

Cambridge University Press

978-1-108-06517-7 - Elements of Musical Composition: Comprehending the Rules of Thorough Bass,
and the Theory of Tuning

William Crotch

Excerpt

[More information](#)

ELEMENTS

OF

MUSICAL COMPOSITION.

CHAP. I.

OF NOTES, INTERVALS, SCALES, AND KEYS.

THERE are twelve notes, or sounds, on a keyed instrument*. The difference of pitch between any two of them is called an interval. The smallest interval, as from any note to the next above or below it, is called a semitone. A tone is the distance from any note to the next but one, above or below it, and is equal to two semitones. Notes are either naturals, sharps, flats, double sharps, or double flats.

The seven white keys are generally naturals, and are then called, A♮ B♮ C♮ D♮ E♮ F♮ G♮. See fig. 1.

A sharp is one semitone higher than a natural. Thus A♯ is

* The organ and piano forte are the only instruments now in general use, to which the term *keyed instrument* is meant to be applied in this work.

2

one semitone higher than $A\sharp$, and is a black key lying between $A\sharp$ and $B\sharp$. See fig. 2 : and thus $B\sharp$ is a white key otherwise called $C\sharp$.

A flat is one semitone lower than a natural. Thus $A\flat$ is the black note lying between $A\sharp$ and $G\sharp$. See fig. 3. $C\flat$ is a white key, otherwise called $B\sharp$.

A double sharp is a whole tone above a natural. Thus $A\sharp\sharp$, or $A\times$, is the white key, otherwise called $B\sharp$.

$B\times$ is the black key, otherwise called $C\sharp$ or $D\flat$. See fig. 4.

A double flat is a whole tone below a natural. Thus $A\flat\flat$ is the white key otherwise called $G\sharp$: and $F\flat\flat$ is the black key otherwise called $E\flat$ or $D\sharp$. See fig. 5.

A second signifies the next note above or below, according to alphabetical order. Thus the second to $*A$ is B , whether natural, flat, or sharp ; and that, either the next in position, or in any other octave above it. Thus any $B\sharp$ $B\flat$ or $B\sharp$ above a given A is called second to it, excepting when written as a ninth. And thus any $G\sharp$ $G\flat$ or $G\sharp$ below A is called the second below $A\sharp$.

* The second to any note signifies the second above it, all intervals being reckoned upwards, from the bass, or lowest note, unless when specified to the contrary.

A , in this work, stands for $A\sharp$, B for $B\sharp$, &c.

Cambridge University Press

978-1-108-06517-7 - Elements of Musical Composition: Comprehending the Rules of Thorough Bass,
and the Theory of Tuning

William Crotch

Excerpt

[More information](#)

3

A third is the third note inclusive, or next note but one, above or below.

Thus the 3rd to A is C, and the 3rd below A is F.

. . . 4th . . . D,	. . . 4th . . . E.
. . . 5th . . . E,	. . . 5th . . . D.
. . . 6th . . . F,	. . . 6th . . . C.
. . . 7th . . . G,	. . . 7th . . . B.
. . . 8th or octave A,	. . . 8th . . . A.
. . . 9th . . . B,	. . . 9th . . . G.

A Diatonic Scale consists of five tones, and two semitones, the latter being separated by two tones, and three tones, alternately ; and the notes being in alphabetical order. The scale is of an indefinite length, and it is immaterial with which note it begins. See Example 1.

The intervals contained in this scale are, in this work, called Diatonic Intervals ; and are as follow :

Two kinds of 2nd...a minor 2nd equal to 1 semitone as from E to F

a major 2nd . . . 2 semitones . . . F to G

Two kinds of 3rd...a minor 3rd * . . . 3 A to C

a major 3rd † . . . 4 C to E

* Called also a flat third, or lesser third.

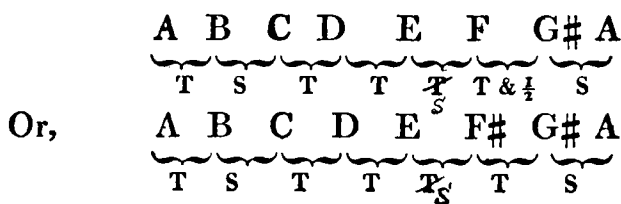
† Called also a sharp third, or greater third.

4

Two kinds of 4th—a perfect 4th.	. 5	semitones	. . . . .	C to F
an imperfect 4th *	. 6		. . . . .	F to B
Two kinds of 5th—an imp. 5th †	. 6		. . . . .	B to F
a perfect 5th . . .	. 7		. . . . .	C to G
Two kinds of 6th—a minor 6th . . .	. 8		. . . . .	E to C
a major 6th . . .	. 9		. . . . .	C to A
Two kinds of 7th—a minor 7th ‡	. 10		. . . . .	G to F
a major 7th ||	. 11		. . . . .	C to B
One kind of 8th, or octave . . .	. 12		. . . . .	C to C
Two kinds of 9th—a minor 9th . . .	. 13		. . . . .	B to C
a major 9th . . .	. 14		. . . . .	C to D

See Example 2.

A Chromatic Scale signifies, in this work, one in which the semitones are placed in any way differently from those in the Diatonic Scale: as



See Example 3.

* Called also the extreme sharp 4th, and Tritonus, from the three successive tones **FG, GA, and AB**, of which it is composed.

† Called also the extreme flat, or false 5th.

‡ Called also a flat 7th.

|| Called also a sharp 7th.

5

Chromatic Intervals signify, in this work, those peculiar to the Chromatic Scale; such are

An extreme sharp 2nd equal to 3 semitones, as from .	F	to	G [♯]
. . . . flat 3rd 2	B	to	D ^b
. . . . flat 4th 4	B	to	E ^b
. . . . sharp 5th 8	C	to	G [♯]
. . . . sharp 6th 10	C	to	A [♯]
. . . . flat 7th 9 *	B	to	A ^b

See Example 4.

An Enharmonic Scale contains smaller intervals than semitones, as quarter tones, commas, &c. which cannot be distinguished on a keyed instrument. See Example 5.

Enharmonic intervals signify such as are peculiar to the Enharmonic Scale. See Example 6.

The Inversion of an interval is its complement, or what is remaining to complete the octave. It is found by changing the place of the two notes which form it, putting the lowest above the other.

* Chromatic semitones, as distinct from diatonic semitones, are not noticed in this part of the work, because they are not distinguishable on keyed instruments; but they will be noticed in the articles Tuning, Temperament, &c.

Cambridge University Press

978-1-108-06517-7 - Elements of Musical Composition: Comprehending the Rules of Thorough Bass,
and the Theory of Tuning

William Crotch

Excerpt

[More information](#)

6

Thus the inversion of $\frac{B}{A}$ is $\frac{A}{B}$. The inversion of $\frac{F}{C}$ is $\frac{C}{F}$ &c.

Thus a 2nd inverted is a 7th
 3rd . . . 6th
 4th . . . 5th
 5th . . . 4th
 6th . . . 3rd
 And a 7th . . . 2nd *

A minor interval inverted becomes major

A major . . . minor

A perfect . . . remains perfect

An imperfect . . . imperfect

An extreme sharp becomes extreme flat

And an extreme flat . . . extreme sharp

Thus, a minor 2nd inverted becomes a major 7th

a major 6th . . . a minor 3rd

a perfect 4th . . . a perfect 5th

an imperfect 4th . . . an imperfect 5th

an extreme sharp 5th an extreme flat 4th

and an extreme flat 4th an extreme sharp 5th

See Example 7.

* A 9th is never inverted.

OF KEYS.

A key, or mode, consists of seven notes, arranged in alphabetical order, called

The key note	Tonic, or	.	.	Do *
the 2nd,	Supertonic, or	.	.	Re
3rd,	Mediant, or	.	.	Mi
4th,	Subdominant, or	.	.	Fa †
5th,	Dominant, or	.	.	Sol
6th,	Submediant, or	.	.	La ‡
7th,	Leading Note, or Subtonic			Si ||

* In this work, as in some others. Do is the key note, Re the 2d, &c. whatever the key may be, but in France Re always signifies D; Mi, E, &c.

† The Subdominant is so called from its being the 4th below the key note, as the Dominant is the 5th above. The Dominant is so called from its predominance in Music, being common to the Triads of Do and Sol, and more frequently used than any other note. Do is likewise common to the triads of Do and Fa, but the triad of Fa is not so often used as that of Sol.

‡ The Submediant is the 3rd below the key note, as the Mediant is the 3rd above. The Mediant is the middle note between Do and Sol, as the Submediant is between Do and the Fa below it.

|| It is called the leading note, (when placed at the distance of one semitone below the key note, as is usually the case,) because it generally leads to the key note, viz is succeeded by it; and the French call it the *sensible* note, as that whereby the key is known. When placed a whole tone below the key note, Si should not be called the leading note, but the flat 7th of the key, or subtonic.

8

Keys are either major or minor. They are so called according as the 3rd to the key note is major or minor.

In the major key, the intervals, if reckoned from the key note, are all major or perfect.

Thus, from Do to Re is a major 2nd
 from Do to Mi is a major 3rd
 . . Fa is a perfect 4th
 . . Sol is a perfect 5th
 . . La is a major 6th
 . . Si is a major 7th
 . . Do is a perfect 8th

The major key is Diatonic.

From Do to Re is a . tone
 . Re to Mi . . tone
 . Mi to Fa . semitone
 . Fa to Sol . tone
 . Sol to La . . tone
 . La to Si . . tone
 . Si to Do . semitone

Viz. two tones and a semitone, and three tones and a semitone; see page 3 and example 8, as in the major key of c, which has no flats or sharps. Other major keys are formed on any key note by a similar arrangement of tones and semitones; and, if placed according to the numerical order of their flats and sharps, their key notes will be at the distance of a perfect 5th from each

9

other. Thus G major, which has one sharp, is a 5th above c ; D, which has two sharps, is a 5th above G ; F with one flat is a 5th below c ; B \flat with two flats is a 5th below F, &c. &c. as in the following table.

FLATS.										SHARPS.															
10	9	8*	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7*	8	9	10	11	12	13	14	
E $\flat\flat$	B $\flat\flat$	F \flat	C \flat	G \flat	D \flat	A \flat	E \flat	B \flat	F	C	G	D	A	E	B	F \sharp	C \sharp	G \sharp	D \sharp	A \sharp	E \sharp	B \sharp	F \times	C \times	&c.

See Example 9.

Keys which have more than seven sharps or flats are very seldom used †.

The ancient ‡ diatonic minor key has a minor 3rd, minor 6th, and minor 7th. The other intervals being the same as in the major key.

* Keys which have more than seven sharps or flats, have double sharps or flats, which reckon for two.

† Major keys in modern music, as well as minor keys, have occasional accidental flats and sharps, which will hereafter be noticed.

‡ So called, in this work, from its being the scale of the ancient Greek Music, and found in the oldest national tunes, in psalms, and cathedral music ; see Specimens of various kinds of Music, vol. i. No. 13, page 14, No. 24, page 19, and vol. ii. No. 6, page 2.

10

	Thus from <i>Do</i> to <i>Re</i> *	is a	major 2nd
.	.	.	<i>Mi</i> . minor 3rd
.	.	.	<i>Fa</i> . perfect 4th
.	.	.	<i>Sol</i> . perfect 5th
.	.	.	<i>La</i> . minor 6th
.	.	.	<i>Si</i> . minor 7th
	And thus from <i>Do</i> to <i>Re</i>	is a	. . . tone
.	.	<i>Re</i> to <i>Mi</i>	. . . semitone
.	.	<i>Mi</i> to <i>Fa</i>	. . . tone
.	.	<i>Fa</i> to <i>Sol</i>	. . . tone
.	.	<i>Sol</i> to <i>La</i>	. . . semitone
.	.	<i>La</i> to <i>Si</i>	. . . tone
.	.	<i>Si</i> to <i>Do</i>	. . . tone

Viz. five tones and two semitones, the latter being separated by two tones and three tones alternately, which constitutes a Diatonic Scale, as in the minor key of A which has no flats or sharps. See Example 10.

Other minor keys are formed on any key note by a similar arrangement of tones and semitones; and if placed according to the numerical order of their flats and sharps, their key notes will be at the distance of a perfect 5th from each other. Thus E

* The syllables *Do*, *Re*, &c. are put in italics in the minor key to distinguish them from those of the major key.

In the Examples, the syllables *Do*, *Re*, &c. in the minor key, are distinguished from those of the major key, by a line drawn under them.