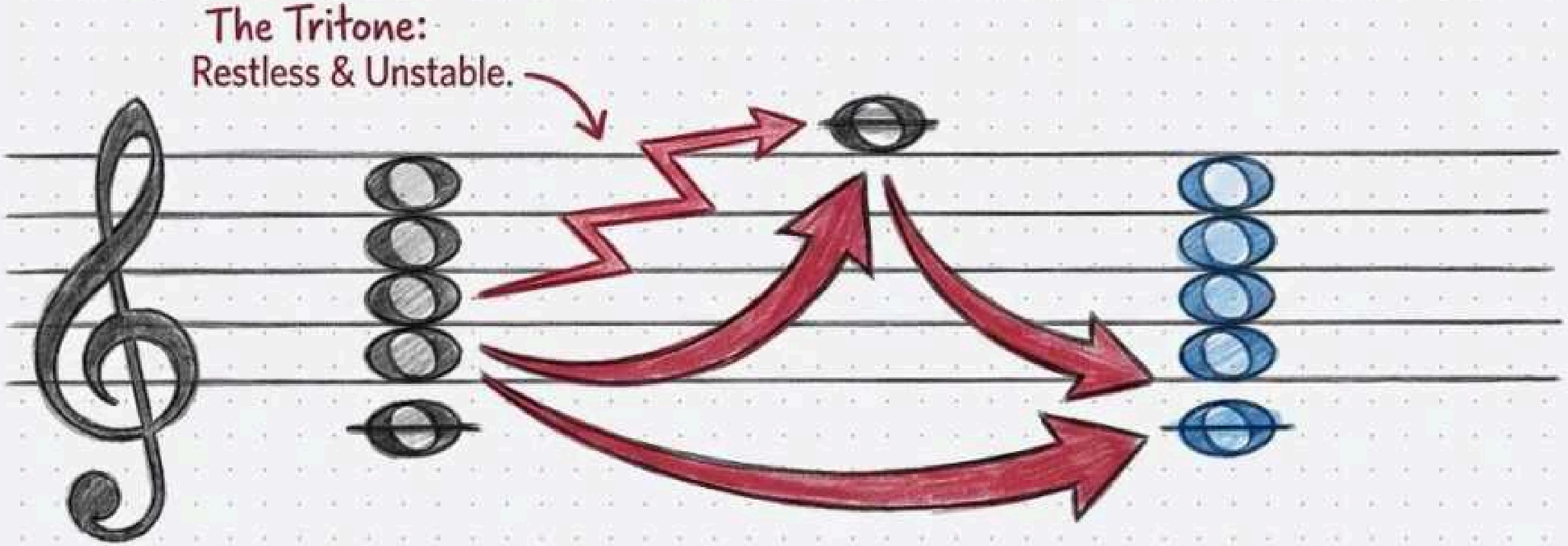


Adding another **third** on top of a triad gives a seventh chord, a four-note structure that **adds complexity and color.**

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¶ 5.10

Dominant Resolution: The Engine of Tonal Harmony

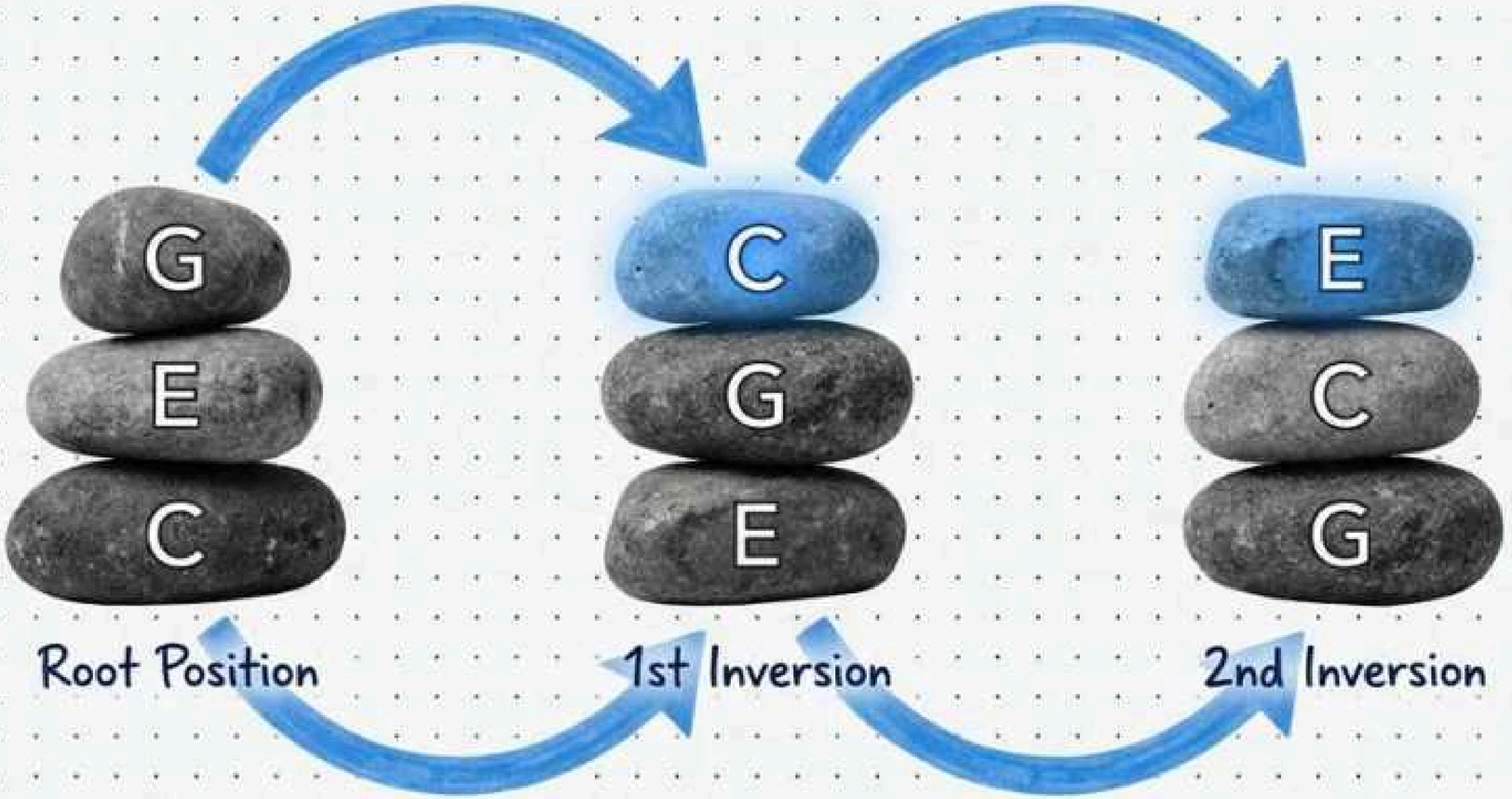


The dominant seventh (built on the 5th degree) demands resolution.
The unstable tritone pulls inwardly, settling onto the tonic.
This gravitational pull is what makes harmony move.

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¶ 5.11

Inversions: Rearranging the Stack



A chord can be **rearranged** without changing its name. The lowest note dictates the inversion. All three structures remain **C major**.

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The Rosetta Stone of Chord Symbols

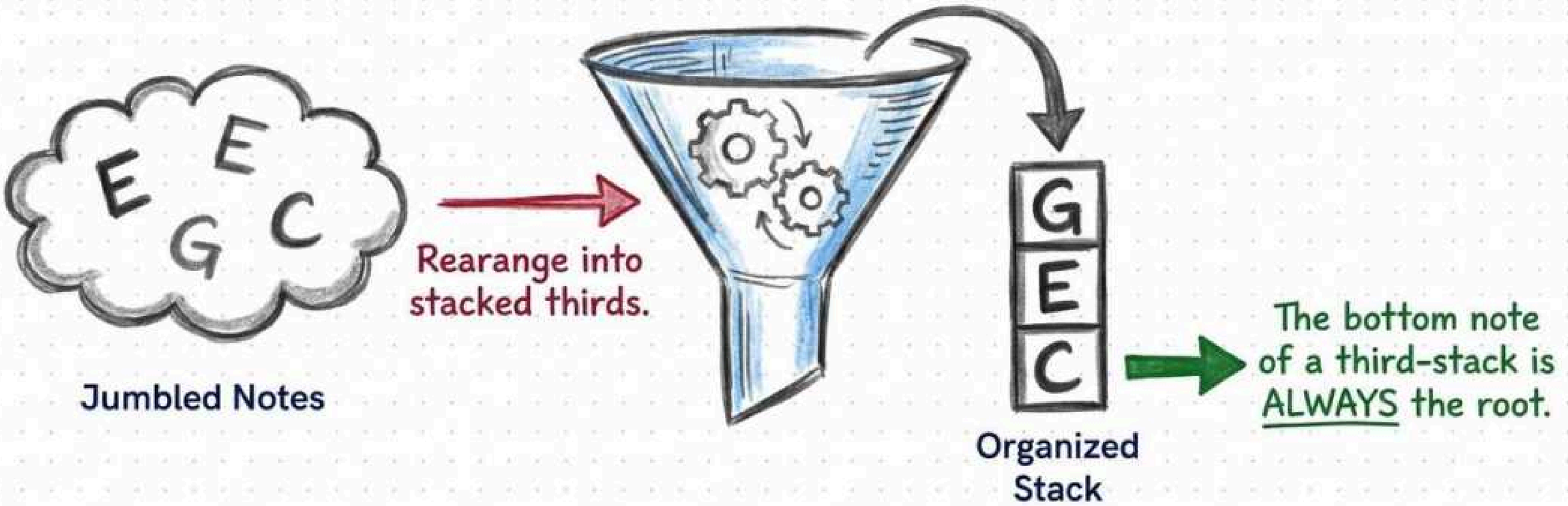
Symbol	Meaning	Example
[Capital Letter]	Major Triad	C = C major
[Letter] + m	Minor Triad	Cm = C minor
[Letter] + 7	Dominant Seventh	C7 = C dominant 7
[Letter] + maj7	Major Seventh	Cmaj7 = C major 7
[Letter] + ° or dim	Diminished	C° = C diminished
[Letter] + + or aug	Augmented	C+ = C augmented

In popular music, complex stacked harmony is abbreviated into short, universally understood symbols.

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¶ 5.13

The Algorithm: Finding the Root
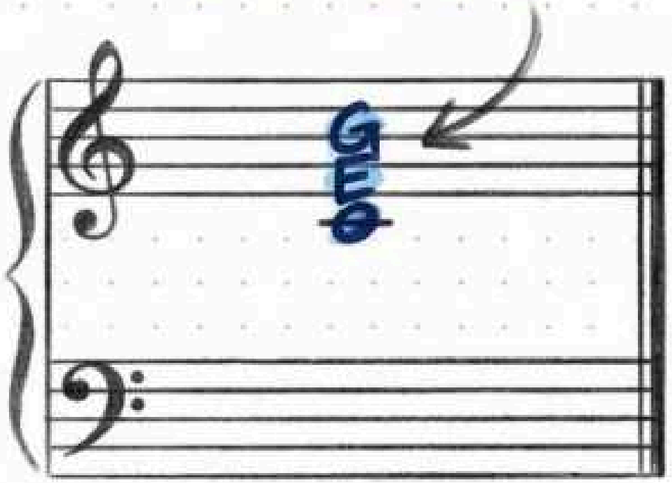


To find the root of any chord from its notes, reorganize them until they spell out thirds.
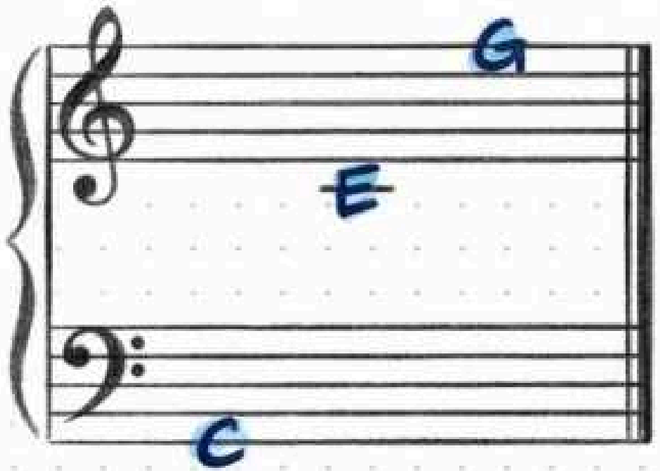
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¶ 5.14
Voicing and Texture

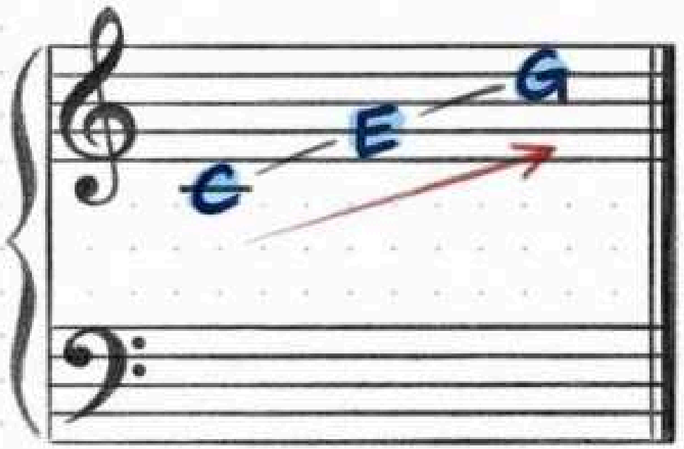
Block Chord



Spread Voicing



Arpeggio (Broken Chord)

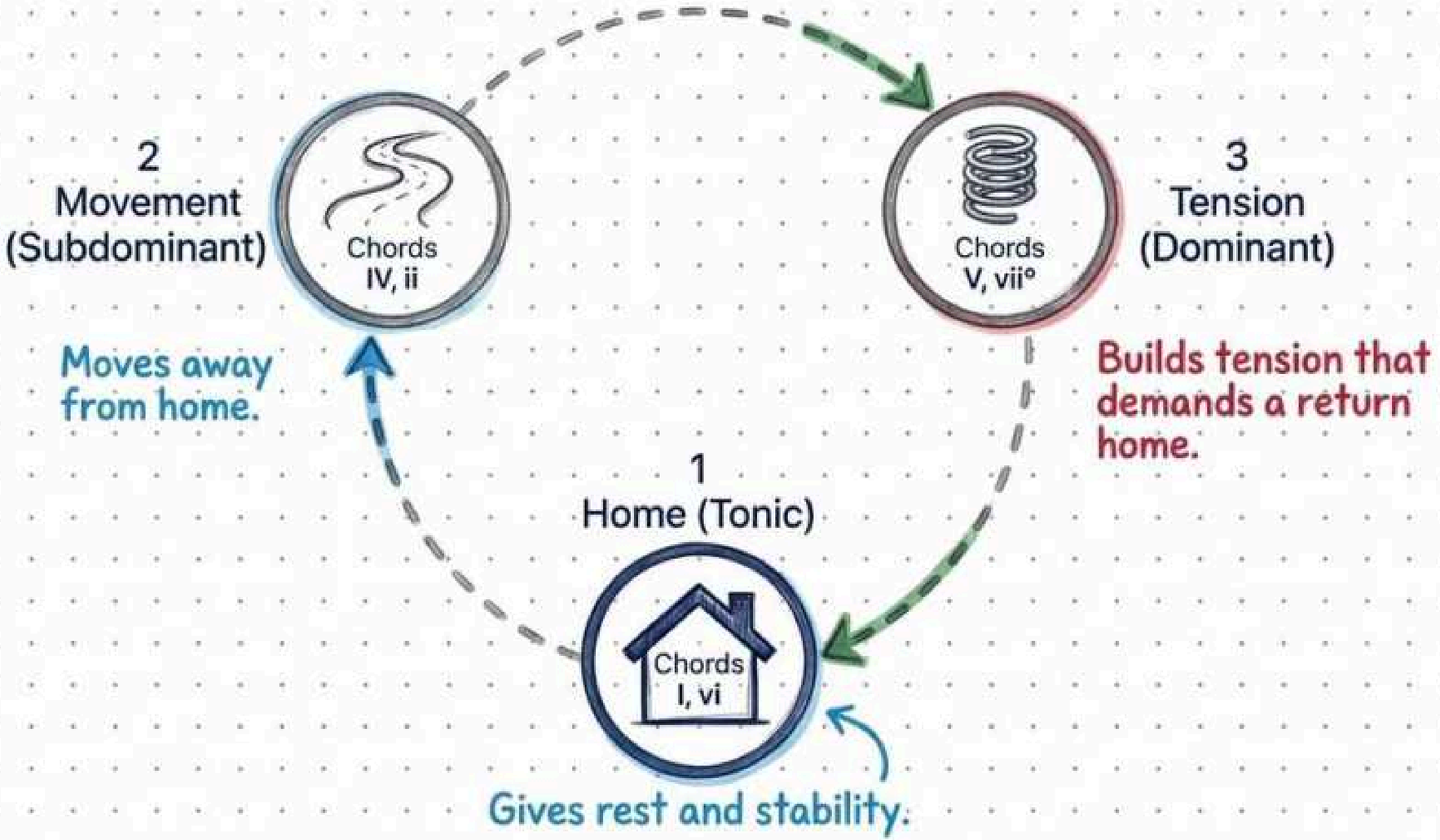


The name of the chord stays the same, but the color changes with the spacing and timing of the notes.

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The Journey of Functional Harmony

¶ 5.15



Almost every chord progression is a journey through these three functions.

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¶ 5.16

Minor Keys & The Harmonic Minor

Natural Minor: A - B - C - D - E - F - G - A

v chord: E minor

Harmonic Minor: A - B - C - D - E - F - ~~G~~ G# - A

V chord: E Major

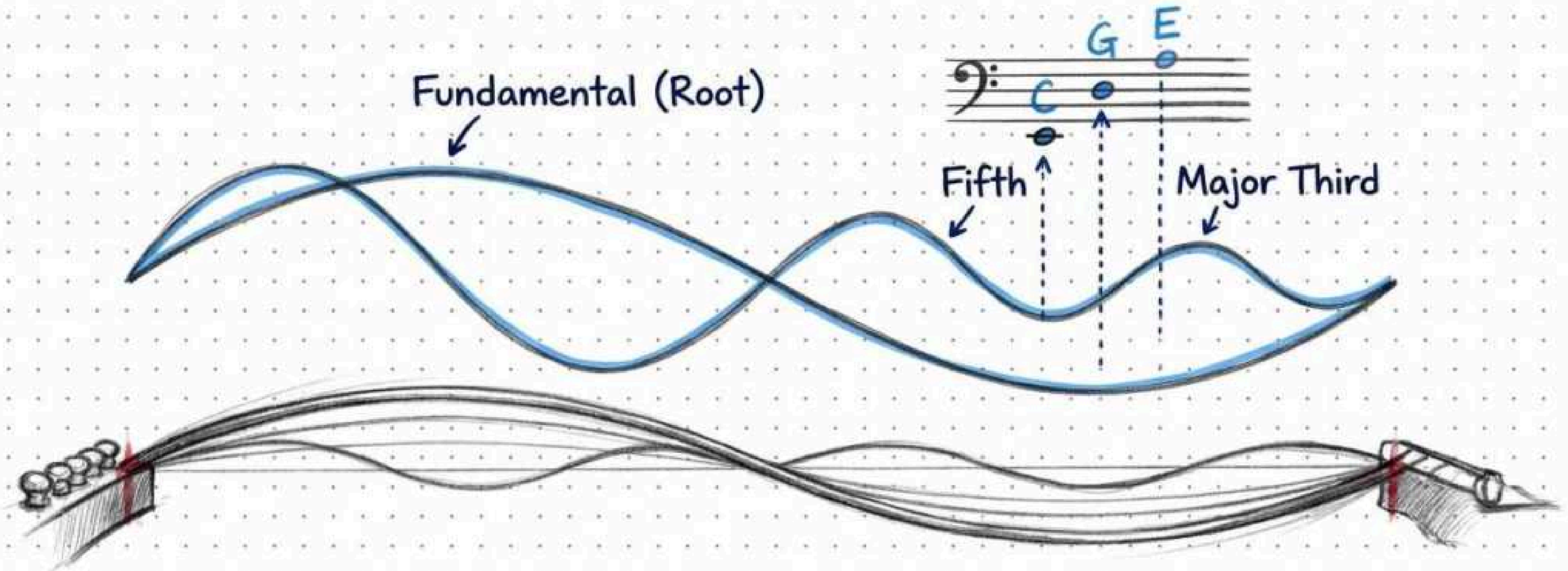
Artificial Gravity

In minor keys, composers often artificially raise the 7th degree. This turns the five chord into a Major chord, providing a stronger, dominant pull back to the tonic.

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The Physics of Thirds: The Overtone Series

¶ 5.17



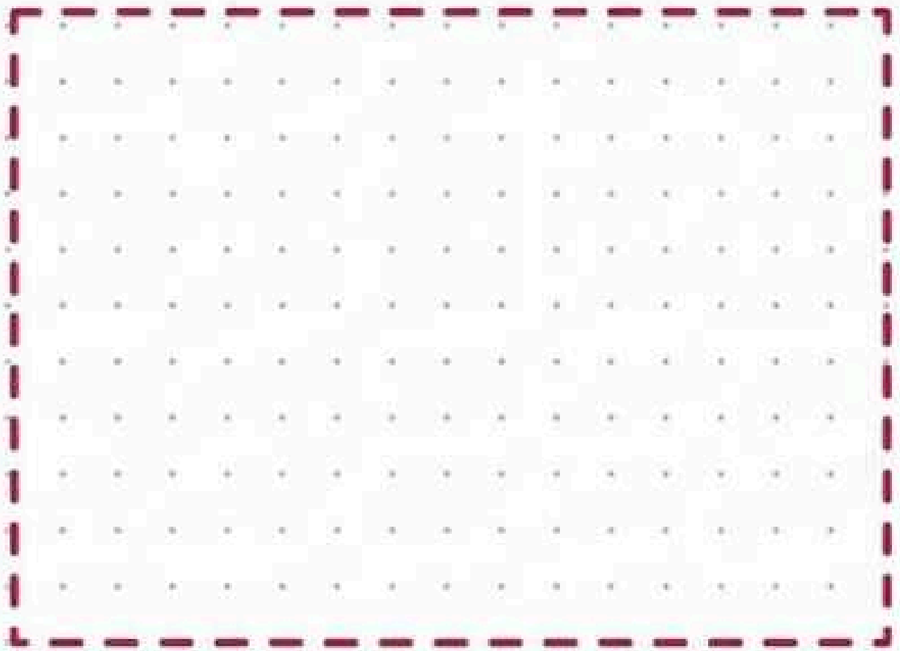
Every musical note contains faint higher tones—overtones. The first few naturally outline a major triad. Our ears have been listening to this physical reality since birth.

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¶ 5.18

Application: The D Minor Challenge

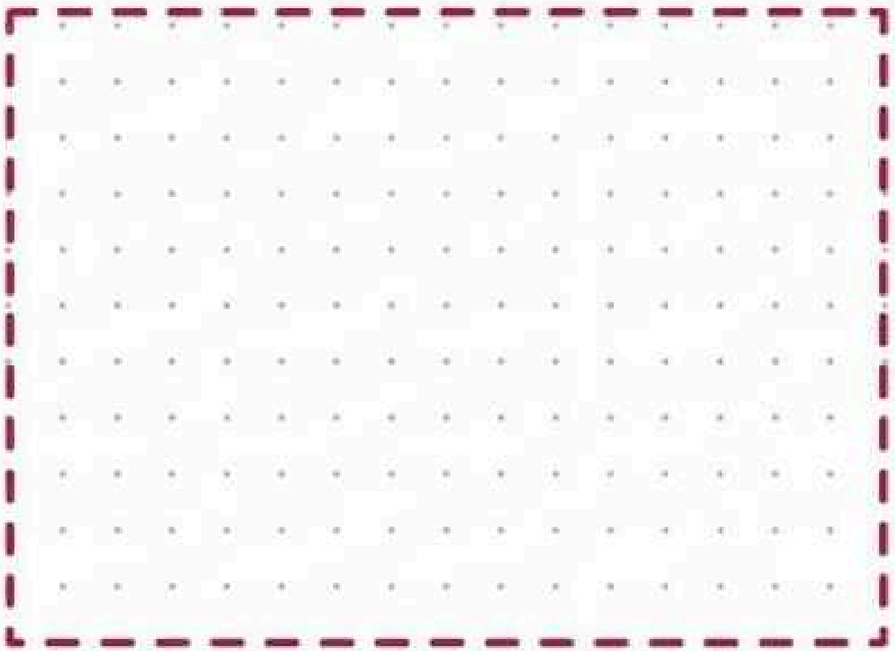
Spell and play: D minor triad.





What changed? How does the sound change?

Compare with: D major triad.



Mastering triads provides the foundation for all Western music. In the next and final lecture, we string these structures together to build complete chord progressions.

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