

C natural

Ramsay

The difference between **B#** and **C?** is the [apotome minor](#) - a very small difference - and this can only occur in the [mathematical scales](#). In [tempered scales](#), such as are played on the [piano](#), one [key](#) serves equally well for both. Although [seven sharps](#) may be employed, [seven](#) black keys are necessary. As **F#** and **G?** have the same relation to each other as **B#** and **C?**, and as **B#** does not require a black [key](#) but is found on a white one, so all the [semitonic](#) necessities for twelve [tempered scales](#) are fully supplied by 5 black keys, since the white keys are as much [semitonic](#) as the black ones. [[Scientific Basis and Build of Music](#), page 80]

Hughes

In the diagrams the [circles](#) are not drawn as interlacing into each other, from the difficulty of representing them accurately as rising [spirally](#) in [geometric progression](#). If we endeavour to realise the development of [harmonies](#), both in [geometric order](#), and at the same time advancing and retiring, as in musical [clef](#), we must imagine a musician having the physical power of striking all the [notes](#) on a circular [keyed instrument](#) of [seven octaves](#), linked to a lower [series](#) of [seven octaves](#), and a corresponding [series](#) of [seven](#) higher. But in fact the depth of the lower [series](#), and the height of the higher, are alike unfathomable to our present powers. C, the first [note](#) of the [seven octaves](#), sounds the four lowest [tones](#), F, G, A, B of the lower [series](#); and B, the last and highest [note](#) of the [seven octaves](#), sounds in its [harmony](#) **C?** and **D#** of the higher [series](#) of [sevens](#). [[Harmonies of Tones and Colours, The Method of Development or Creation of Harmonies3](#), page 17]

SCALES ASCENDING.	3RD NOTES.	7TH NOTES.	KEYS.	
C	E	B		
G	B	F#	F	
D	F#	C#	FC	
A	C#	G#	FCG	
E	Gb	D#	FCGD	
B	D#	A#	FCGDA	
F#	A	E#	FCGDAE	THE TWO POLES.
Db	F	C	GDAEBF#	FCGB#DAE sharps
Ab	C	G	DAEB	GDAC#EBF# flats
Eb	G	D	AEB	
Bb	D	A	EB	
F	A	E	B	
C octave				

([click to enlarge](#))

[[Harmonies of Tones and Colours, The Twelve Scales Meeting by Fifths](#), page 31a]

The [Minor Gamut](#) modulating in the [meeting of fifths](#) through [seven octaves](#). We may here trace the [twelve](#), each [fifth note](#) becoming the higher [key-note](#). But the [sixth](#) and [seventh notes](#) of the [scale](#) are [discords](#). For example, in the [key of A](#), the [sixth note](#), **F?**, is a [discord](#) with the [second note](#), **B?**; and the [seventh note](#) cannot be sounded as **G#** falling into the [eighth](#), without being a [discord](#) with the [third note](#), **C?**. No [octave](#) can be sounded in the [Minor Scale](#), as it has risen into the [fifth](#) higher [key](#) of **E**. [[Harmonies of Tones and Colours, The Minor Gamut Modulating in the Meeting of Fifths61](#), page 65]