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RHYTHMIC STRUCTURE IN MUSIC: A STUDY OF THE PERCEPTION OF METRICAL AND PHRASE STRUCTURE, FROM A MECHANISTIC VIEWPOINT

by

George Robert Mackie Fraser

Thesis submitted to the Faculty of Music
in the University of Durham
for the Degree of Doctor of Philosophy

1982

In Two Volumes

V O L U M E T W O

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22. MAY 1984

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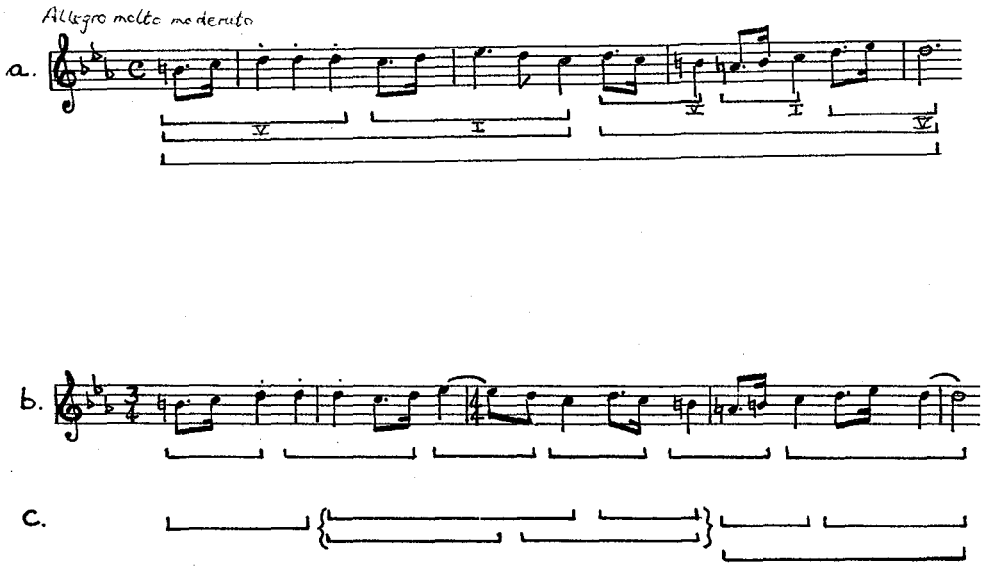
LIST OF ABBREVIATIONS AND SYMBOLS

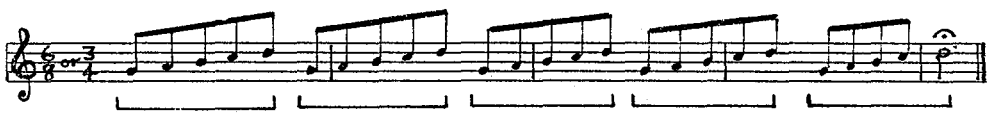
B	Bass Accentuation
DC	Duration Contour
DP	Duration Phrase
d-r	Dissonance and Resolution
Estd	Pre-established Metre
HR	Harmonic Rhythm
I	Interpreted structure
LN	Longer-note Accompaniment
M	Metre
MC	Metrical Contour
p-p	Pitch Unity
PS	Pitch separation
R	Repetition
S	Subdivision (of metrical unit or phraselength)
S_1, S_2, S_5	Beam altered by Separation Rule 1,2,5
T	Structurally accented Tonic
t	Tonic
Tr	Transferred phrase grouping
x:	Structural groupings on this level produced by x, until otherwise indicated

x ⌐	Structural grouping created or positioned by x
✱	End of phrase grouping
∧	Tonic Accent
>	Dynamic Accent
⌣	Tied note or articulated slur
·	Staccato and non legato
⌒→	'gives way to' (of progressive closure)
⟨}	Directional Grouping
≡	Congruent with
≢	Incongruent with
>	Stronger than (and incongruent with)
<	Weaker than (and incongruent with)
⌐ ⌐	Subsidiary structural grouping
⌐ ⌐	Projected or anticipated structural grouping
-----	Beam reflecting separation and continuation
·····	Beam reflecting separation
⊤ ¦	Structural rest, tied note, subconscious metrical accent
⇓	Dual branch
⇑	Shared time point - two voices
⌐⌐	Shared branch (and subtree)

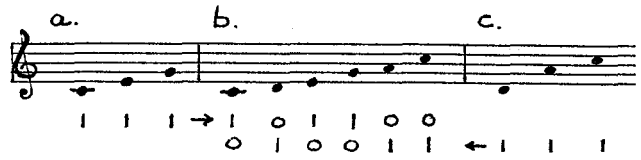
Ex.1: Schubert,Impromptu in C minor,Op.90/1



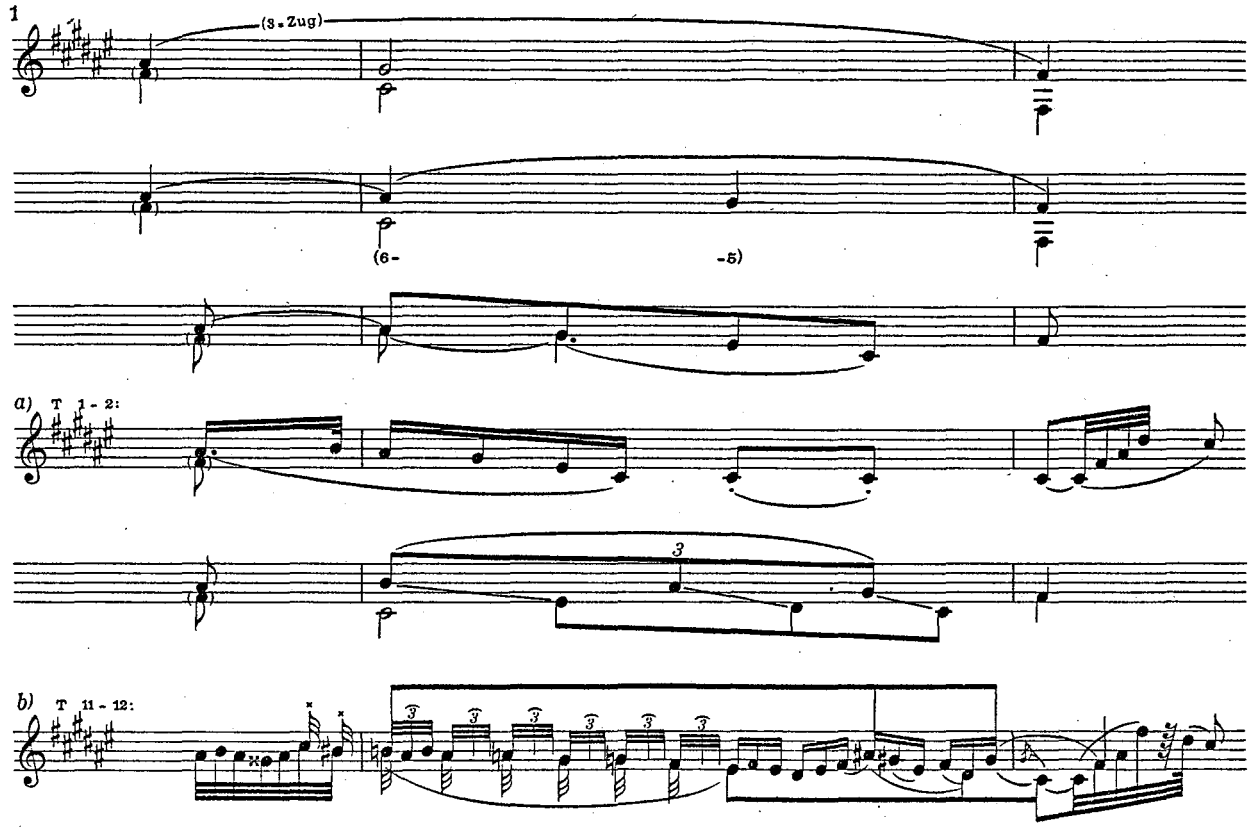
Ex.2



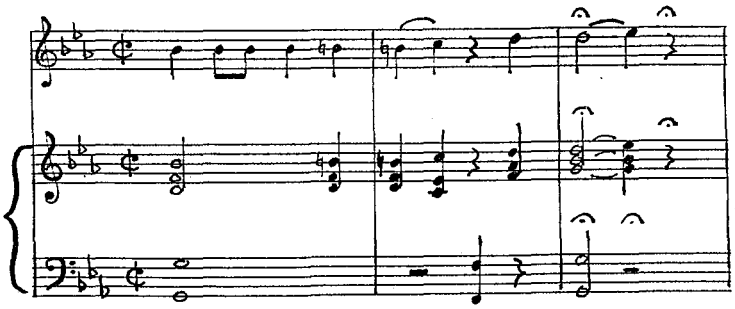
Ex.1/1



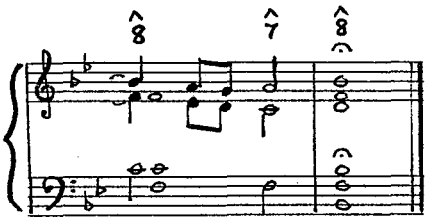
Ex.1/2: Chopin, Nocturne in F♯, Op.15/2



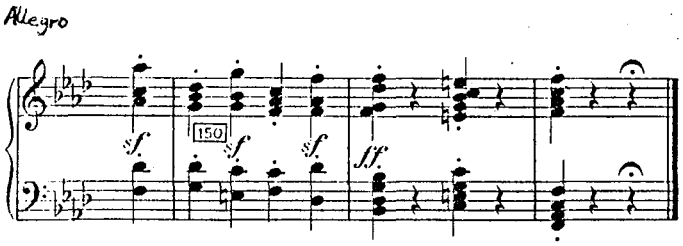
Ex.1/3: Mozart, The Marriage of Figaro, Act I, 'Non so più'



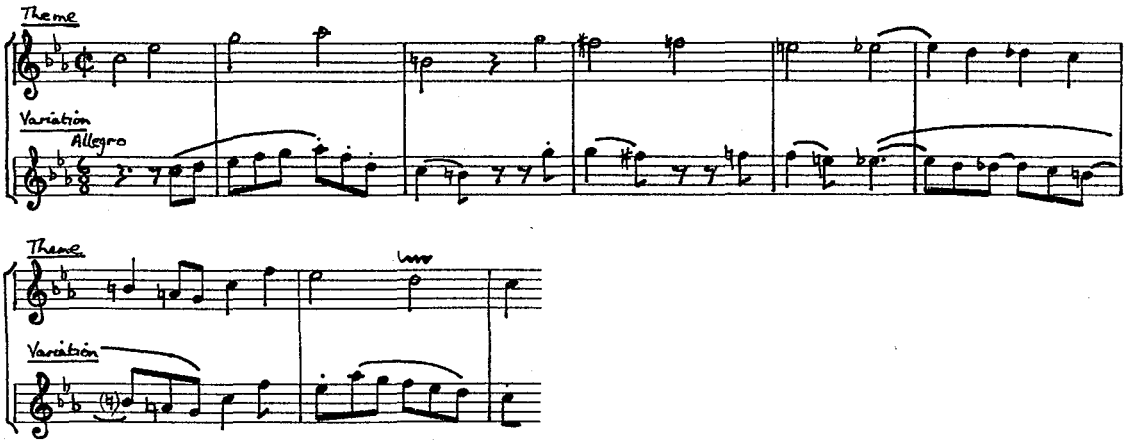
Ex.1/4: Palestrina,Missa Papae Marcelli,Credo



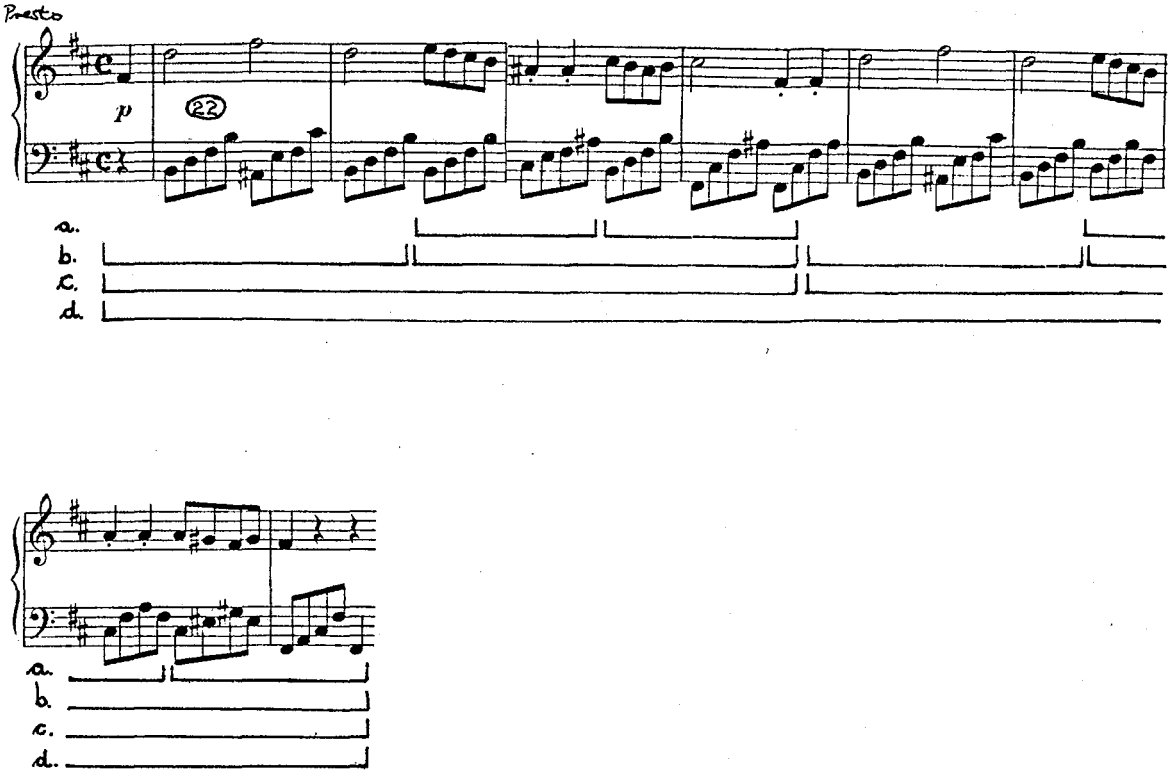
Ex.1/5: Beethoven,Sonata in F minor,Op.2/1,I



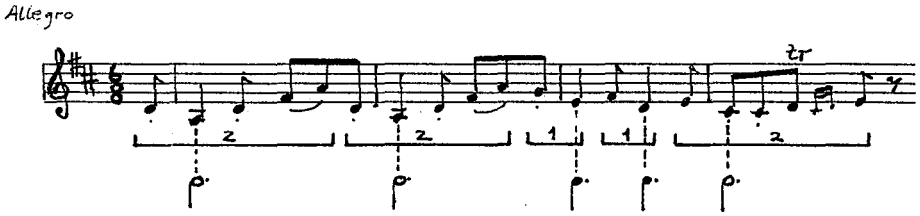
Ex.1/6: Bach,Musical Offering,Theme;Trio Sonata,IV



Ex.1/7: Beethoven,Sonata in D,Op.10/3,I

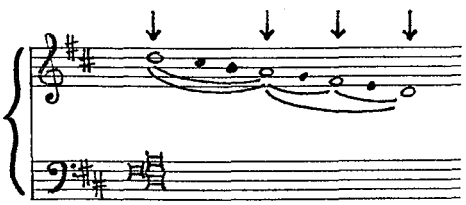


Ex.1/8: Beethoven,Violin Concerto,III



Ex.1/9

Ex.1/10



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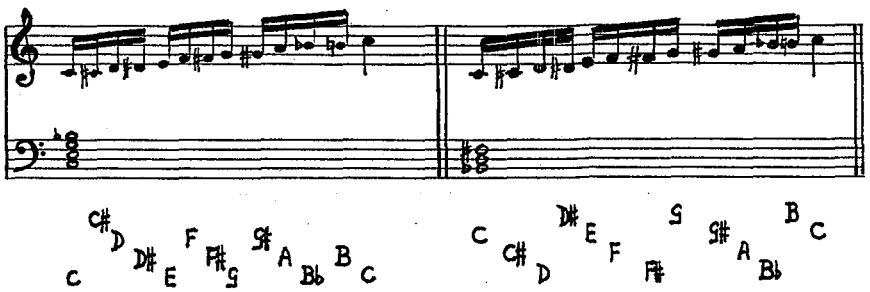
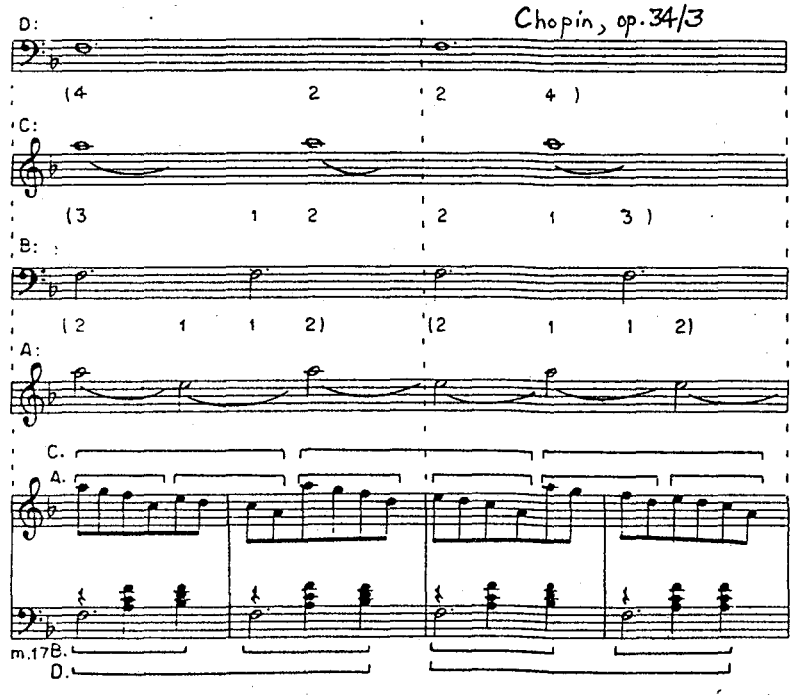
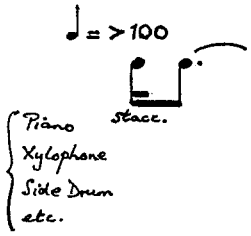

C C# D D# E F F# G G# A Bb B C
C C# D D# E F F# G G# A Bb B C

Ex.1/12


Chopin, op.34/3
D:
C:
B:
A:
C.
A.
m.17 B.
D.

Ex.1/13

Ex.1/14



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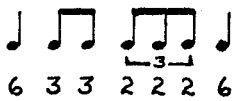

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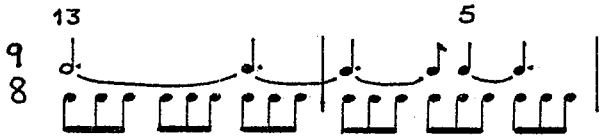

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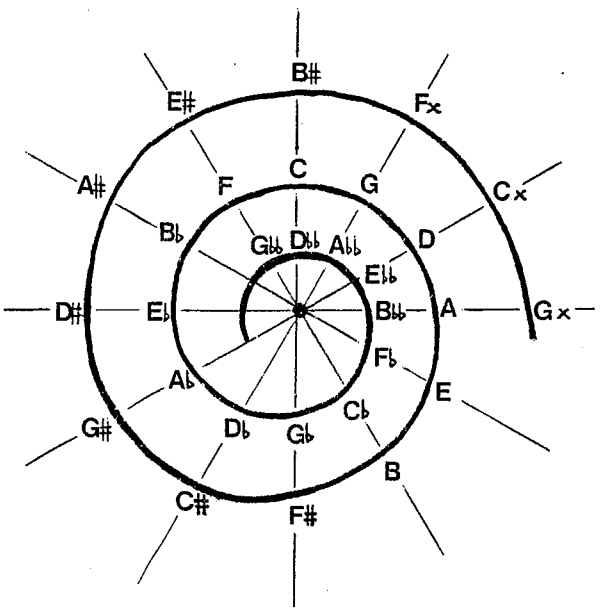

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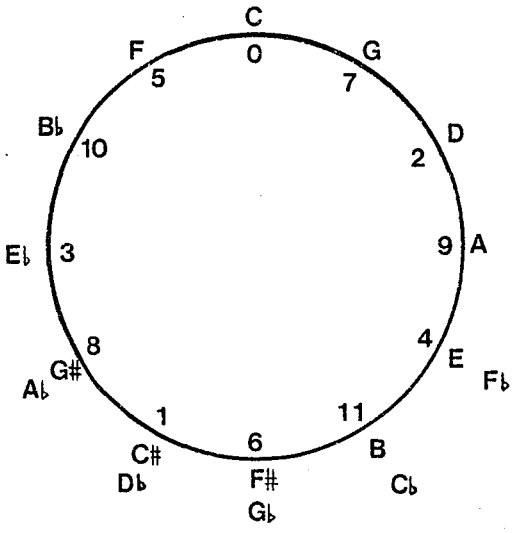
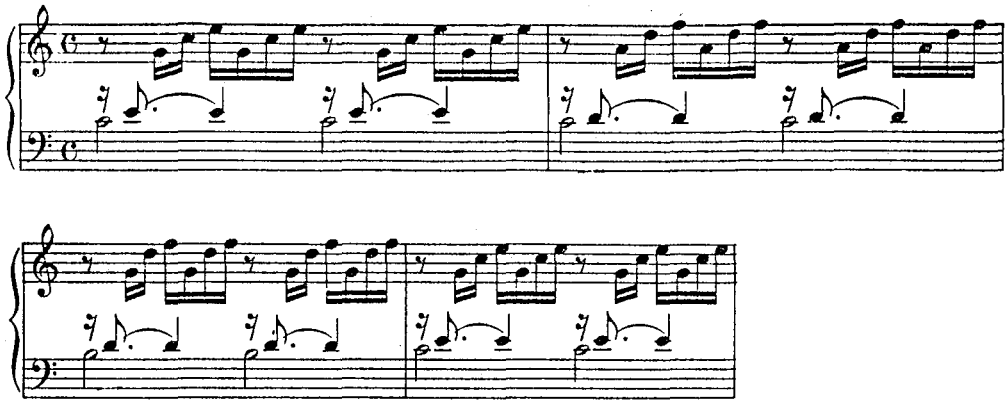
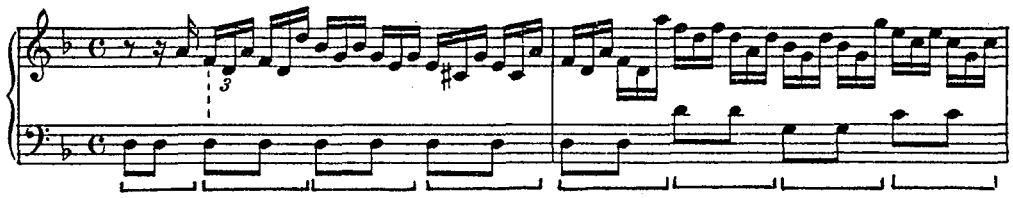


Ex.2/1: Bach,'48',I,Prelude No.1

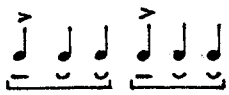


Ex.2/2: Bach,'48',I,Prelude No.6

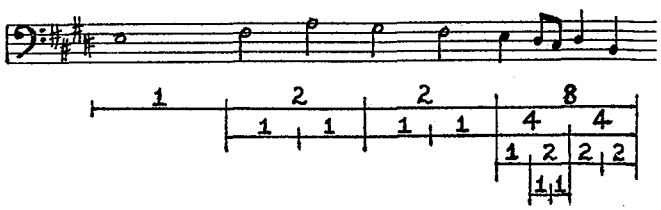


Ex.2/3

Ex.2/4



Ex.2/5: Bach,'48',II,Fugue No.9



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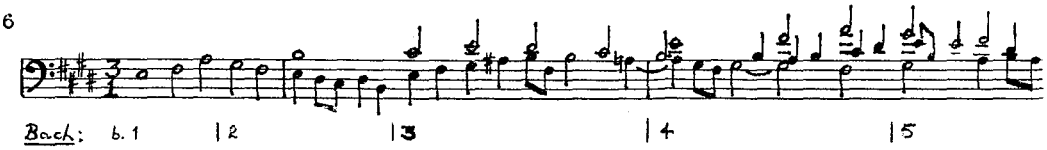

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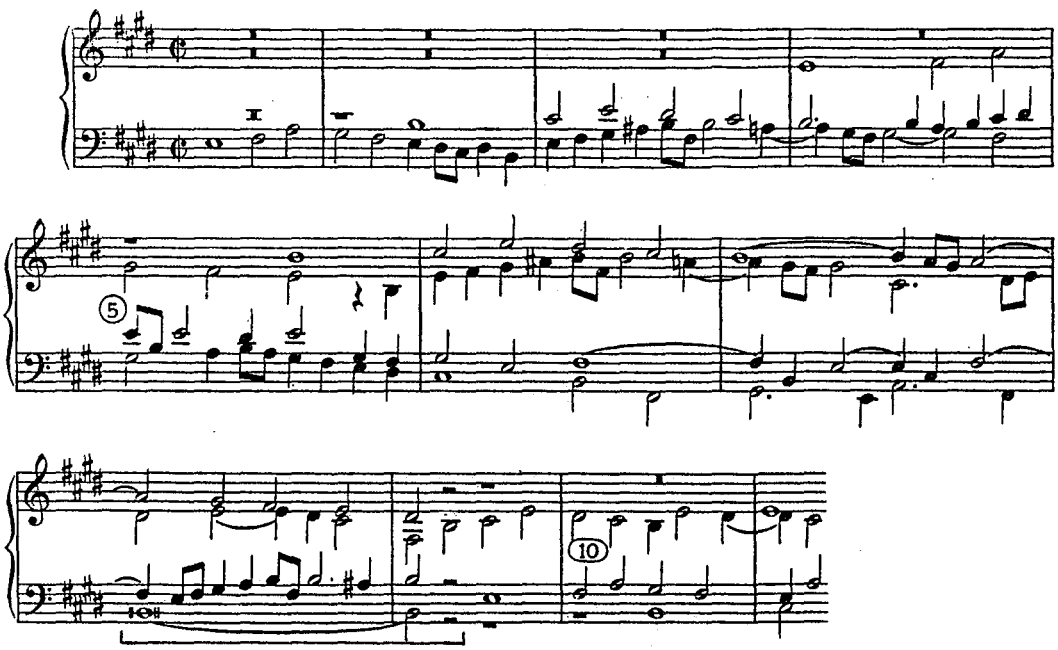
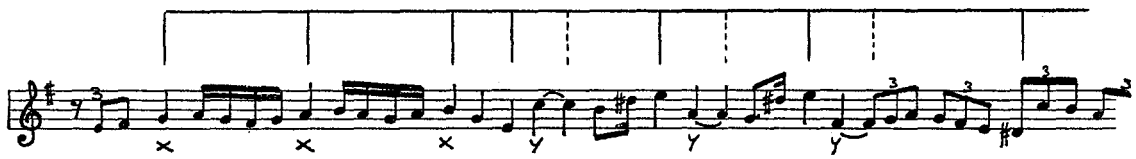
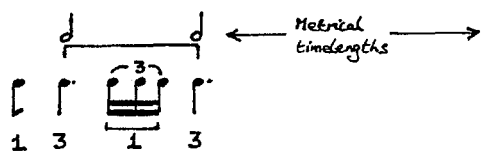


Ex.2/8: Bach,'48',II,Fugue No.10



Ex.2/9: Beethoven,Sonata in F,Op.10/2,I



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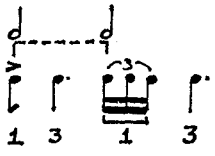

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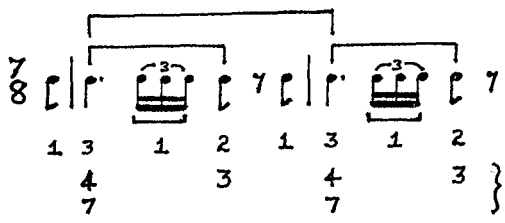

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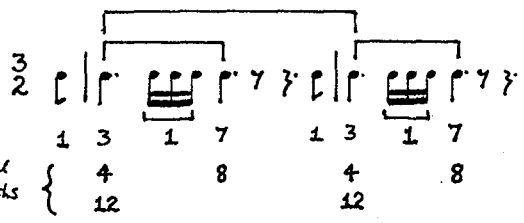
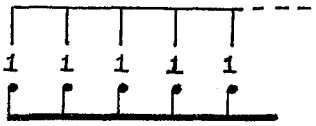


Ex.2/13

Ex.2/14



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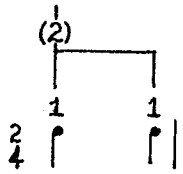

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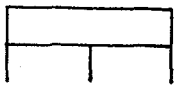

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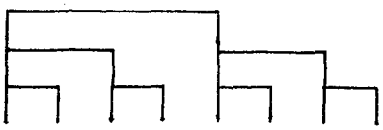
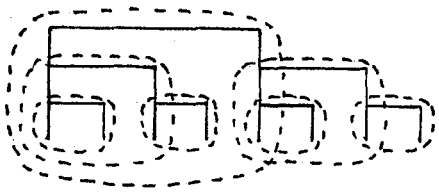


Ex.2/18

Ex.2/19



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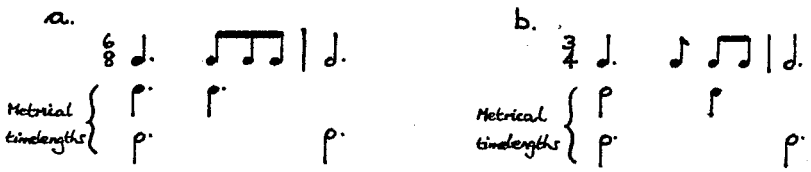

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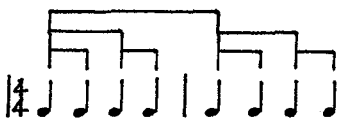
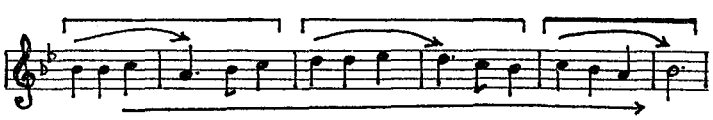
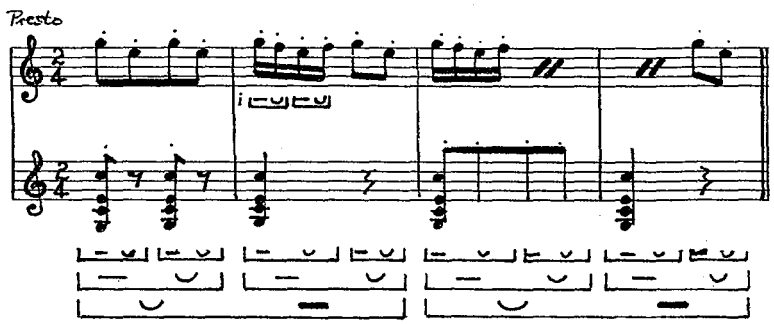


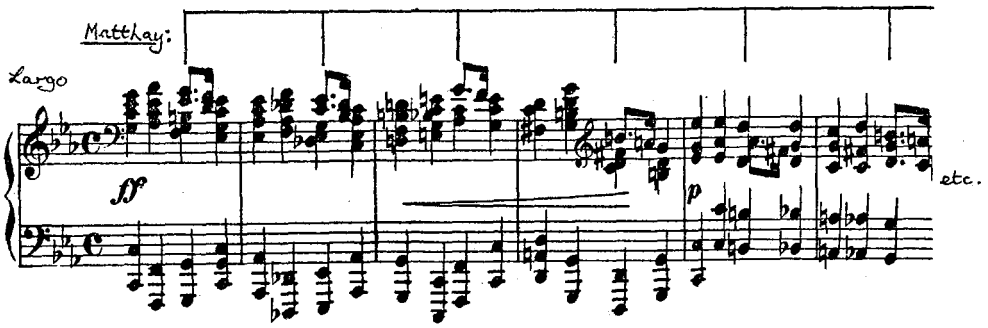
Ex.2/22: British National Anthem



Ex.2/23: Haydn,Quartet,Op.33/3,IV



Ex.2/24: Chopin,Prelude in C minor,Op.28/20



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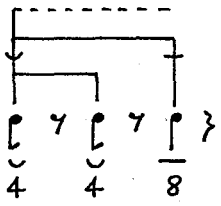
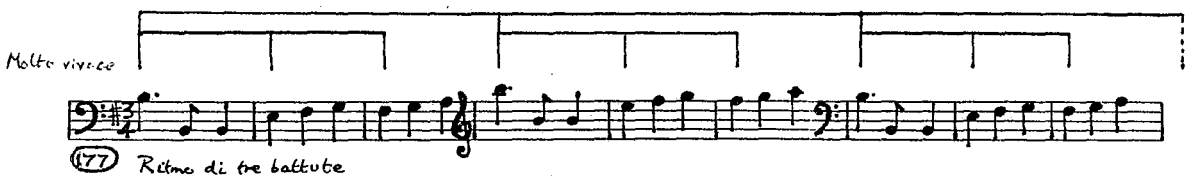
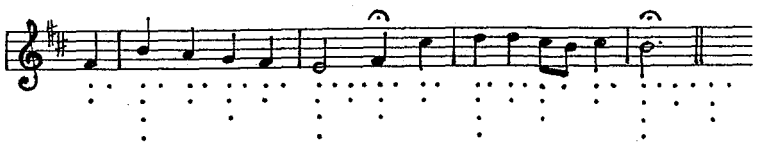


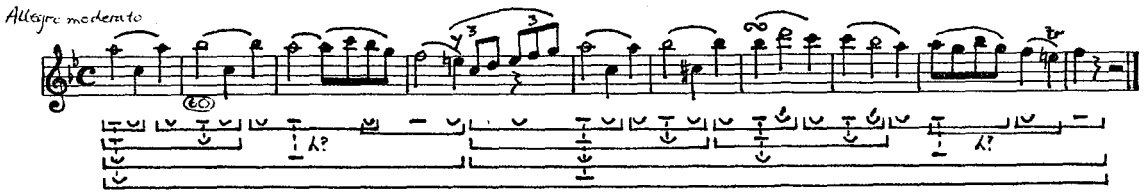
Ex.2/26: Beethoven,Symphony No.9,II



Ex.2/27: Bach,'O Haupt voll blut und Wunden'

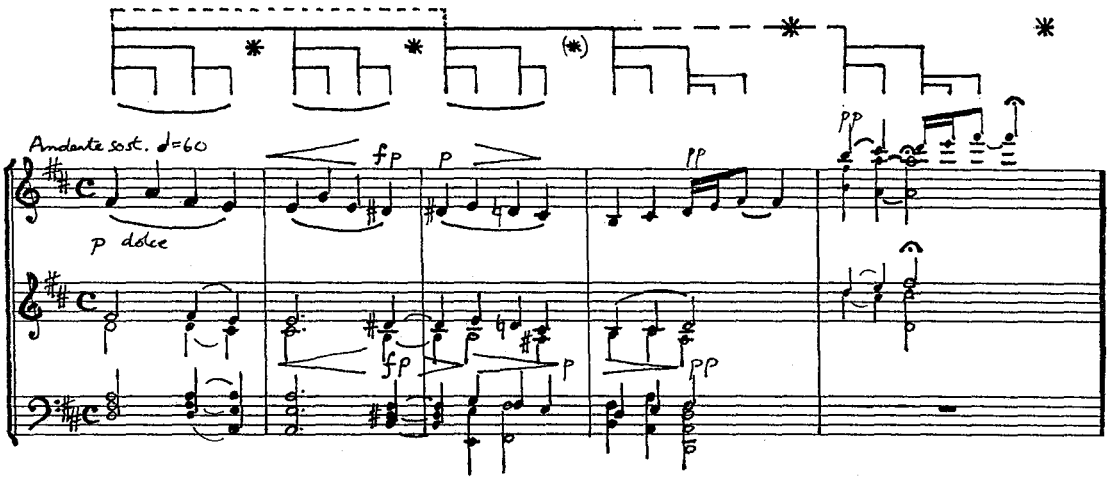


Ex.2/28: Schubert,Piano Trio in B♭,Op.99,I



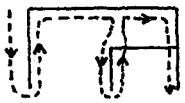
Ex.2/29

Ex.2/30: Dvořák,Piano Concerto,II

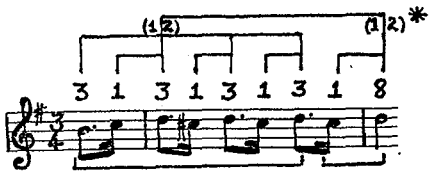


Ex.2/31

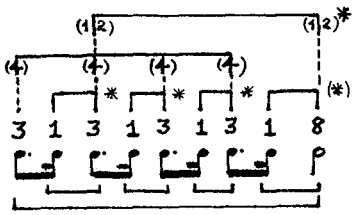
Ex.2/32



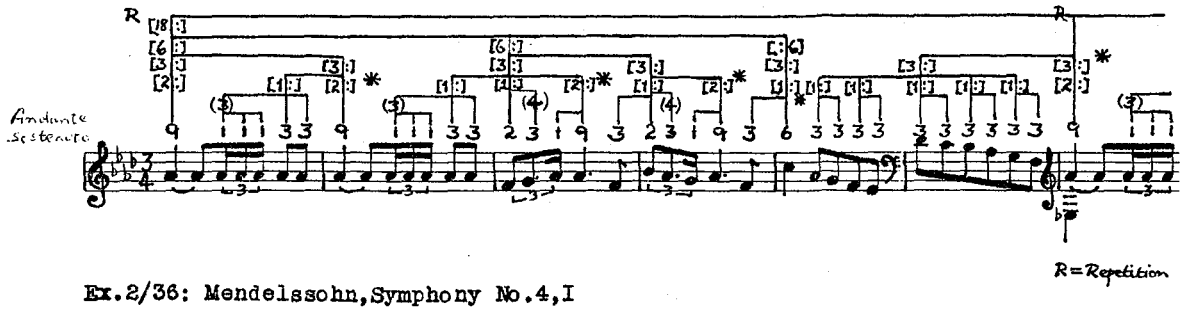
Ex.2/33: Beethoven, Minuet in G



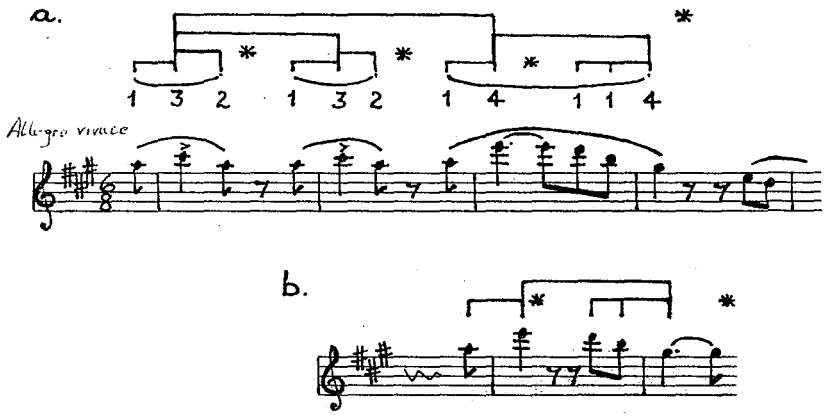
Ex.2/34



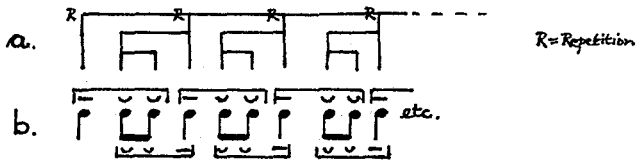
Ex.2/35: Tchaikovsky, Symphony No.4, I



Ex.2/36: Mendelssohn, Symphony No.4, I



Ex.2/37



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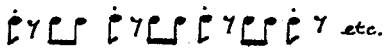

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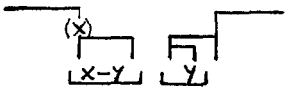
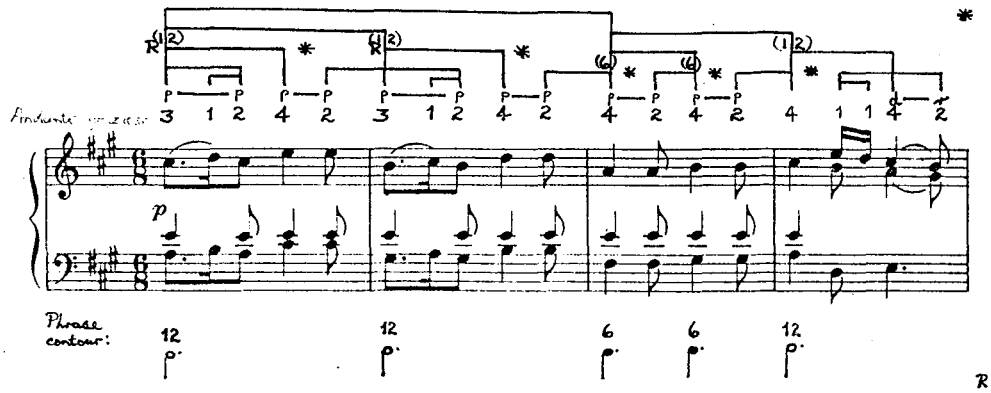


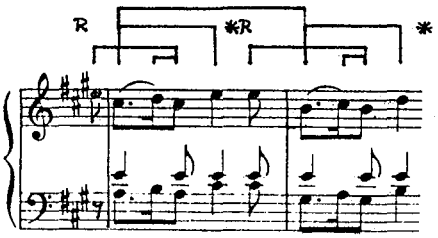
Ex.2/40: Mozart, Sonata in A, K.331, I



R = Repetition
p–p = Pitch unity
d–r = Dissonance + resolution

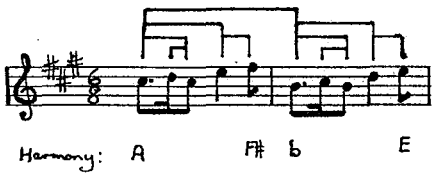
Ex.2/41

Ex.2/42

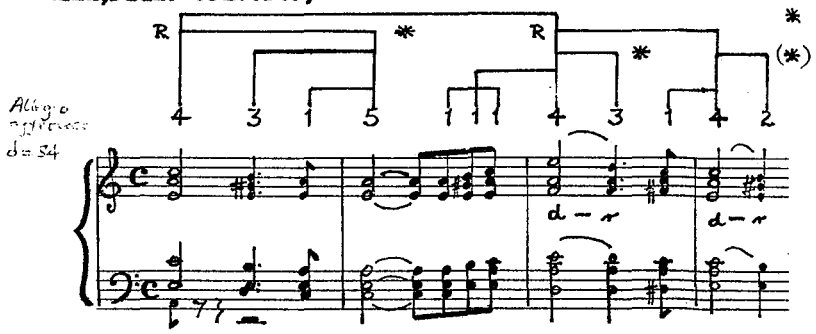


Ex.2/43

Ex.2/44



Ex.2/45
a: Schumann, Piano Concerto, I



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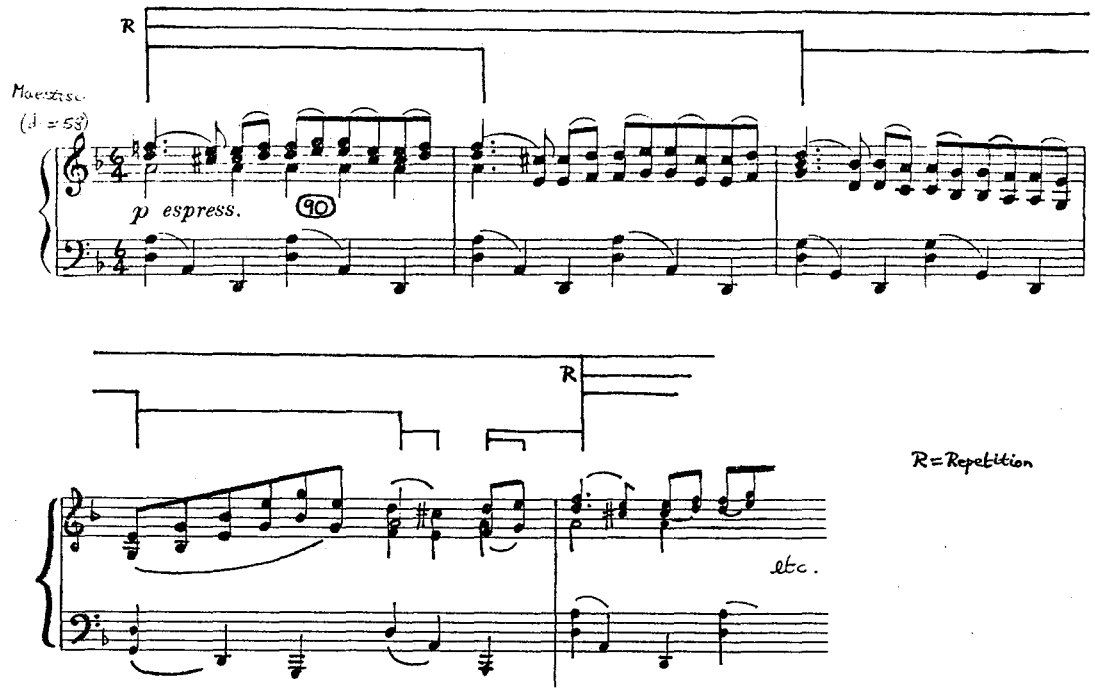
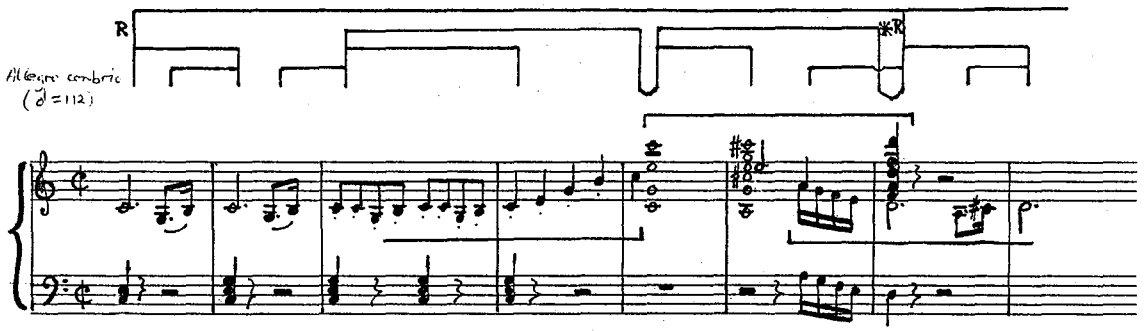
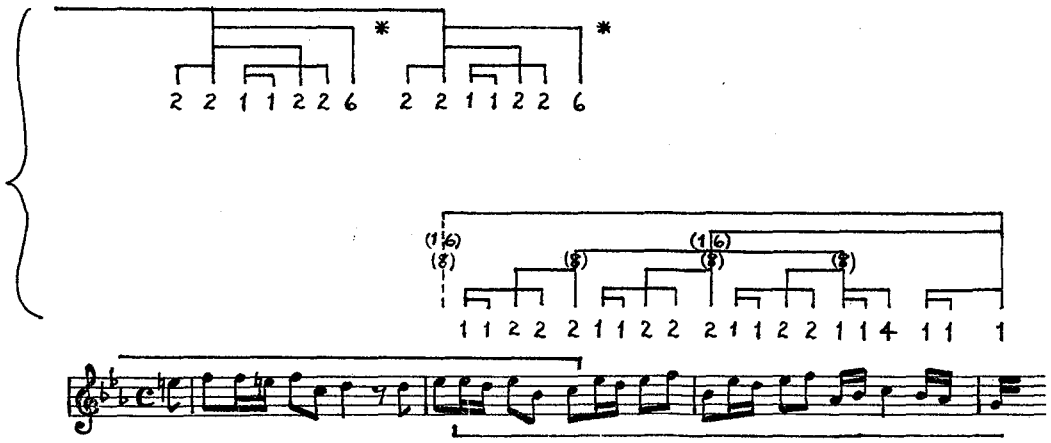
d–r = Dissonance + resolution



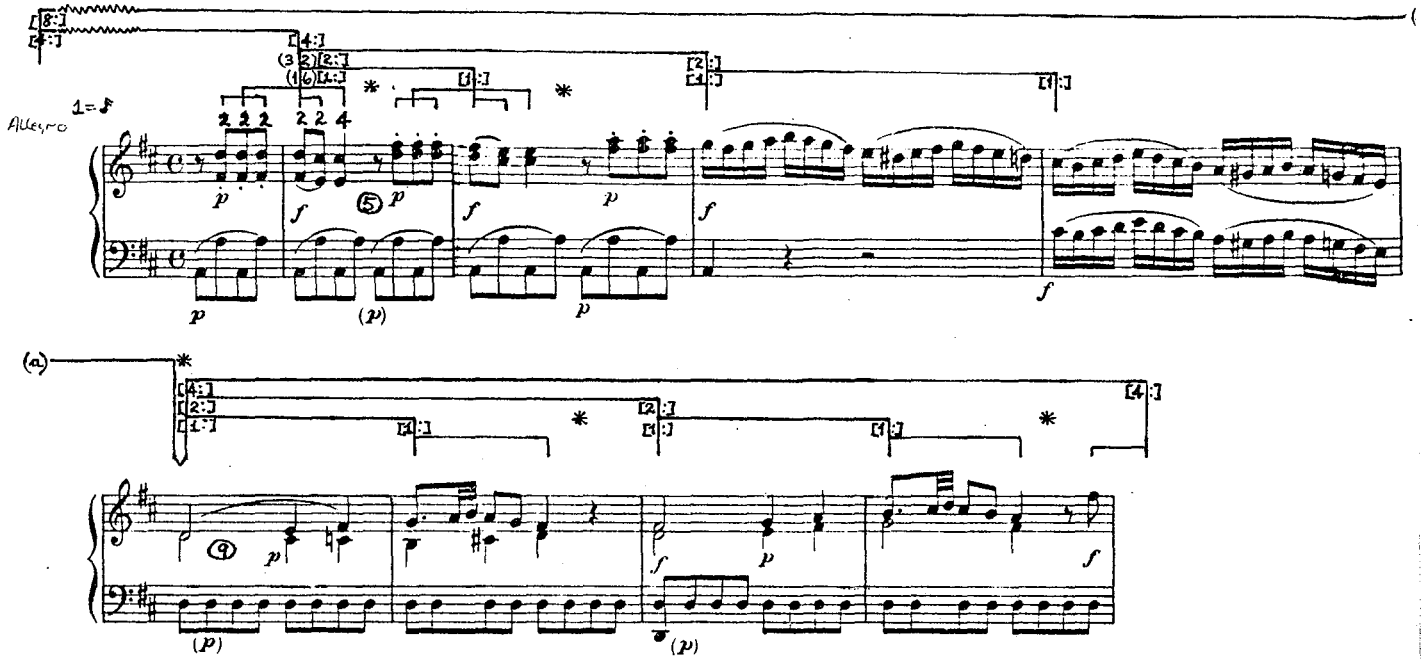
Ex.2/46: Beethoven,Symphony No.1,I



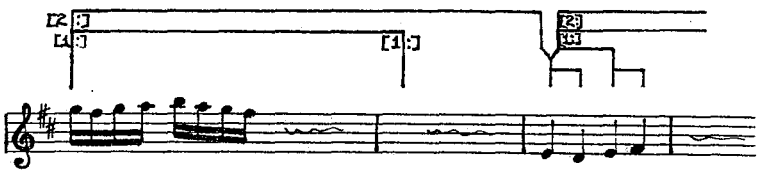
Ex.2/47: Bach,'48',I,Fugue No.2



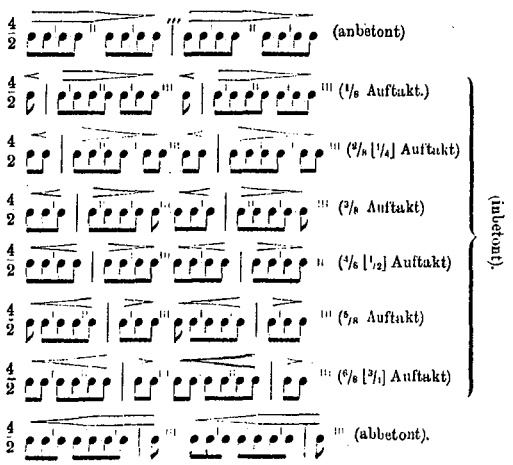
Ex.2/48: Mozart,Sonata in D,K.284,I



Ex.2/49



Ex.2/50



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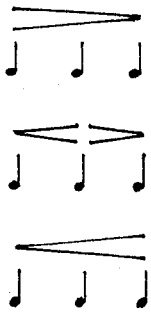
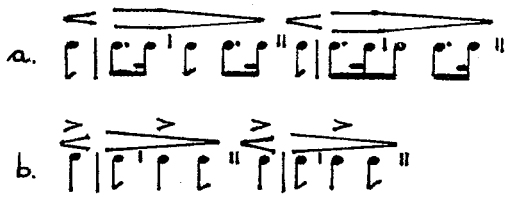


anbetont (beginning-accented)

inbetont (middle-accented)

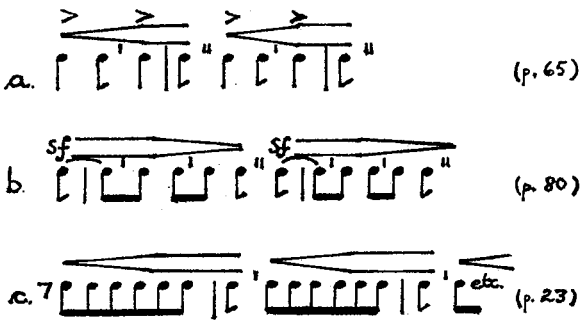
abbetont (end-accented)

Ex.2/52

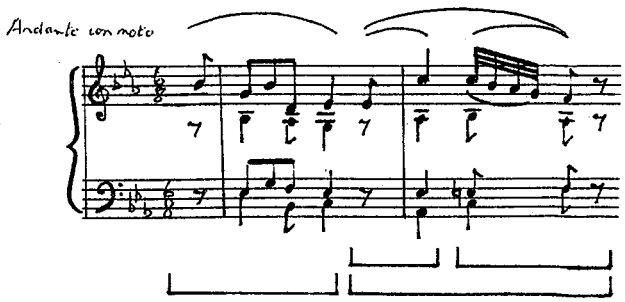


Ex.2/53

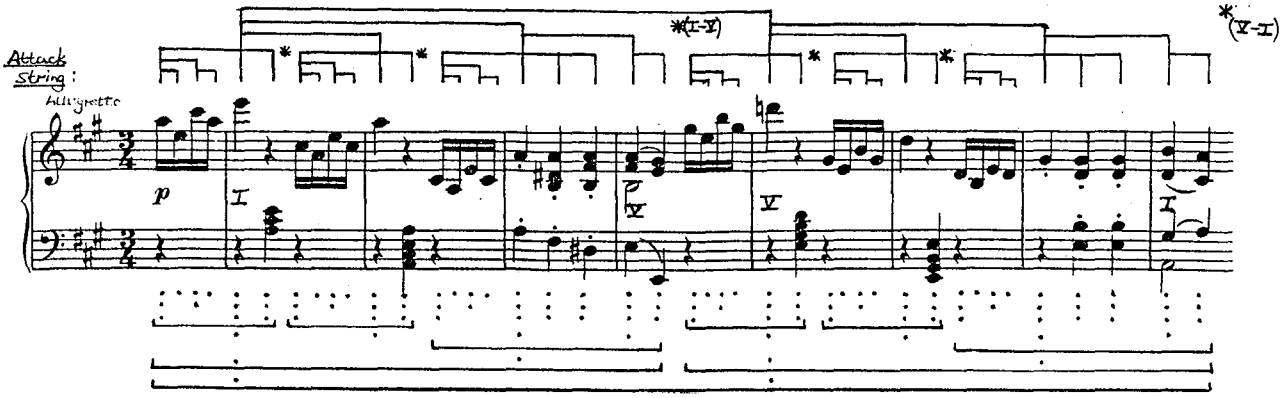
Ex.2/54



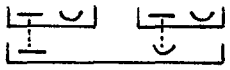
Ex.2/55: Schubert, Symphony No.5, II



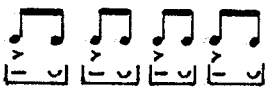
Ex.2/56: Beethoven,Sonata in A,Op.2/2,III



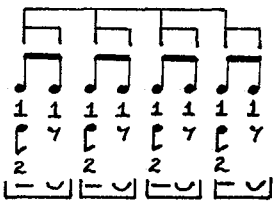
Ex.2/57



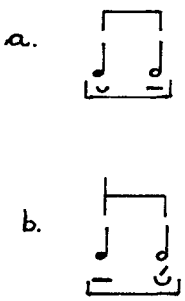
Ex.2/58



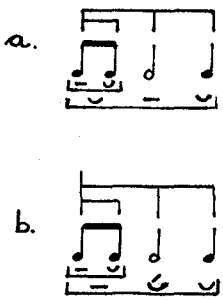
Ex.2/59



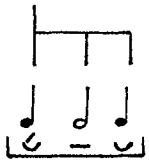
Ex.2/60



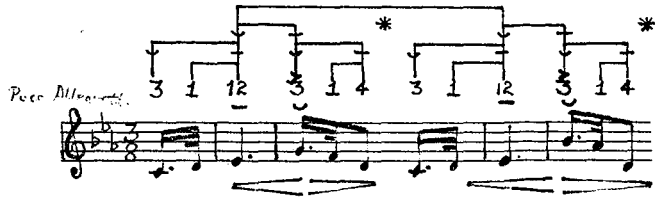
Ex.2/61



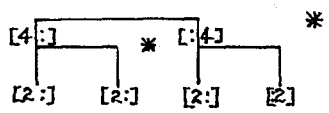
Ex.2/62



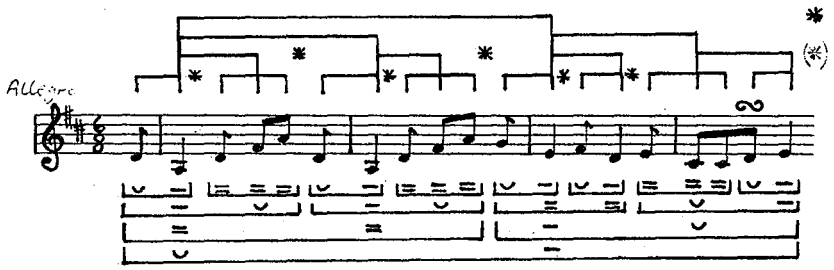
Ex.2/63: Brahms,Symphony No.3,III



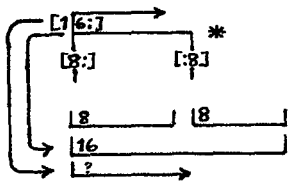
Ex.2/64



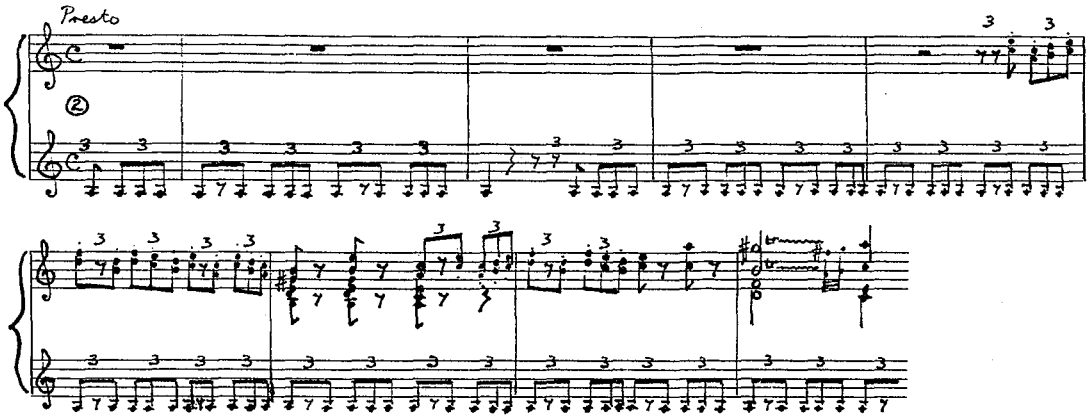
Ex.2/65: Beethoven,Violin Concerto,III



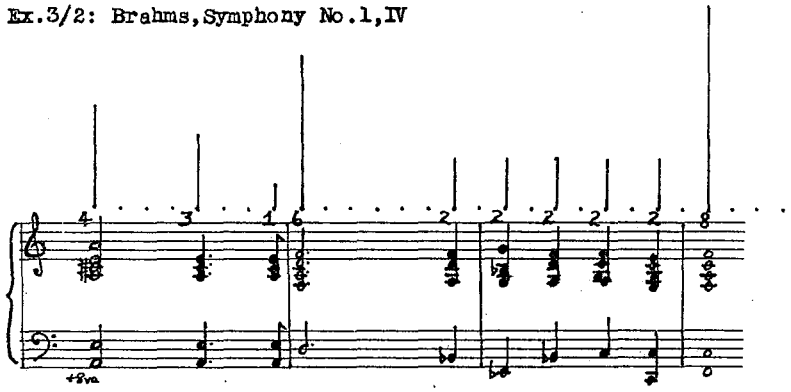
Ex.2/66



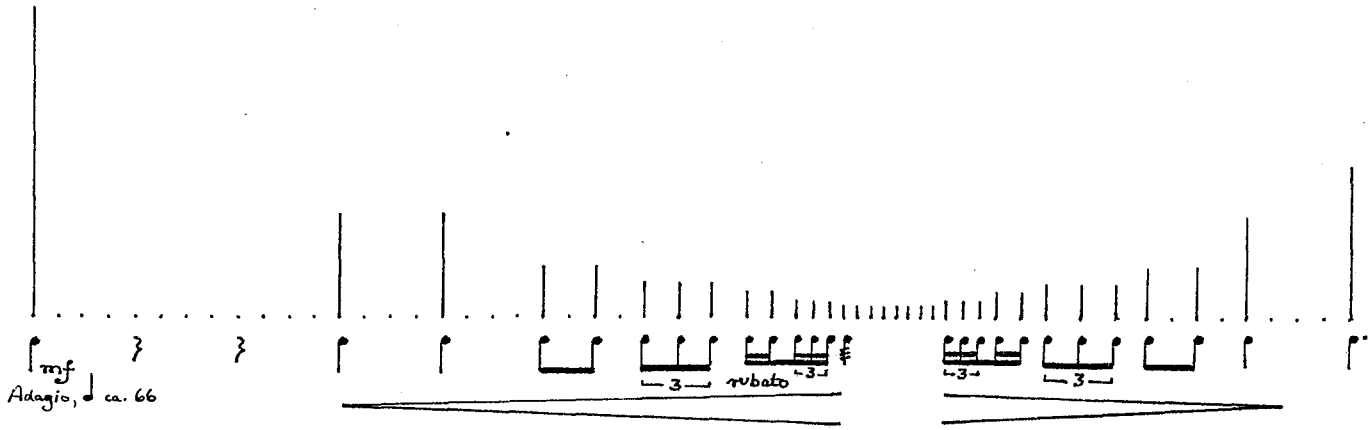
Ex.3/1: Mendelssohn, Symphony No.4, IV



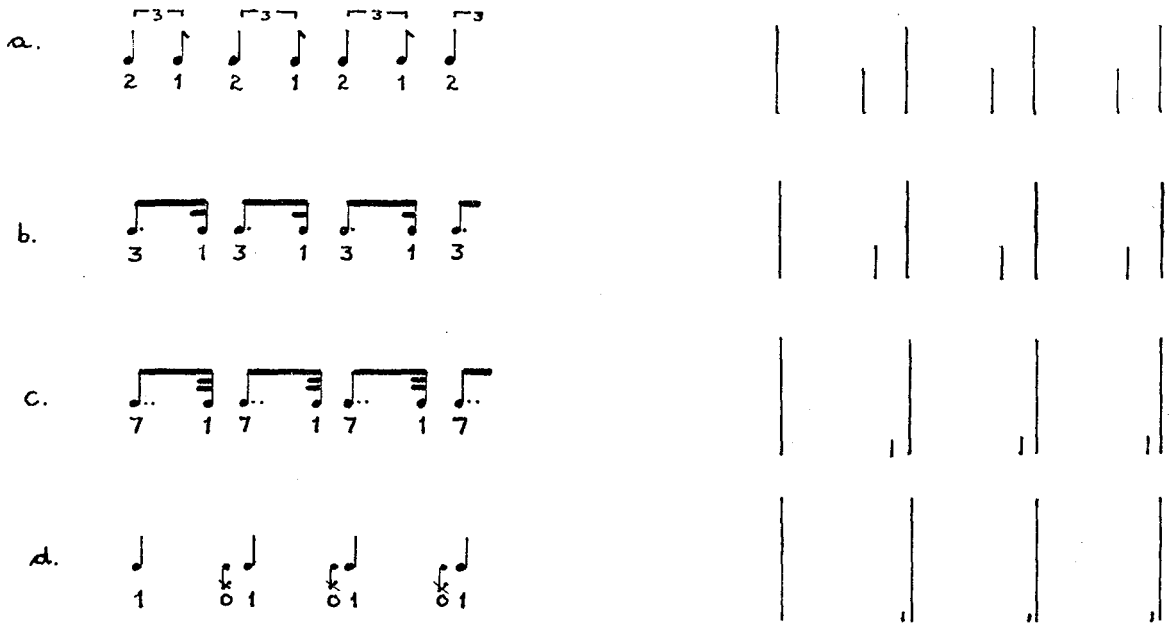
Ex.3/2: Brahms, Symphony No.1, IV



Ex.3/3: Bartók, Music for Strings, Percussion, and Celesta, III

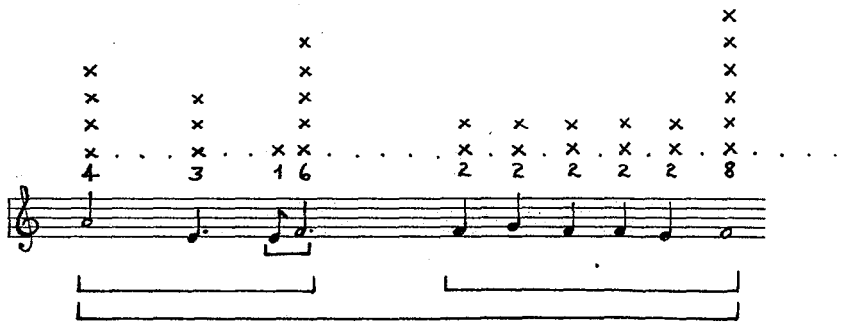


Ex.3/4

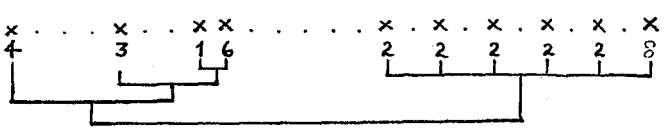


Ex.3/5

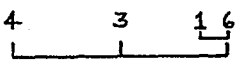
Ex.3/6



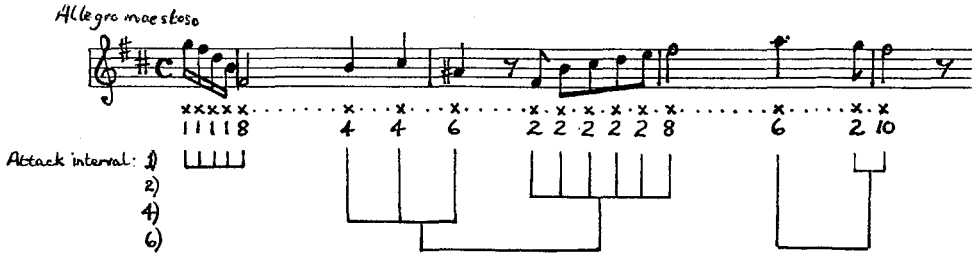
Ex.3/7



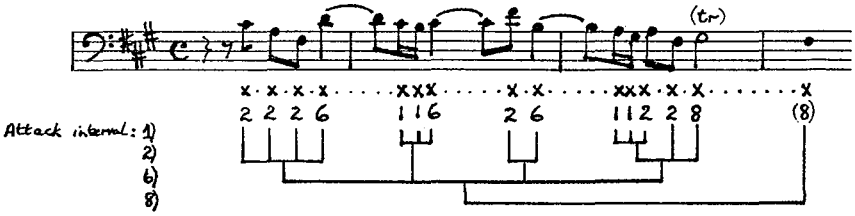
Ex.3/8



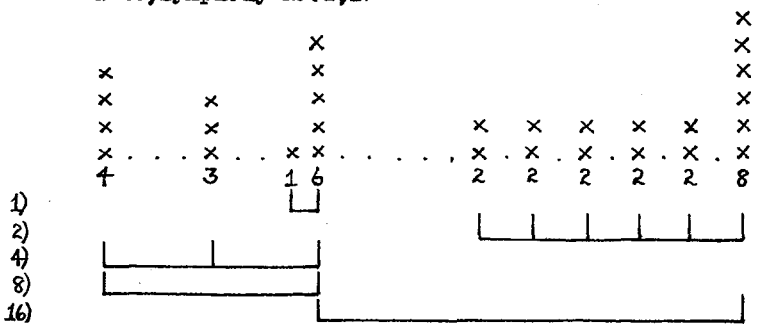
Ex.3/9: Chopin,Sonata in B minor,I



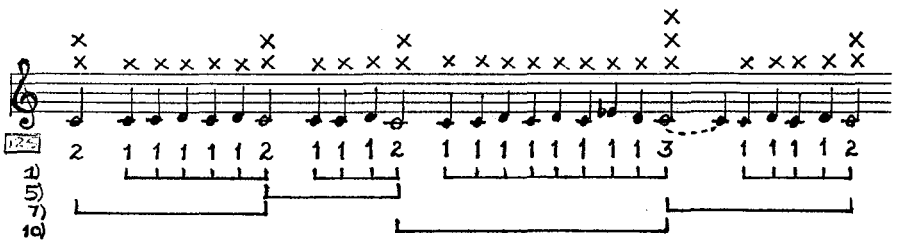
Ex.3/10: Bach,'48',II,Fugue No.14



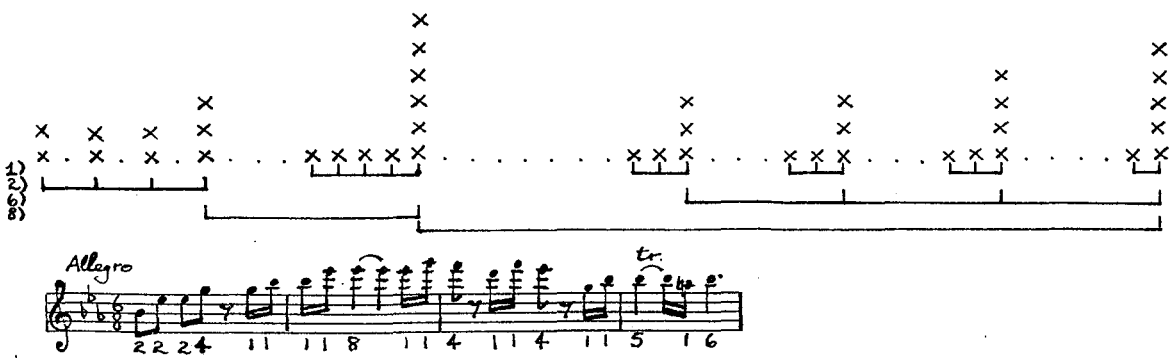
Ex.3/11: Brahms,Symphony No.1,IV



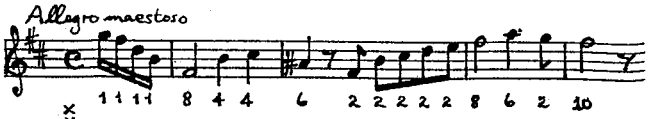
Ex.3/12: Stravinsky,The Rite of Spring,'Evocation of the Ancestors' (adapted)

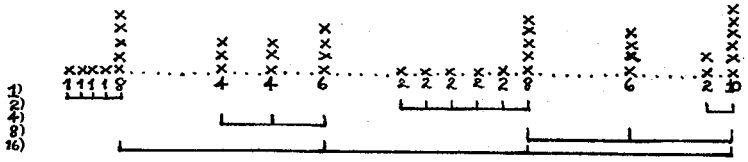


Ex.3/13: Beethoven,Piano Concerto No.5,III

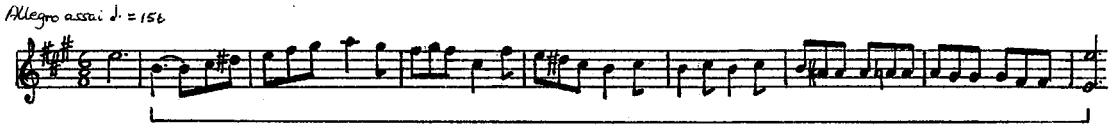


Ex.3/14: Chopin,Sonata in B minor,I

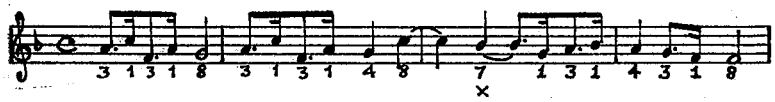




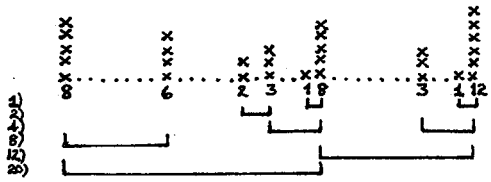
Ex.3/15: Berlioz,Overture,'Le Carnival Romain'

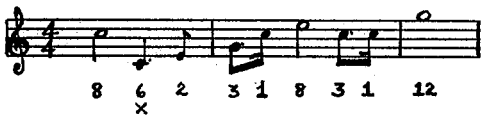


Ex.3/16: Handel,Water Music,VII,'Air'

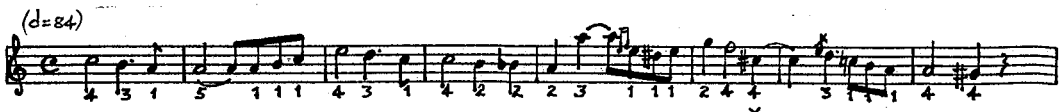


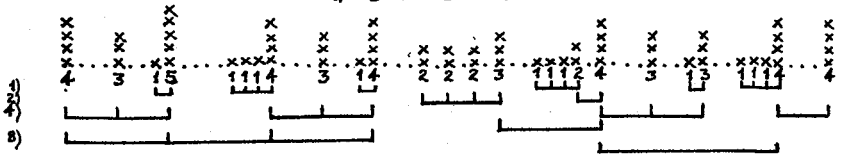
Ex.3/17: Wagner,Götterdämmerung,Funeral Music



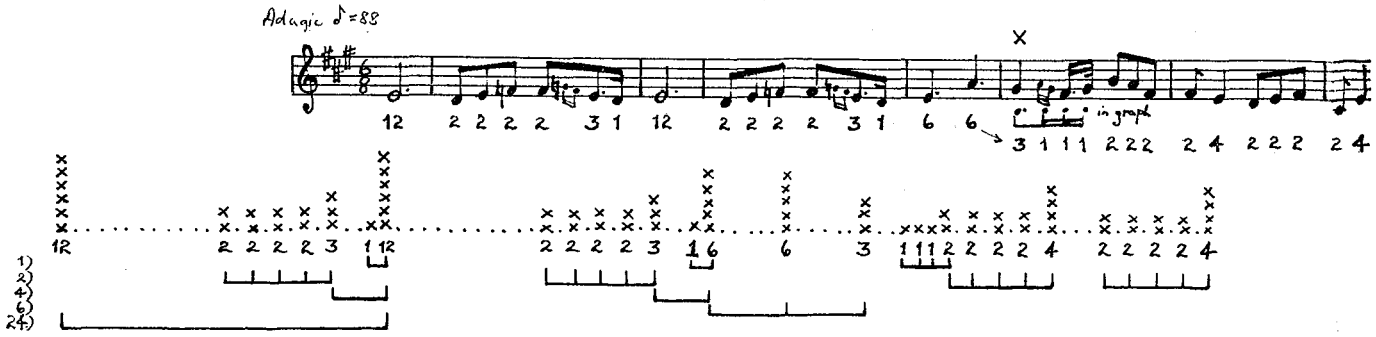


Ex.3/18: Schumann,Piano Concerto,I

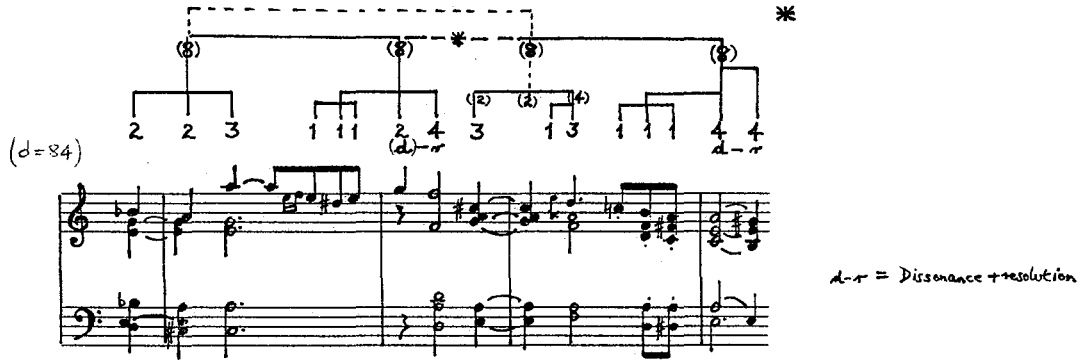




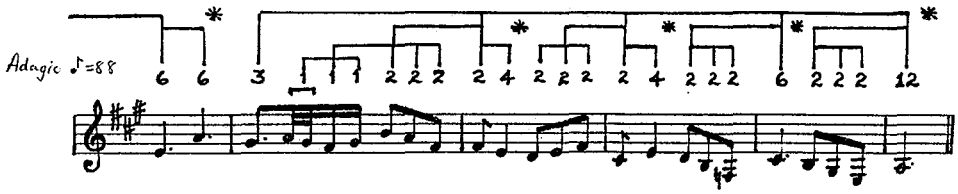
Ex.3/19: Berlioz,Romeo and Juliet,III



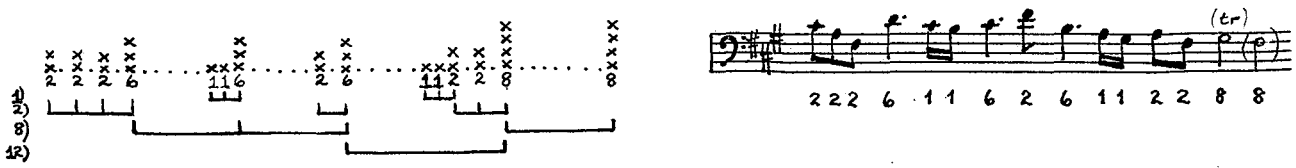
Ex.3/20: Schumann,Piano Concerto,I



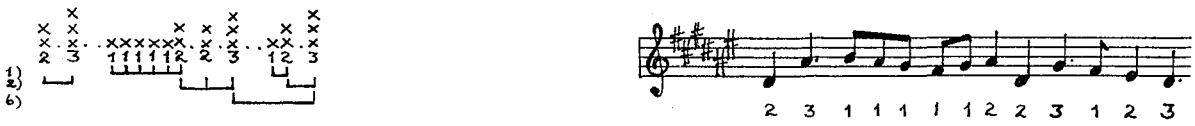
Ex.3/21: Berlioz,Romeo and Juliet,III



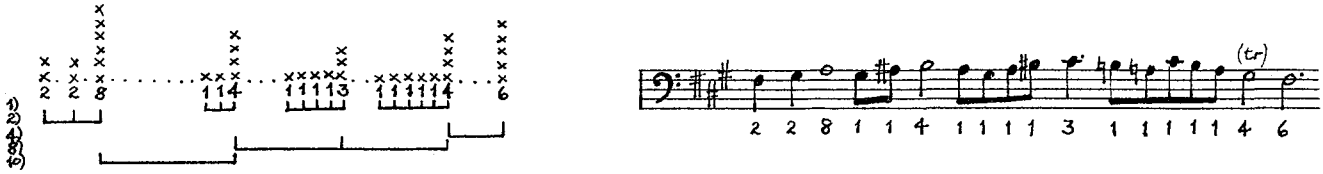
Ex.3/22: Bach,'48',II,Fugue No.14



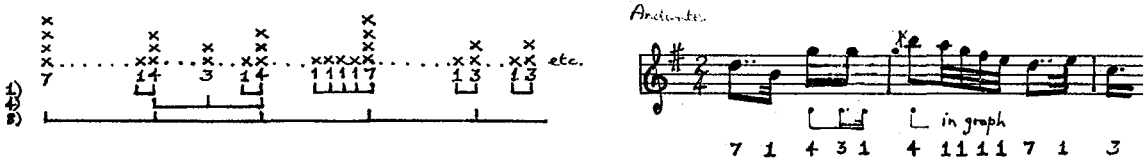
Ex.3/23: Bach,'48',I,Fugue No.8



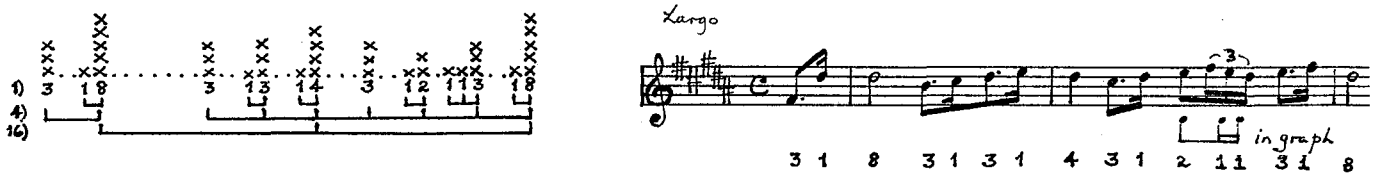
Ex.3/24: Bach,'48',I,Fugue No.14



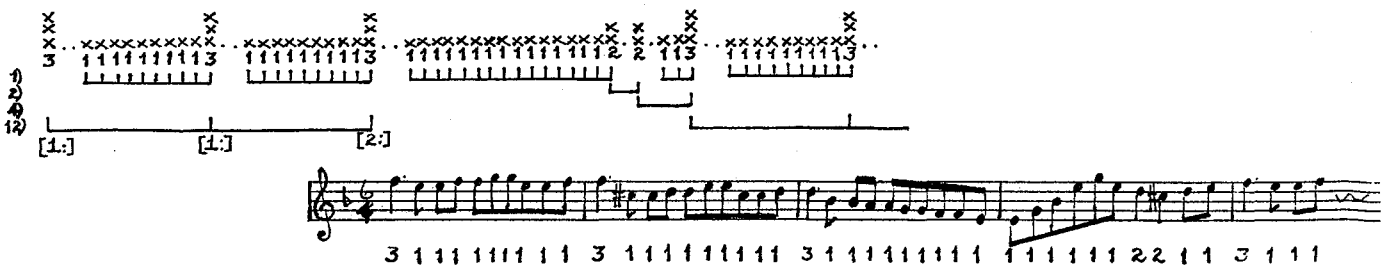
Ex.3/25: Haydn,Symphony No.101 ('Clock'),II



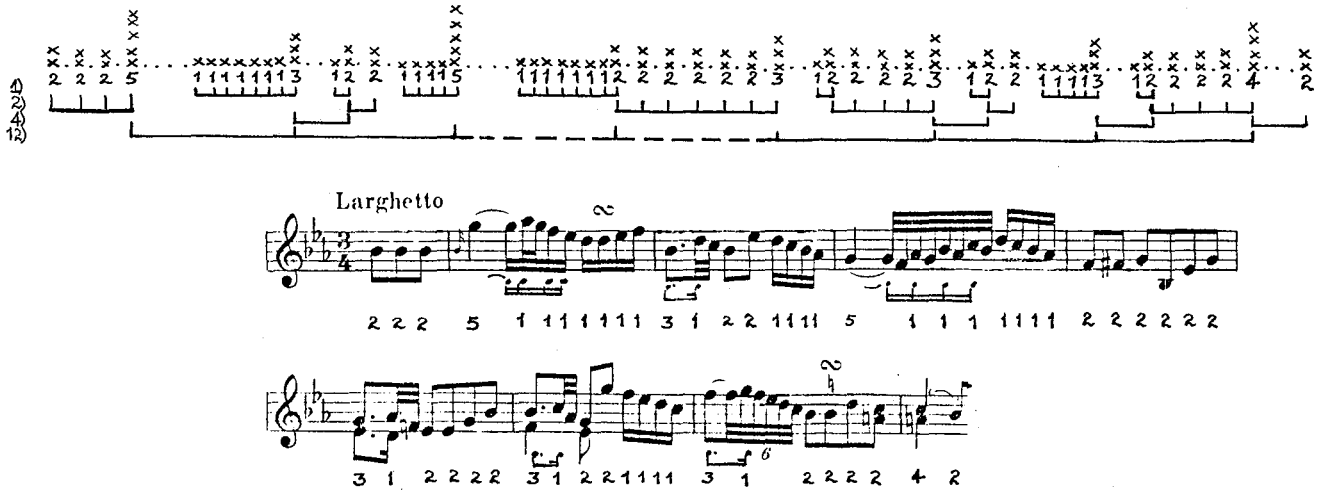
Ex.3/26: Chopin,Sonata in B minor,III



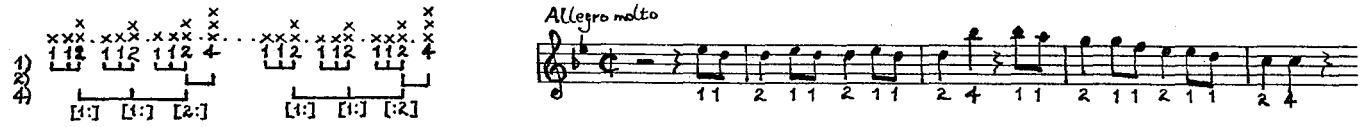
Ex.3/27: Brahms,Piano Concerto No.1,I



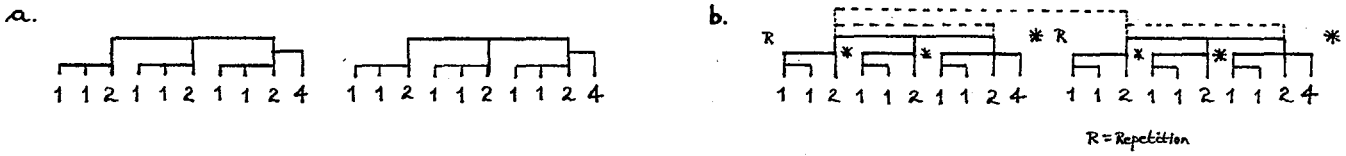
Ex.3/28: Mozart,Piano Trio in B♭,K.502,II



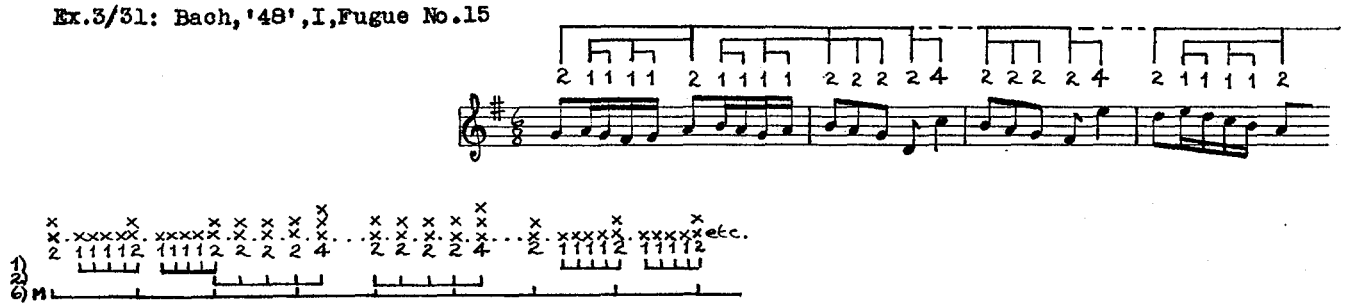
Ex.3/29: Mozart,Symphony No.40,K.550,I



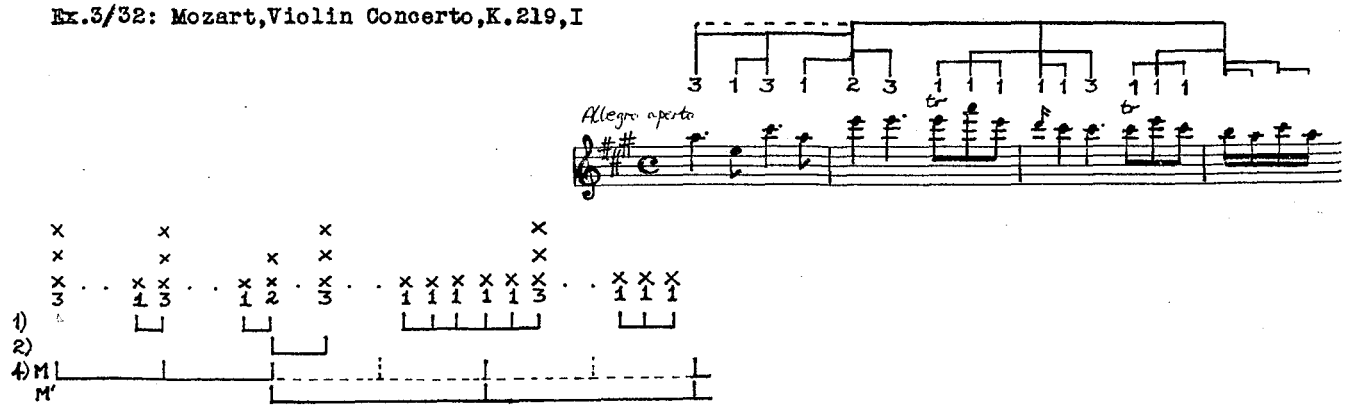
Ex.3/30



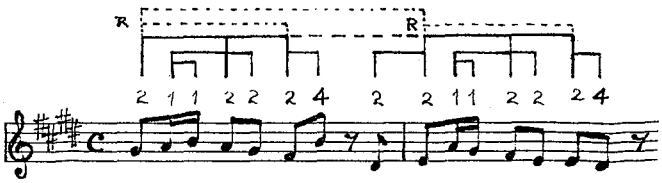
Ex.3/31: Bach,'48',I,Fugue No.15

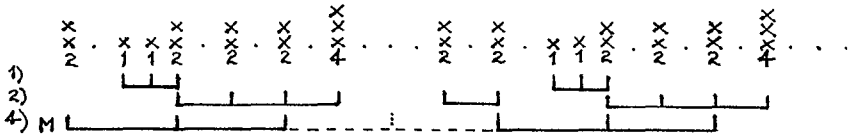


Ex.3/32: Mozart,Violin Concerto,K.219,I

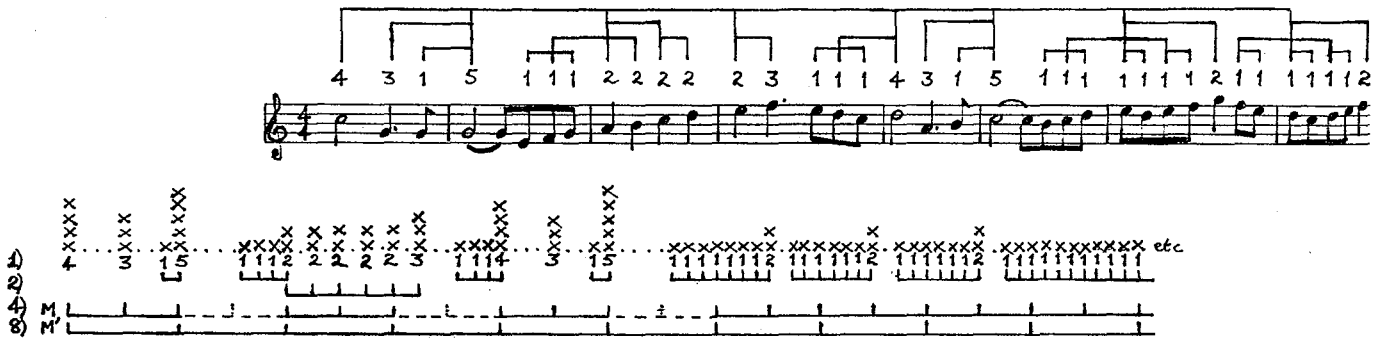


Ex.3/33: Handel,Tolomeo,'Non lo diro col labbro'

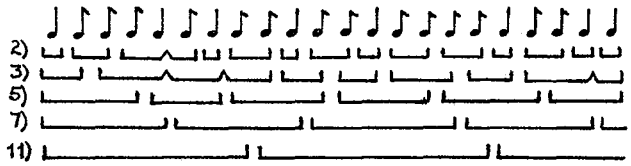




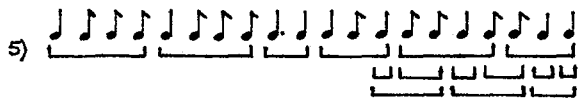
Ex.3/34: Wagner,Die Meistersinger,Prelude



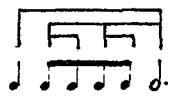
Ex.3/35



Ex.3/36



Ex.3/37



Ex.3/38

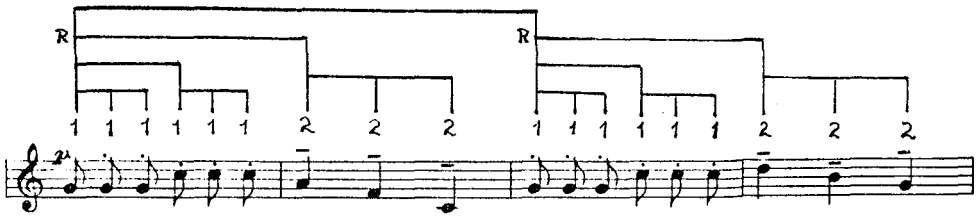
a. (3/4) A 3/4

b. (6/8) A 6/8

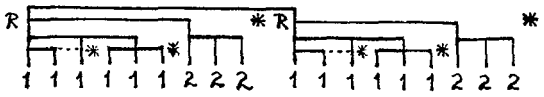
(3/39 not used)

Ex.3/40: Bernstein, West Side Story, 'America'

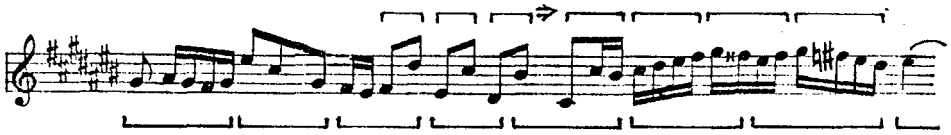
a.



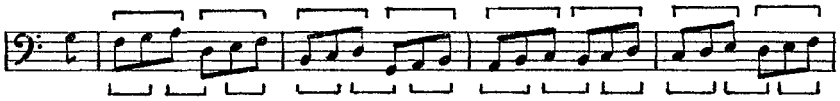
b.



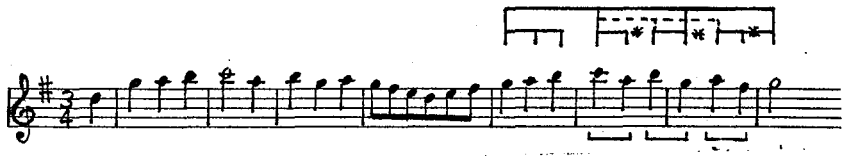
Ex.3/41: Bach, '48'I, Fugue No.3



Ex.3/42: Beethoven, Symphony No.5, III

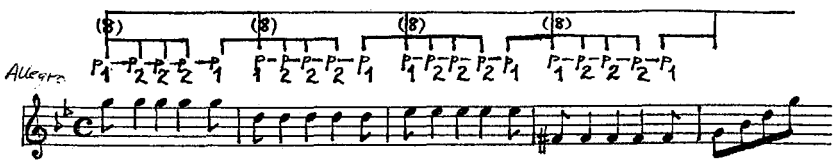


Ex.3/43: Mozart, Serenade ('Eine Kleine Nachtmusik'), K.525, III



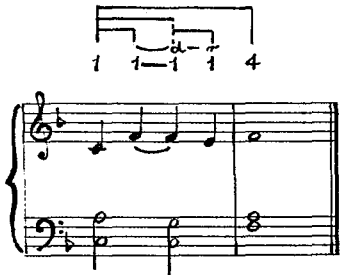
Ex.3/44

Ex.3/45: Mozart, Symphony No.25 in G minor, K.183, I



p-p = Pitch unity

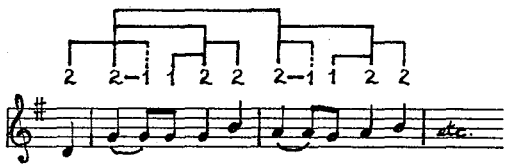
Ex.3/46



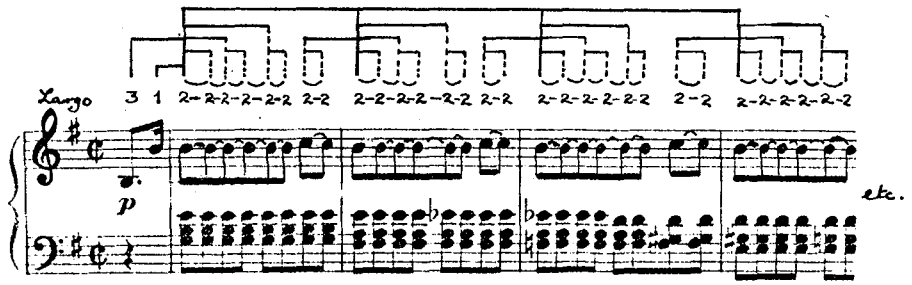
d-r = Dissonance+resolution

Ex.3/47

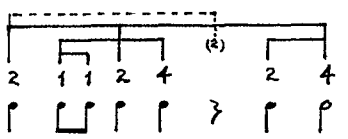
Ex.3/48: 'Auld Lang Syne'



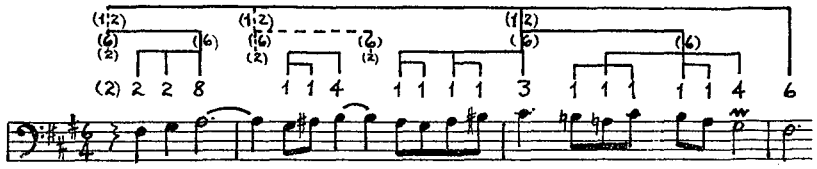
Ex.3/49: Chopin,Prelude in E minor,Op. 28/4



Ex.3/50: Musical Cliché

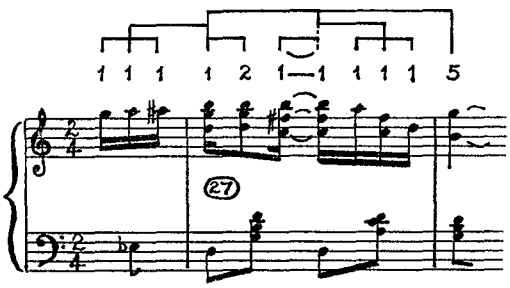


Ex.3/51: Bach,'48',I,Fugue No.14

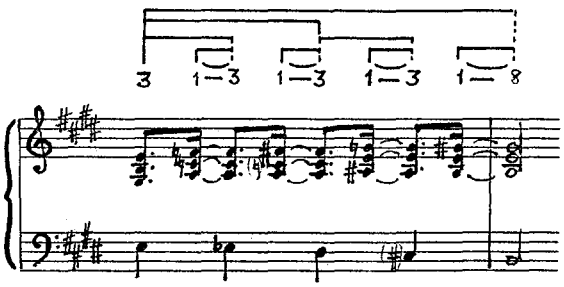


Ex.3/52

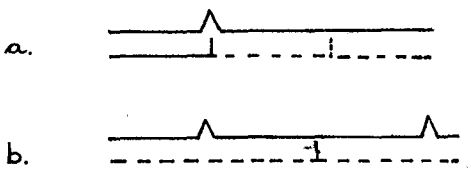
a. S.Joplin,The Entertainer



b.



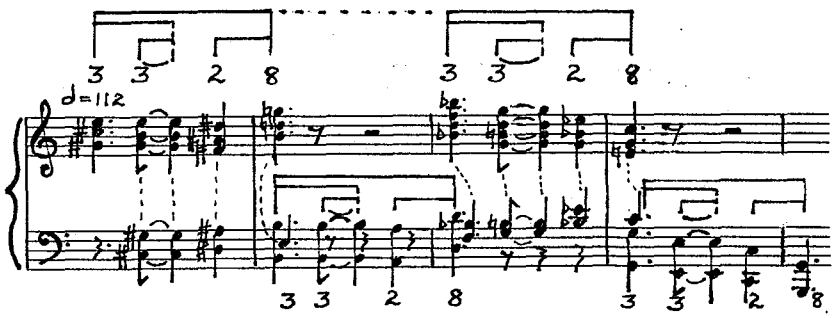
Ex.3/53



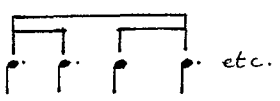
Λ = attack
| = sounded metrical accent
¦ = unsounded " "

Ex.3/54: Bartók,Mikrokosmos,No.153

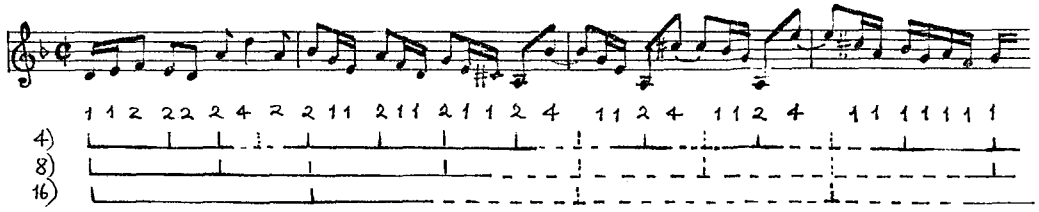
a.



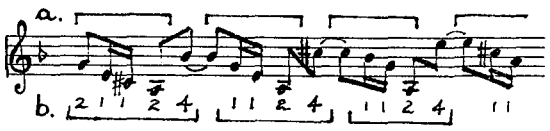
b.



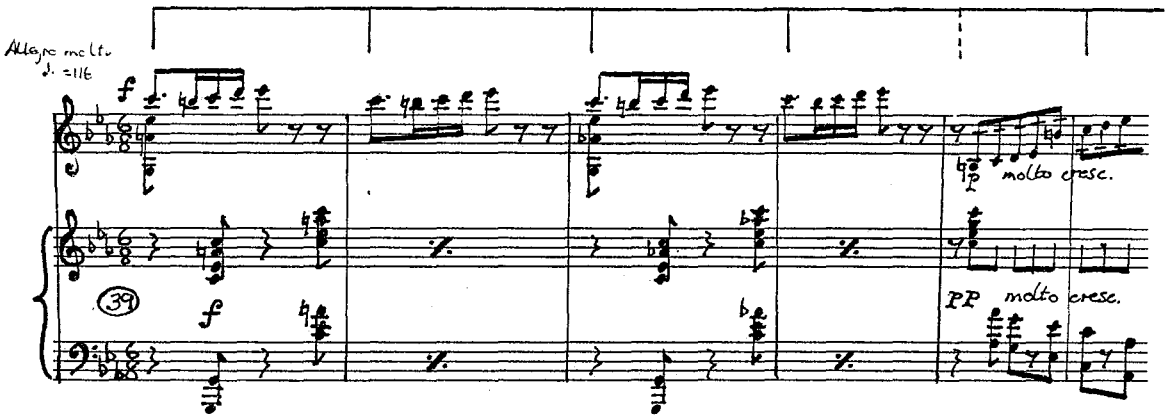
Ex.3/55: Bach,Clavier Concerto in D minor,I



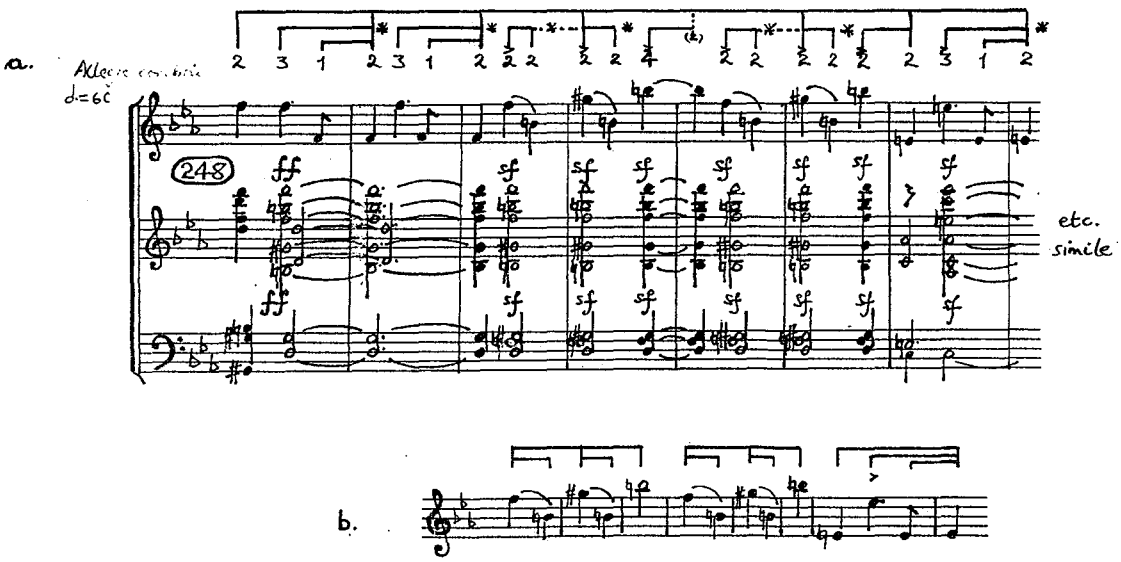
Ex.3/56



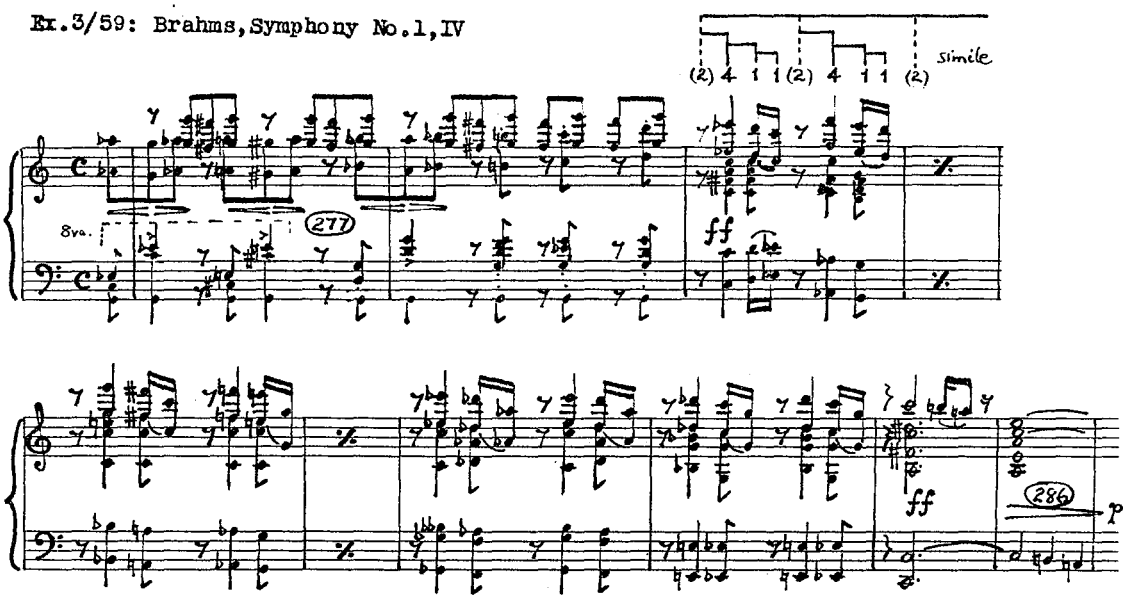
Ex.3/57: Grieg,Sonata in C minor (Violin and Piano),Op.45,I



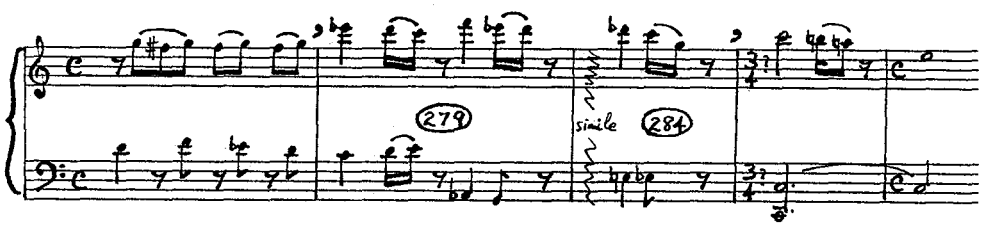
Ex.3/58: Beethoven,Symphony No.3 ('Eroica')I



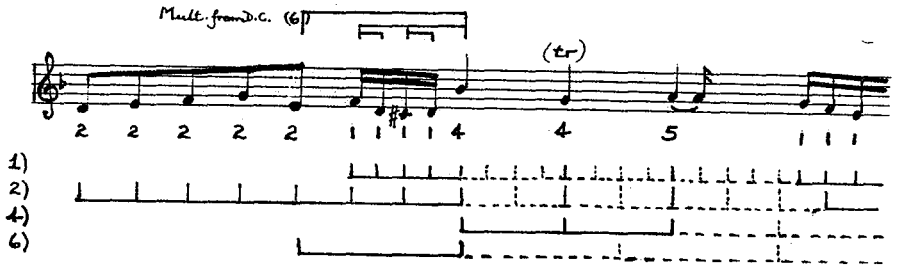
Ex.3/59: Brahms, Symphony No.1, IV



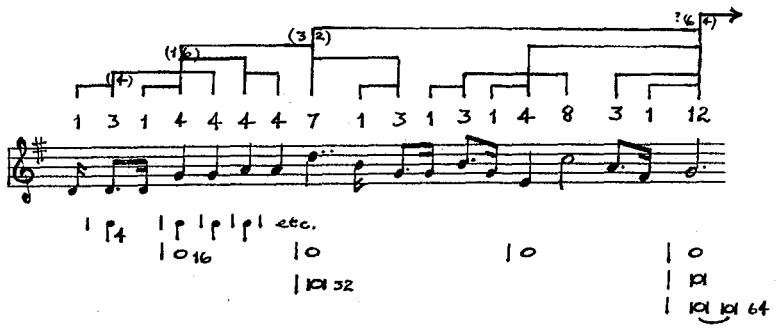
Ex.3/60



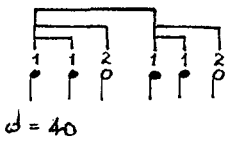
Ex.3/61: Bach, '48' I, Fugue No.6



Ex.3/62: 'Marseillaise'

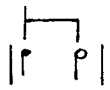


Ex.3/63: {Brahms,Rhapsody,Op.79/1
{Grieg,Peer Gynt,'Åse's Death'

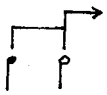


Ex.3/64: Bach,Brandenburg Concerto No.3,I

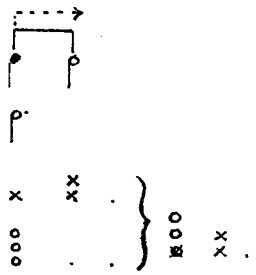
Ex.3/65



Ex.3/66

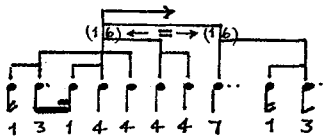


Ex.3/67

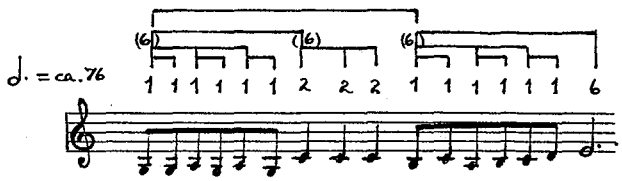


Ex.3/68

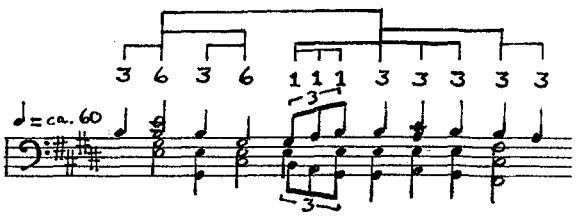
Ex.3/69



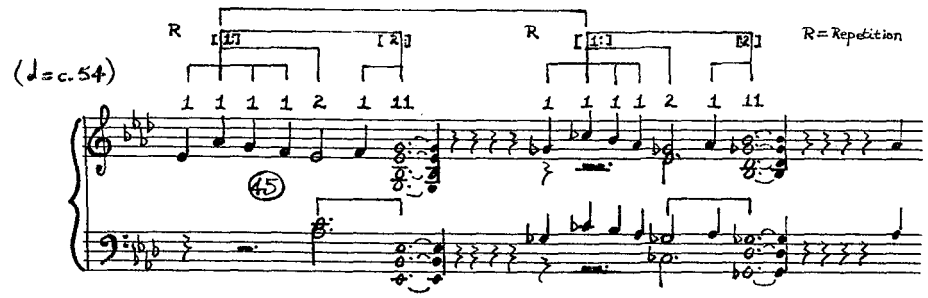
Ex.3/70: Schubert,Symphony No. 9,III



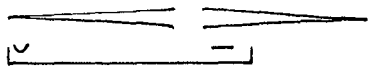
Ex.3/71: Wagner,Tannhäuser,'Pilgrims' Chorus'



Ex.3/72: Wagner, Parsifal, Prelude

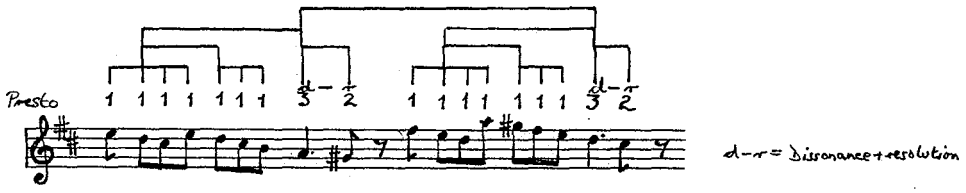


Ex.3/73

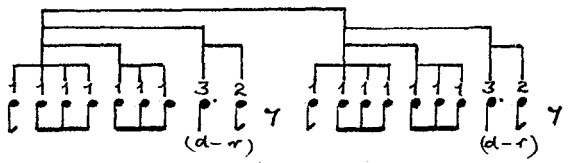


Ex.3/74: Haydn, Symphony No. 101 ('Clock'), I

a.

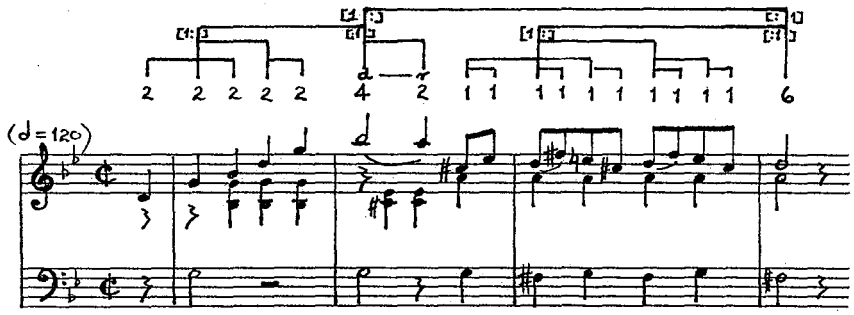


b.

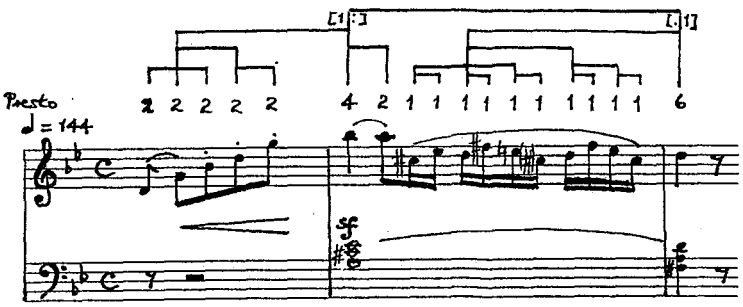


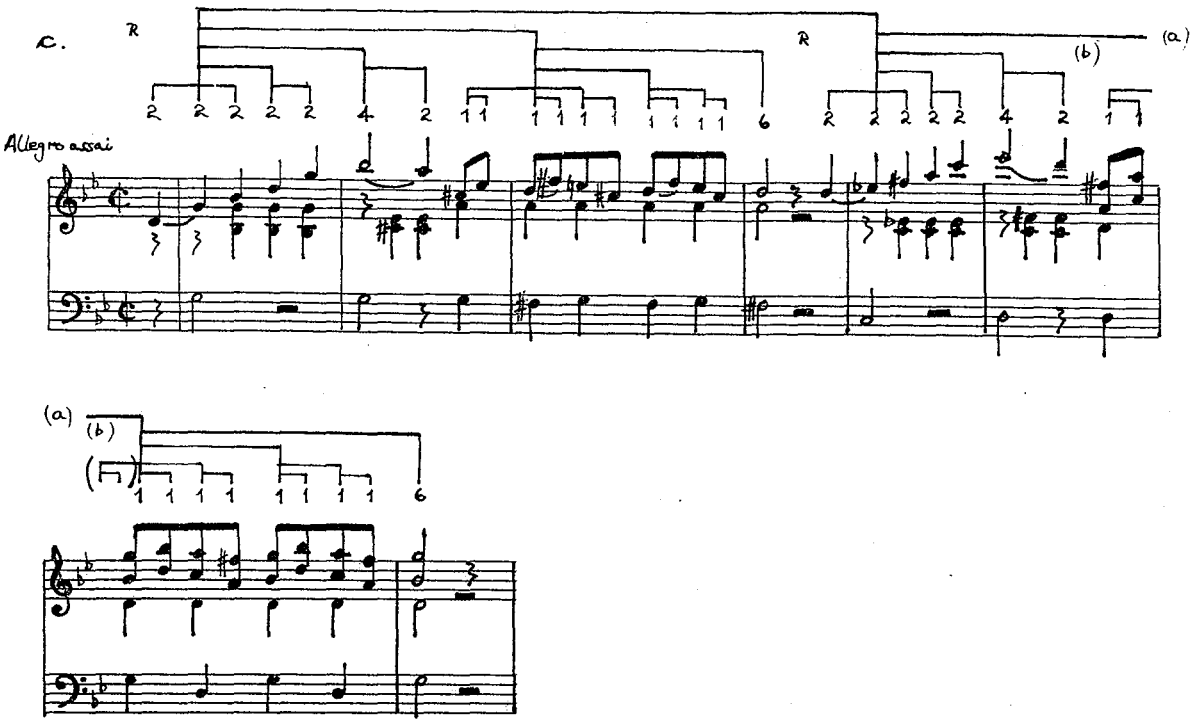
Ex.3/75: Mozart, Symphony No. 40, K.550, IV

a.

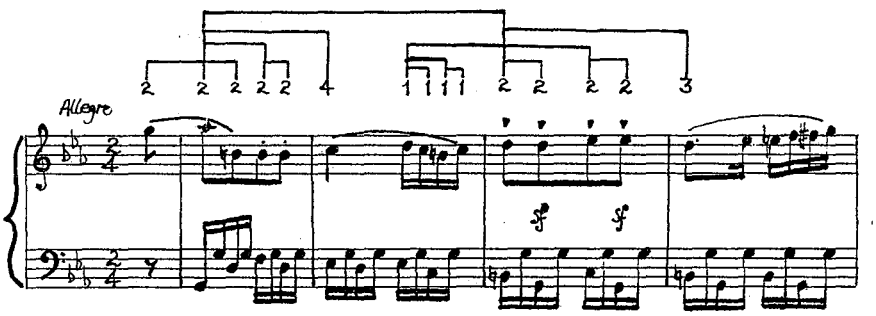


b.

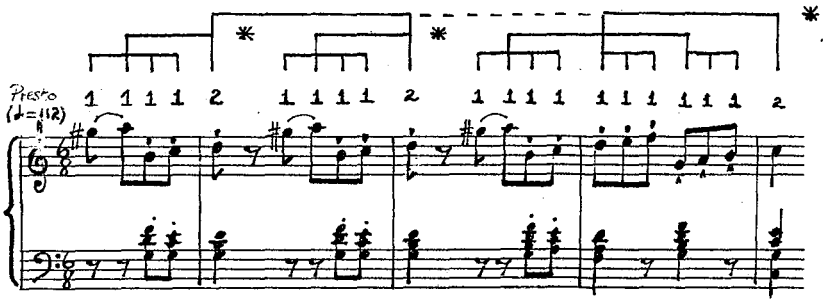




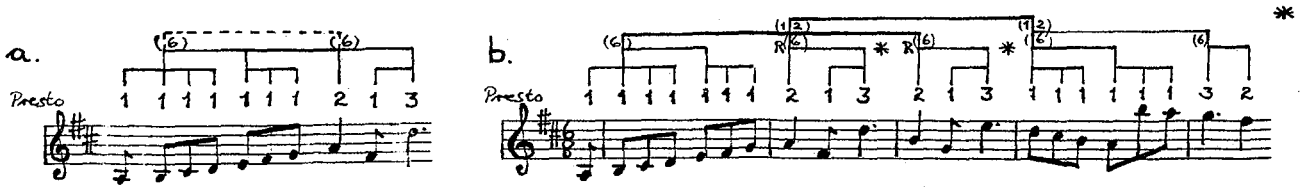
Ex.3/76: Beethoven,Piano Concerto No.3,III



Ex.3/77

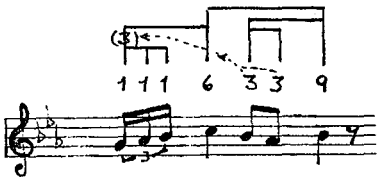


Ex.3/78: Haydn,Symphony No. 101 ('Clock'),I

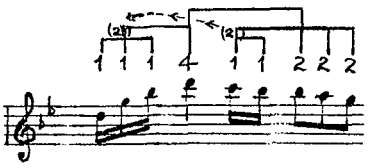


Ex.3/79

a: Dvořák, Symphony No.8, II

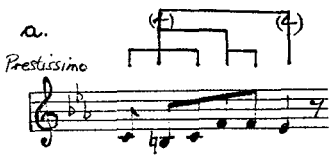


b: Dvořák, Symphony No.8, III

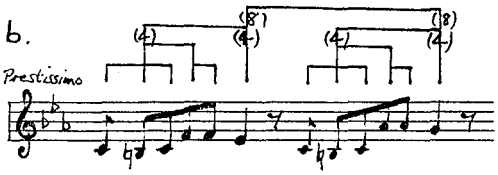


Ex.3/80: Beethoven, Sonata in C minor, Op.10/1, III

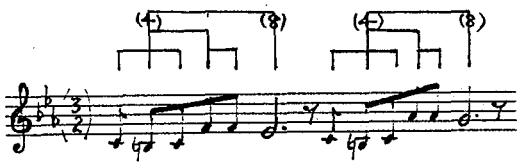
a.

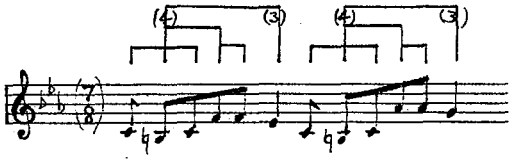


b.



Ex.3/81





Ex.3/82

a. 2: 1 1 X 2 X>1

b. 3: 1 1 1 X 1+2 1 1 1X 3

c. 4: 1 1 1 1 X 2×2 1 1 1 1X 1+3

d. 5: 1 1 1 1 1 X 1+(2×2) 1 1 1 1 1 X 5 [2+3] or 1 1 1 1 1 X 5 [3+2]

e. 6: 1 1 1 1 1 1 X 2+(2×2) 1 1 1 1 1 1 X 3×2 1 1 1 1 1 1 X 2×3

f. 7: 1 1 1 1 1 1 1 X 1+(2×3) { 1 1 1 1 1 1 1 X 1+2+(2×2) / (1) 1 1 1 1 1 1 X 8-1 } { 1 1 1 1 1 1 1 X 7 [2×2+3] / 1 1 1 1 1 1 1 X 7 [3+(2×2)] }

g. 8: 1 1 1 1 1 1 1 1 X 2×(2×2) 1 1 1 1 1 1 1 X 2+(2×3)

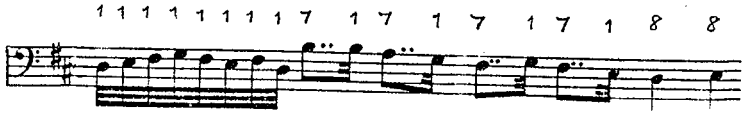
h. 9: 1 1 1 1 1 1 1 1 1 X 3×3 1 1 1 1 1 1 1 1 1 X 3+(2×3)

i 10: 1 1 1 1 1 1 1 1 1 1 X 2+(2×(2×2)) 1 1 1 1 1 1 1 1 1 1 X 1+(3×3)

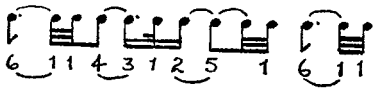
j 11: 1 1 1 1 1 1 1 1 1 1 1 X 1+2+(2×(2×2)) 1 1 1 1 1 1 1 1 1 1 1 X 2+(3×3)

Ex.3/83: Bach,'48',I,Fugue No.5

a.

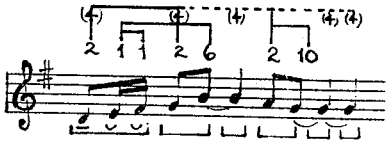


b.

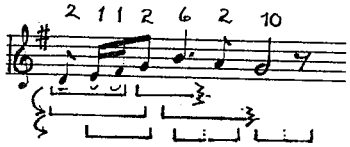


Ex.3/84

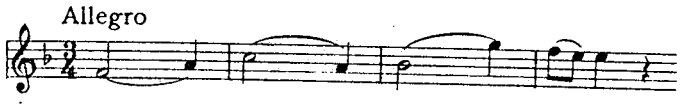
a.



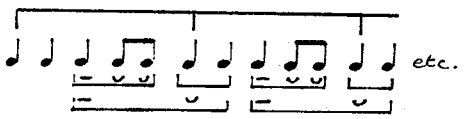
b.



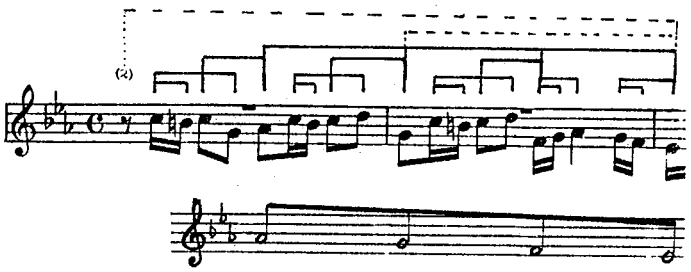
Ex.3/85: Mozart,Sonata in F,K.332,I



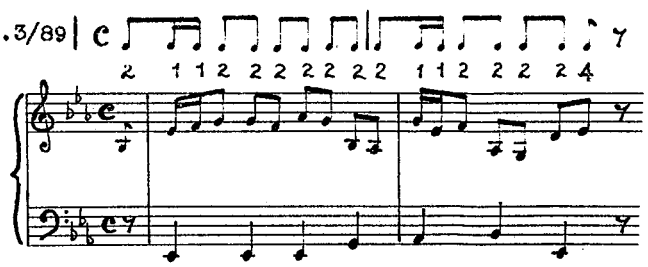
Ex.3/86



Ex.3/87: Bach,'48',I,Fugue No.2



Ex.3/89

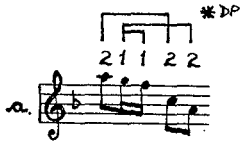


Ex.3/88: Bach,Organ Chorale,'Wachet Auf'

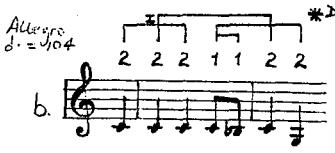
Ex.3/90

Ex.3/91

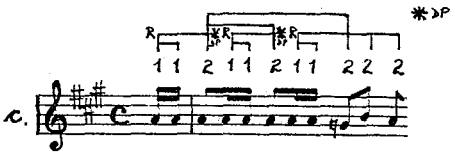
a: Beethoven,Symphony No.6,I



b: Sibelius,Symphony No.1,III



c: Copland,Appalachian Spring

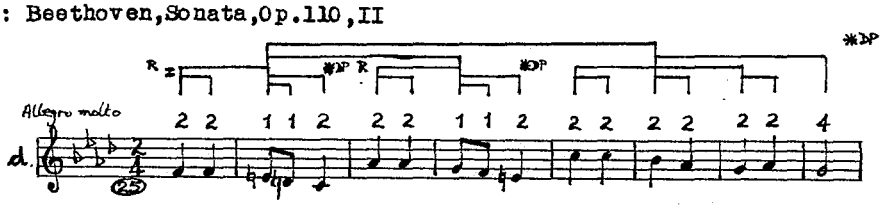


I⌐¬ = Interpreted structural grouping

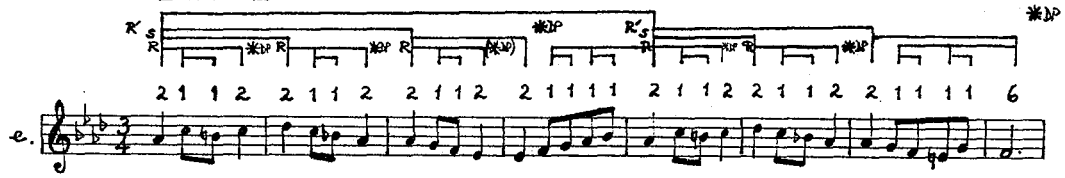
s⌐¬ = Subdivision (of lower-level phrase grouping etc.)

DP = Duration phrase

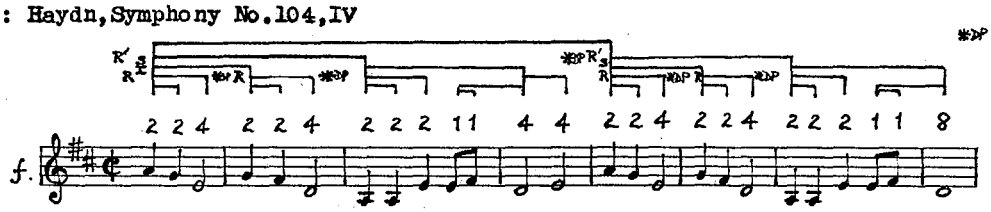
d: Beethoven,Sonata,Op.110,II



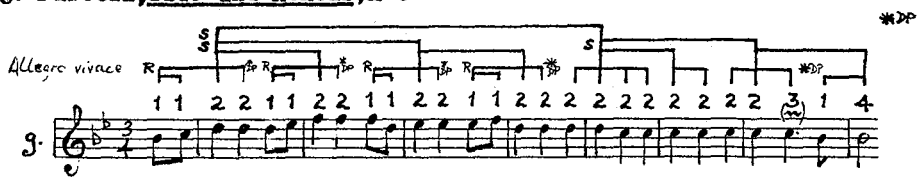
e: Schumann,Carneval,'Davidsbündler'



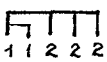
f: Haydn,Symphony No.104,IV



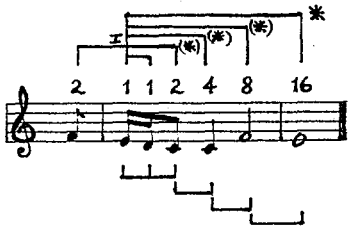
g: Purcell,Dido and Aeneas,Act III



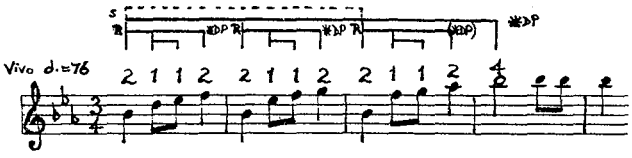
Ex.3/92



Ex.3/93

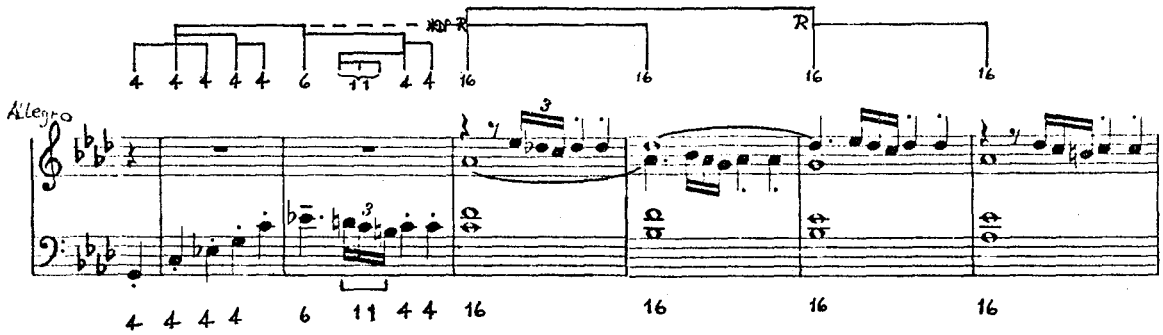


Ex.3/94: Chopin, Waltz in E♭,Op.18



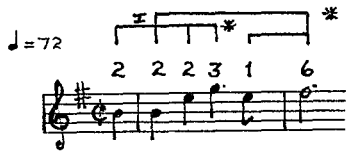
DP=Duration Phrase
s = subdivision

Ex.3/95: Beethoven,Sonata in F minor,Op.2/1,I

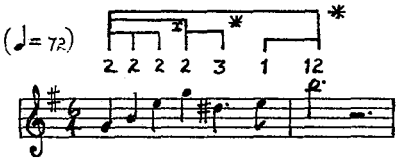


Ex.3/96

a: Mendelssohn,Symphony No.3,IV

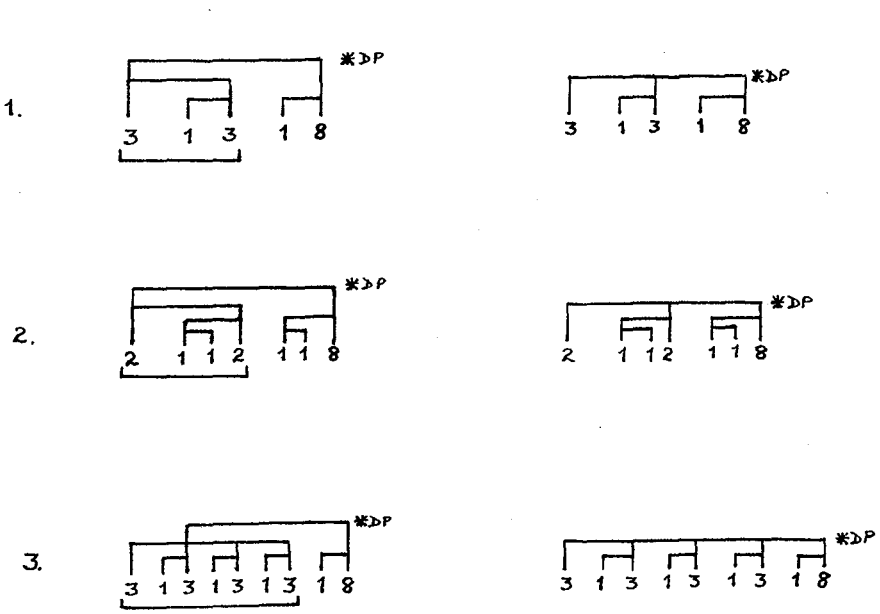


b: Sibelius,Symphony No.1,I



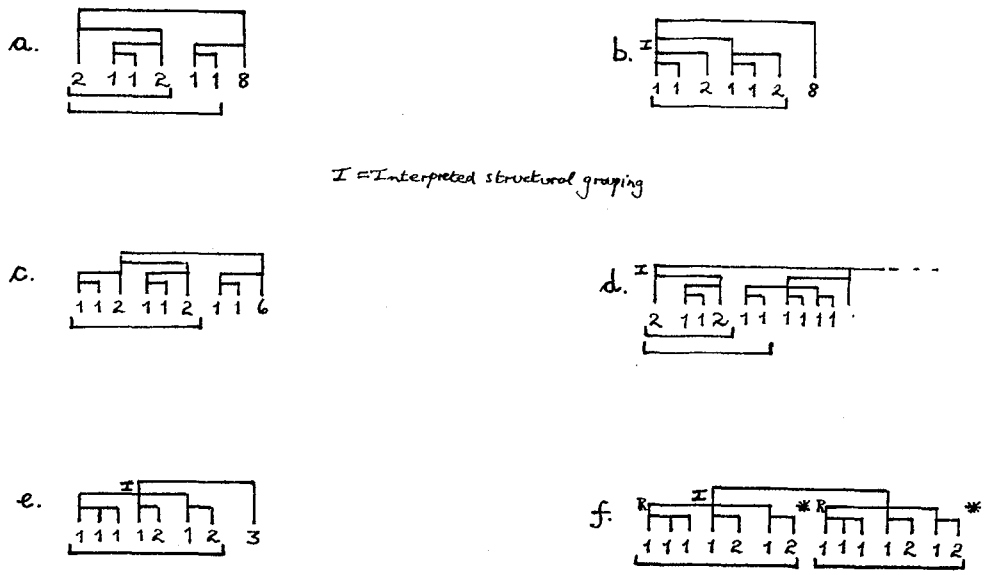
I = Interpreted structural grouping

Ex.3/97

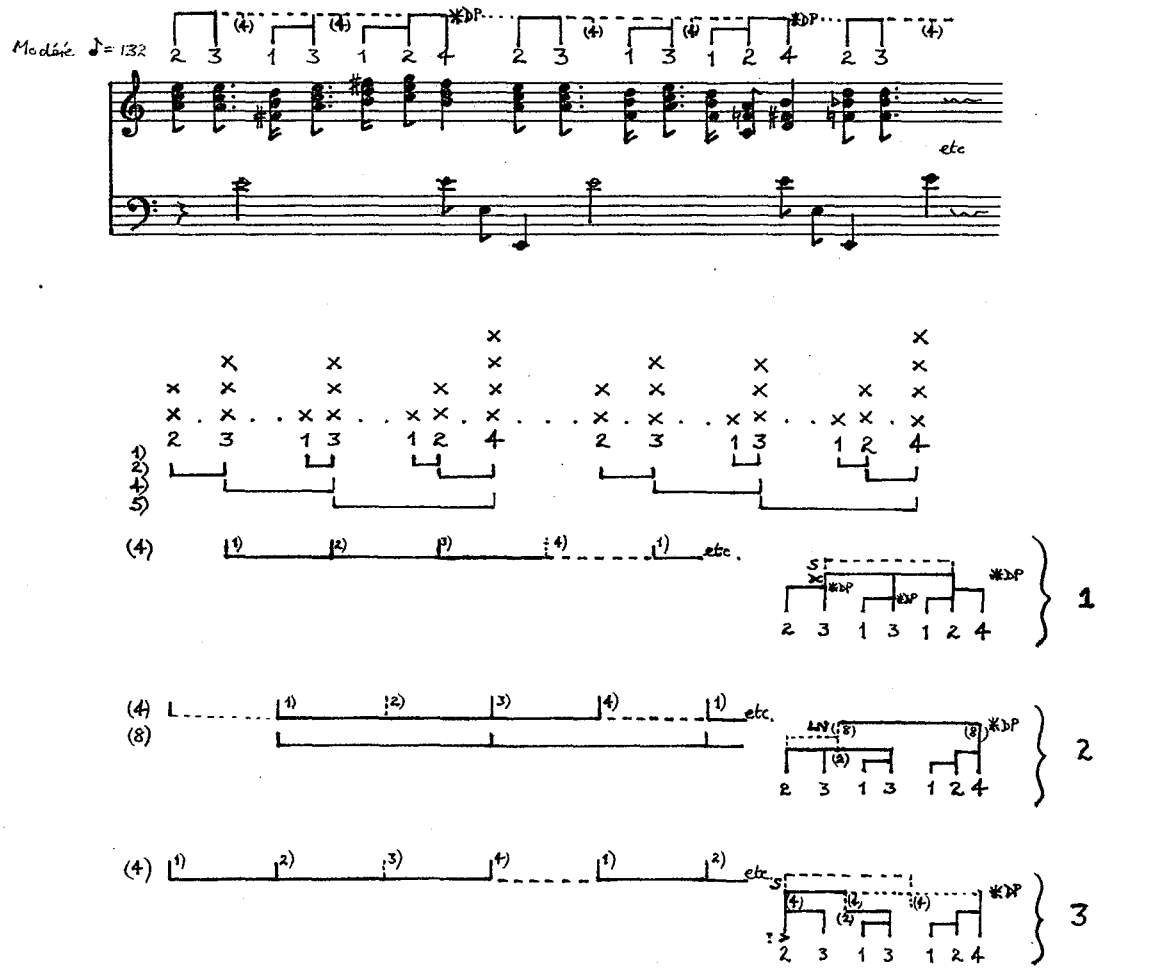


c.f. Ex.2/33

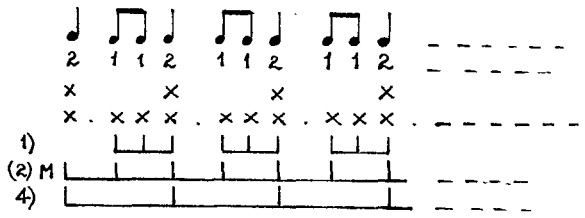
Ex.3/98



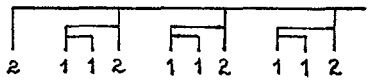
Ex.3/99: Ravel,Piano Trio,I



Ex.3/100

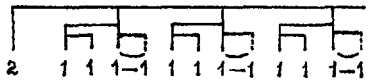


Ex.3/101

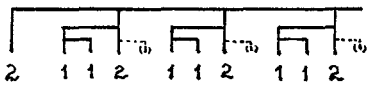


Ex.3/102

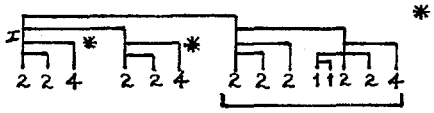
a.



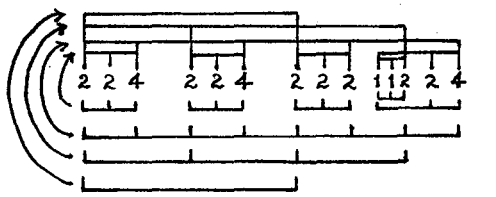
b.



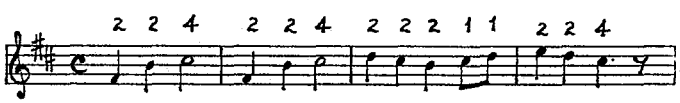
Ex.3/103 a.



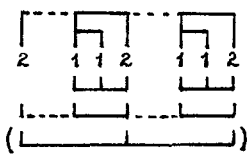
b.



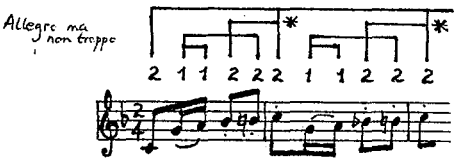
a: Grieg, Peer Gynt, Op.46, Åse's Death



Ex.3/104

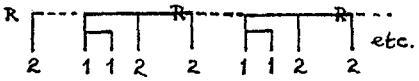


Ex.3/106: Beethoven, Symphony No.6, I

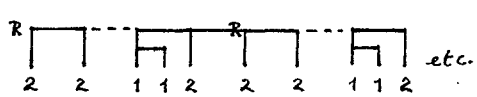


Ex.3/105

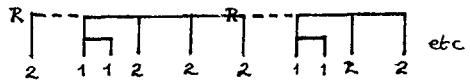
a.



b.

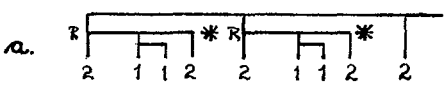


c.



Ex.3/107

a.



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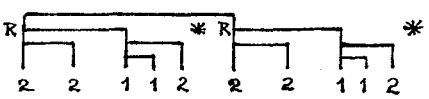

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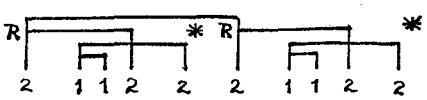
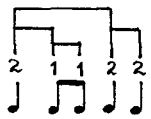
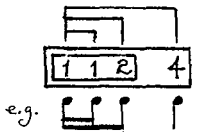


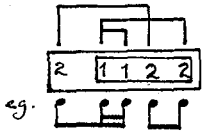
Ex.3/108



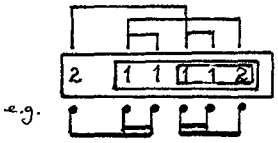
Ex.3/109



Ex.3/110

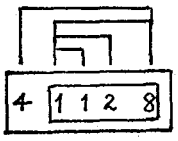


Ex.3/111

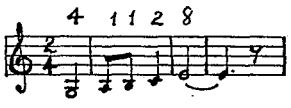


Ex.3/112

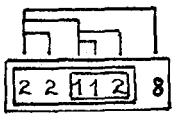
a.

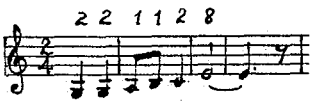


Elgar, Pomp and Circumstance, No.4

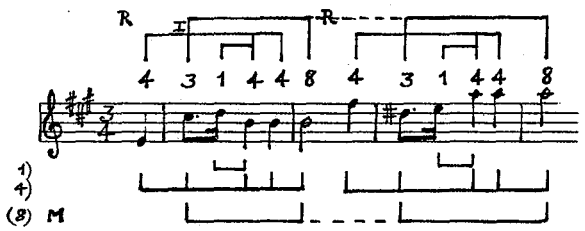


b.

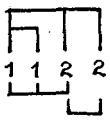




Ex.3/113: Chopin, Prelude in A, Op.28/7

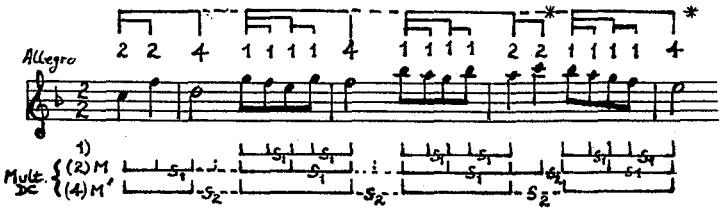


Ex.3/114



Ex.3/115

a: Boyce, Symphony No.4, III



S_1 = Beam subject to deletion by Separation Rule 1.

S_2 = Beam marked for separation by Separation Rule 2

S_5 = Beam subject to deletion by Separation Rule 5

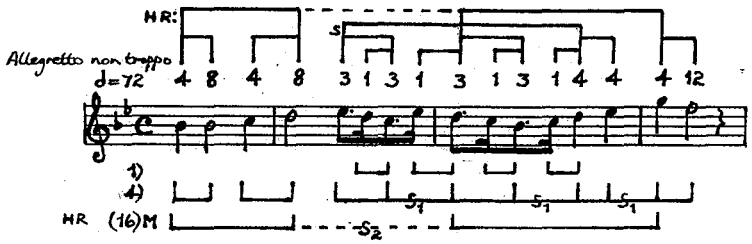
s = Subdivision

d-r = Dissonance + resolution

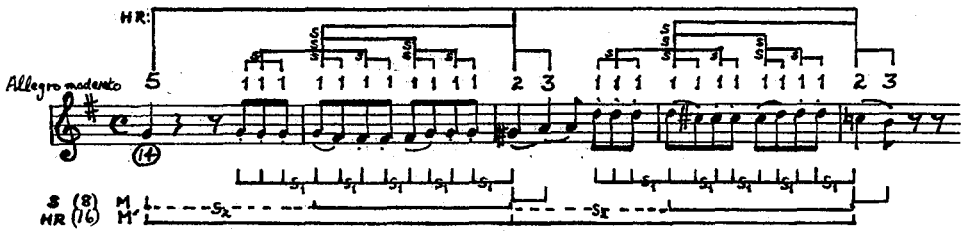
HR = Harmonic rhythm

Mult DC = Multiple from duration or duration contour

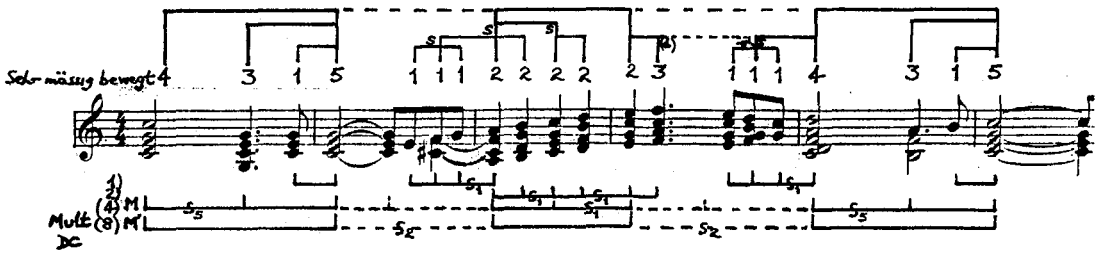
b: Berlioz, Symphonie Fantastique, IV



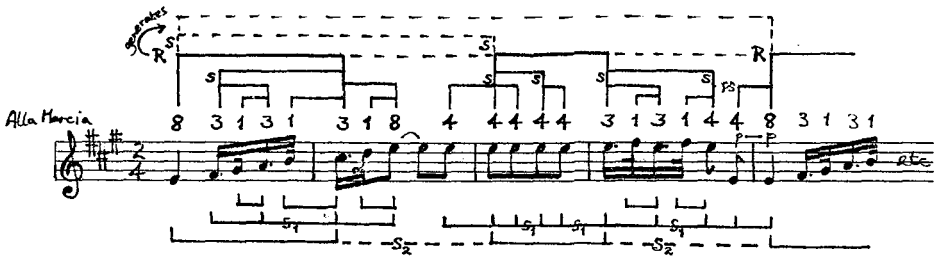
c: Beethoven, Piano Concerto No.4, I



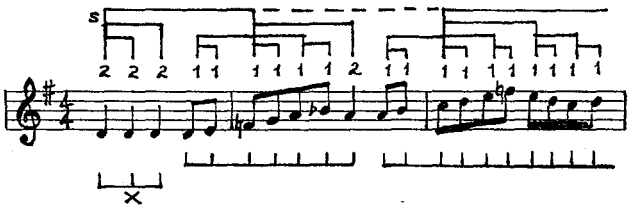
d: Wagner, Die Meistersinger, Prelude



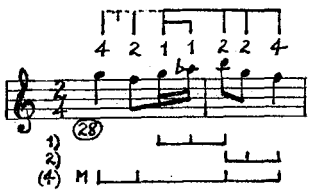
Ex.3/115e: Sibelius,Karelia,III



Ex.3/116: Prokofiev,Romeo and Juliet,'Montagues and Capulets'

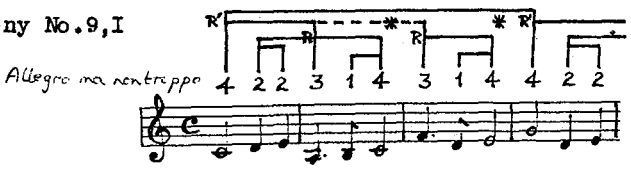


Ex.3/117: Bartók,Dance Suite,IV

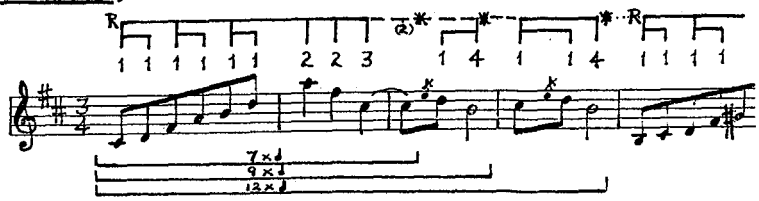


Ex.3/118

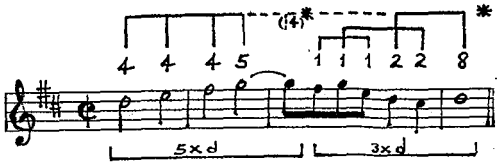
a: Schubert,Symphony No.9,I



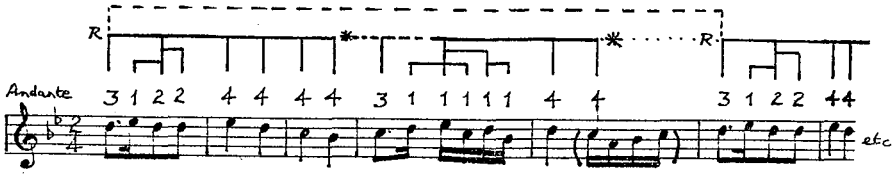
b: Puccini,Manon Lescaut,Act I



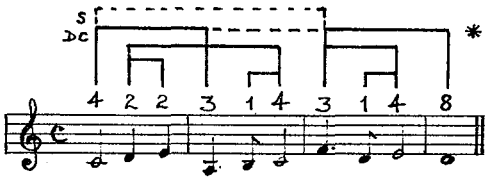
c: Haydn,Symphony No.104,I



Ex.3/119: Brahms,Variations on 'St. Anthony Chorale', Theme

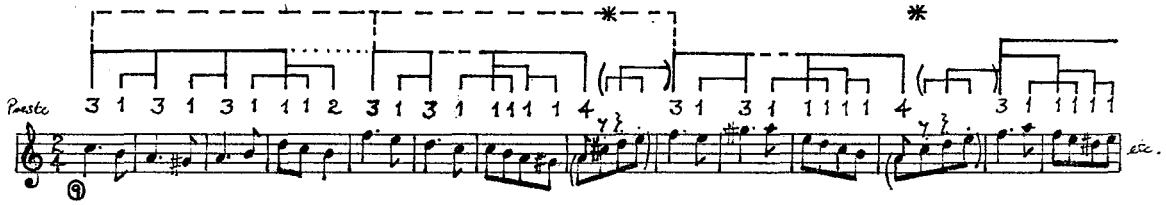


Ex.3/120

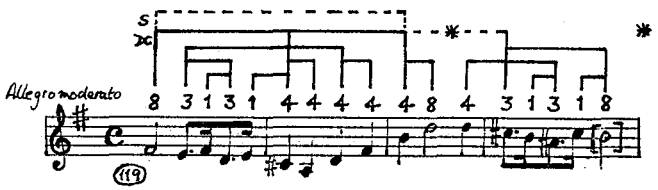


DC = Structural grouping generated by Duration Contour

Ex.3/121: Mozart,Sonata in A minor,K.310,III

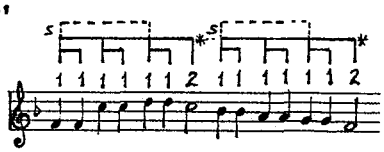


Ex.3/122: Beethoven,Piano Concerto No.4,I

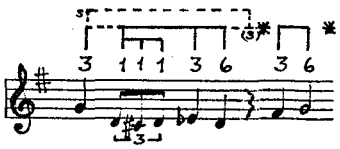


Ex.3/123

a: 'Twinkle Twinkle Little Star'

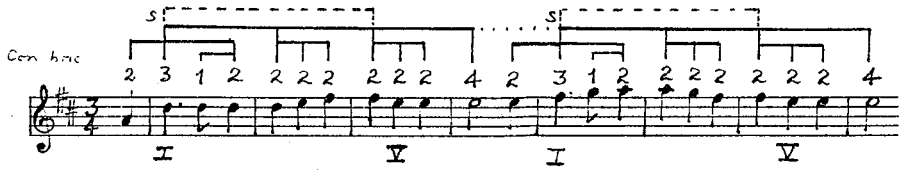


b: Musical Cliché

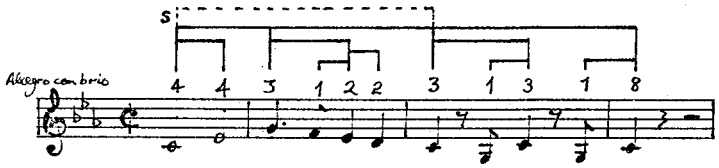


Ex.3/123 ctd.

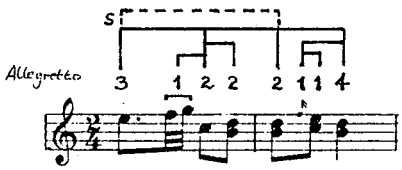
c: Schumann,Papillons,Op.2,XII



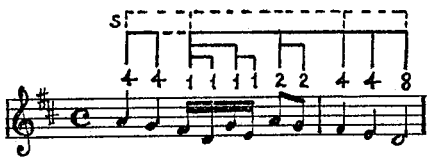
d: Beethoven,Piano Concerto No.3,I



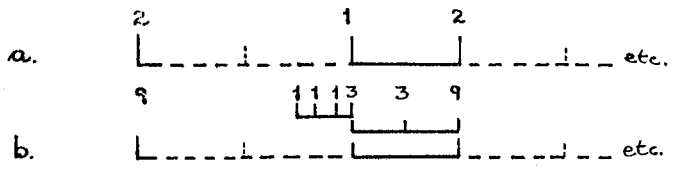
e: Mozart,Sonata in C,K.330,III



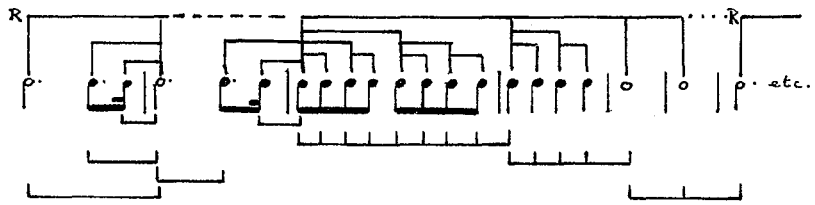
f: Arne,Rule Britannia



Ex.3/124: Tchaikovsky,Symphony No.4,I

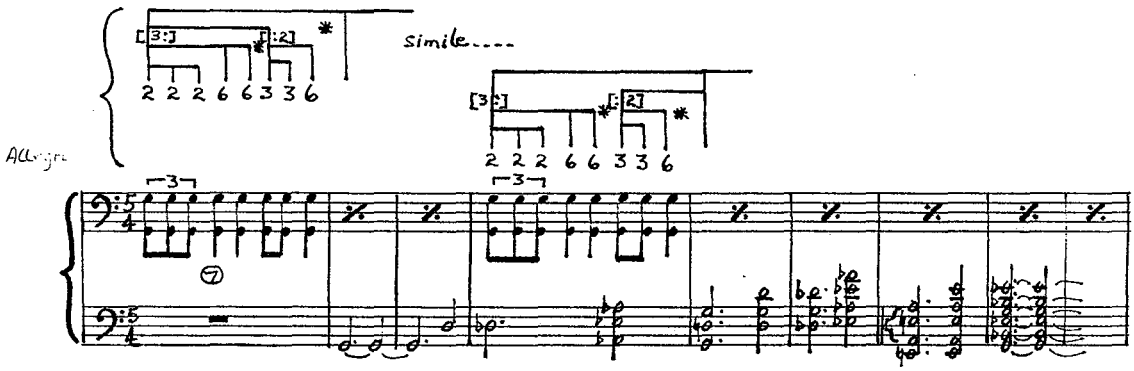


Ex.3/125: Beethoven, Symphony No.1, I

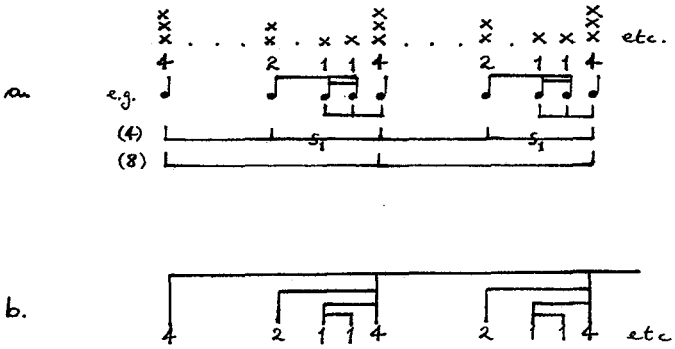


c.f. Ex.2/46

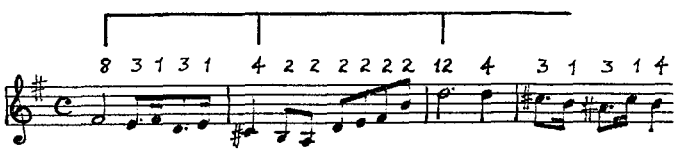
Ex.3/126: Holst, The Planets, 'Mars'



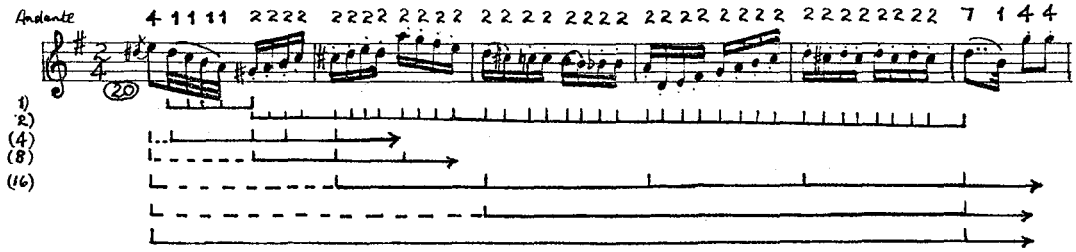
Ex.3/127



Ex.3/128



Ex.3/129: Haydn, Symphony No.101 ('Clock'), II



Ex.3/130

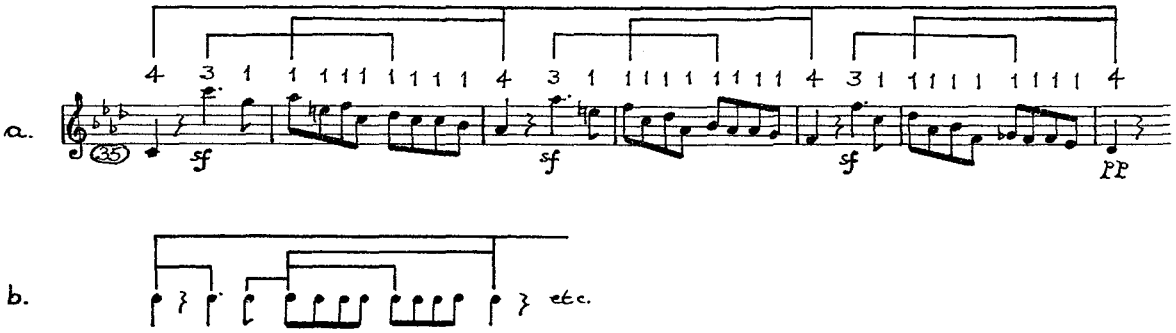
	Decay value
(4) 4 2	.5
(6) 4 (1 1) 2	.6299
(8) 4 (1 1 1 1) 2	.707
(6) 2 (1 1 1 1) 1	.79
(16) 4 (1 1 1 1 2 2 2 2) 2	.8409 (c.f. Ex.3/129)
(12) 2 (2 2 2 2 2) 1	.8909

	Decay value
(4) 4 1	.25
(6) 4 (1 1) 1	.39
(8) 4 (2 2) 1	.5
(16) 4 (4 4 4) 1	.707

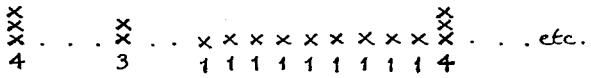
	Decay value
(3) 3 2	.666
(4) 3 (1) 2	.737
(6) 3 (1 1 1) 2	.816
(8) 3 (1 2 2) 2	.859

	Decay value
(4) 4 3	.75
(6) 4 (1 1) 3	.825
(8) 4 (2 2) 3	.866

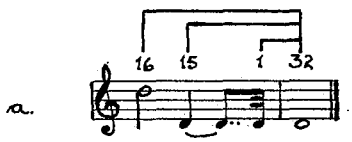
Ex.3/131: Beethoven, Symphony No.6, IV



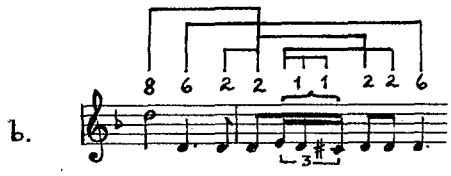
Ex.3/132:



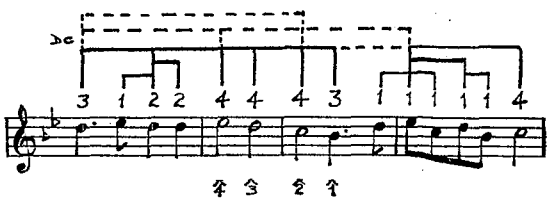
Ex.3/133



b: Mozart, Quartet in D minor, K.421, I

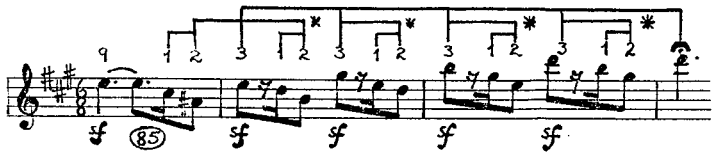


Ex.3/134

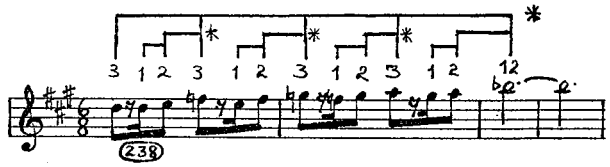


Ex.3/135: Beethoven,Symphony No.7,I

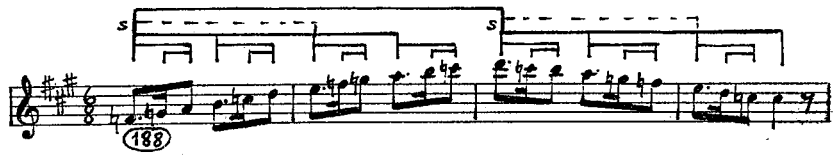
a.



b.

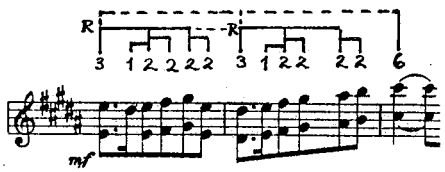


c.



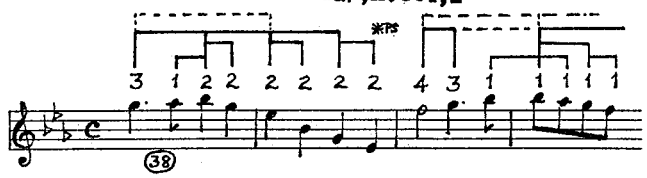
Ex.3/136a: Berlioz,Te Deum,II,'Tibi Omnes'

a.



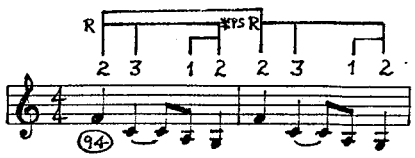
b: Mozart,Sinfonia Concertante (Violin and Viola),K.364,I

b.

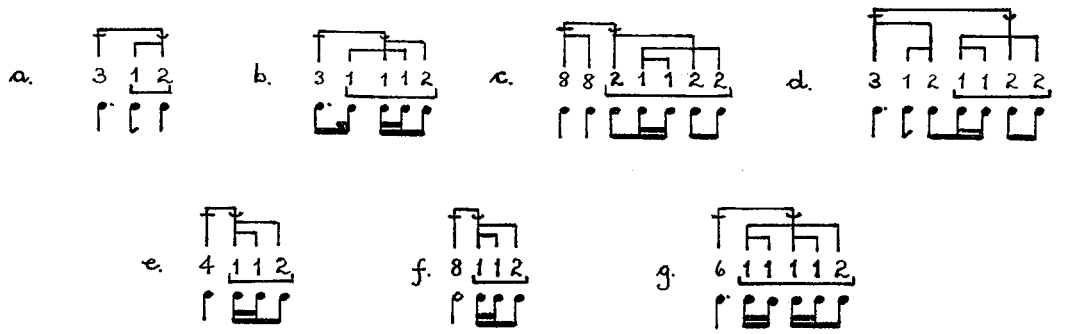


PS = Pitch separation

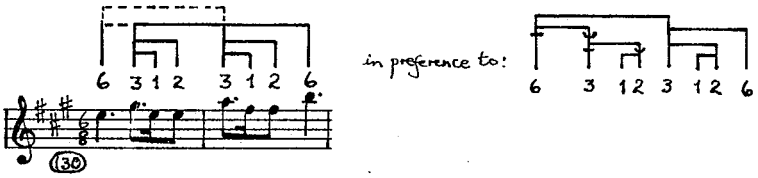
Ex.3/137: Rachmaninov,Symphony No.3,I



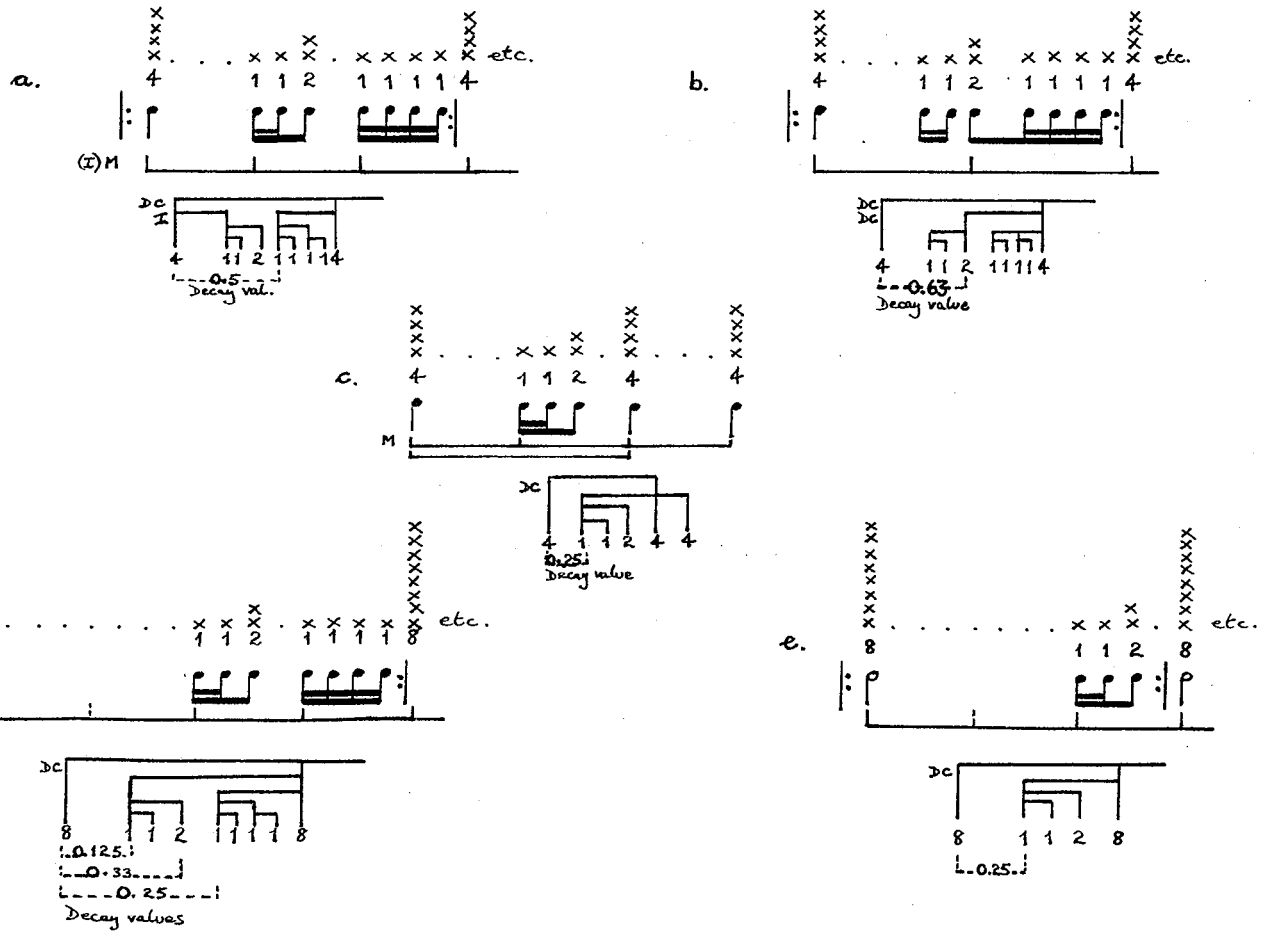
Ex.3/138



Ex.3/139: Beethoven, Symphony No.7, I

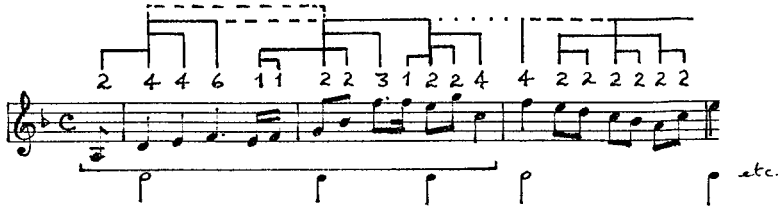


Ex.3/140

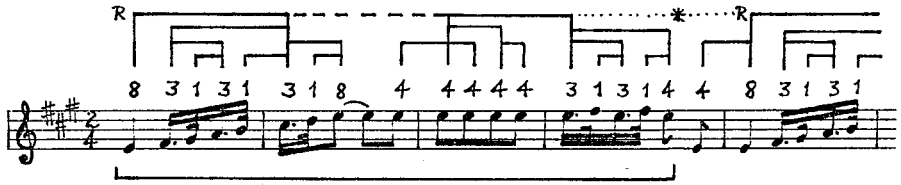


Ex.3/141

a: Shostakovich,Symphony No.5,IV



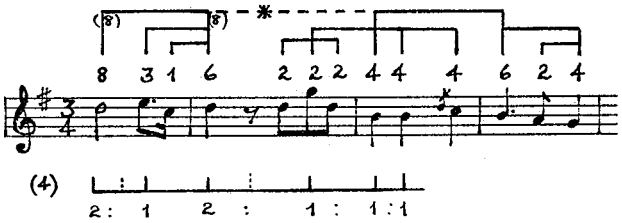
b: Sibelius,Karelia,III



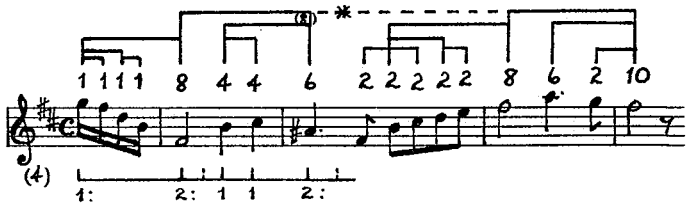
c.f. 3/115e

Ex.3/142

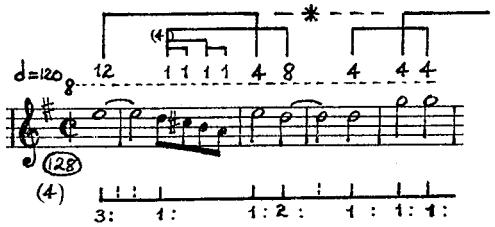
a: Dvořák,'Cello Concerto,II



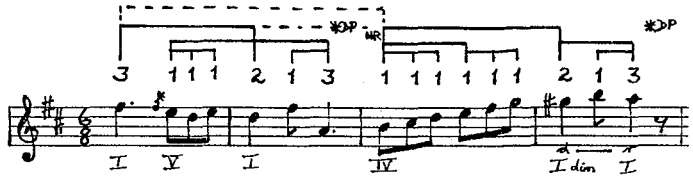
b: Chopin,Sonata in B minor,I



c: Tchaikovsky,Symphony No.5,IV

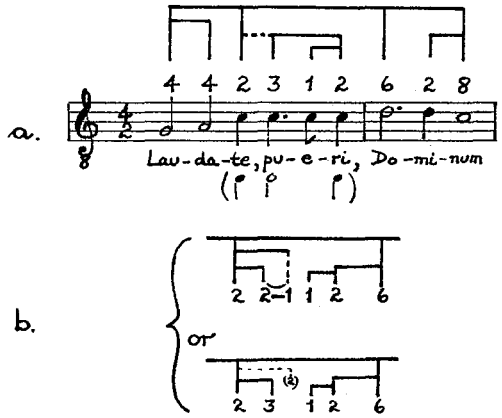


Ex.3/143: Schubert,Sonatina in D,Op.137,III

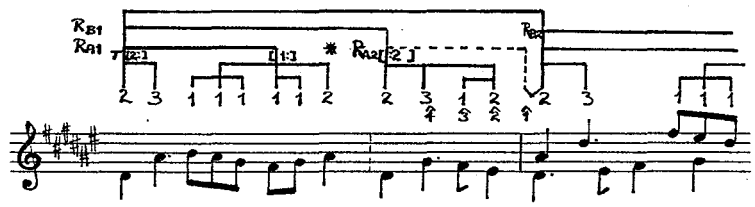


HR = Structural grouping created by Harmonic Rhythm

Ex.3/144: Monteverdi,Vespers,IV,'Laudate pueri'

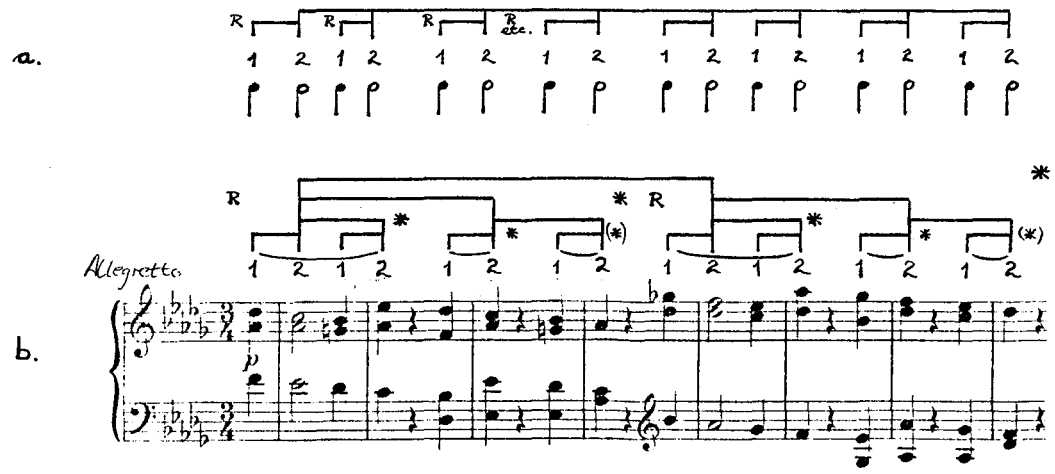


Ex.3/145: Bach,'48',I,Fugue No.8

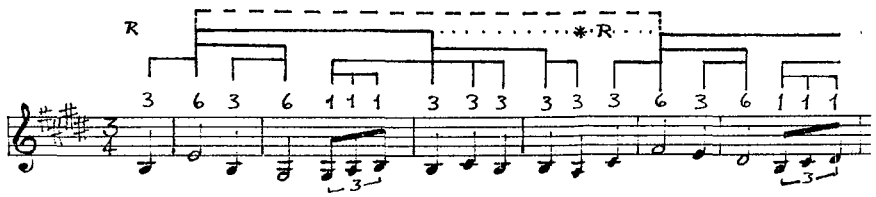


T = Structurally accented tonic

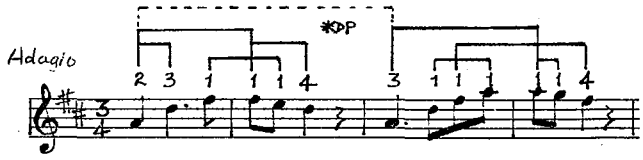
Ex.3/146: Beethoven,Sonata in C# minor ('Moonlight'),II



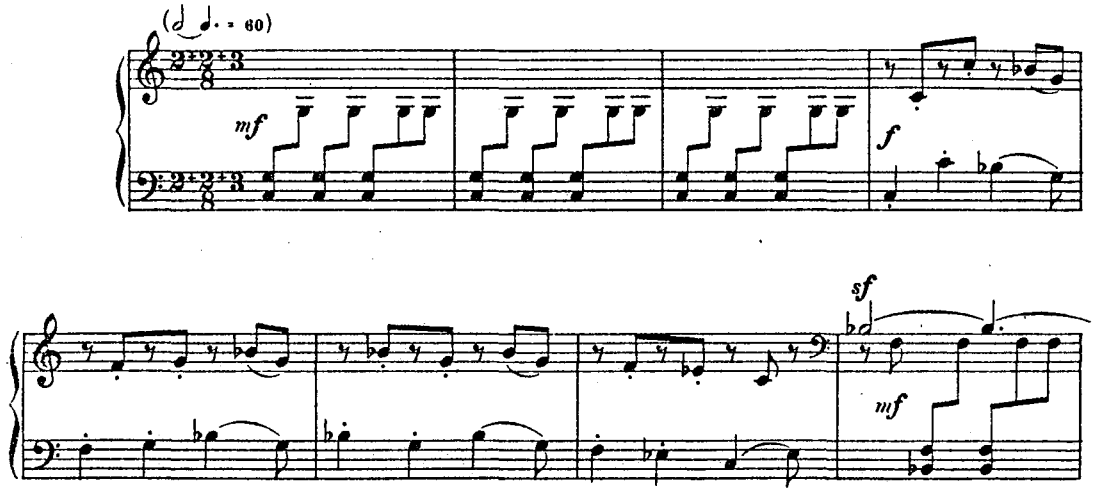
Ex.3/147: Wagner, Tannhäuser, 'Pilgrims' Chorus'



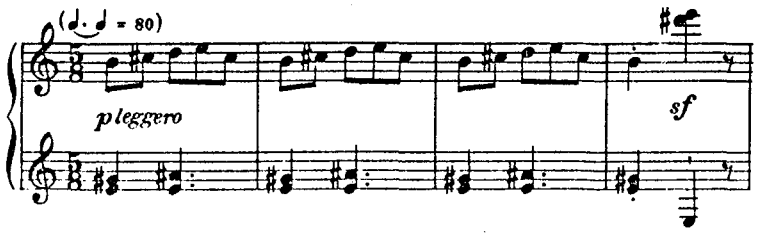
Ex.3/148: Mozart, Clarinet Concerto, K.622, II



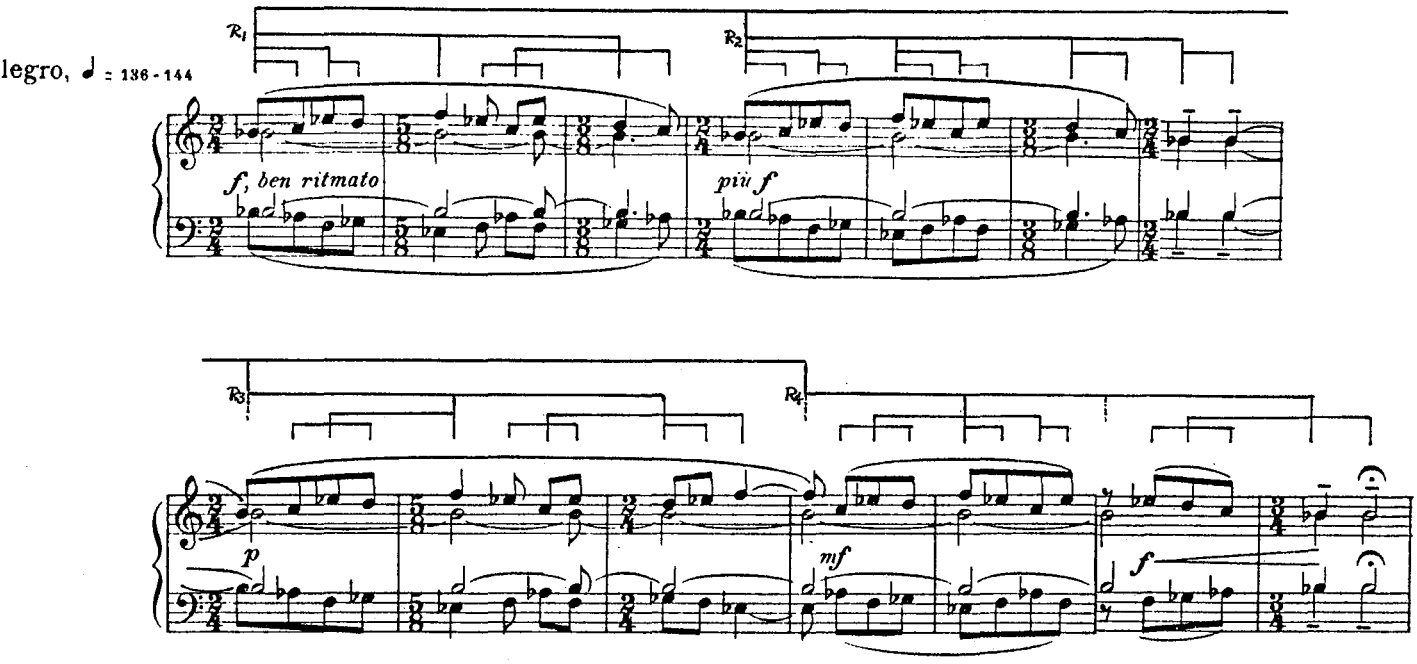
Ex.3/149: Bartók, Mikrokosmos, No.149



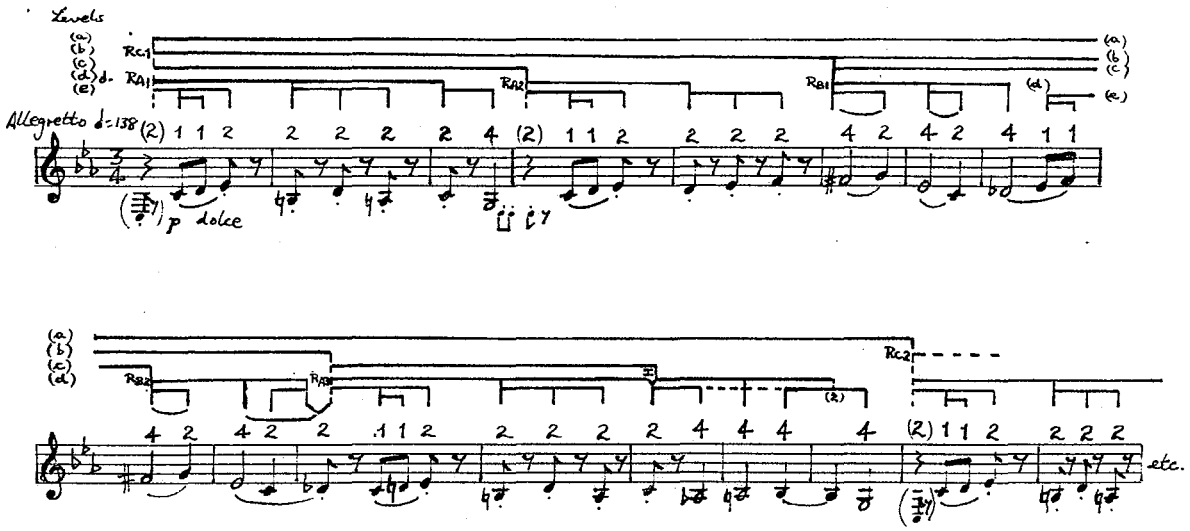
Ex.3/150: Bartók, Mikrokosmos, No.150



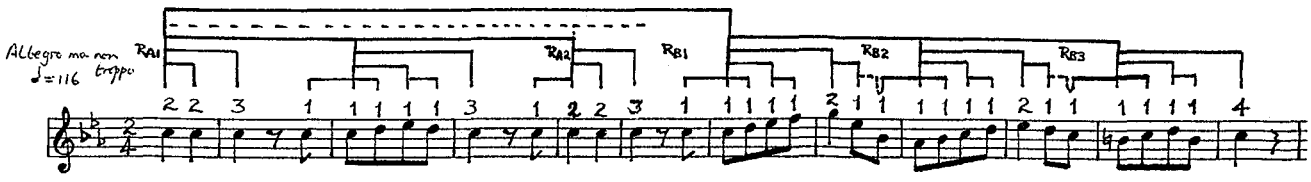
Ex.3/151: Bartók, Mikrokosmos, No.141



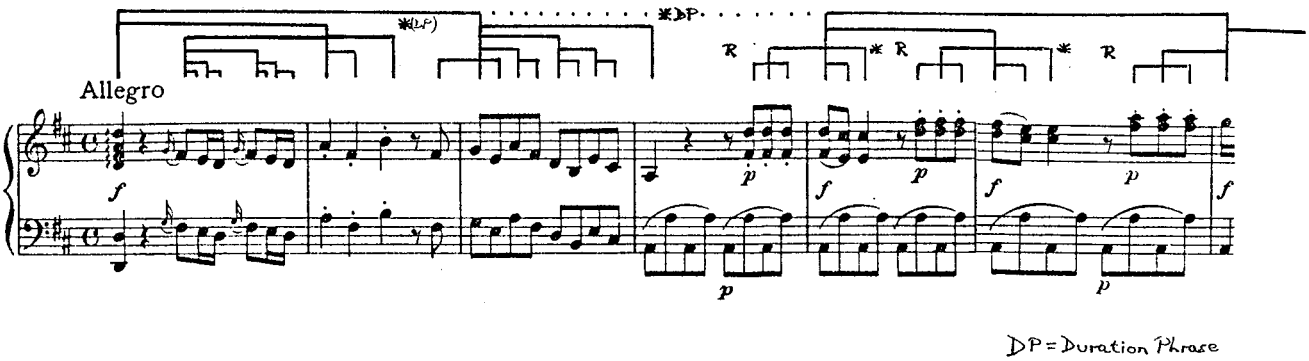
Ex.3/152: Shostakovich, Symphony No.10, III



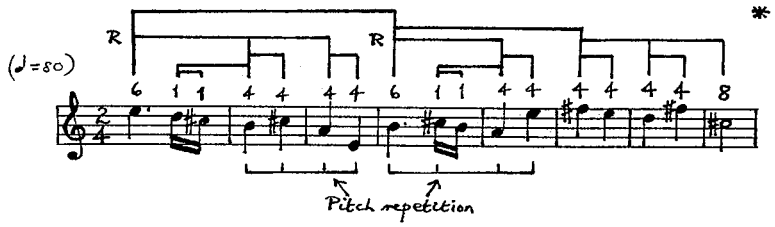
Ex.3/153: Dvořák, Symphony No.8, IV



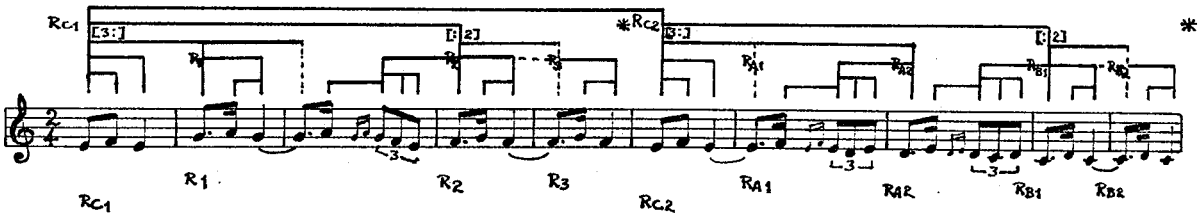
Ex.3/154: Mozart,Sonata in D,K.284,I



Ex.3/155: Borodin,On the Steppes of Central Asia (1st theme)

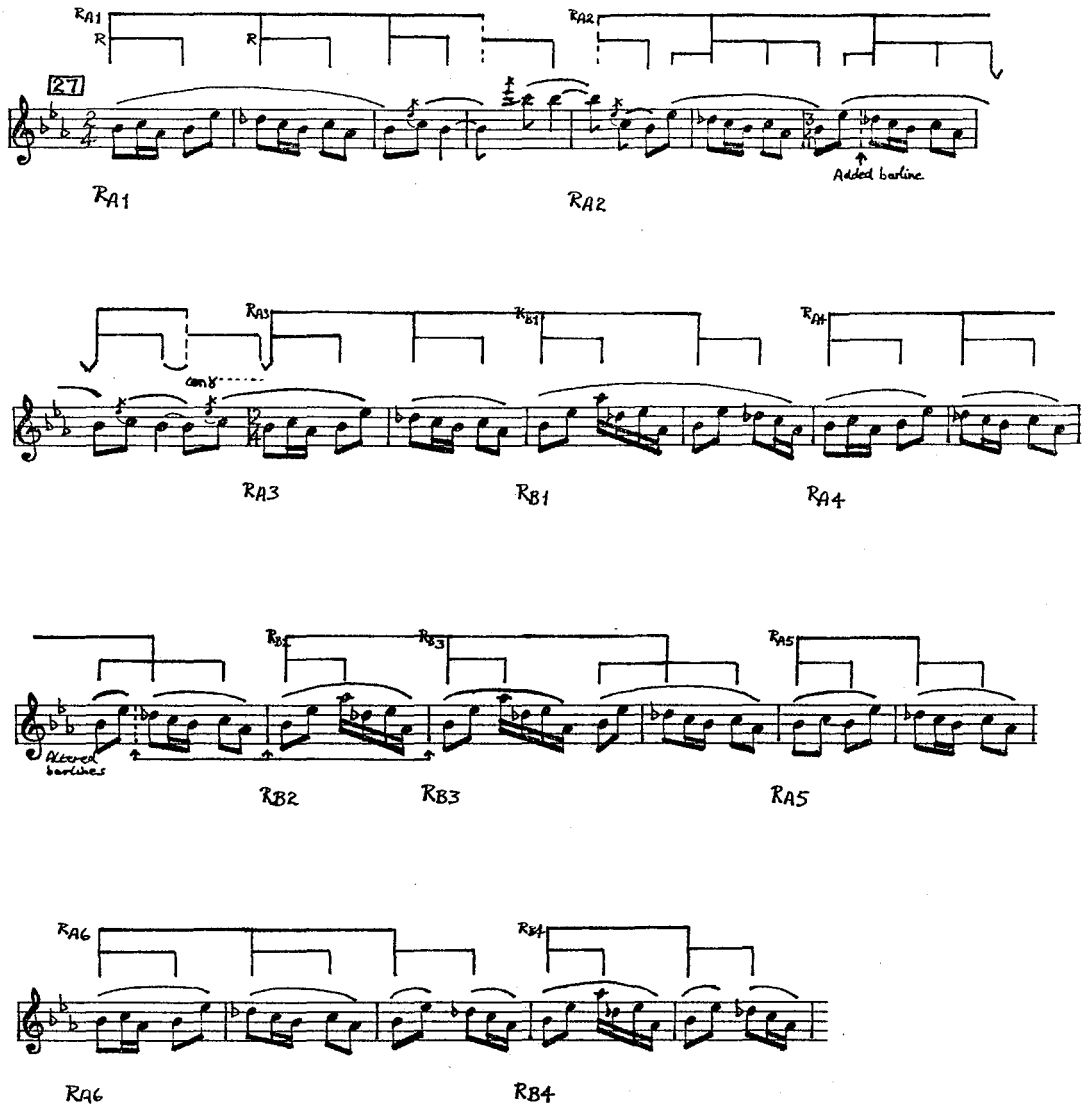


Ex.3/156: Borodin,On the Steppes of Central Asia (2nd theme)

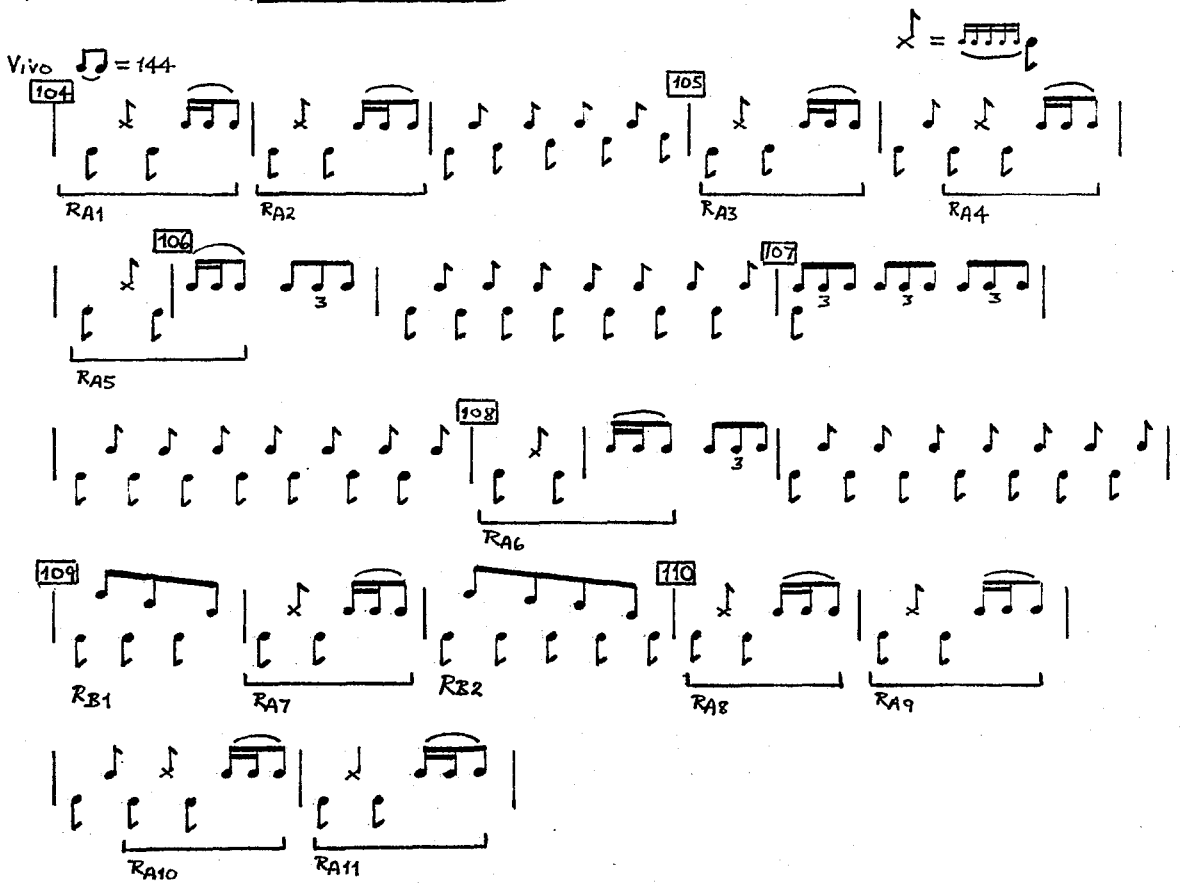


(3/157 not used)

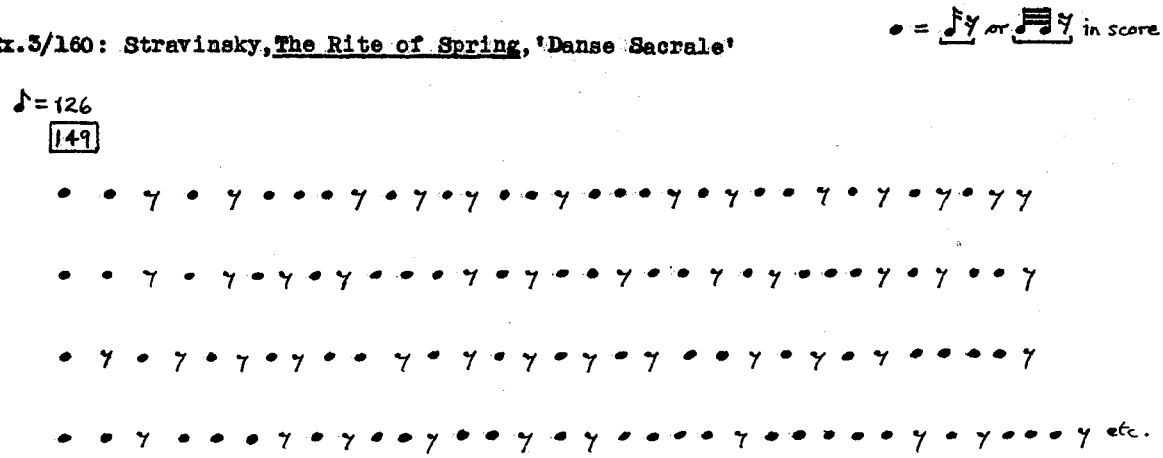
Ex.3/158: Stravinsky, The Rite of Spring, 'Danses des Adolescentes'



Ex.3/159: Stravinsky, The Rite of Spring, 'Glorification de l'Élue'

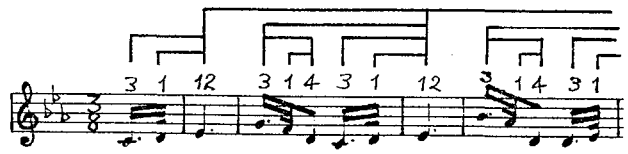


Ex.3/160: Stravinsky, The Rite of Spring, 'Danse Sacrale'

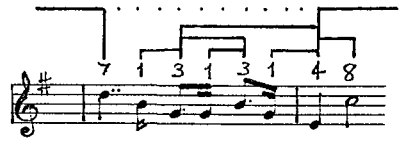


Ex.3/161

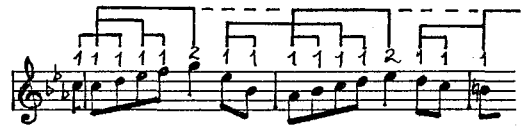
a.



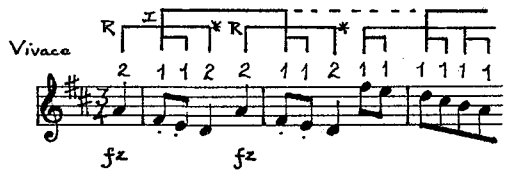
b.



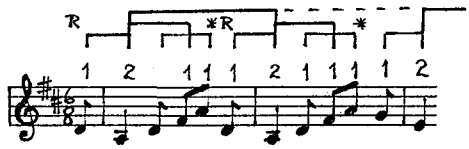
c.



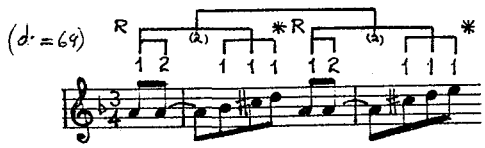
Ex.3/162: Schubert,Symphony No.3,III



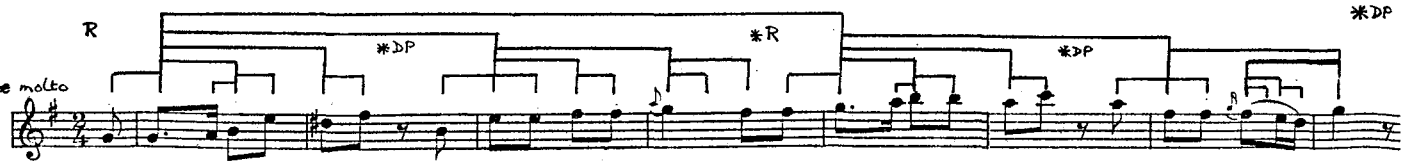
Ex.3/163: Beethoven,Violin Concerto,III



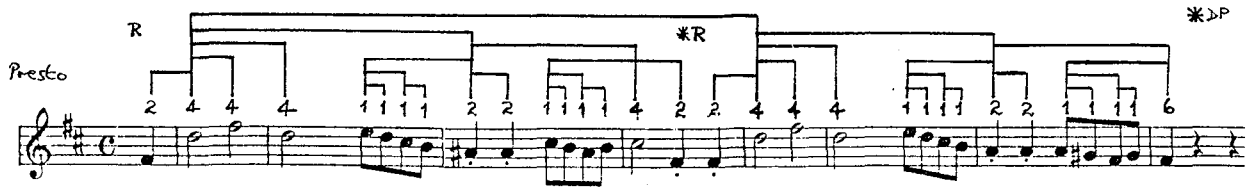
Ex.3/164: Beethoven,Symphony No.8,I



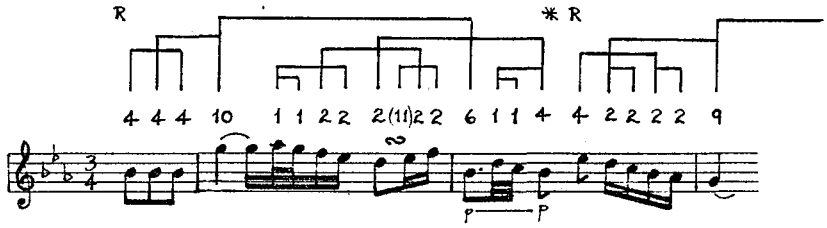
Ex.3/165: Haydn,Sonata in E minor,Hob.XVI/34,III



Ex.3/166: Beethoven,Sonata in D,Op.10/3,I

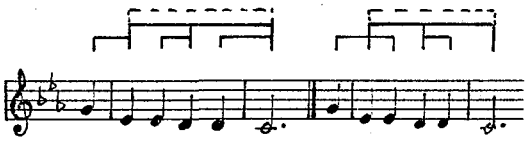


Ex.3/167: Mozart,Piano Trio in B♭,K.502,II



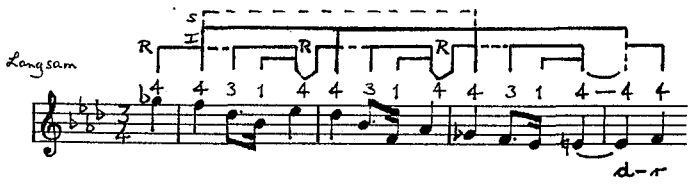
p-p = Pitch unity

Ex.3/168: Mozart,Piano Concerto in C minor,K.491,III



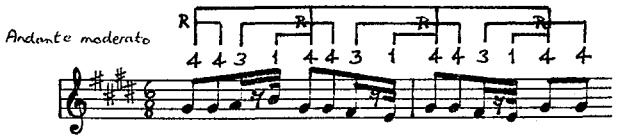
Ex.3/169

a: Brahms,Requiem,II,'Denn alles Fleisch'

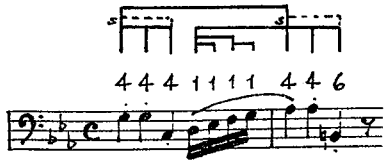


I = Interpreted
S = subdivision
d-r = Dissonance + resolution

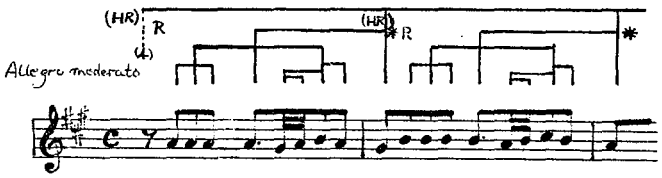
b: Brahms,Symphony No.4,II



Ex.3/170: Mozart,Adagio and Fugue,K.546(426),Fugue

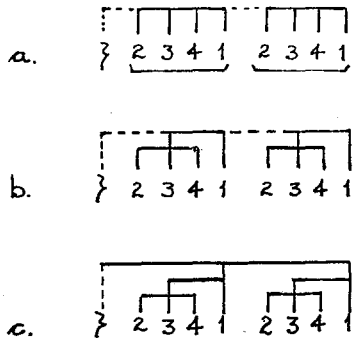


Ex.3/171: Tchaikovsky, Swan Lake, 'Dance of the Swans'

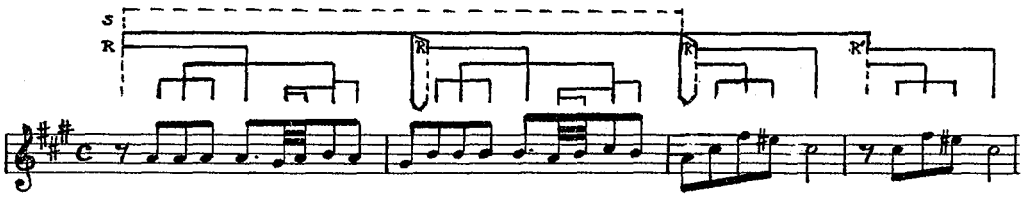


HR = Structural grouping created by Harmonic Rhythm

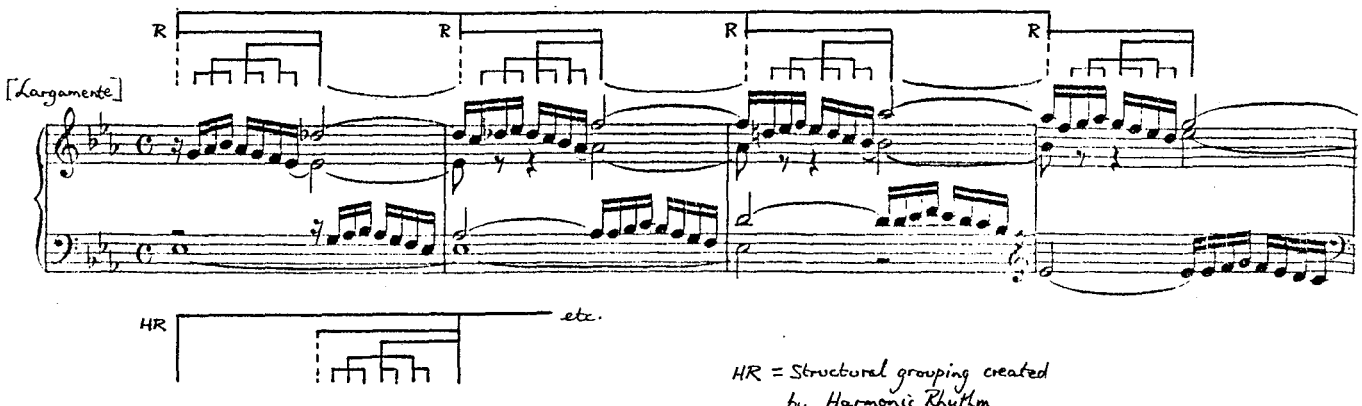
Ex.3/172



Ex.3/173

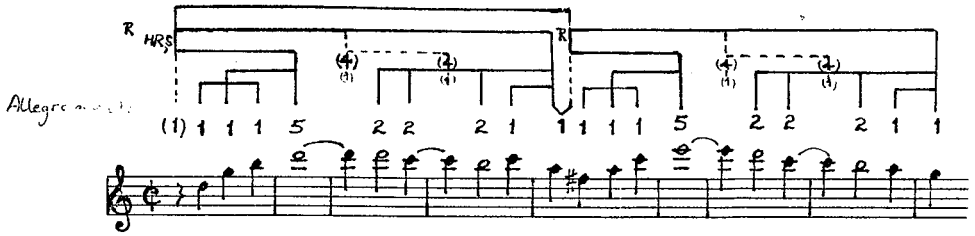


Ex.3/174: Bach, '48', I, Prelude No.7



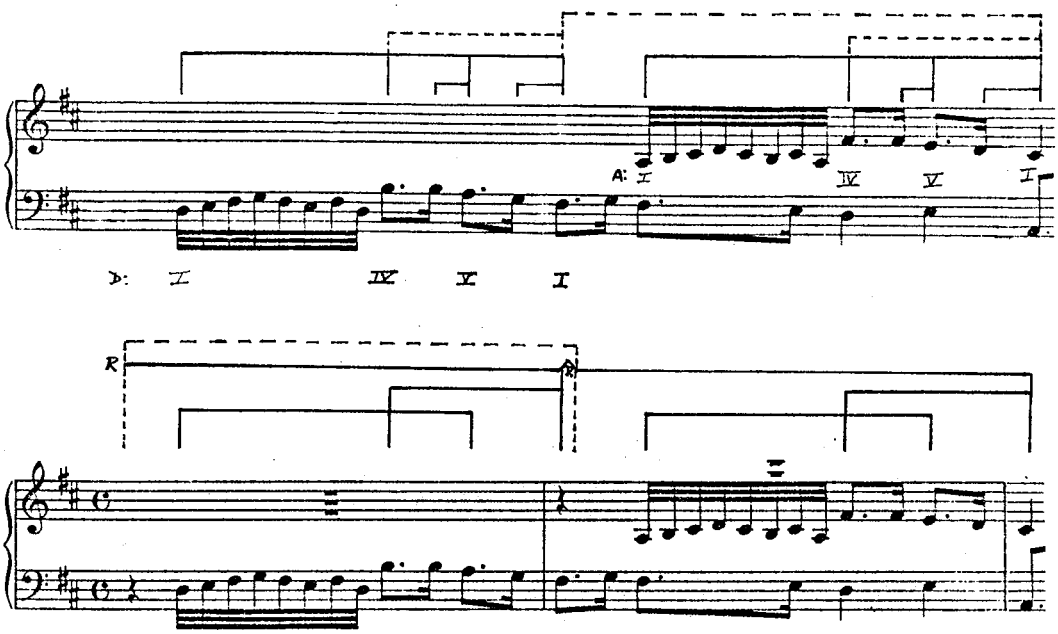
HR = Structural grouping created by Harmonic Rhythm

Ex.3/175: Beethoven,Overture:Prometheus,Op.43



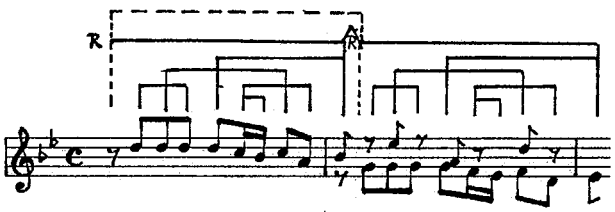
HR=Structural grouping created by Harmonic Rhythm
5 = Subdivision

Ex.3/176: Bach,'48',I,Fugue No.5

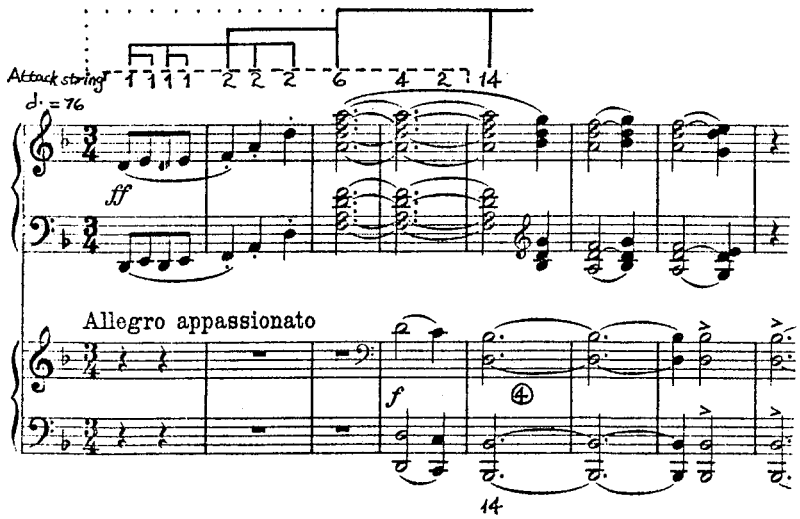


Λ = Time point shared by separate voices

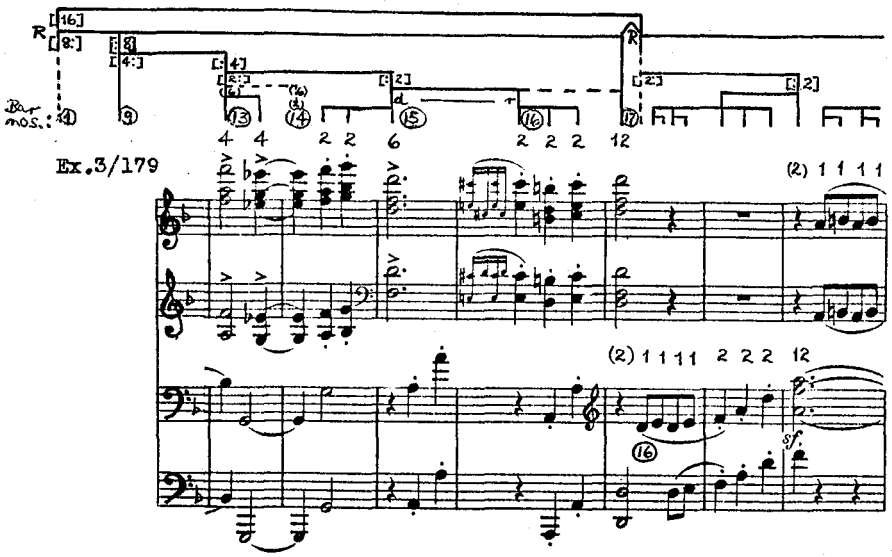
Ex.3/177: Bach,Sonata in G minor(Solo Violin),Fugue



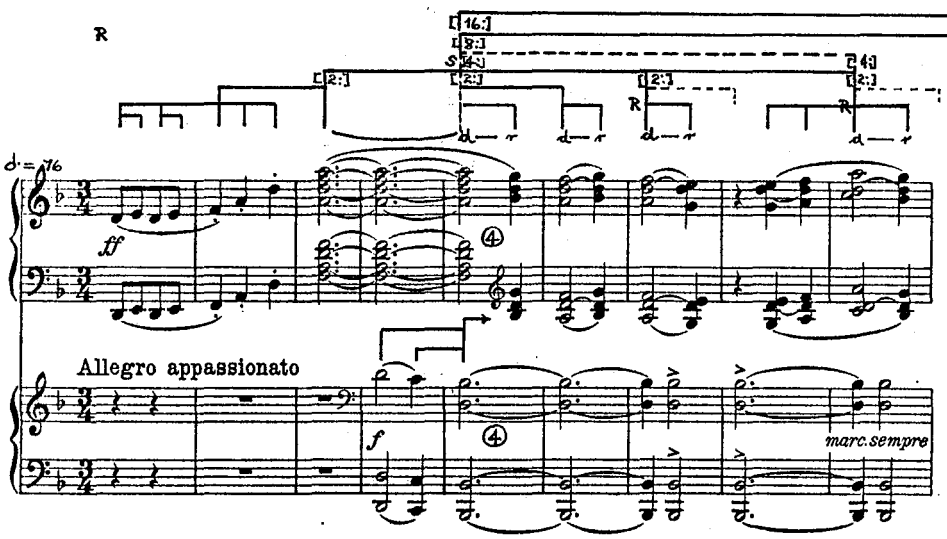
Ex.3/178: Brahms,Piano Concerto No.2,II



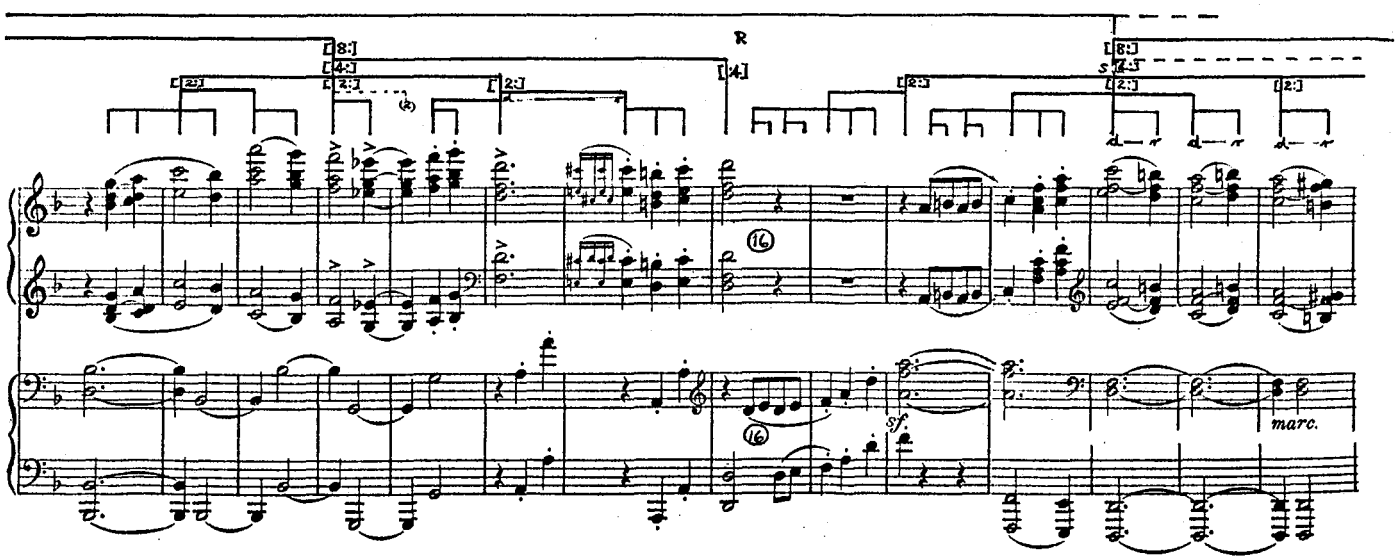
Ex.3/179



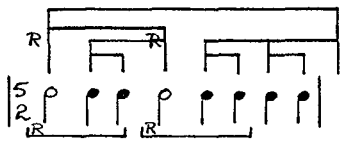
Ex.3/180



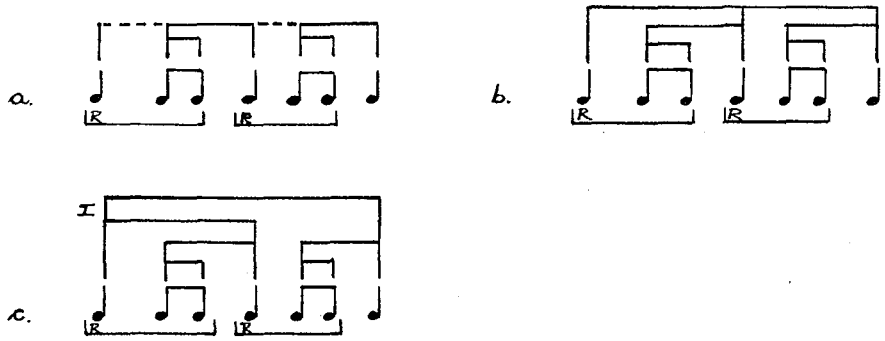
d-r = Dissonance + resolution



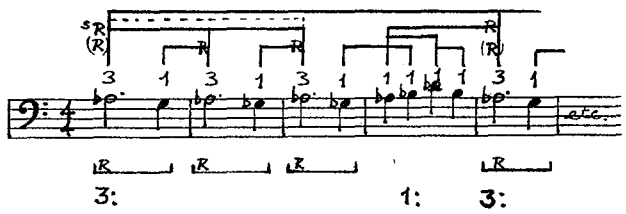
Ex.3/181



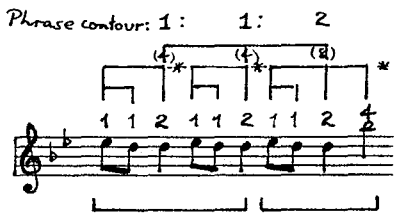
Ex.3/182



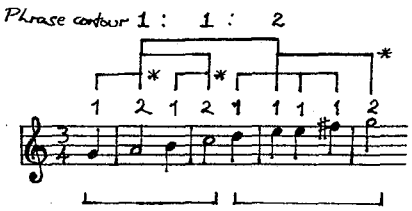
Ex.3/183: Stravinsky, The Rite of Spring, 'Cortège du Sage'



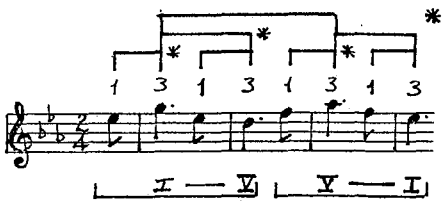
Ex.3/184: Mozart, Symphony No.40, K.550, I



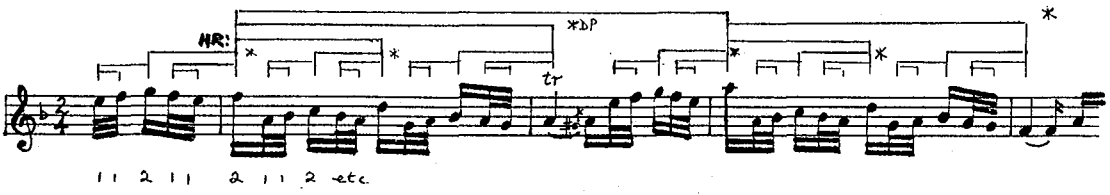
Ex.3/185: Beethoven, Symphony No.1, III



Ex.3/186: Beethoven, Symphony No.3 ('Eroica'), IV

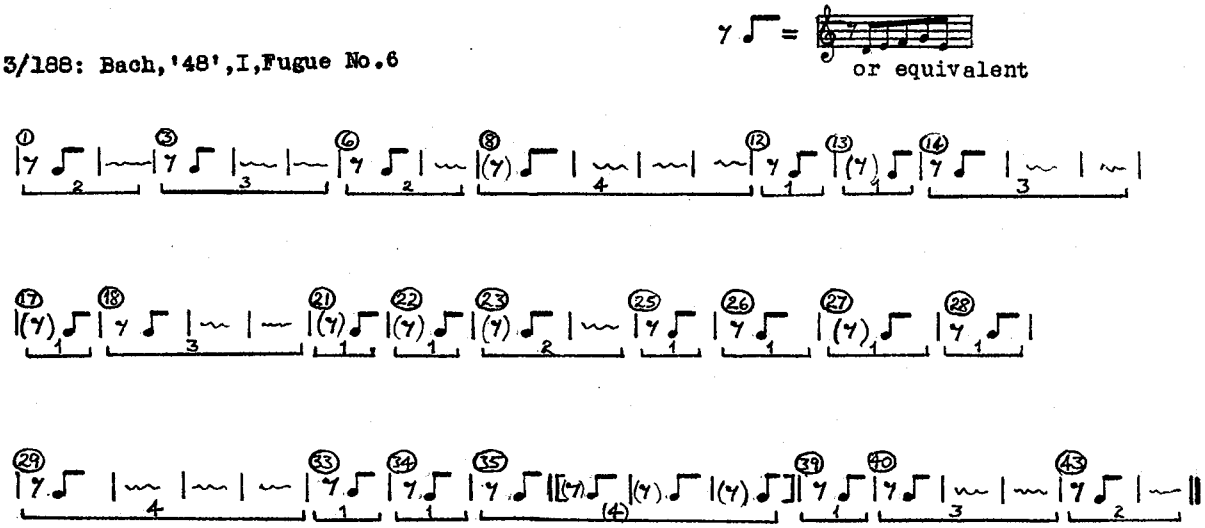


Ex.3/187: Schumann,Sonata in A minor(Violin and Piano),Op.105,II

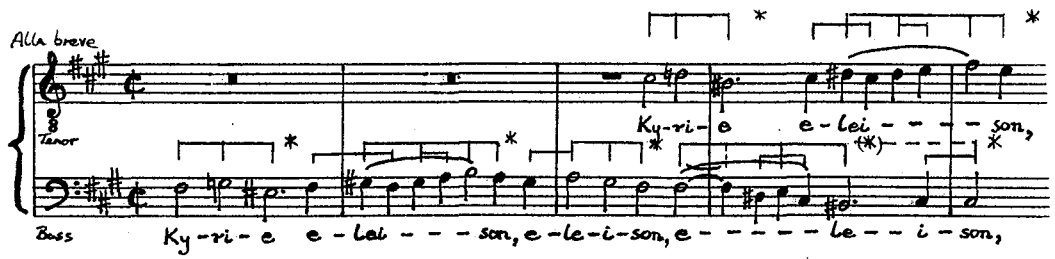


HR = Harmonic Rhythm

Ex.3/188: Bach,'48',I,Fugue No.6

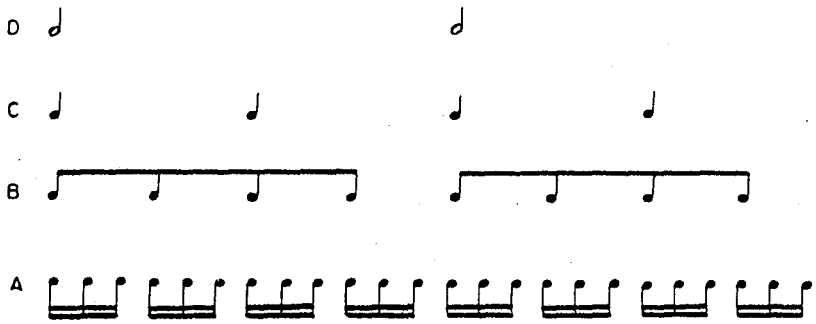


Ex.3/189: Bach,Mass in B minor,III,'Kyrie Eleison'

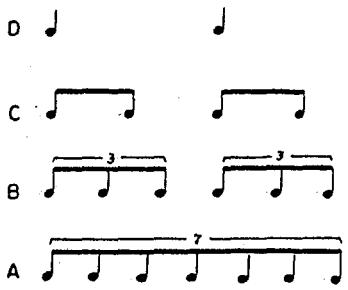


Ex.3/190

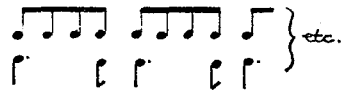
a.



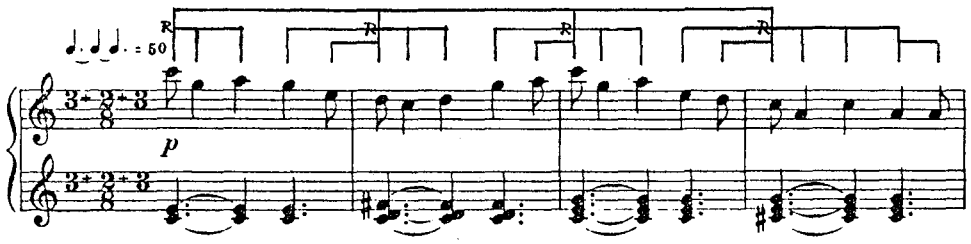
b.



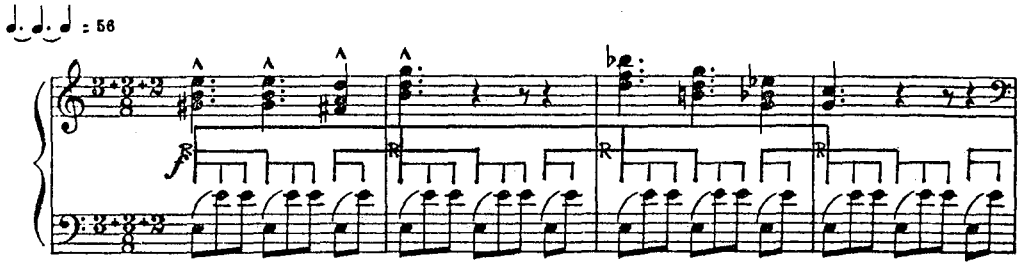
Ex.3/191



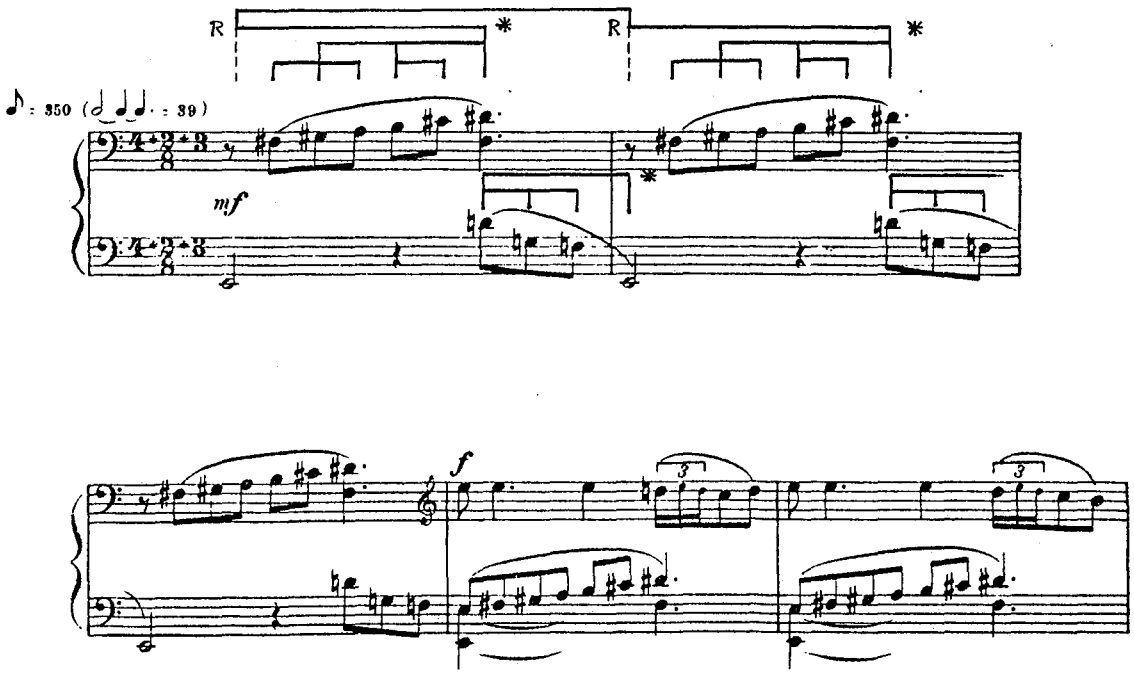
Ex.3/192: Bartók, Mikrokosmos, No.151



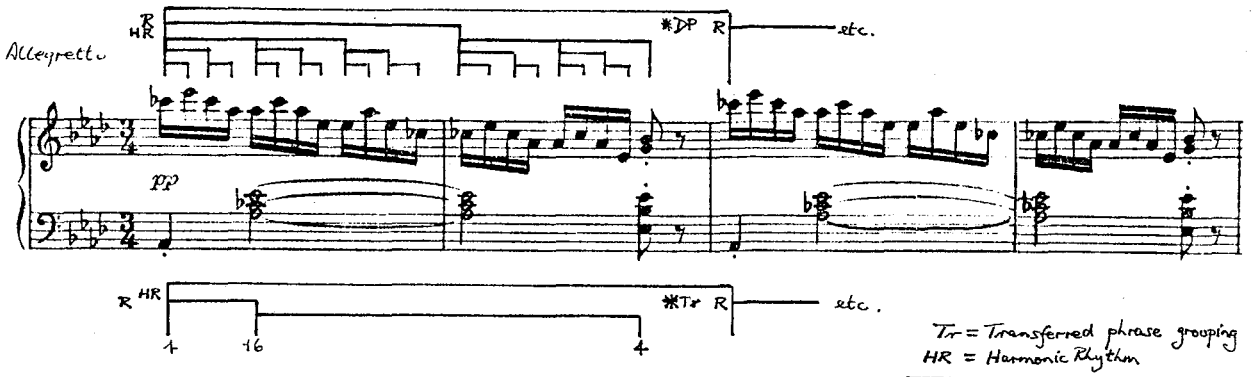
Ex.3/193: Bartók, Mikrokosmos, No.153



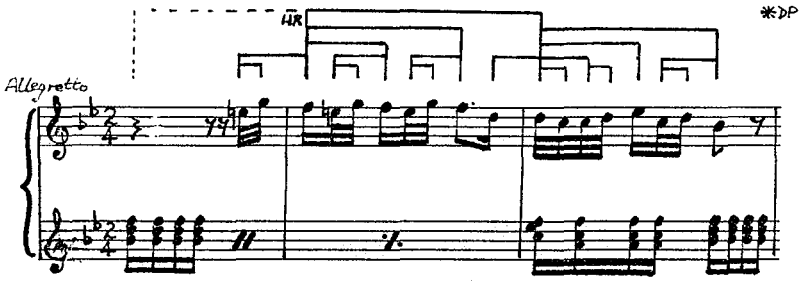
Ex.3/194: Bartók, Mikrokosmos, No.148



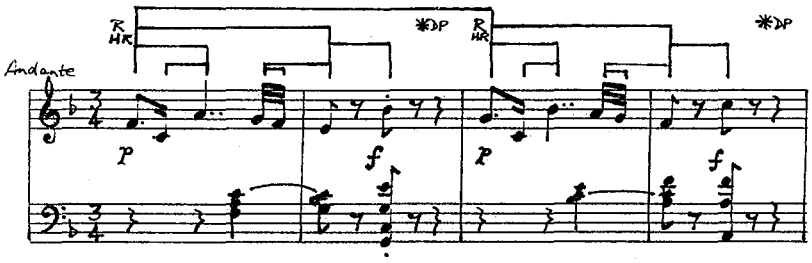
Ex.3/195: Schubert,Impromptu in A♭,Op.90/4



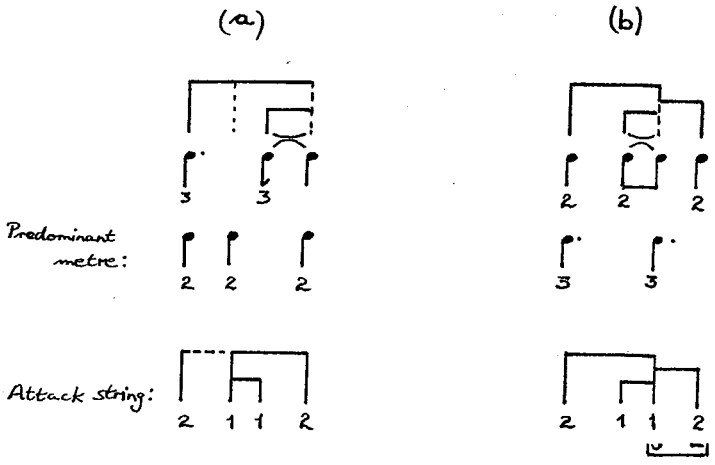
Ex.3/196: Beethoven,Symphony No.8,II



Ex.3/197: Mozart,Symphony No.41,K.551,II

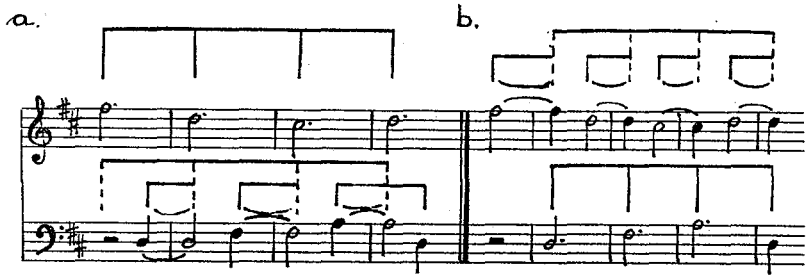


Ex.3/198

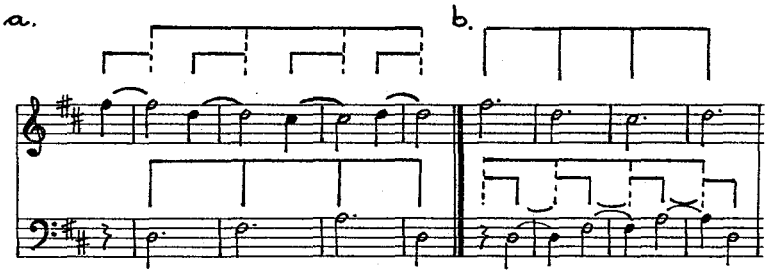


Ex.3/199

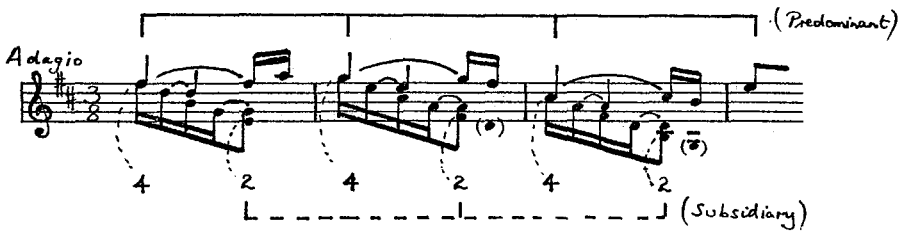
Ex.3/200



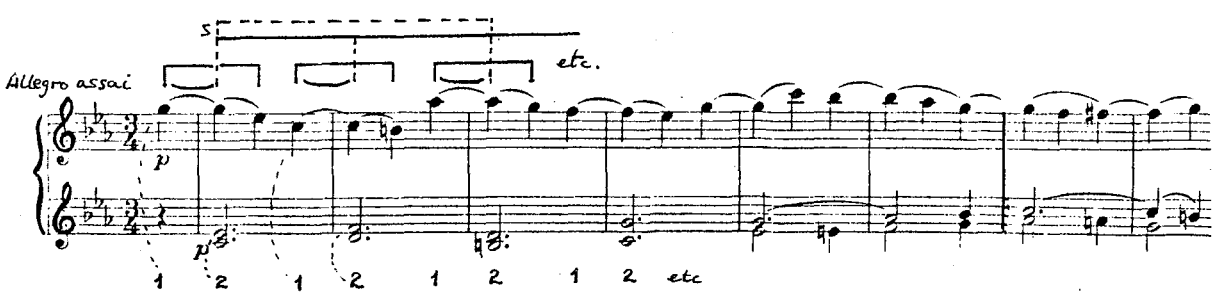
Ex.3/201



Ex.3/202: Brahms,Intermezzo in B minor,Op.119/1

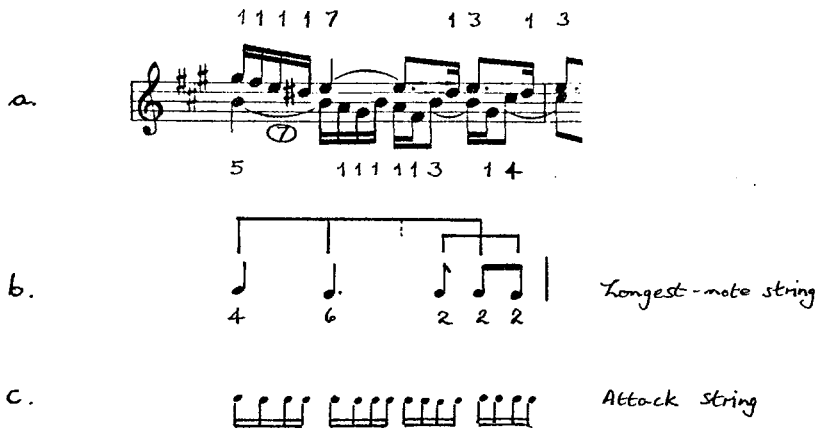


Ex.3/203: Mozart,Sonata in C minor,K.457,III

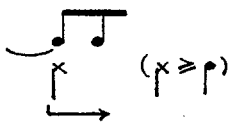


3/204 not used

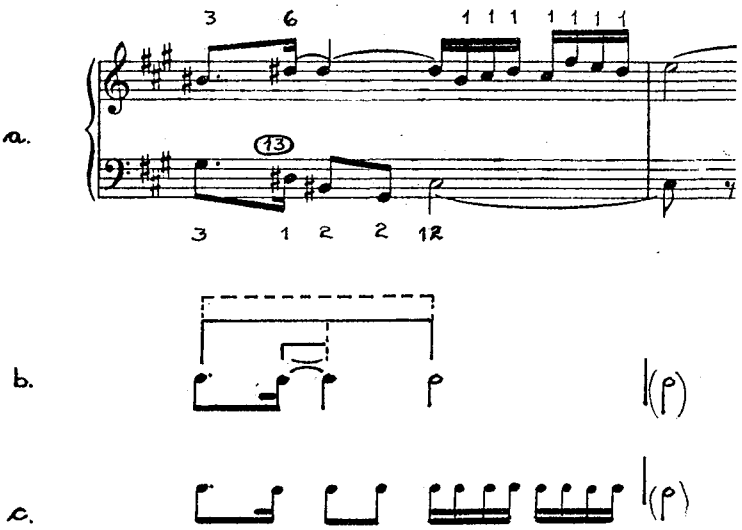
Ex.3/205: Bach,'48',II,Fugue No.19



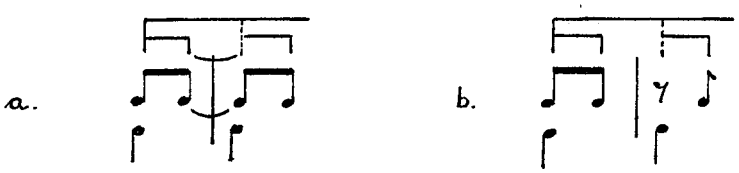
Ex.3/206



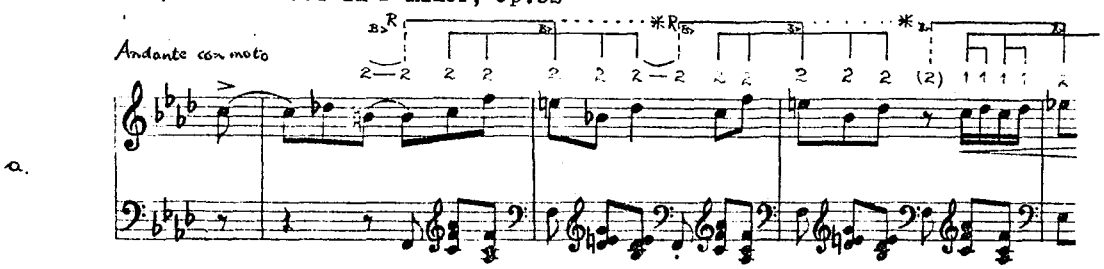
Ex.3/207: Bach,'48',II,Fugue No.19



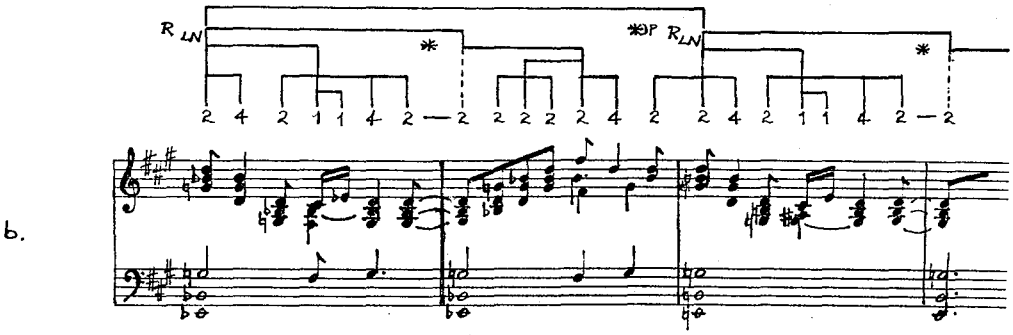
Ex.3/208



Ex.3/208.1
a: Chopin, Ballade No.4 in F minor, Op.52

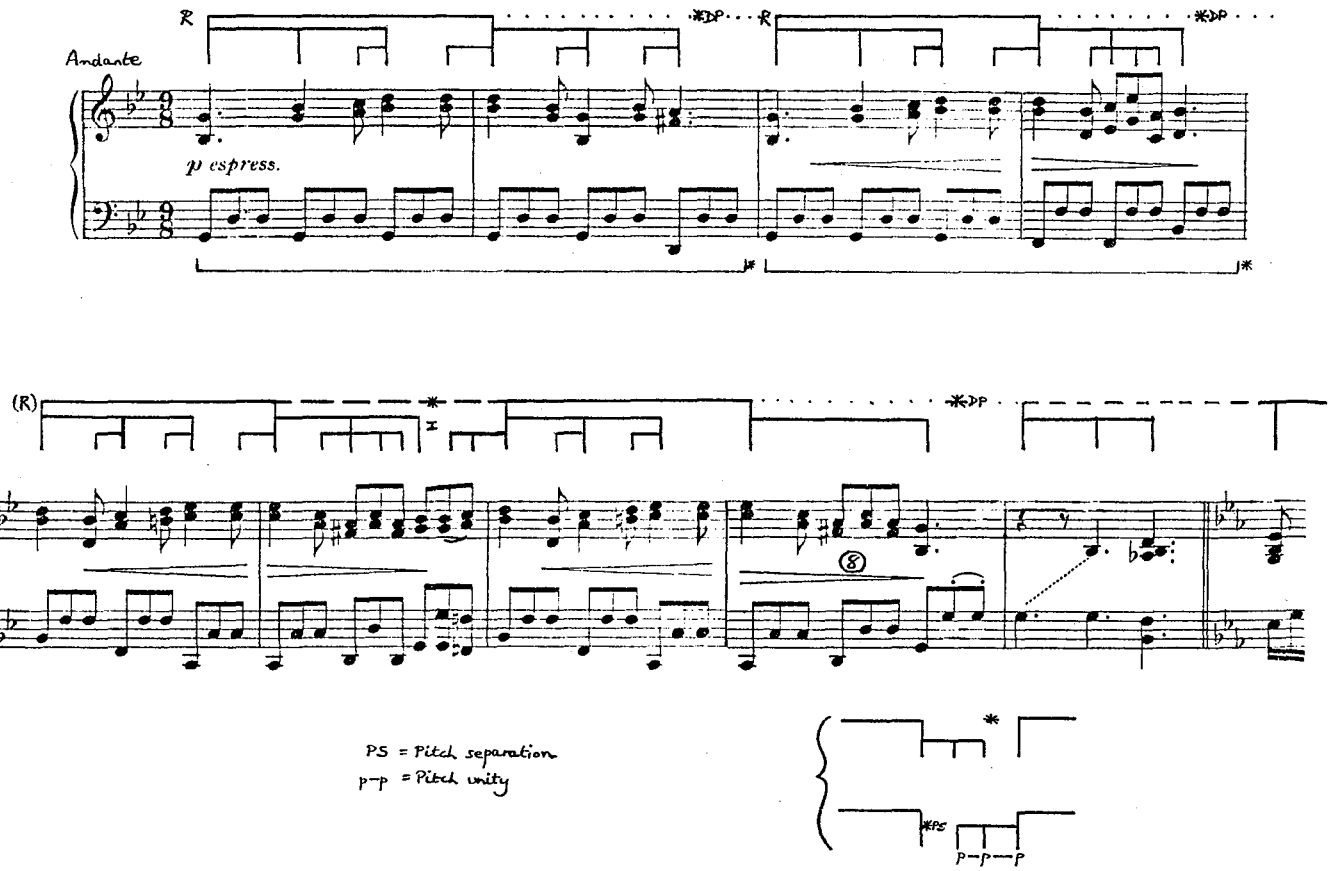


b: Rachmaninov, Symphony No.3, Op.44, III



Bx = Bass accentuation (see Chap.4, Sec.A)
LN = Longer-note accompaniment

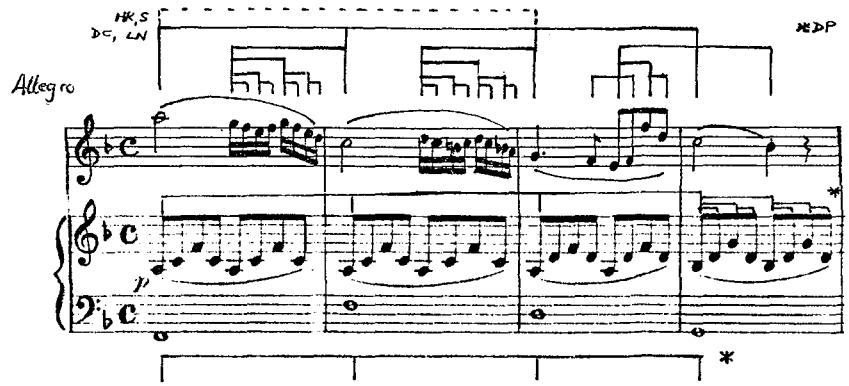
Ex.3/209: Beethoven, Sonata in G, Op.79, II



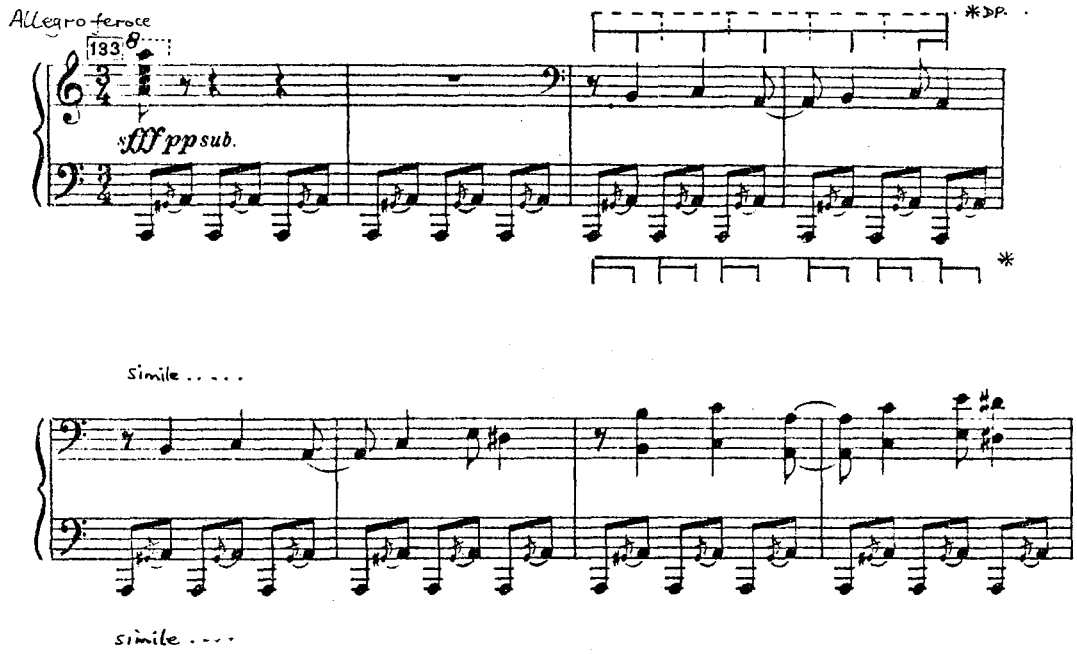
PS = Pitch separation
p–p = Pitch unity

Ex.3/210

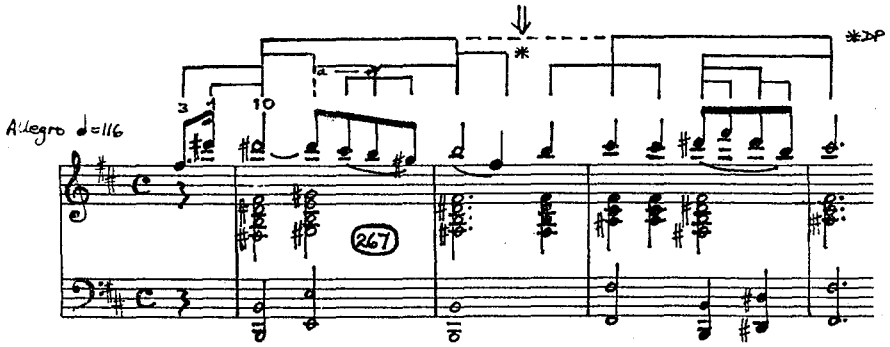
a: Beethoven,Sonata in F(Violin and Piano,'Spring'),Op.24,I



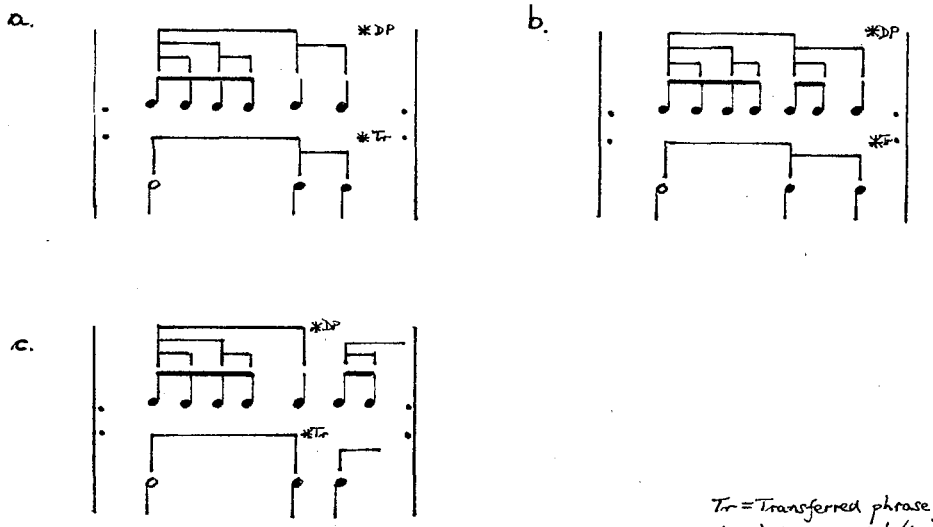
b. Stravinsky,The Firebird,Infernal Dance of All Kastchei's Subjects



Ex.3/211: Dvořák,'Cello Concerto,Op.104,I

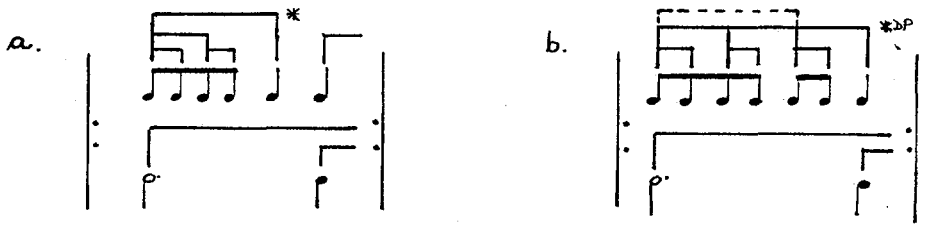


Ex.3/212

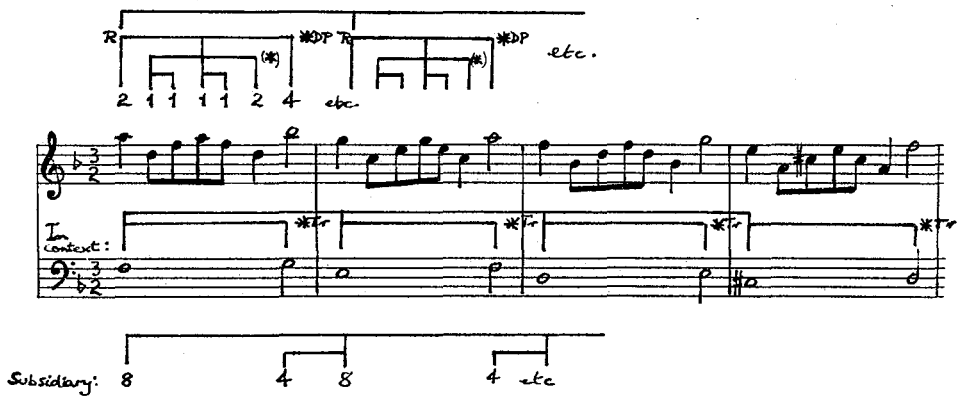


Tr = Transferred phrase grouping
↝ = 'gives way to' (in progressive closure)

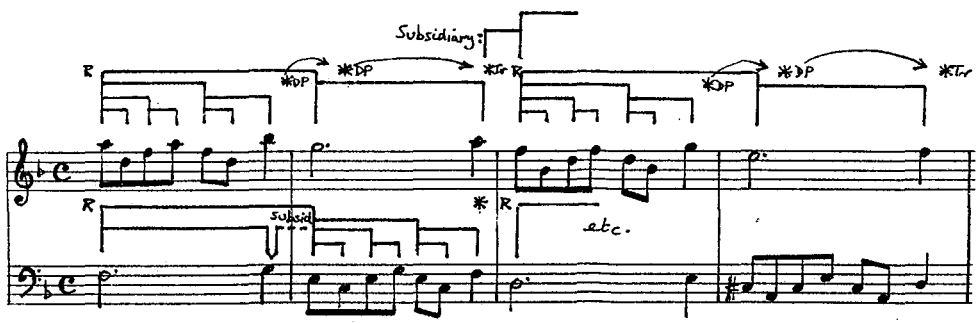
Ex.3/213



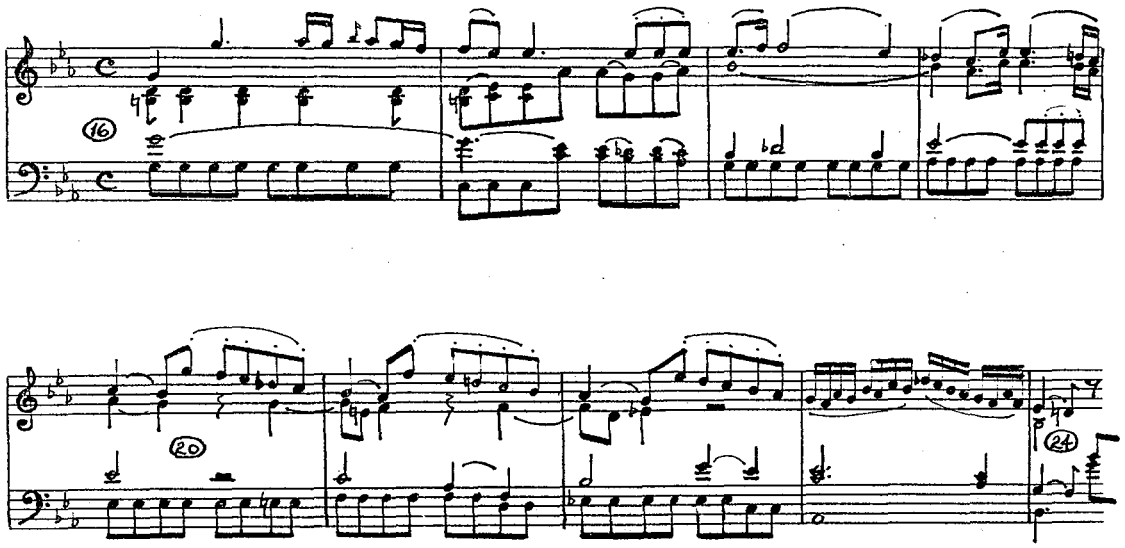
Ex.3/214: Purcell, Abdelazar, Hornpipe (Britten, Young Person's Guide, Op.34, I)



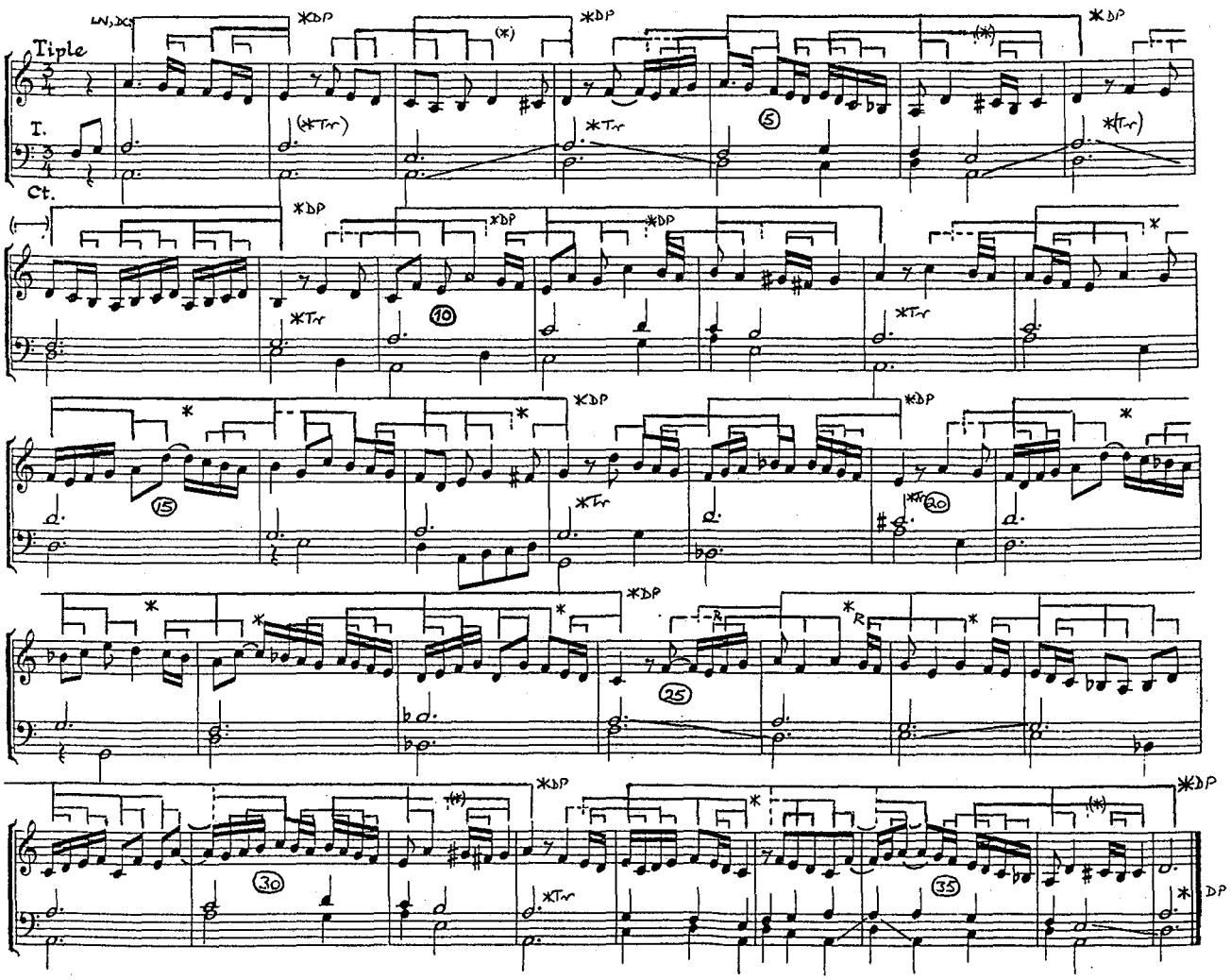
Ex.3/215



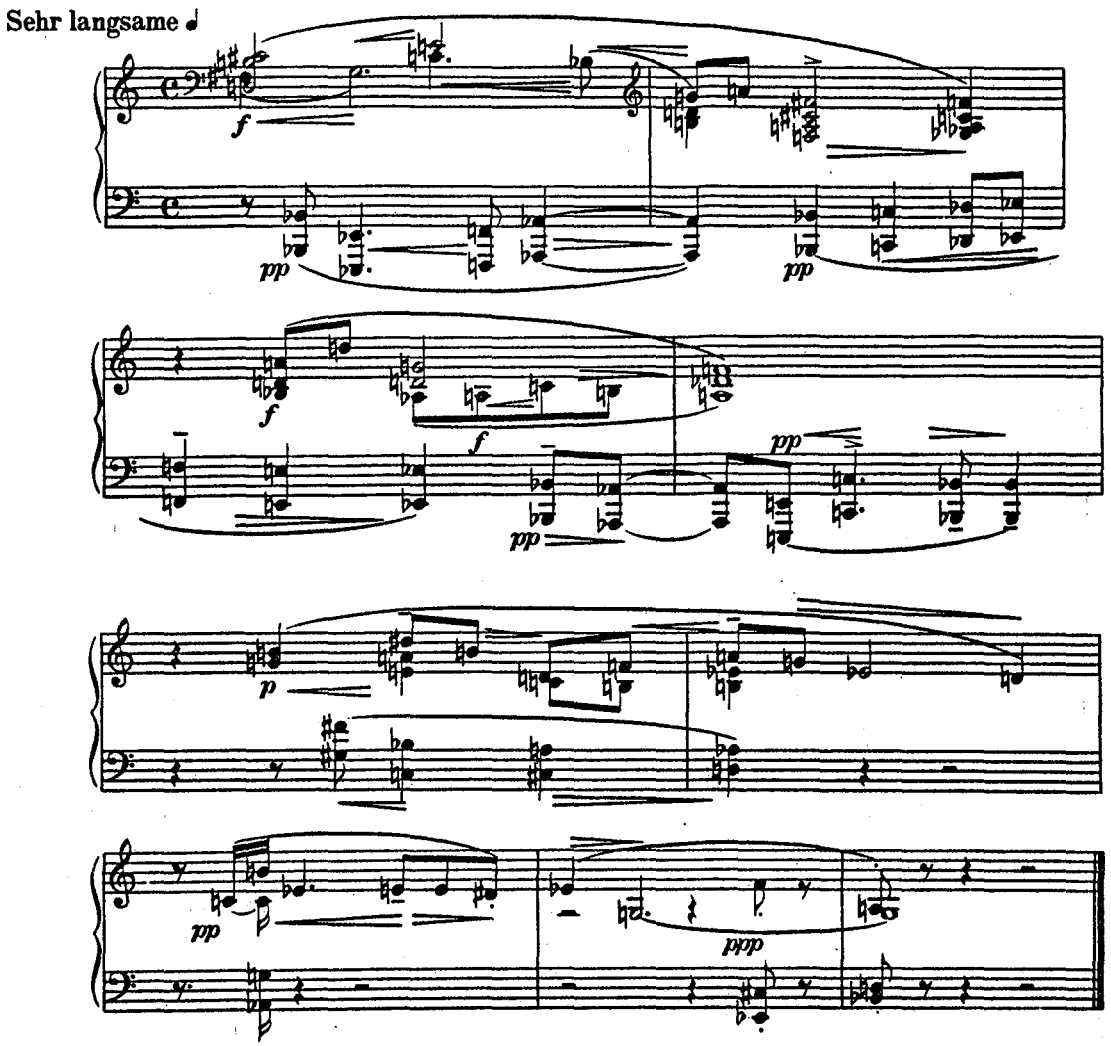
Ex.3/216: Mozart,Quartet in E♭,K.428,I

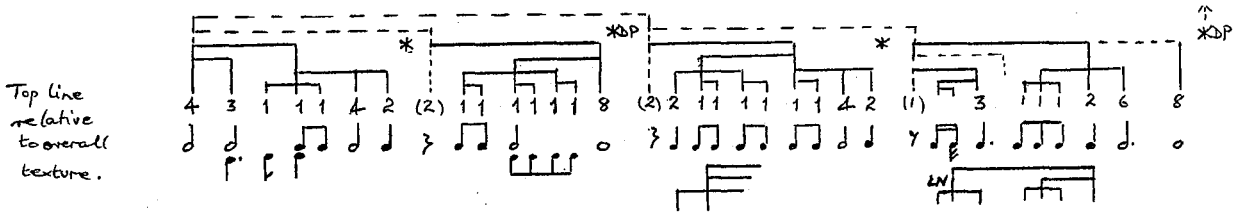


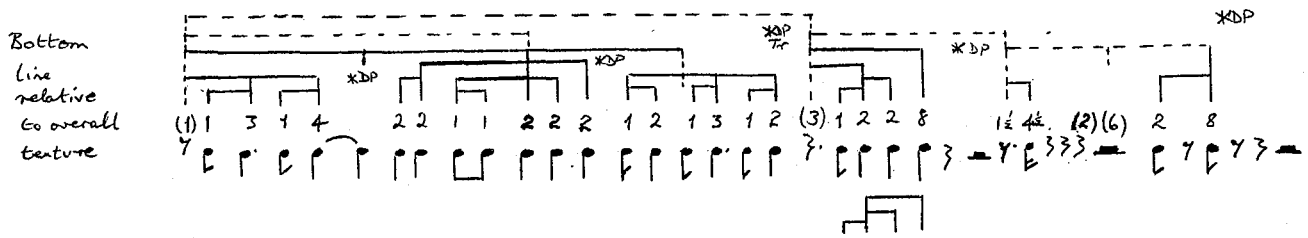
Ex.3/217: Francisco de la Torre,Alta (HAM No.102a)



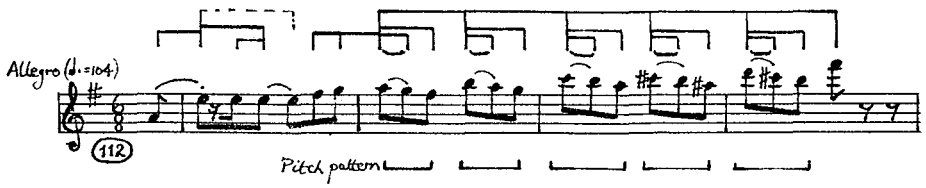
Ex.3/218: Schoenberg, Six Little Piano Pieces, Op.19, III



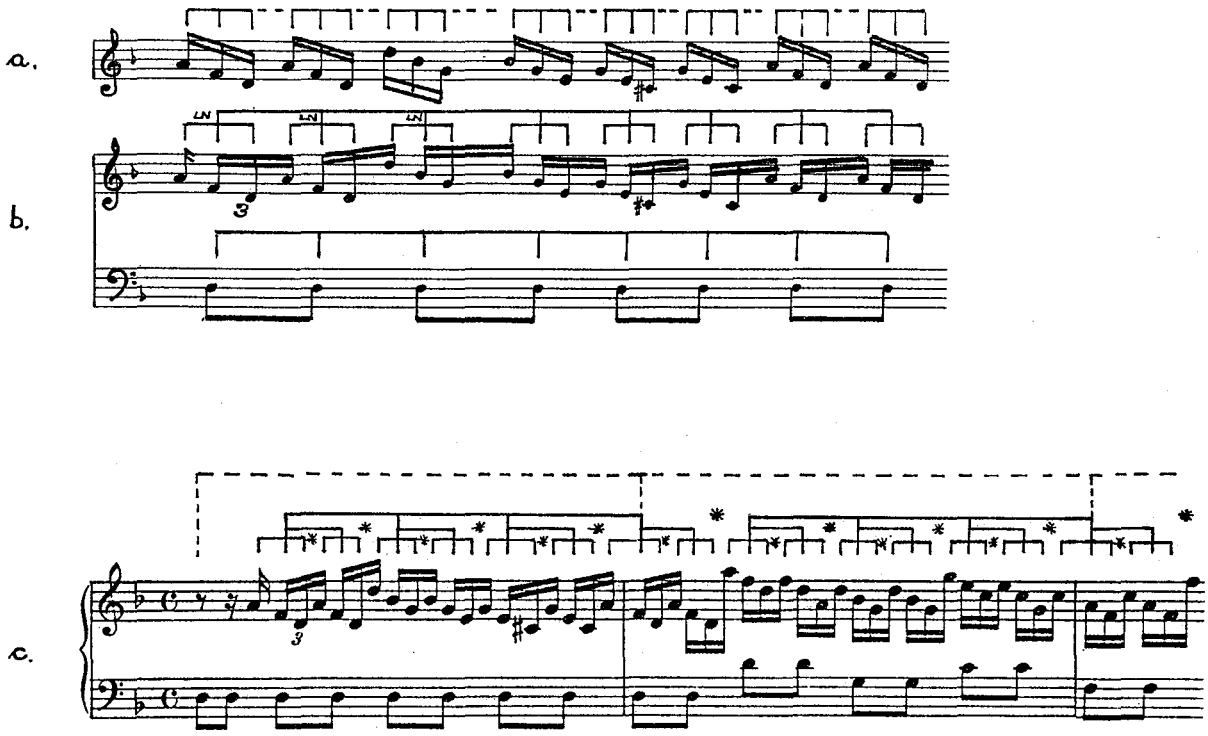




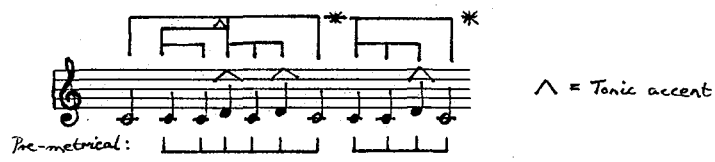
Ex.4/1: Tchaikovsky,Symphony No.5,I



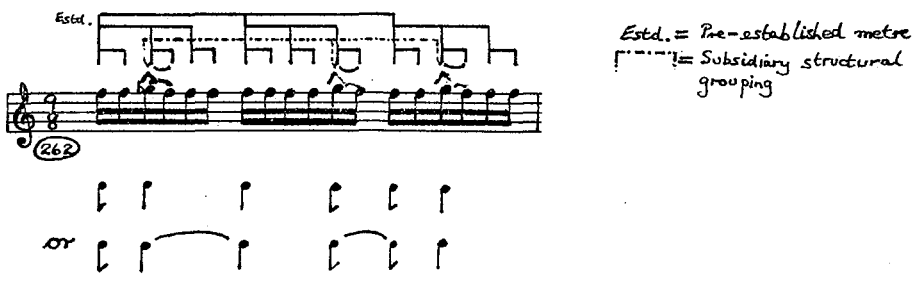
Ex.4/2: Bach,'48',I,Prelude No.6



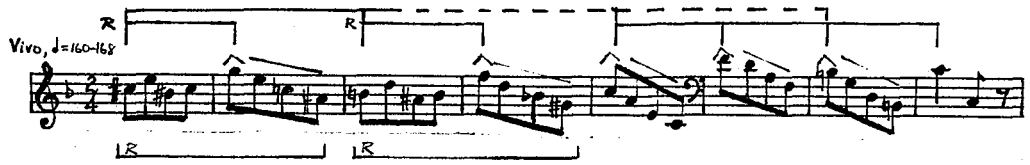
Ex.4/3: Stravinsky,The Rite of Spring,'Evocation of the Ancestors'



Ex.4/4: Tchaikovsky,Symphony No.4,I

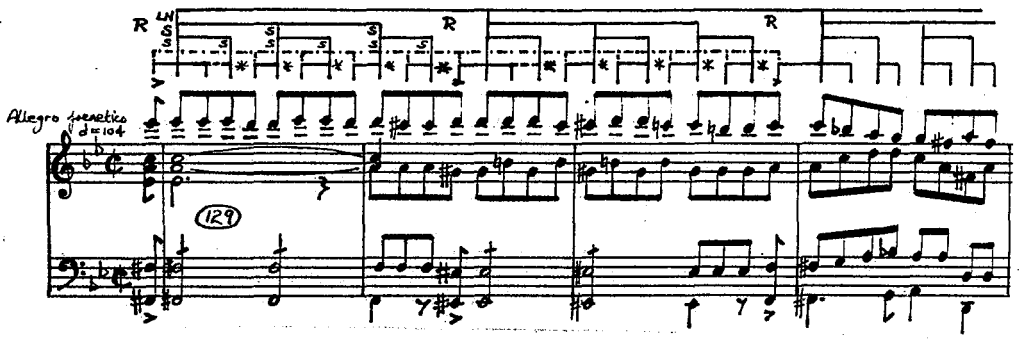


Ex.4/5: Prokofiev, Romeo and Juliet, Op.64, 'Dance'



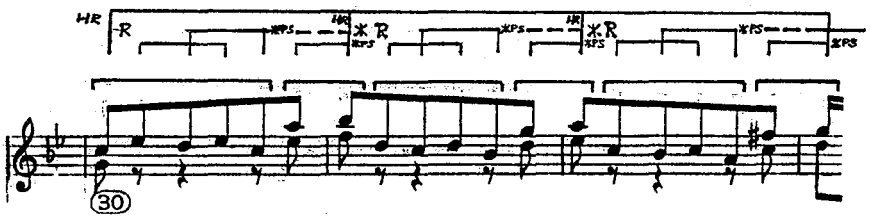
^ = Tonic accent
\ = Directional grouping

Ex.4/6: Berlioz, Harold in Italy, Op.16, IV



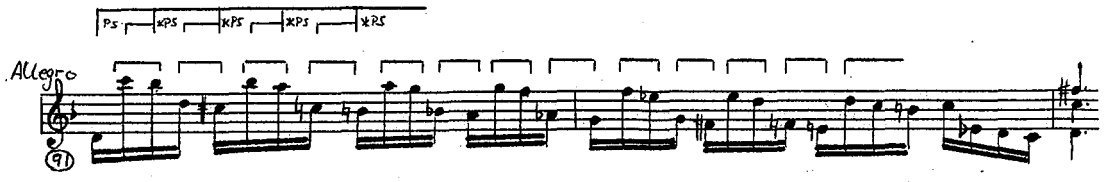
⌐ · — · ¬ = Subsidiary structural grouping

Ex.4/7: Bach, '48', I, Fugue No.21

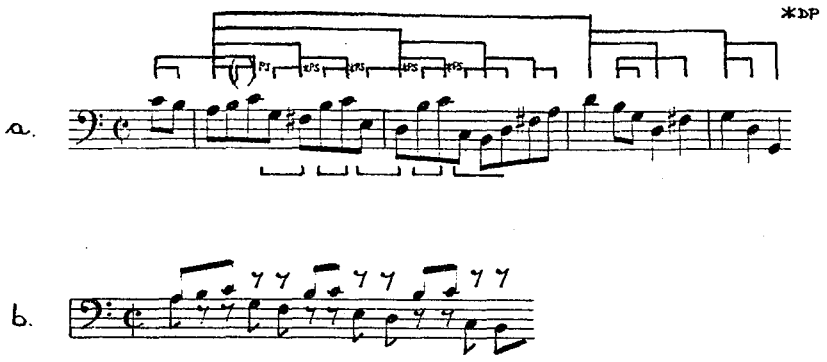


PS = Pitch separation
HR = Harmonic Rhythm

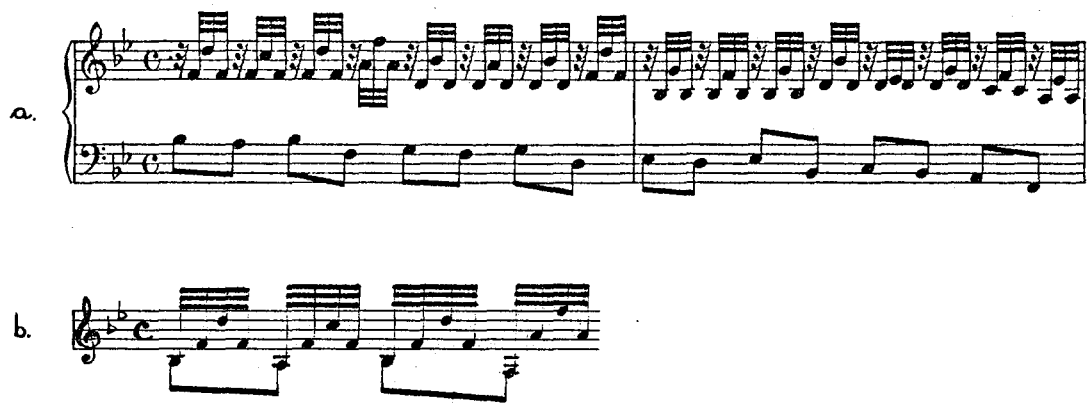
Ex.4/8: Bach, Sonata in G minor (Solo Violin), Fugue



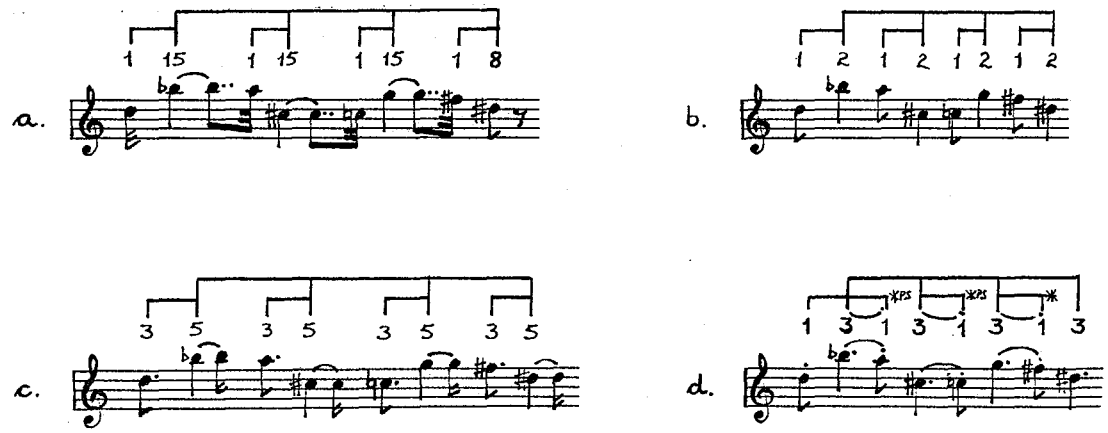
Ex.4/9: Bach,Suite No.3 (Solo 'Cello),Bourrée I



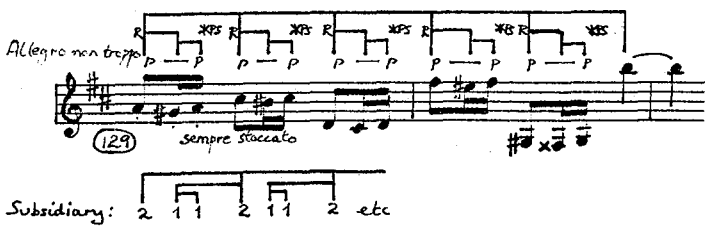
Ex.4/10: Bach,'48',I,Prelude No.21



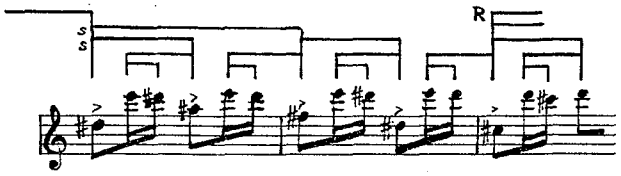
Ex.4/11: Shostakovich,Symphony No.5,I



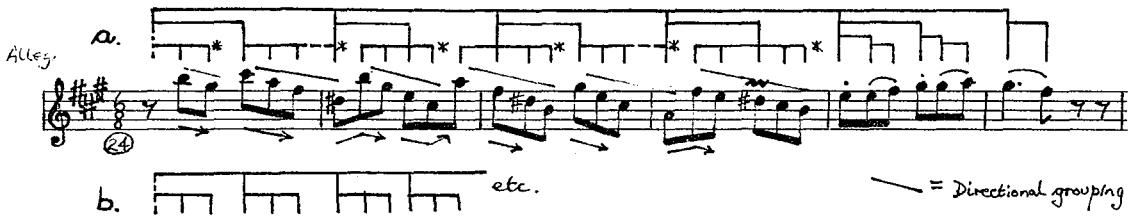
Ex.4/12: Brahms,Symphony No.2,I



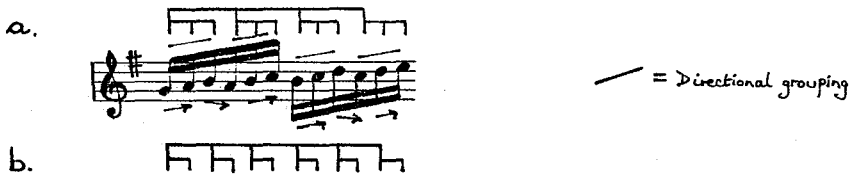
Ex.4/13: Prokofiev, Romeo and Juliet, Op.64, 'Dance of the Maids from the Antilles'



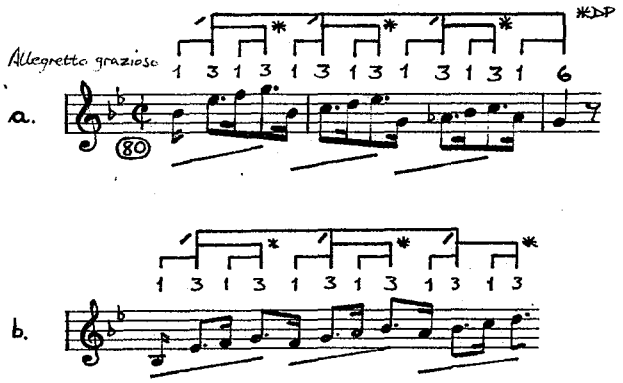
Ex.4/14: Mozart, Sonata in A (Piano and Violin), K.305, I



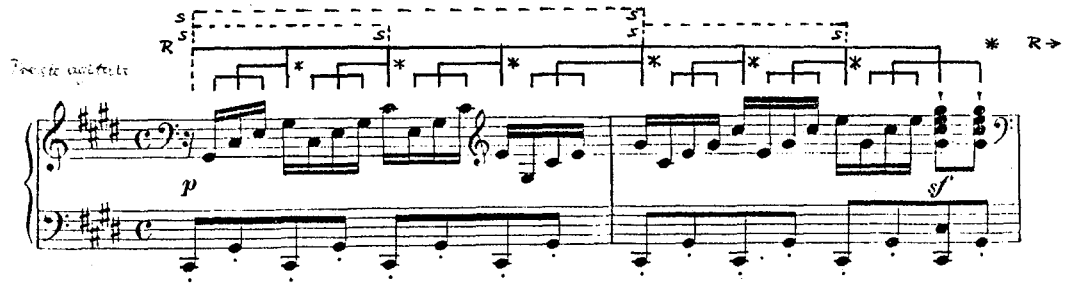
Ex.4/15



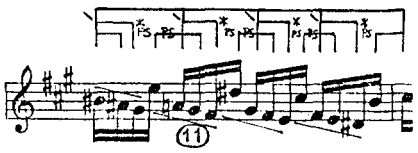
Ex.4/16: Mozart, Sonata in B♭, K.333, III



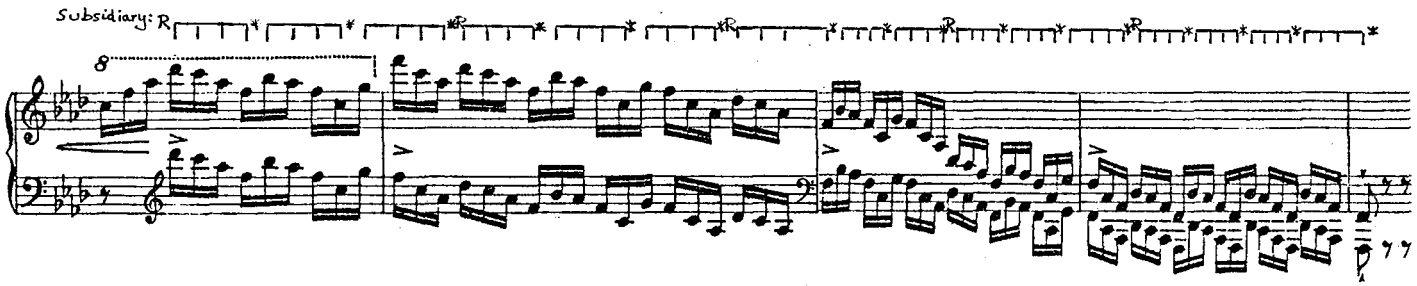
Ex.4/17: Beethoven, Sonata in C♯ minor ('Moonlight'), Op.27/2, III



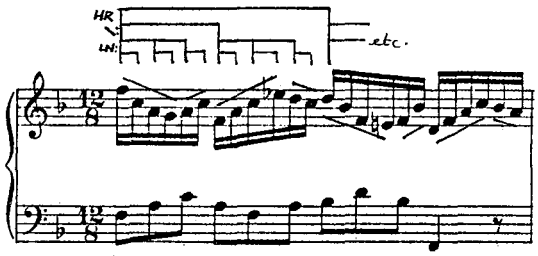
Ex.4/18: Bach,'48',I,Prelude No.14



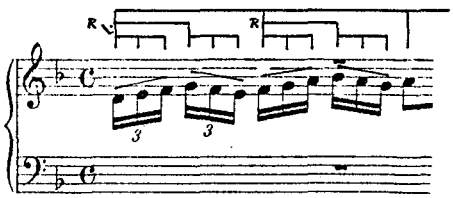
Ex.4/19: Chopin,Ballade No.4 in F minor,Op.52 (ending)



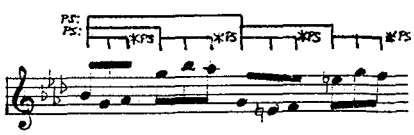
Ex.4/20: Bach,'48',I,Prelude No.11



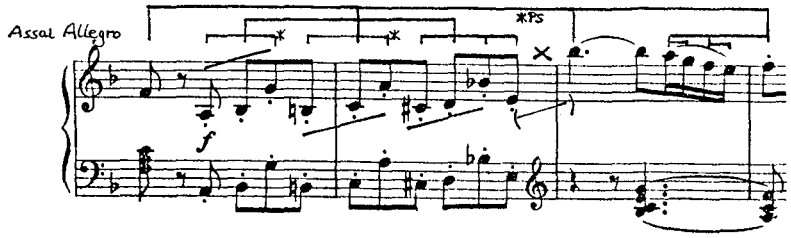
Ex.4/21: Bach,'48',II,Fugue No.6



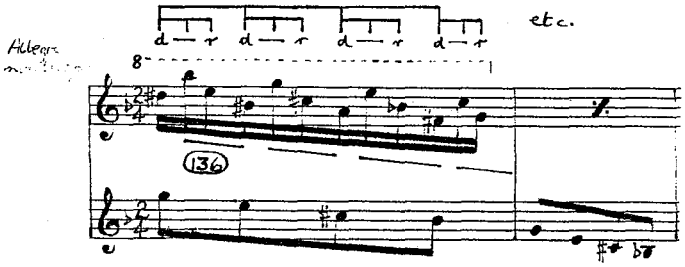
Ex.4/22



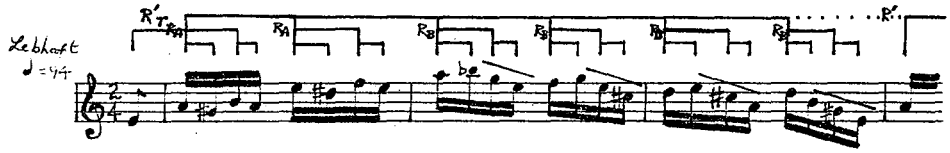
Ex.4/23: Mozart, Sonata in F, K.332, III



Ex.4/24: Brahms, Piano Concerto in D minor, III

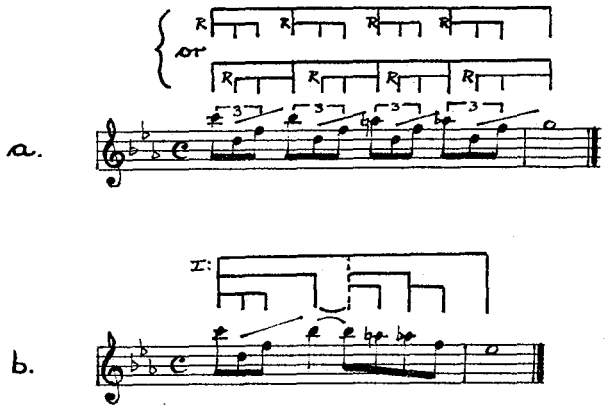


Ex.4/25: Schumann, Sonata in A minor (Violin and Piano), Op.105, III

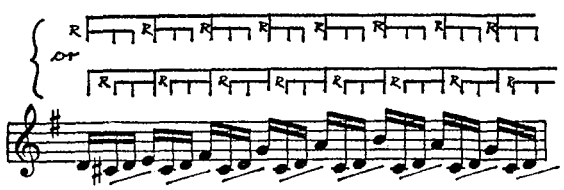


T = Structurally accented tonic

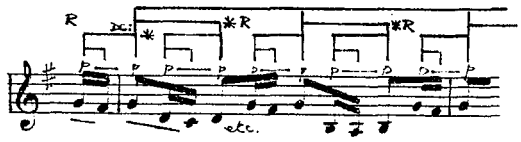
Ex.4/26



Ex.4/27: Bach, '48', I, Prelude No.15

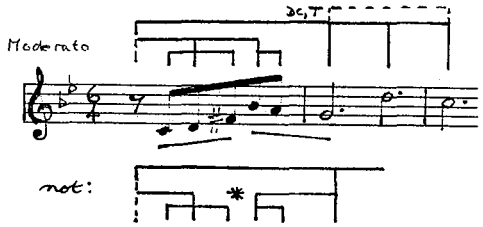


Ex.4/28: Bach,Brandenburg Concerto No.3,I



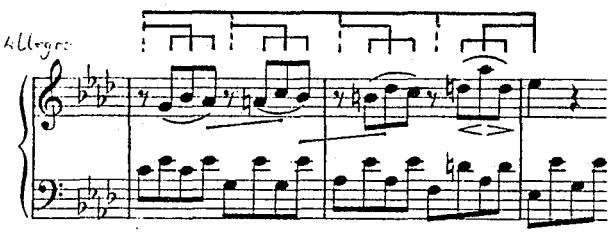
p-p = Pitch unity

Ex.4/29: Chopin,Ballade No.1 in G minor,Op.23

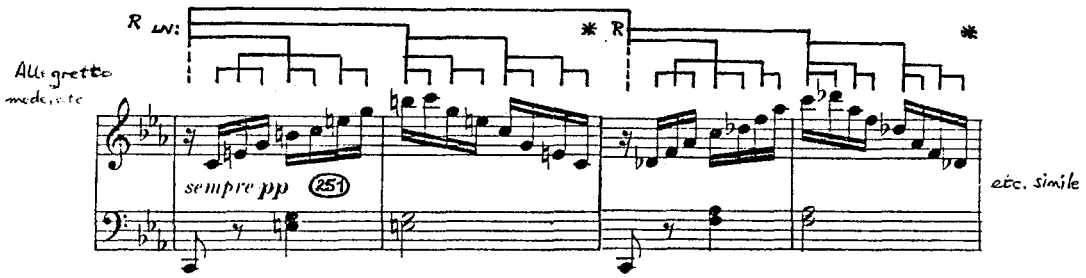


T=Structurally accented tonic (in bass)
DC= Duration contour

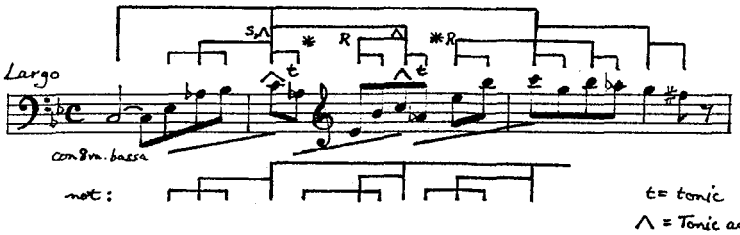
Ex.4/30: Beethoven,Sonata in F minor,Op.2/1,I



Ex.4/31: Beethoven,Sonata in C ('Waldstein'),Op.53,III

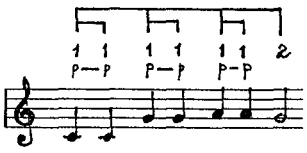


Ex.4/32: Chopin,Ballade No.1 in G minor,Op.23

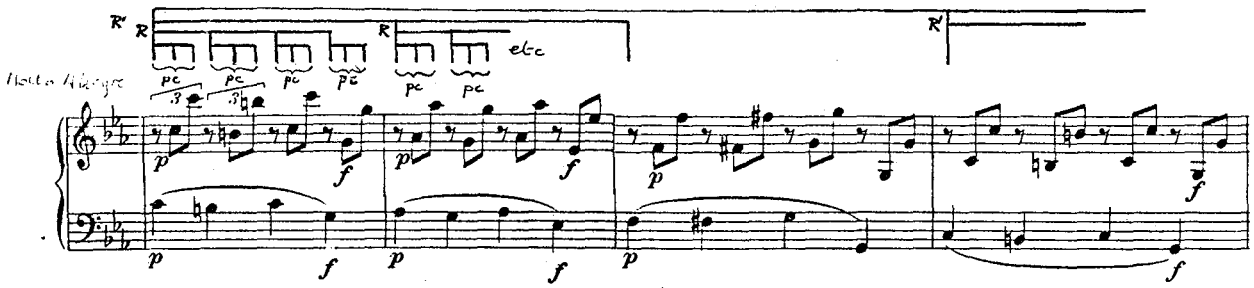


t= tonic
Λ = Tonic accent

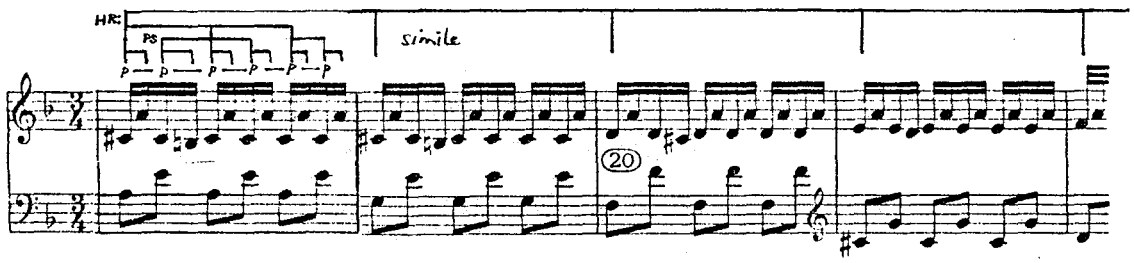
Ex.4/33: 'Twinkle Twinkle Little Star'



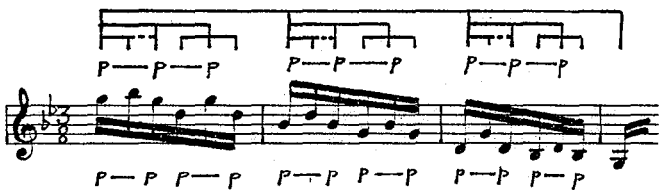
Ex.4/34: Mozart,Sonata in C minor,K.457,I



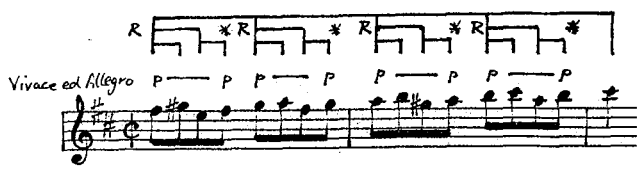
Ex.4/35: Bach,'48',II,Prelude No.6



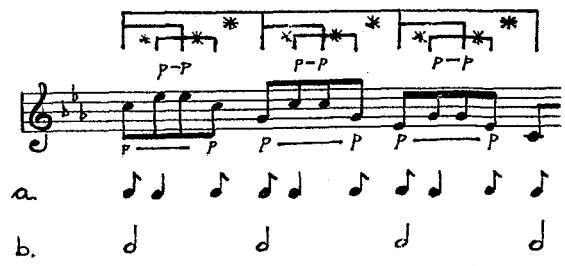
Ex.4/36: Bach,Sonata in G minor (Solo Violin),IV



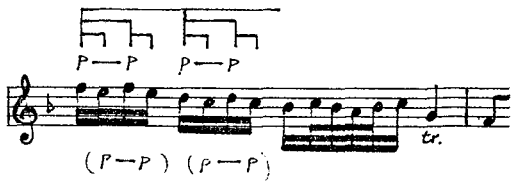
Ex.4/37: Bach,Mass in B minor,XIX,'Confiteor'



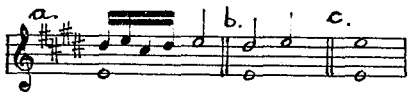
Ex.4/38



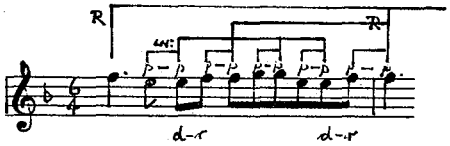
Ex.4/39: Bach,Brandenburg Concerto No.1,I



Ex.4/40



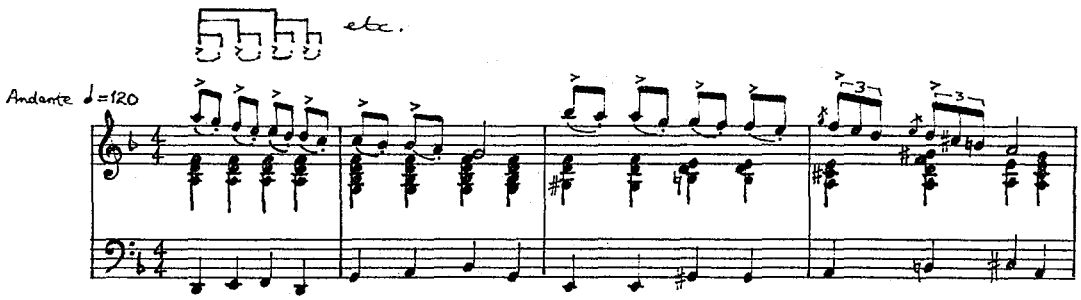
Ex.4/41: Brahms,Piano Concerto in D minor,I



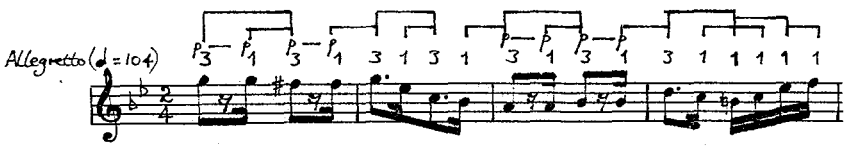
d-r = Dissonance + resolution

See 2/45b for accompaniment

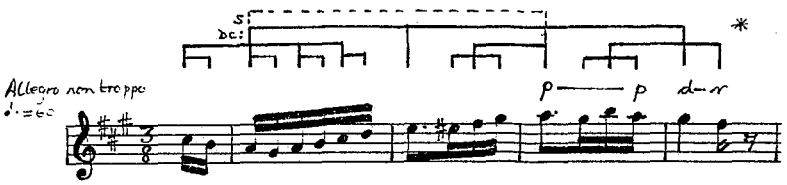
Ex.4/42: Kodály,Suite:Háry János,V,'Intermezzo'



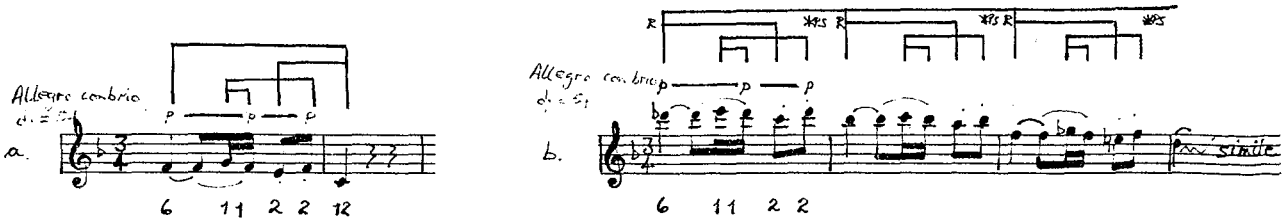
Ex.4/43: Brahms,Piano Concerto No.2,III



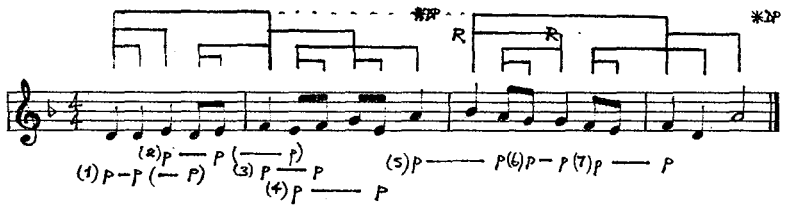
Ex.4/44: Berlioz,Symphonie Fantastique,Op.14,II



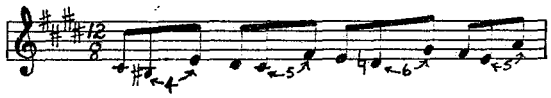
Ex.4/45: Beethoven,Quartet,Op.18/1,I



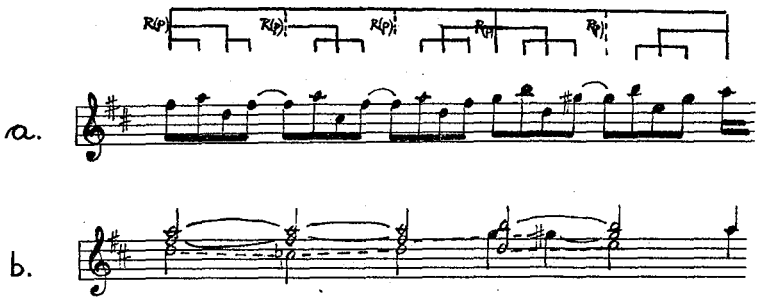
Ex.4/46



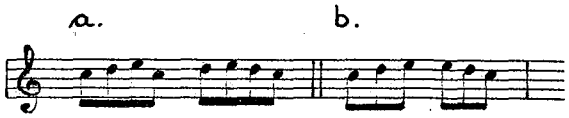
Ex.4/47



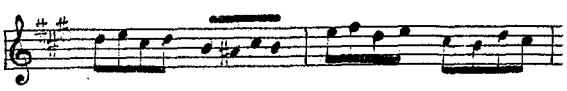
Ex.4/48: Bach,Orchestral Suite No.3 in D,I



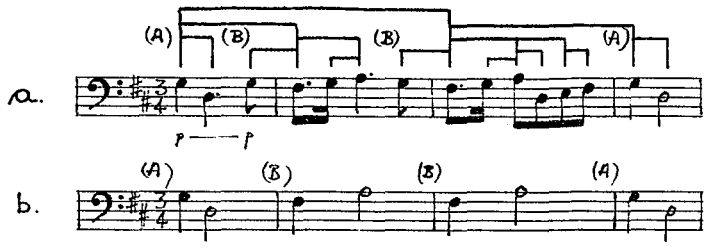
Ex.4/49



Ex.4/50

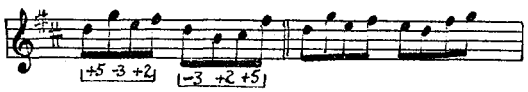


Ex.4/51: Schubert,Symphony No.8,I

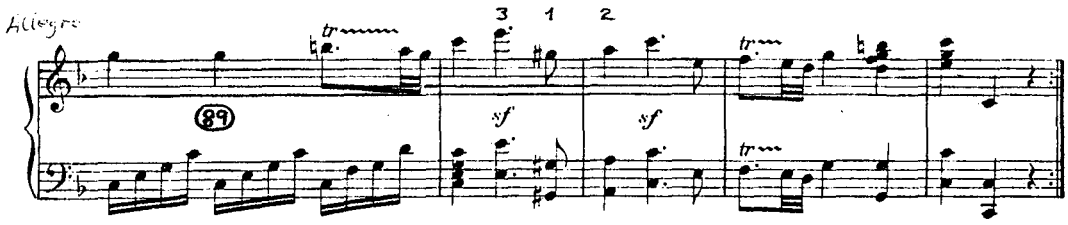


Ex.4/52

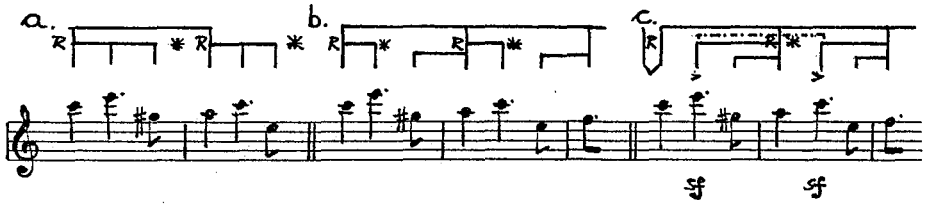
Ex.4/53 a. b.



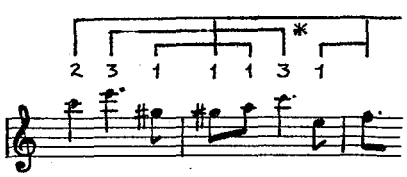
Ex.4/54: Mozart,Sonata in F,K.332,I



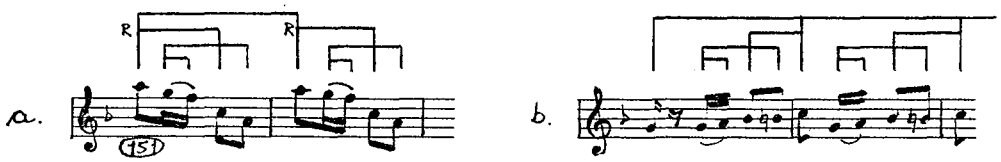
Ex.4/55



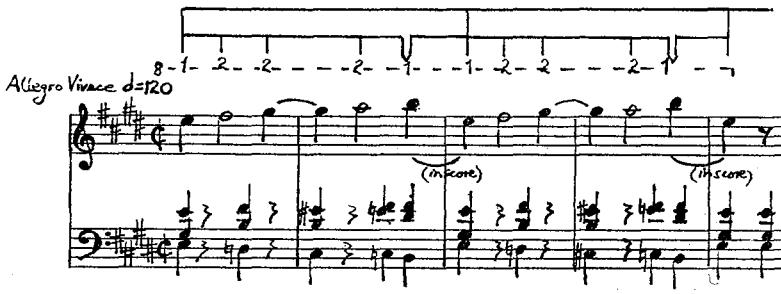
Ex.4/56



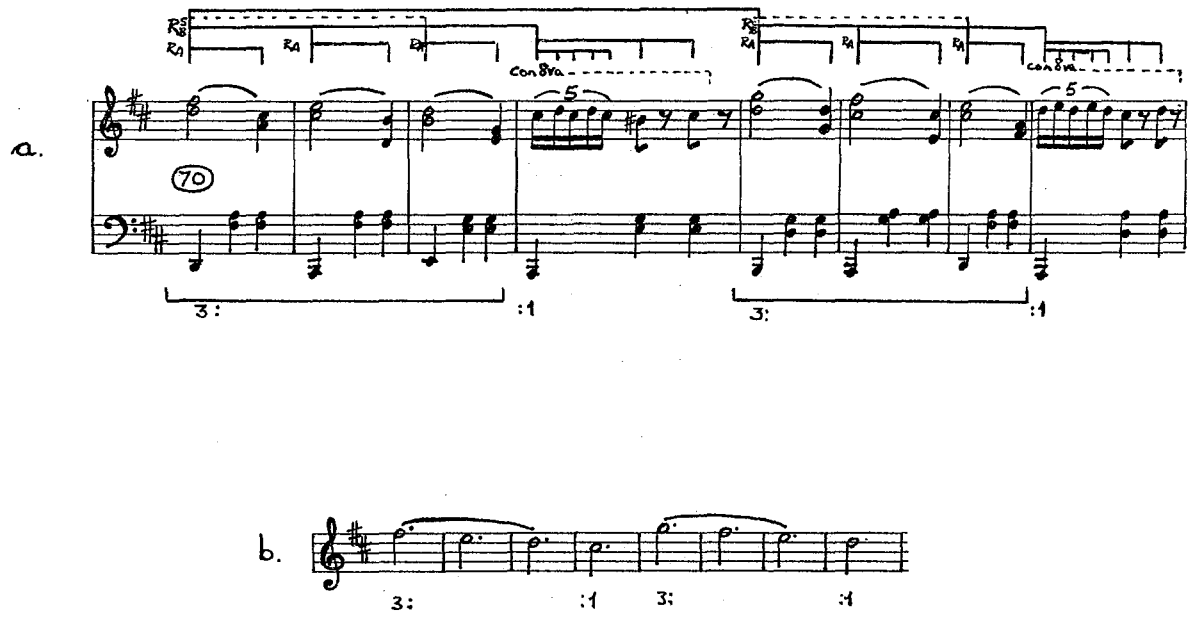
Ex.4/57: Beethoven,Symphony No.6,I



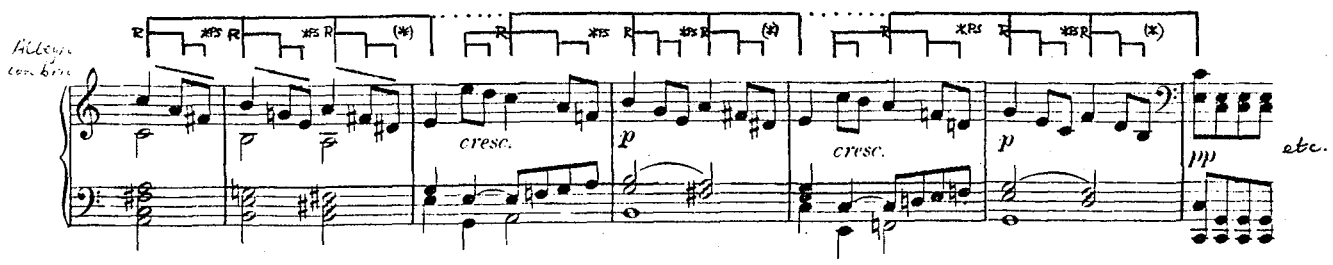
Ex.4/58: Tchaikovsky,Symphony No.5,IV



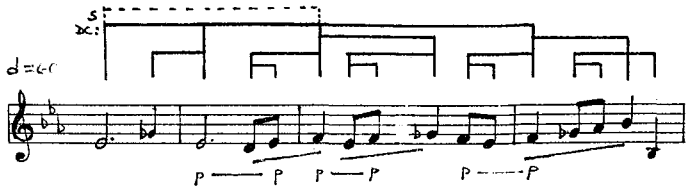
Ex.4/59: Tchaikovsky,Nutcracker,'Valse des Fleurs'



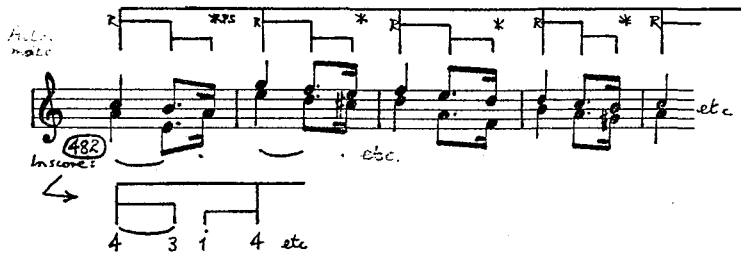
Ex.4/60: Beethoven,Sonata in C ('Waldstein'),Op.53,I



Ex.4/61: Bruckner,Symphony No.8,IV

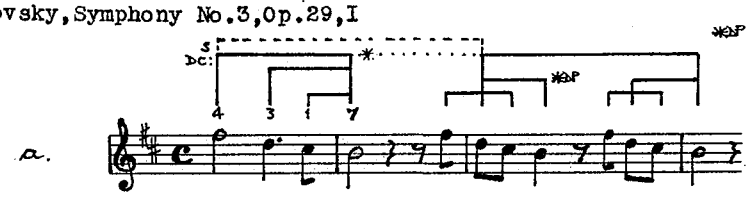


Ex.4/62: Schumann,Piano Concerto,Op.54,I

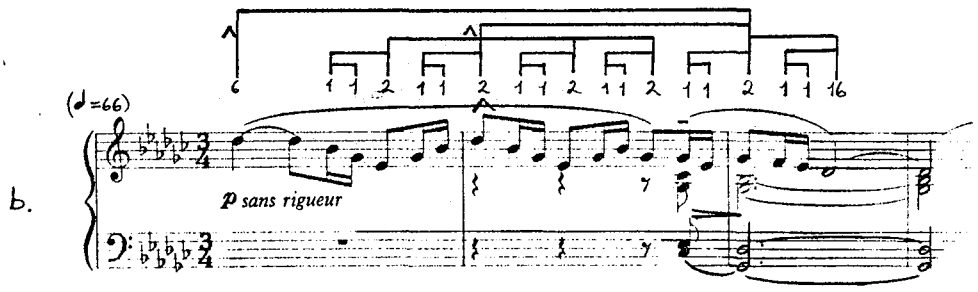


Ex.4/63

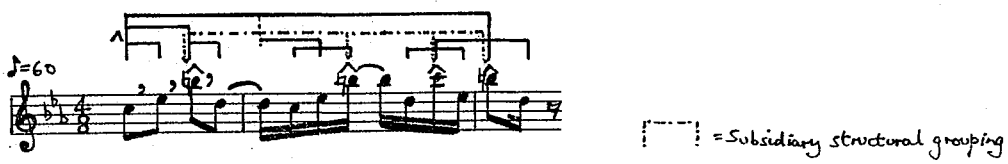
a: Tchaikovsky,Symphony No.3,Op.29,I



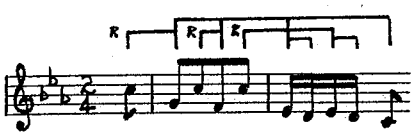
b: Debussy,Prelude,'La fille aux cheveux de lin'



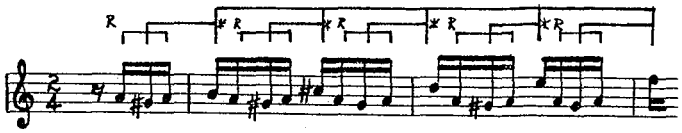
Ex.4/64: Stravinsky,Symphony of Psalms,II



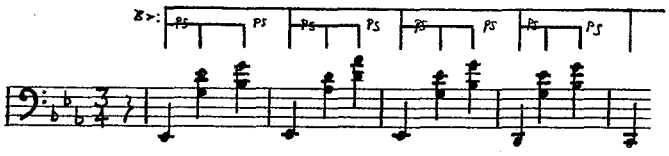
Ex.4/65: Bach,Concerto in C minor (Two Claviers and Orchestra),BWV 1060,III



Ex.4/66: Bach, Violin Concerto in A minor,I

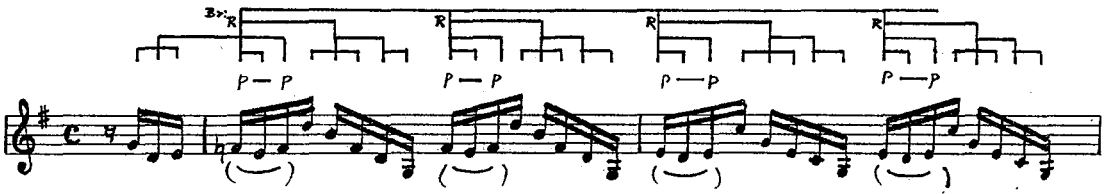


Ex.4/67: Chopin,Nocturne in E♭,Op.9/2 (accompaniment)

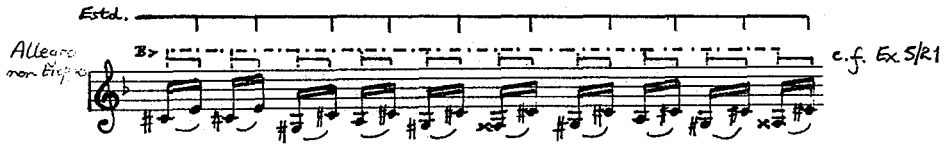


B> = Bass accentuation

Ex.4/68: Bach,Brandenburg Concerto No.3,I



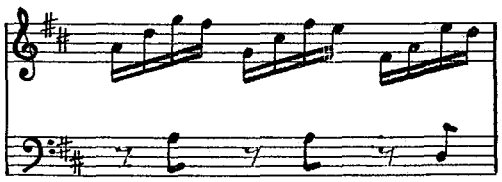
Ex.4/69: Brahms,Piano Concerto No.1,III



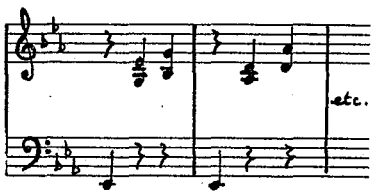
c.f. Ex.5/R1

Estd. = Pre-established multiple

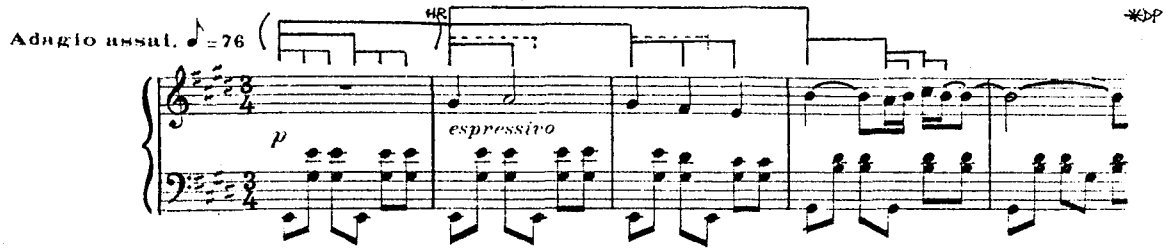
Ex.4/70



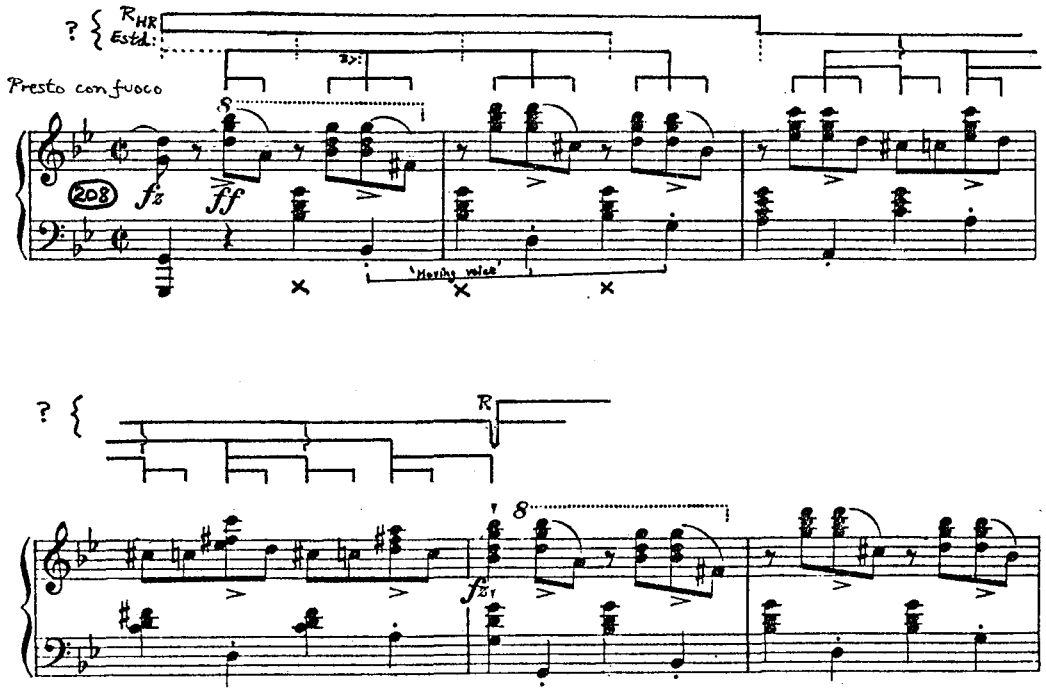
Ex.4/71



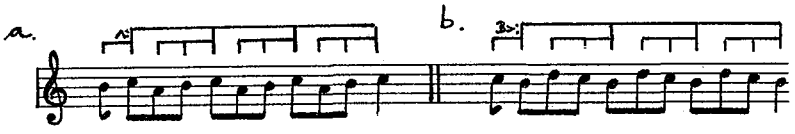
Ex.4/72: Ravel,Piano Concerto in G,II



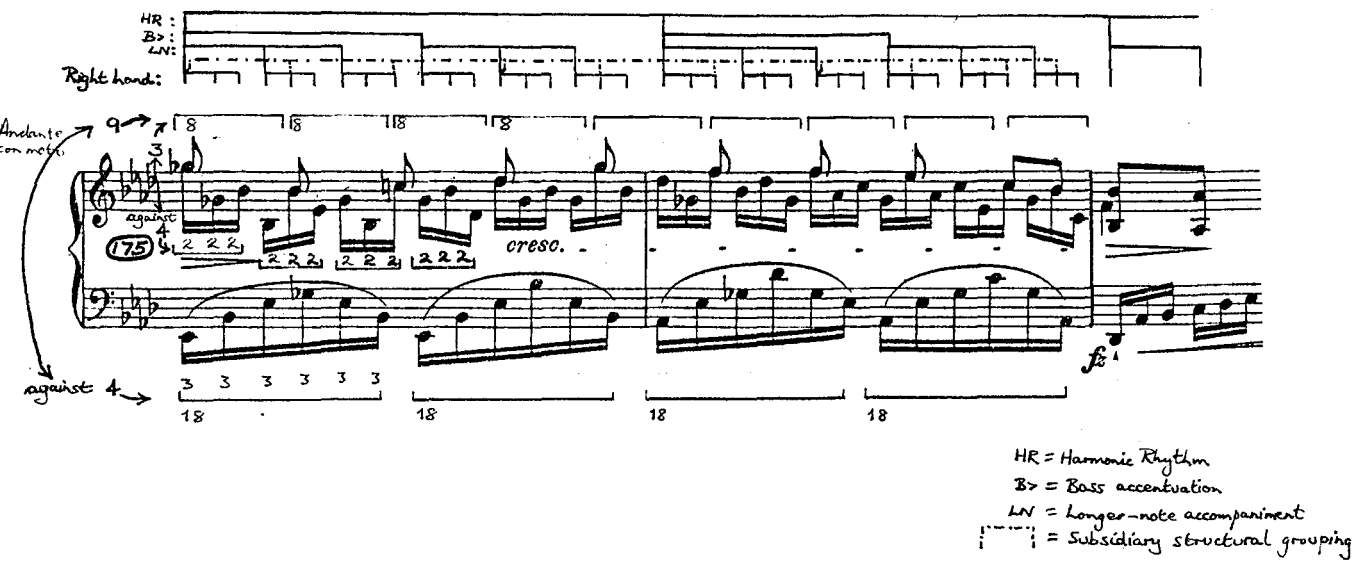
Ex.4/73: Chopin,Ballade No.1,Op.23



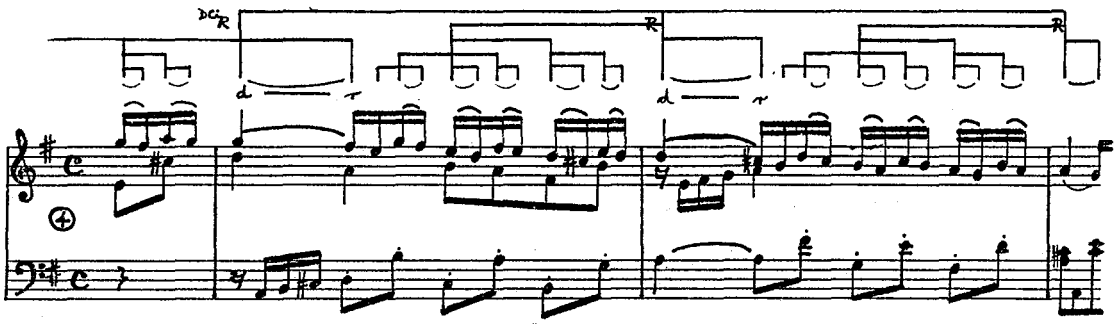
Ex.4/74



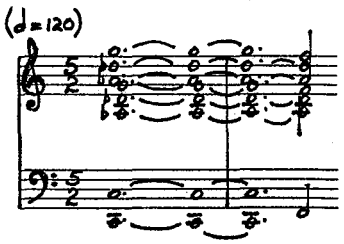
Ex.4/75: Chopin, Ballade No.4, Op.52



Ex.4/76: Bach, Mass in B minor, VII, 'Domine Deus'

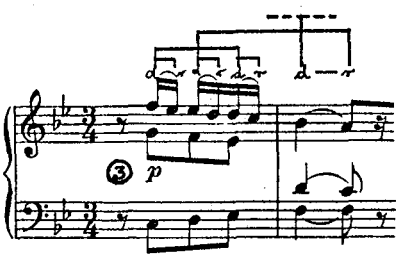


Ex.4/77: Holst, The Planets, 'Mars'

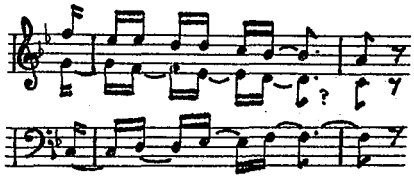


Ex.4/78: Mozart, Fantasie, K.475, Andantino

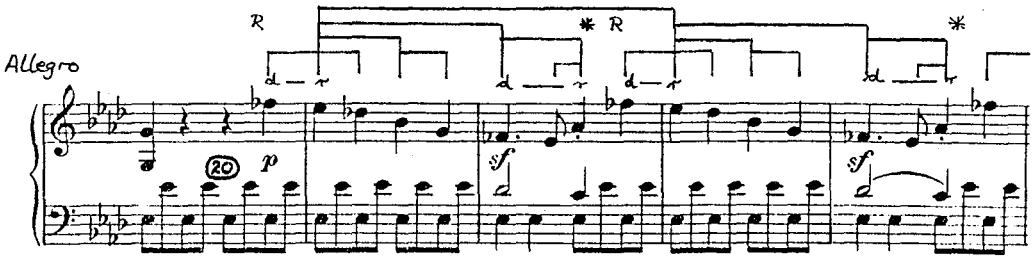
a.



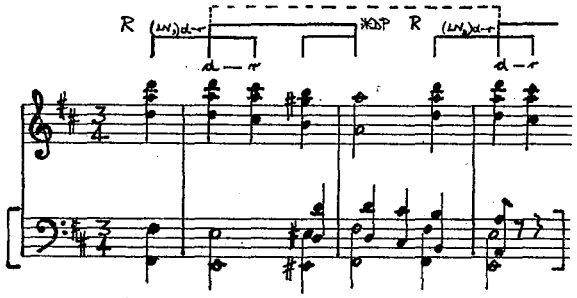
b.



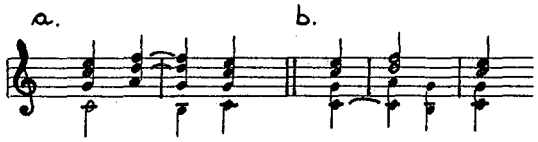
Ex.4/79: Beethoven,Sonata in F minor,Op.2/1,I



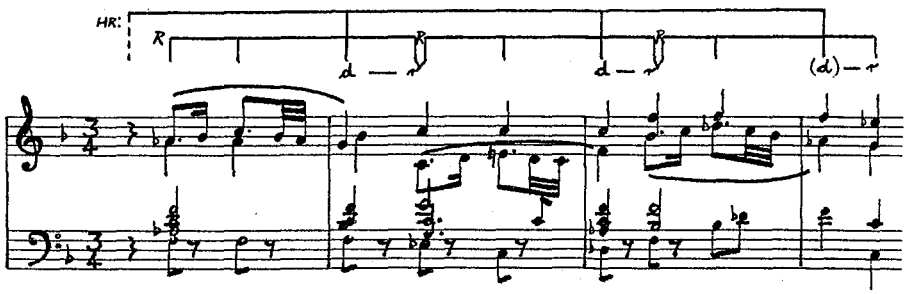
Ex.4/80: Tchaikovsky,Symphony No.6,IV



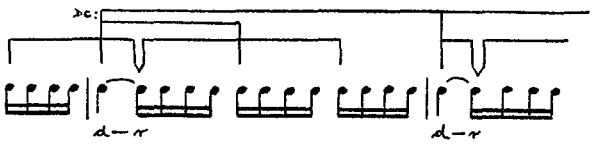
Ex.4/81



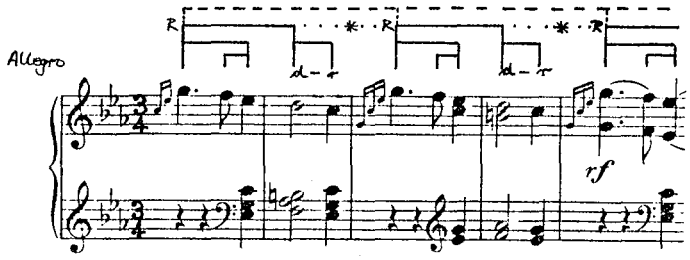
Ex.4/82: Tippett,Fantasia Concertante on a Theme of Corelli,Theme



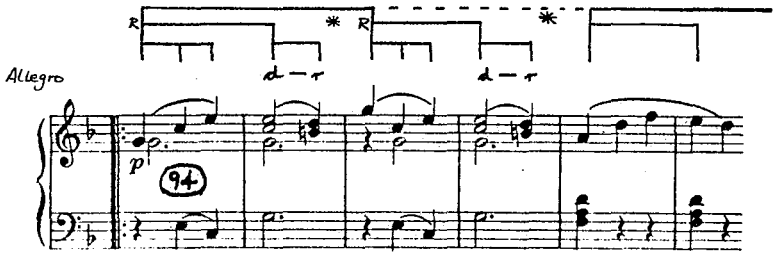
Ex.4/83



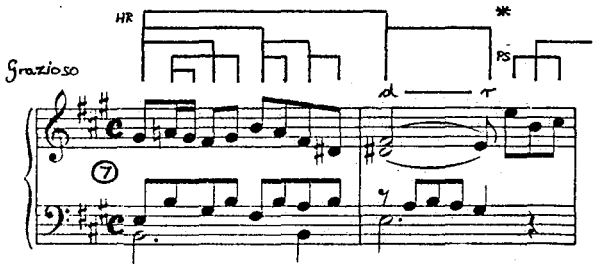
Ex.4/84: Beethoven,Sonata in C minor,Op.10/1,I



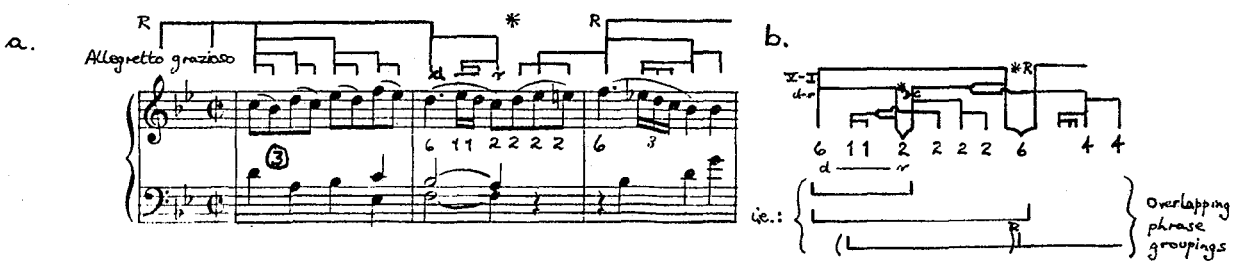
Ex.4/85: Mozart,Sonata in F,K.332,I



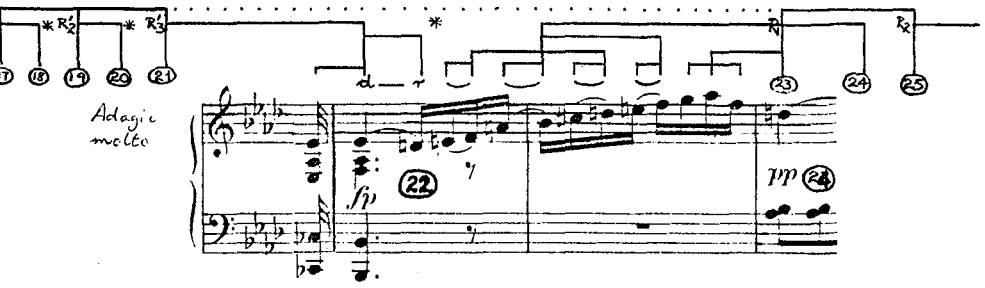
Ex.4/86: Beethoven,Sonata in A,Op.2/2,IV



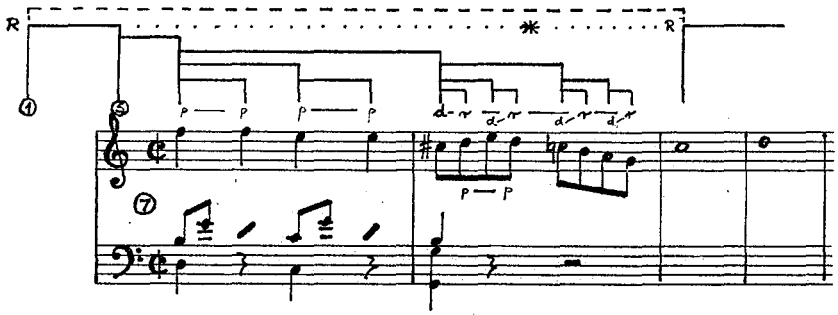
Ex.4/87: Mozart,Sonata in B♭,K.333,III



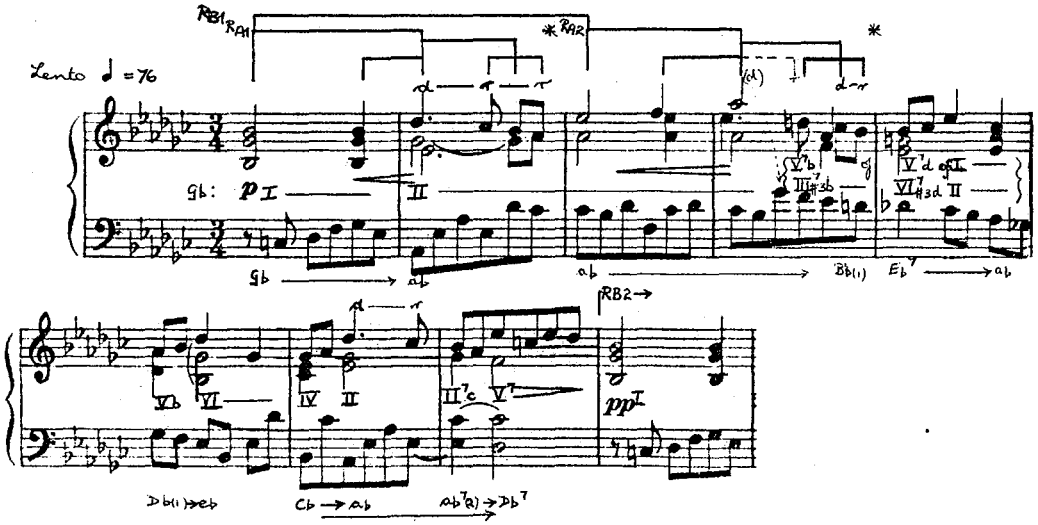
Ex.4/88: Beethoven, Sonata in C minor, Op.10/1, II



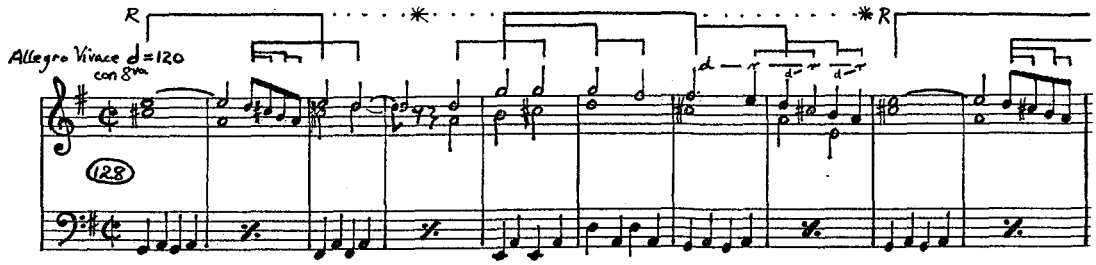
Ex.4/89: Mozart, Symphony No.41, IV



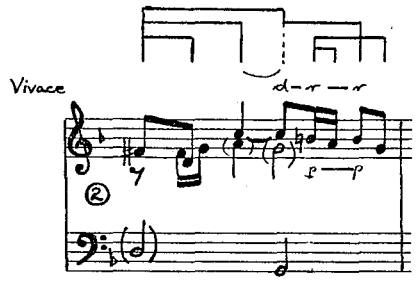
Ex.4/90: Scriabin, Prelude in G♭, Op.11/13



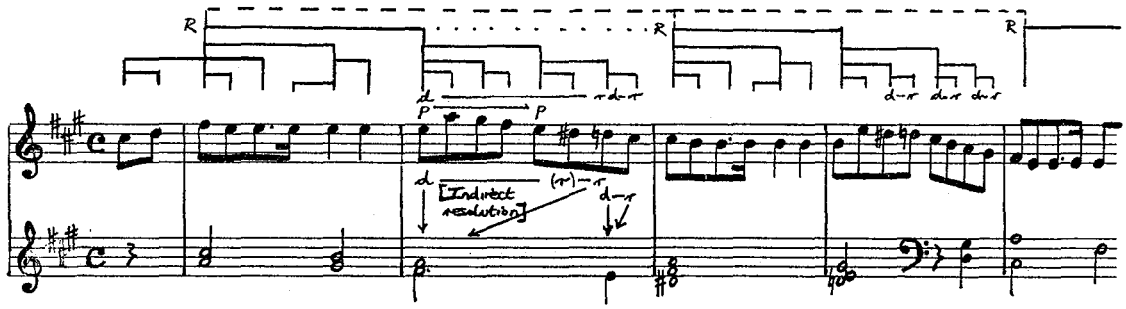
Ex.4/91: Tchaikovsky, Symphony No.5, IV



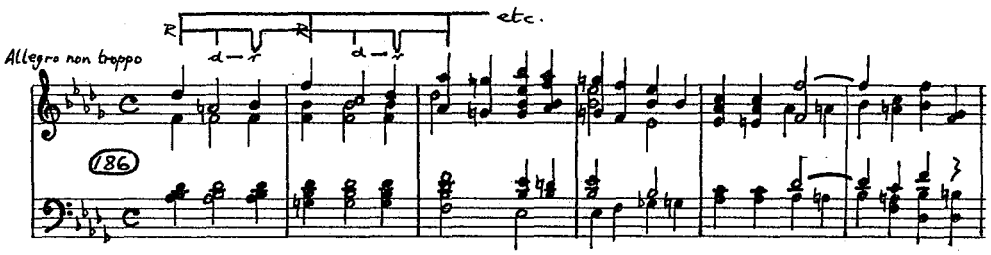
Ex.4/92: Bach,Concerto in D minor (Two Violins),I



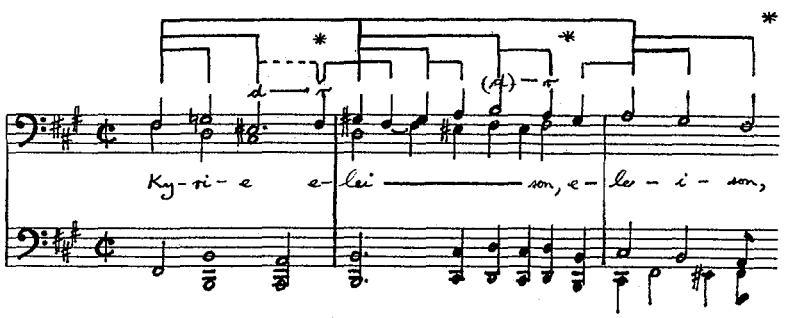
Ex.4/93: Mozart,Piano Concerto in A,K.448,I



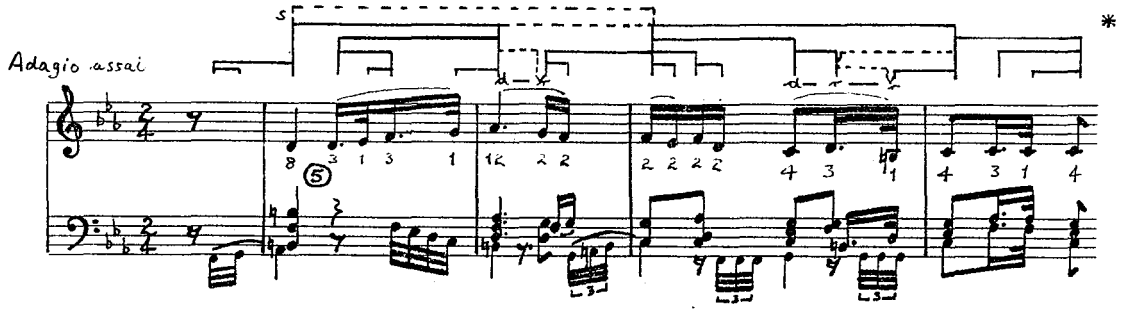
Ex.4/94: Tchaikovsky,Piano Concerto No.1,I



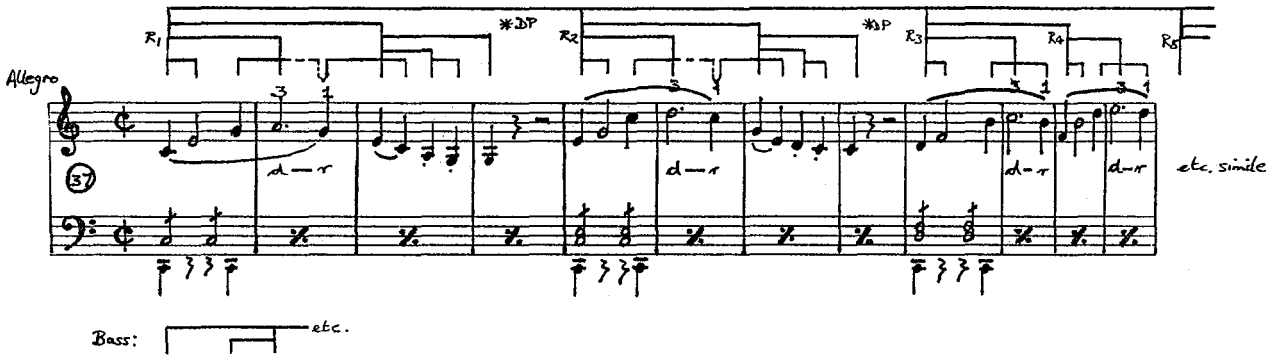
Ex.4/95: Bach,Mass in B minor,III,'Kyrie Eleison'



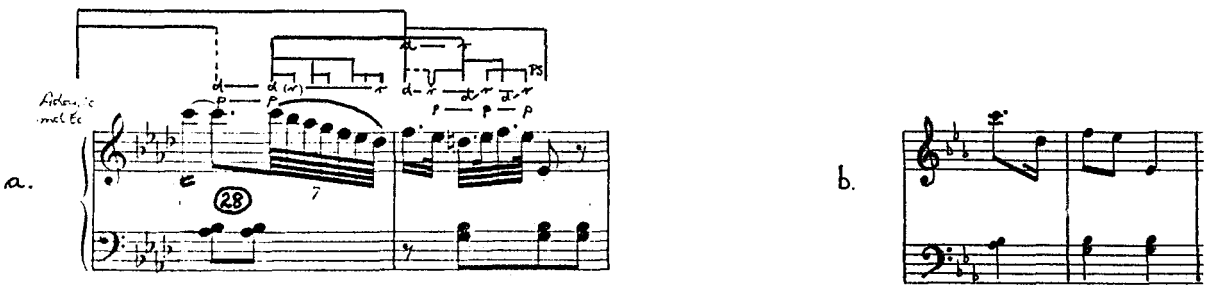
Ex.4/96: Beethoven,Symphony No.3,II



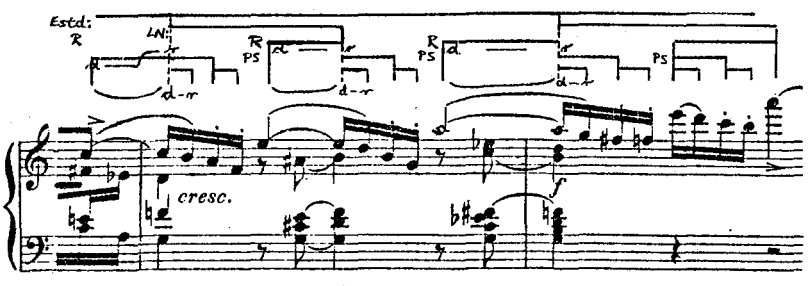
Ex.4/97: Beethoven,Overture,Leonore No.3,Op.72a



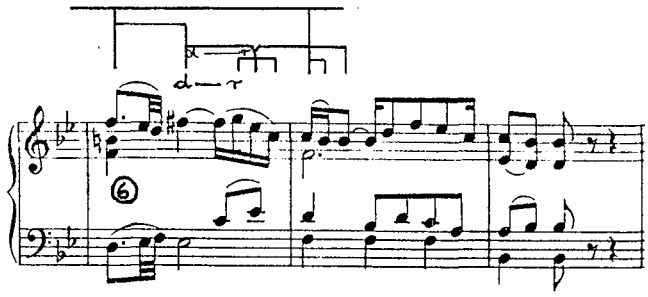
Ex.4/98: Beethoven,Sonata in C minor,Op.10/1,II



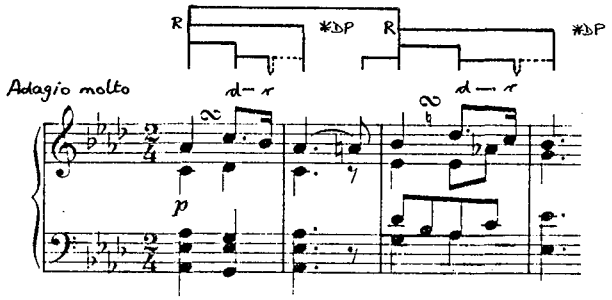
Ex.4/99: Wagner,Die Meistersinger,Prelude



Ex.4/100: Mozart,Fantasie,K.475,Andantino

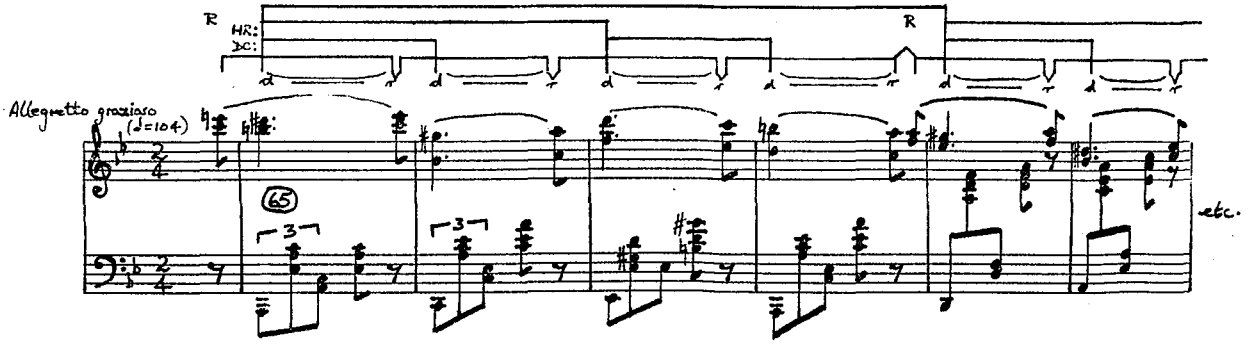


Ex.4/101: Beethoven,Sonata in C minor,Op.10/1,II

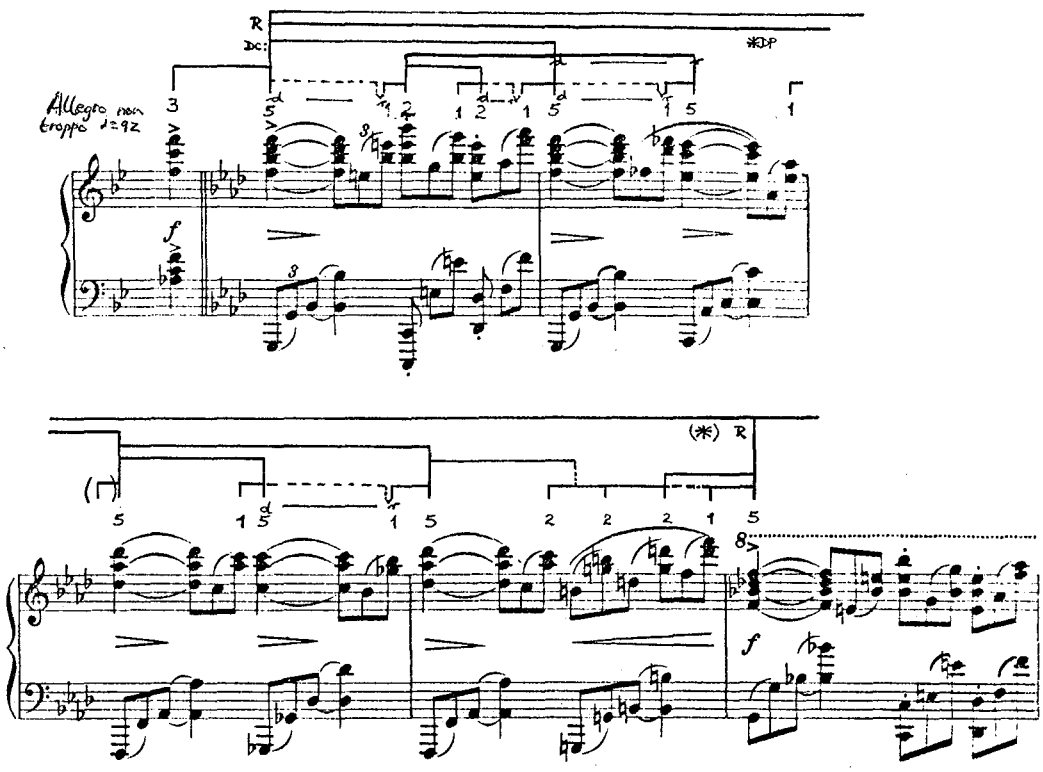


4/102 not used

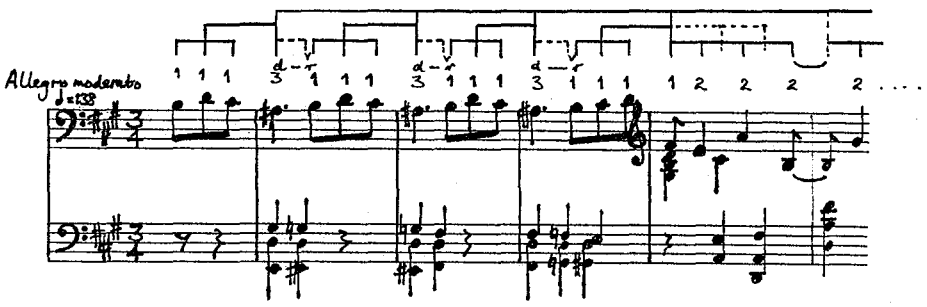
Ex.4/103: Brahms,Piano Concerto No.2,IV



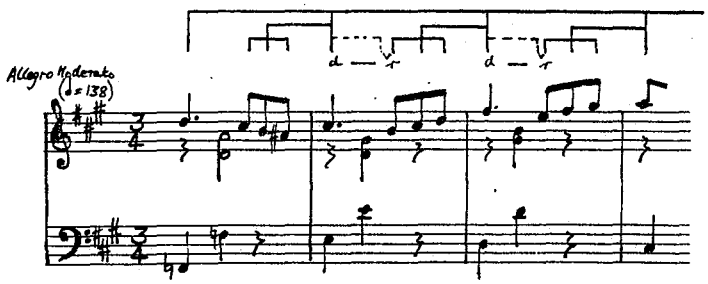
Ex.4/104: Brahms,Piano Concerto No.2,I



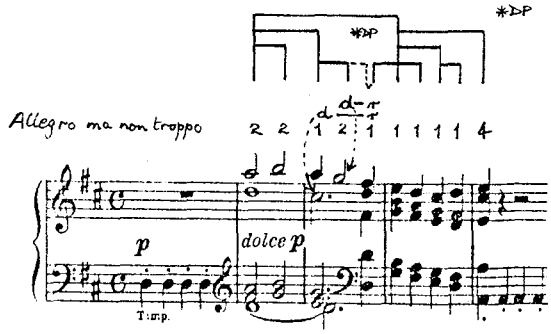
Ex.4/105: Tchaikovsky,Symphony No.5,III



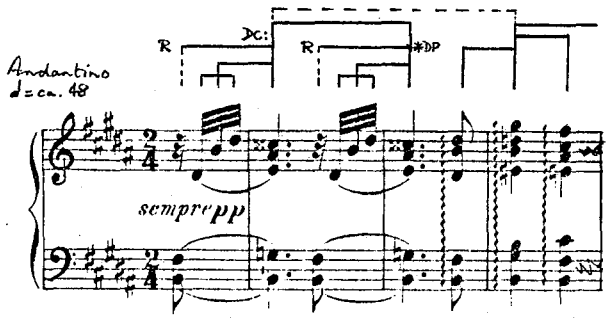
Ex.4/106: Tchaikovsky,Symphony No.5,III



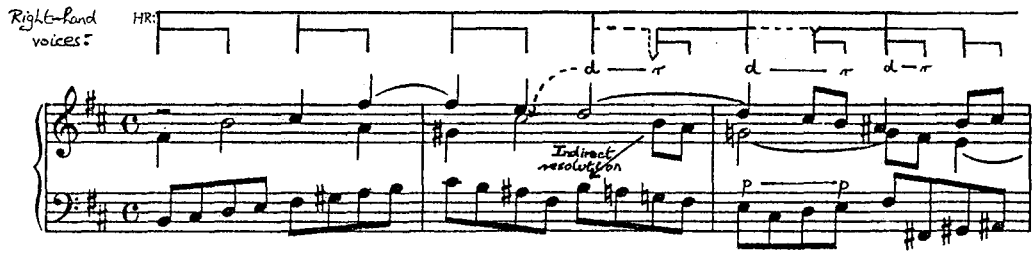
Ex.4/107: Beethoven,Violin Concerto,I



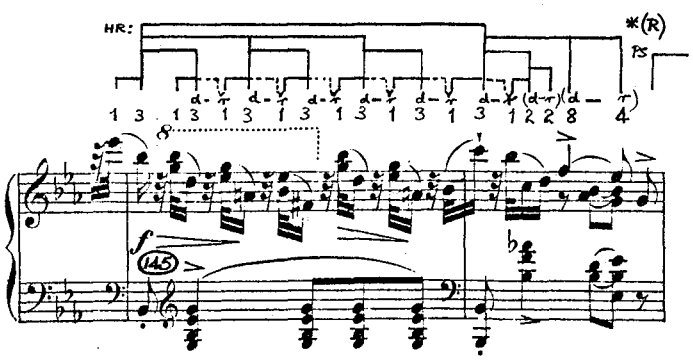
Ex.4/108: R.Strauss,Reverie,Op.9/4



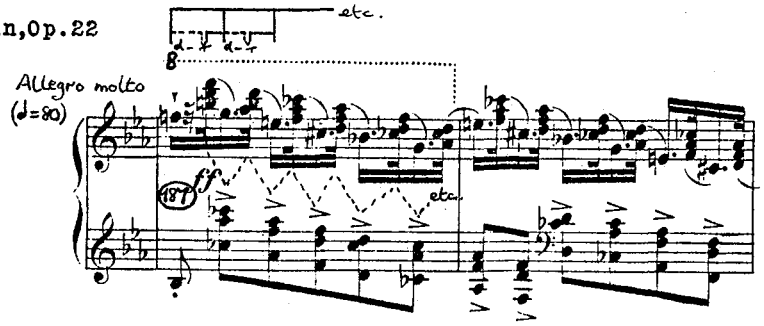
Ex.4/109: Bach,'48',I,Prelude No.24



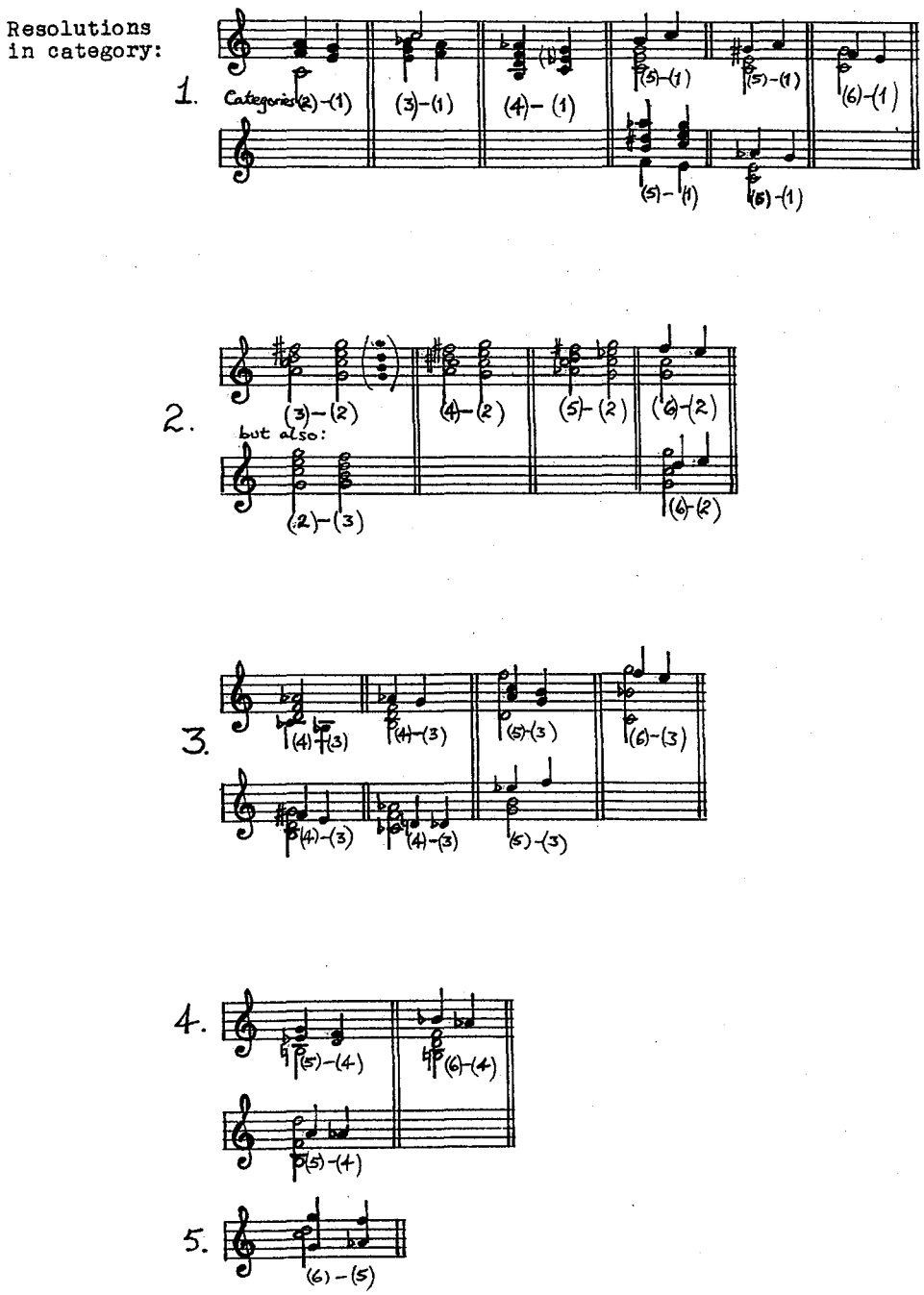
Ex.4/110: Chopin,Andante Spianato and Grande Polonaise,Op.22



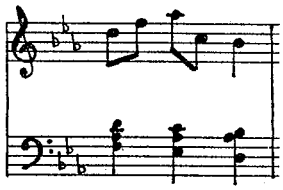
Ex.4/111: Chopin,Op.22



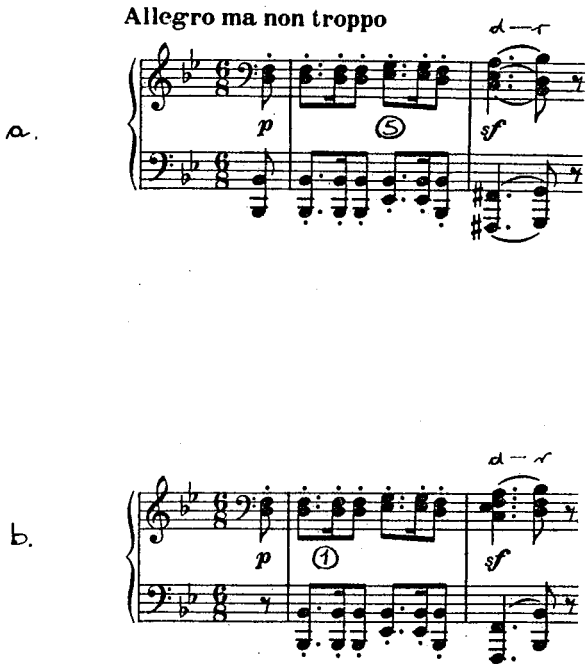
Ex.4/112



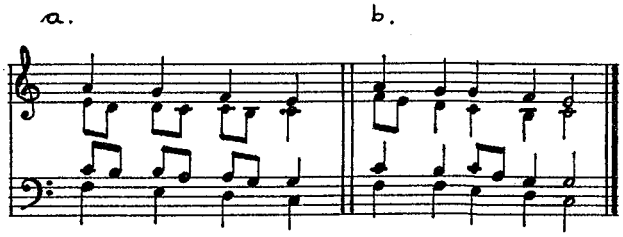
Ex.4/113(c.f.Elgar,'Enigma' Variations,'Nimrod')



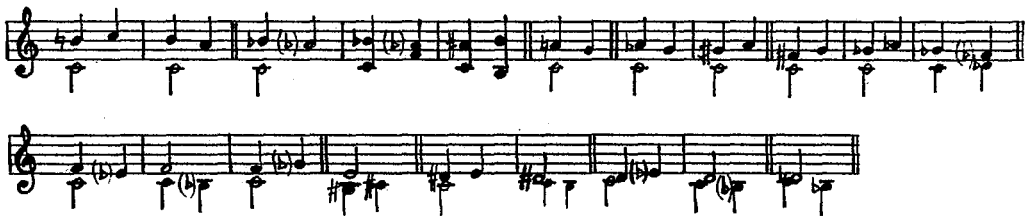
Ex.4/114: Beethoven,Six Variations,Op.34,Var.II



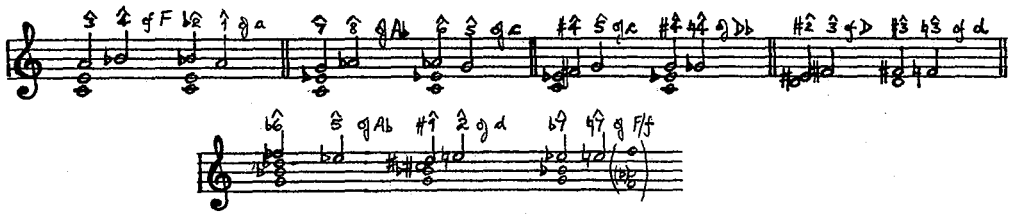
Ex.4/115



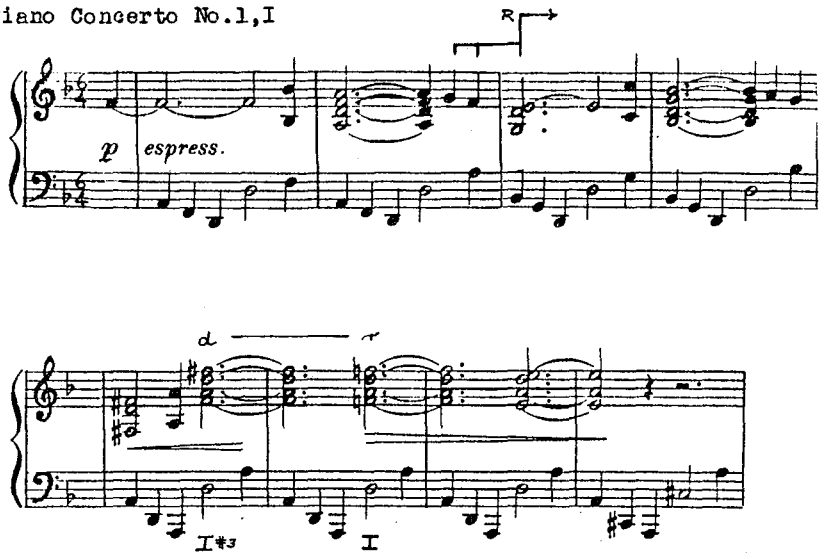
Ex.4/116



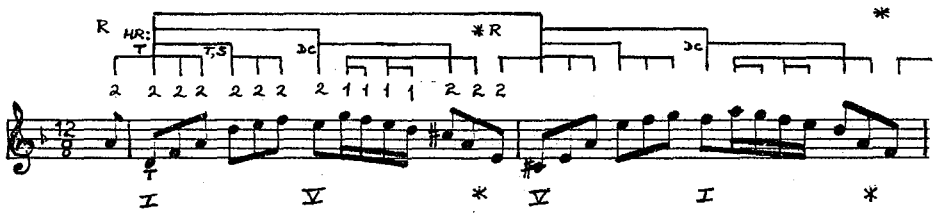
Ex.4/117



Ex.4/118: Brahms,Piano Concerto No.1,I

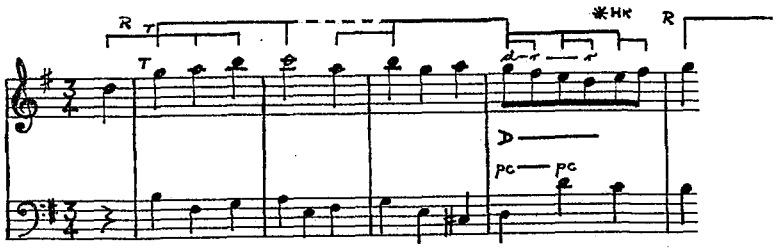


Ex.4/119: Bach,Partita No.1 (Solo Violin),Gigue

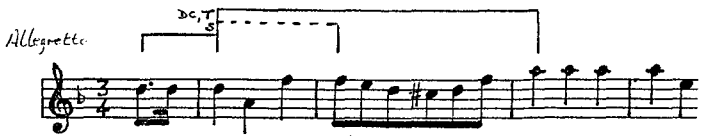


T = Structurally accented tonic
HR = Harmonic Rhythm
S = Subdivision
DC = Duration Contour
R = Repetition

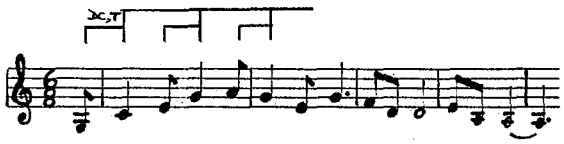
Ex.4/120: Mozart,Serenade ('Eine Kleine Nachtmusik'),K.525,III



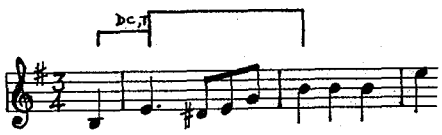
Ex.4/121: Mozart,Quartet in D minor,K.421,III



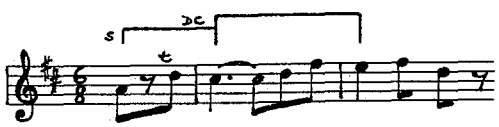
Ex.4/122: Berlioz,Harold in Italy,Op.16,III



Ex.4/123: Chopin,Piano Concerto No.1,Op.11,I

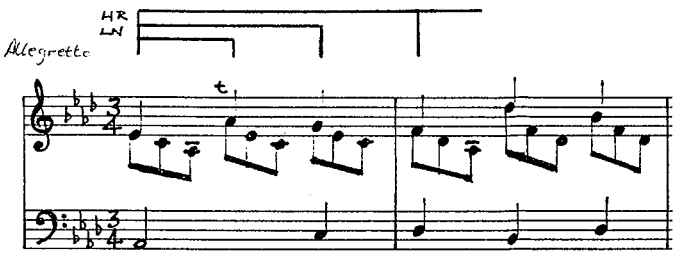


Ex.4/124: Prokofiev,Romeo and Juliet,Op.64,'Folk Dance'

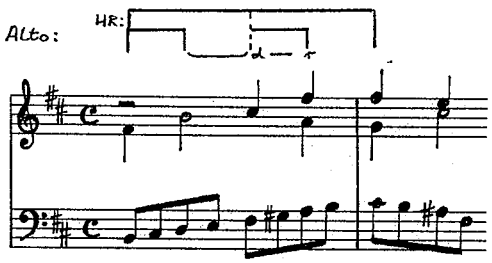


t = Tonic

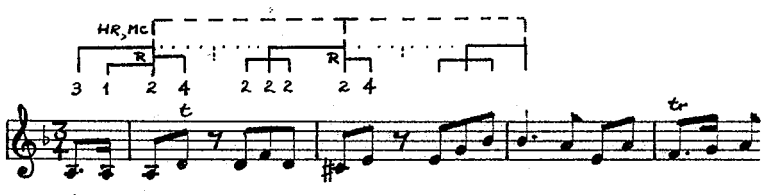
Ex.4/125: Schubert,Impromptu in A♭,Op.90/4



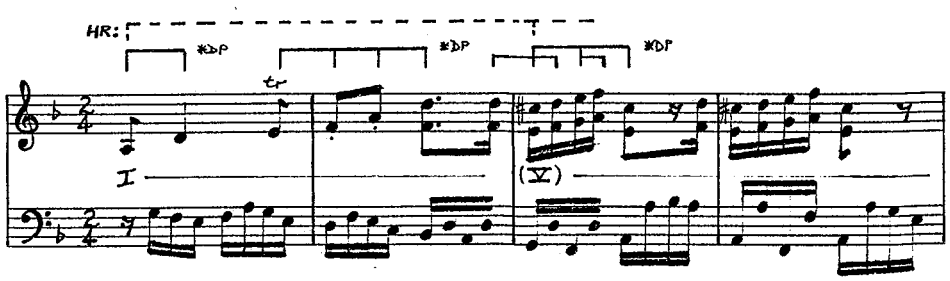
Ex.4/126: Bach,'48',I,Prelude No.24



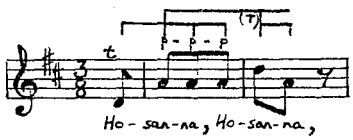
Ex.4/127: Mozart,Serenade,K.320,V



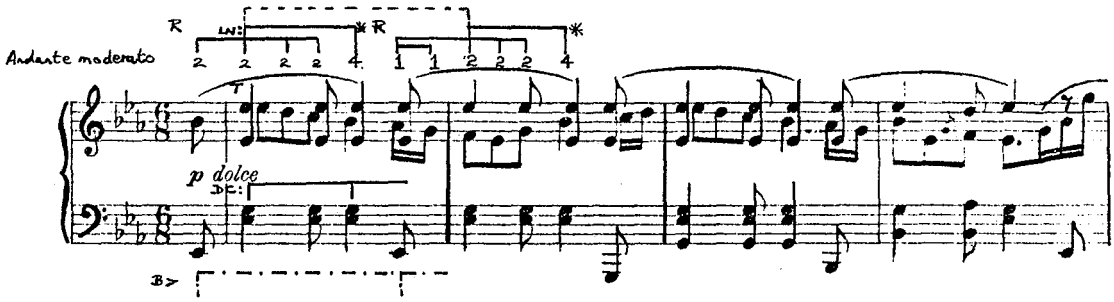
Ex.4/128: Brahms,Piano Concerto No.1,III



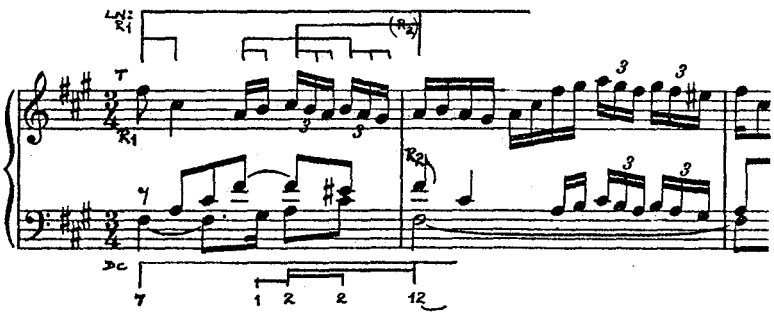
Ex.4/129: Bach,Mass in B minor,XXI,'Hosanna'



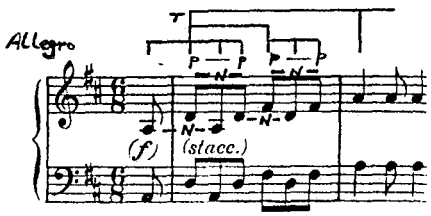
Ex.4/130: Brahms,Intermezzo in E♭,Op.117/1



Ex.4/131: Bach,'48',II,Prelude No.14

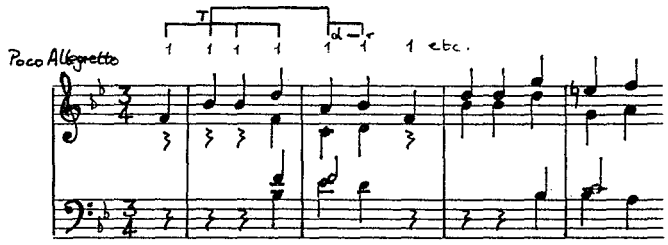


Ex.4/132: Mozart,Sonata in D,K.576,I

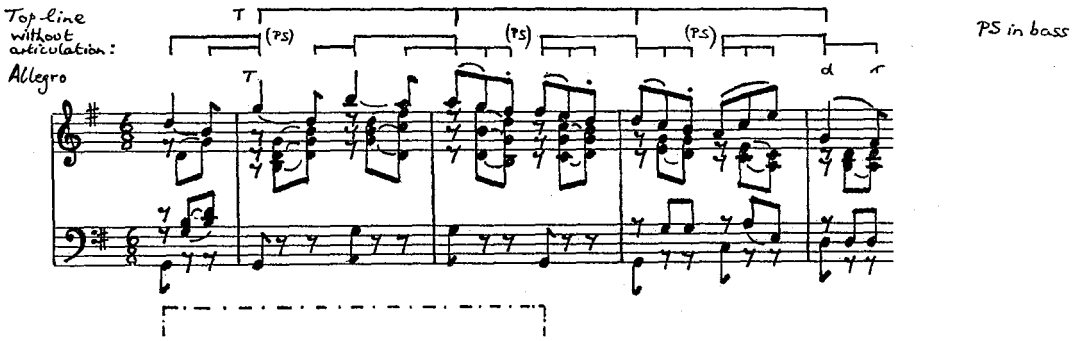


-N- = Neighbour-note configuration

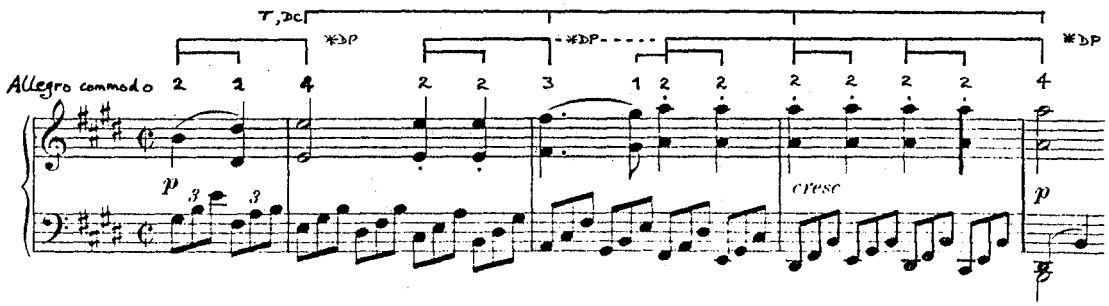
Ex.4/133: Haydn,Quartet,Op.50/1,III



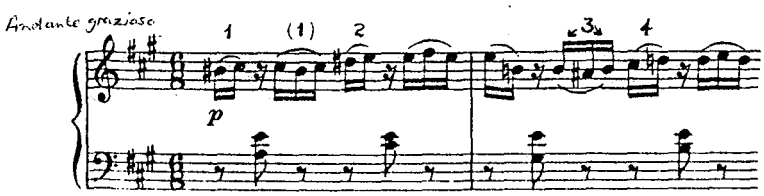
Ex.4/134: Mozart,Quintet,K.516,V



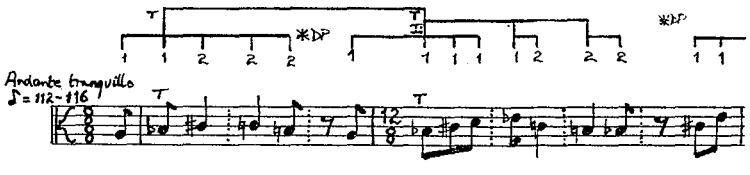
Ex.4/135: Beethoven,Sonata in E,Op.14/1,III



Ex.4/136: Mozart,Sonata in A,K.331,I,Variation 1

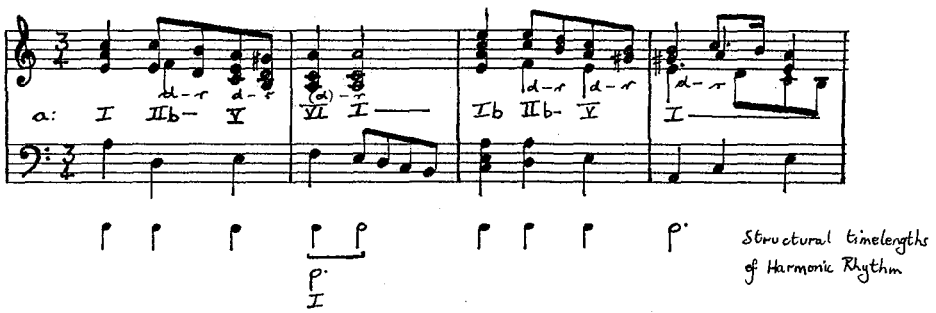


Ex.4/137: Bartók, Music for Strings, Percussion and Celesta, I

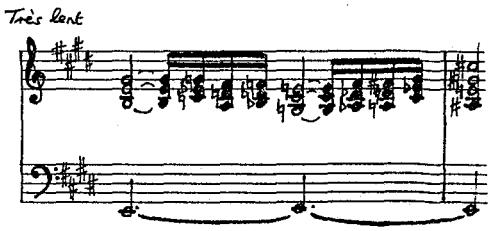


Ex.4/138

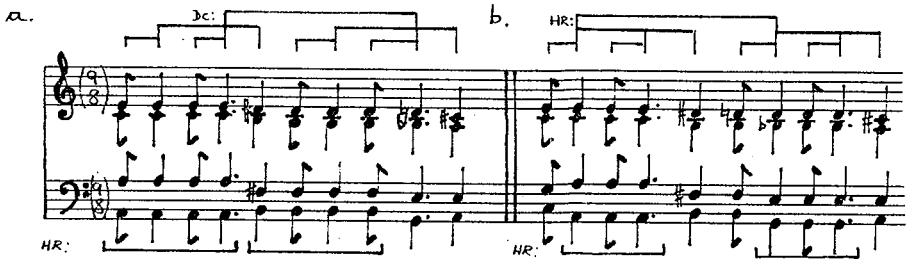
Ex.4/139



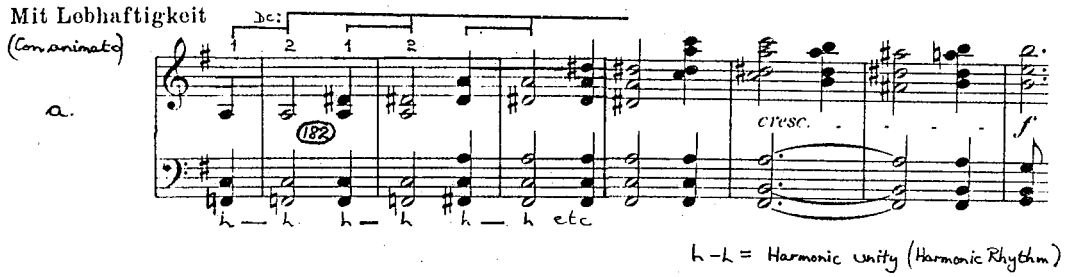
Ex.4/140: Debussy, Prélude à l'Après-midi d'un Faune (ending)

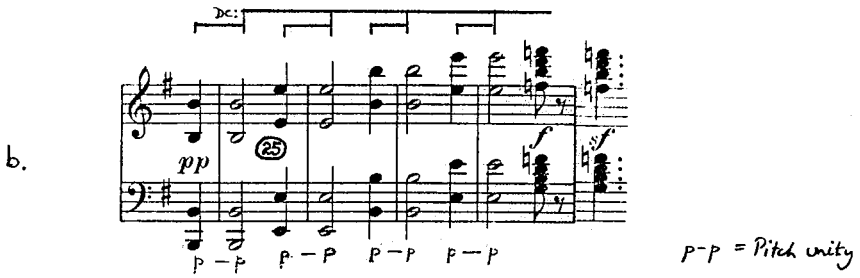


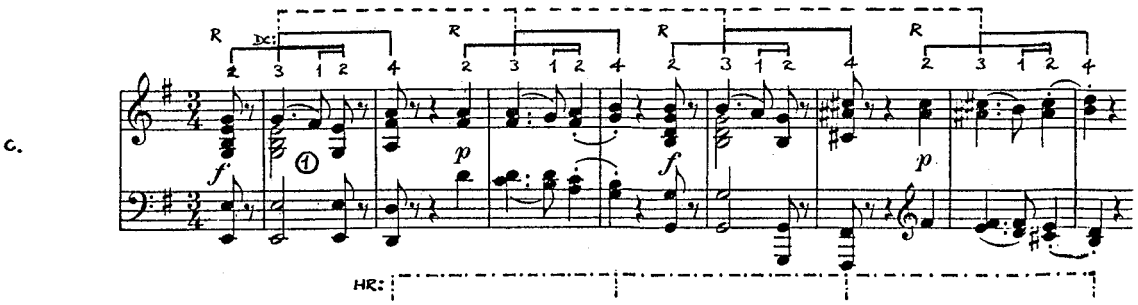
Ex.4/141



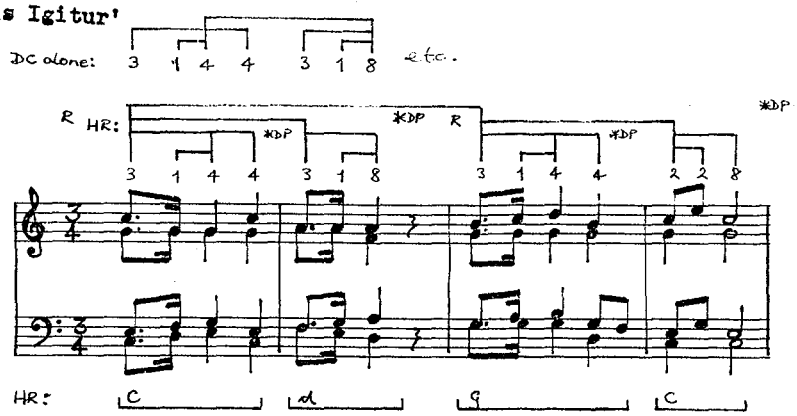
Ex.4/142: Beethoven,Sonata in E minor,Op.90,I



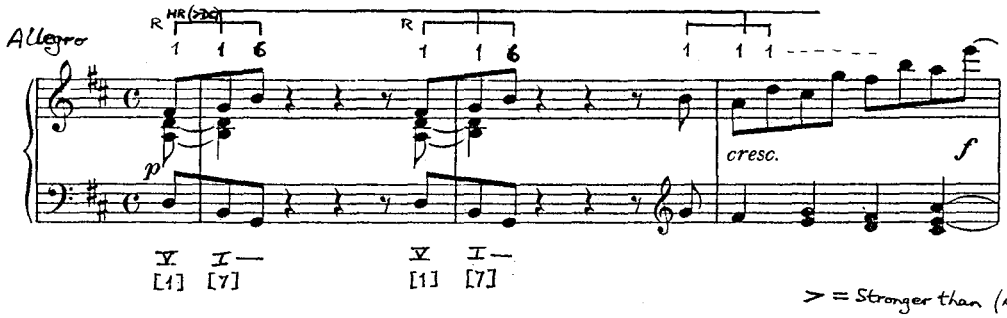




Ex.4/143: 'Gaudeamus Igitur'

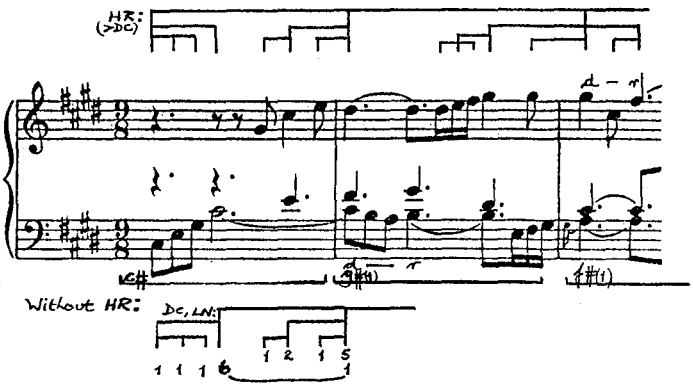


Ex.4/144: Beethoven,Sonata in D,Op.10/3,IV

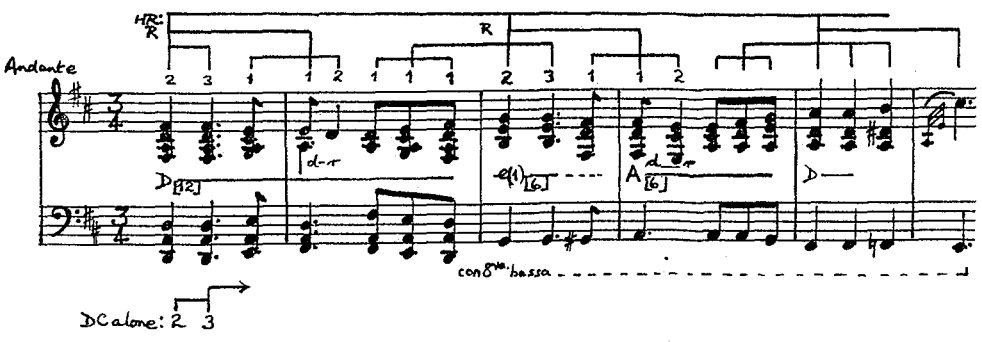


> = Stronger than (and incongruent with)

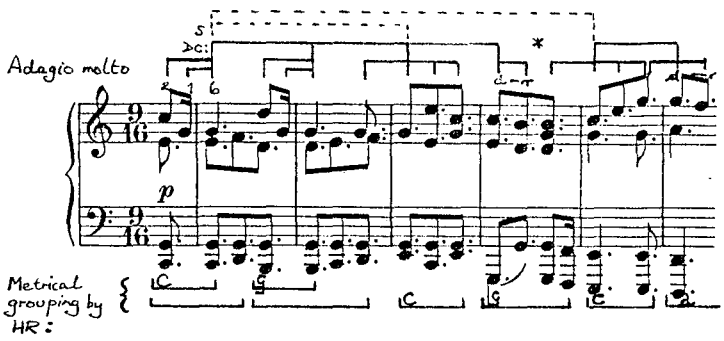
Ex.4/145: Bach,'48',II,Prelude No.4



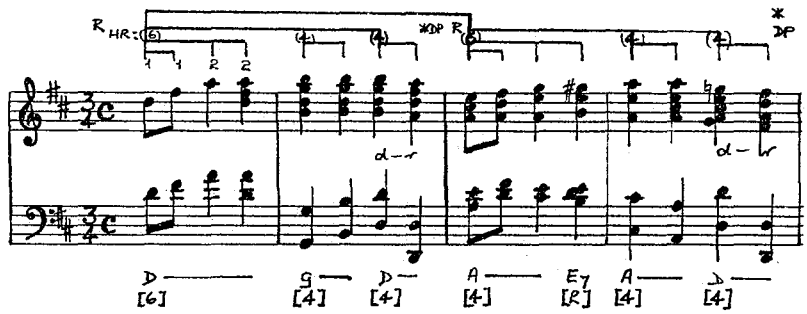
Ex.4/146: Beethoven,Piano Trio,Op.97,III



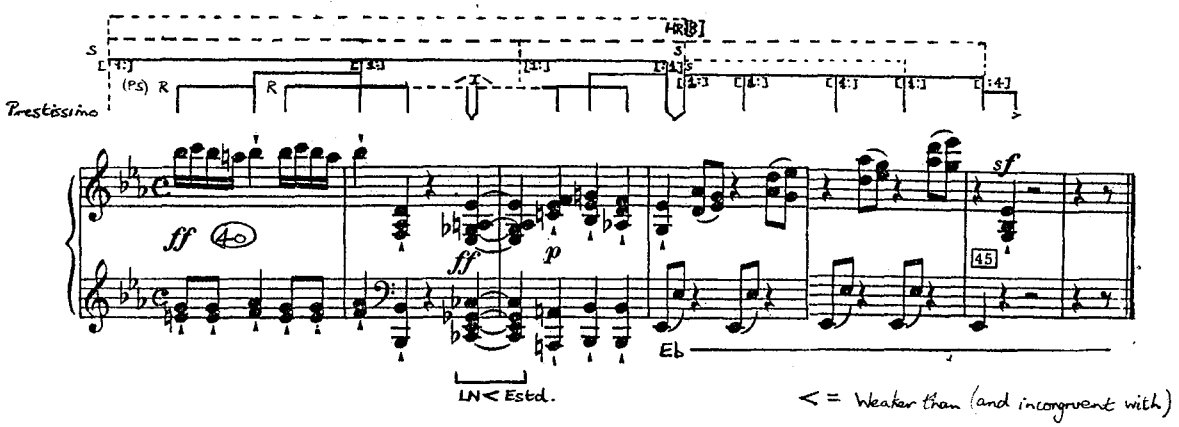
Ex.4/147: Beethoven, Sonata in C minor, Op.111, II



Ex.4/148: Brahms, Variations on a Hungarian Song, Op.21/2

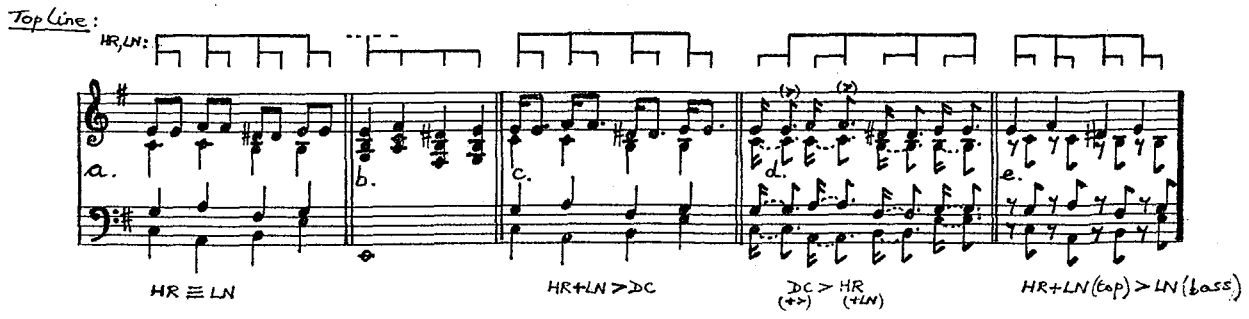


Ex.4/149: Beethoven, Sonata in C minor, Op.10/1, III

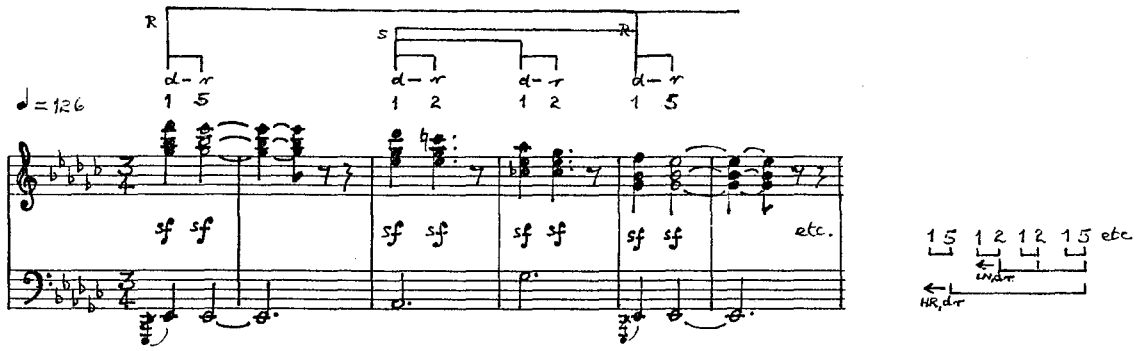


Ex.4/150

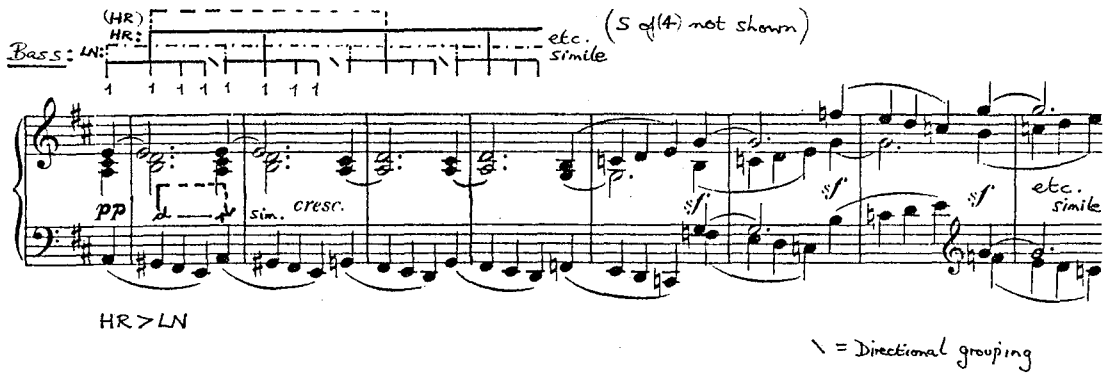
≡ = Congruent with



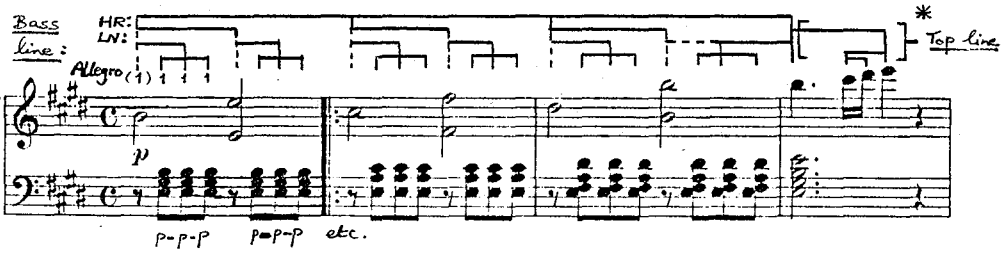
Ex.4/151: Mussorgsky, Pictures at an Exhibition, 'The Gnome'



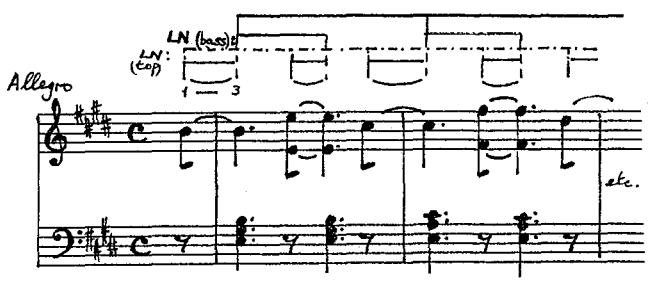
Ex.4/152: Beethoven, Sonata in D, Op.10/3, I



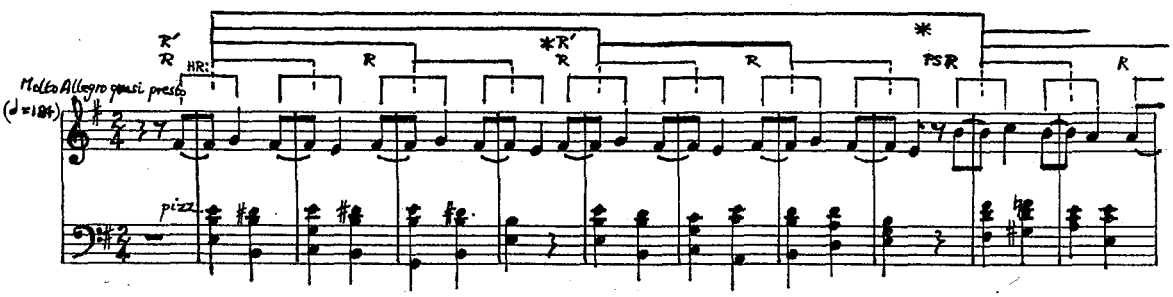
Ex.4/153: Beethoven, Sonata in E, Op.14/1, I



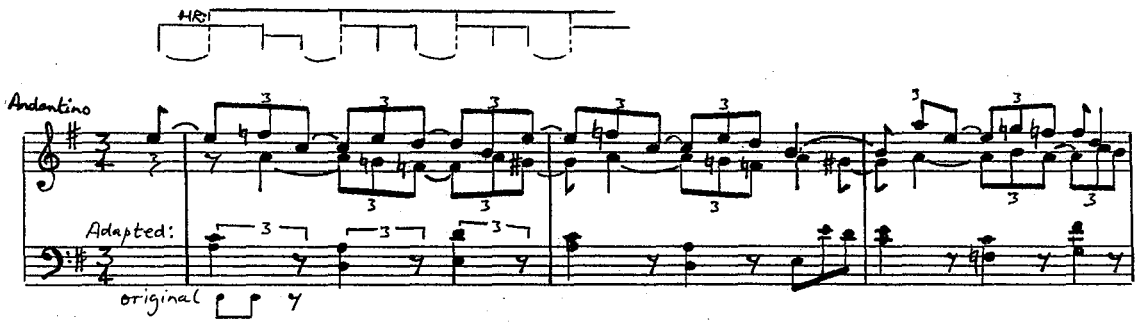
Ex.4/154



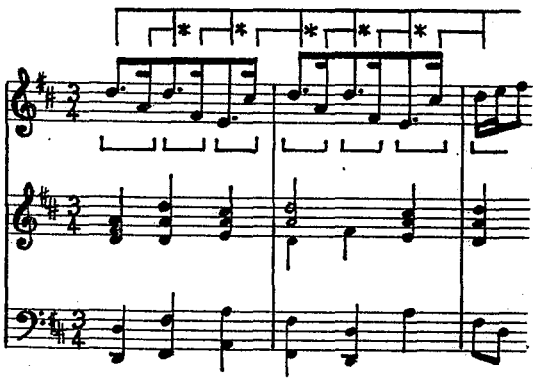
Ex.4/155: Saint-Saëns,Quartet,Op.112,II



Ex.4/156: Brahms, Intermezzo in E minor,Op.119/2

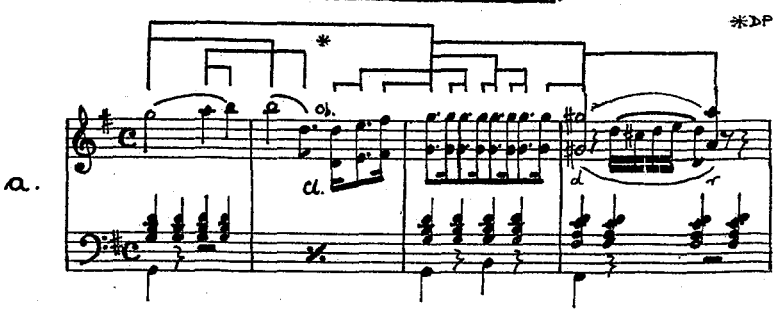


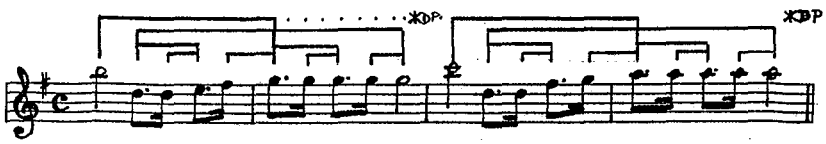
Ex.4/157: Handel,Violin Sonata in D,Op.1/13,IV



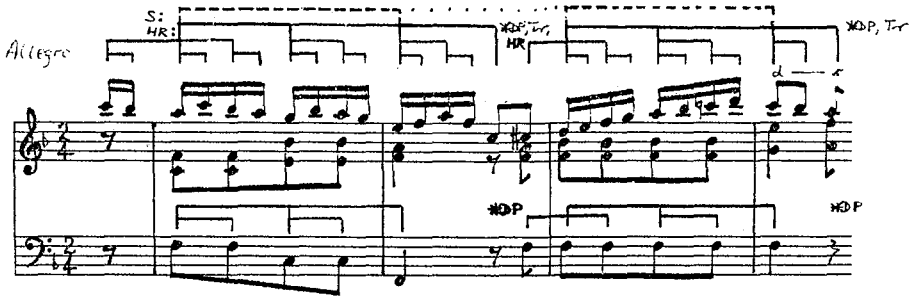
Ex.4/158

a: Rossini,Barber of Seville,Overture



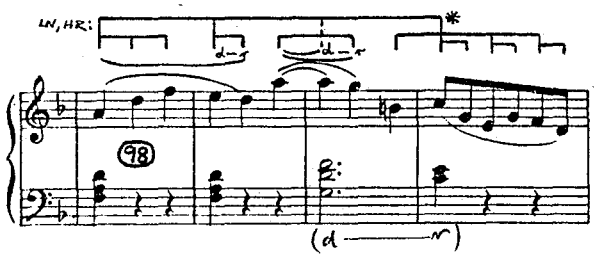


Ex.4/159: Mozart,Quartet,K.590,IV

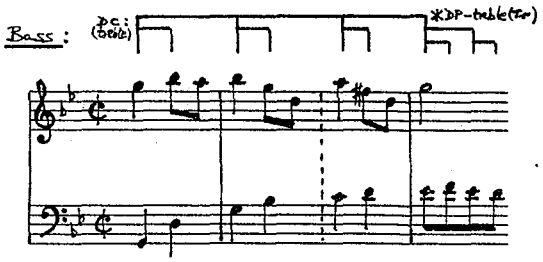


Tr=Transferred Phrase Grouping

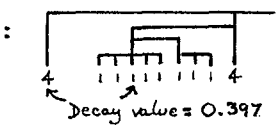
Ex.4/160: Mozart,Sonata in F,K.332,I

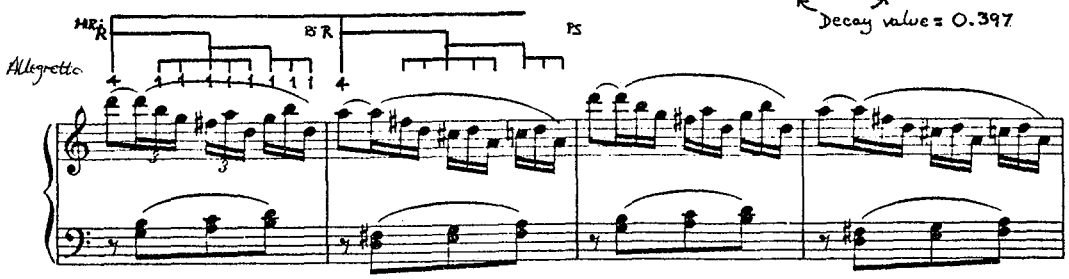


Ex.4/161: Bach,English Suite No.3,Gavotte

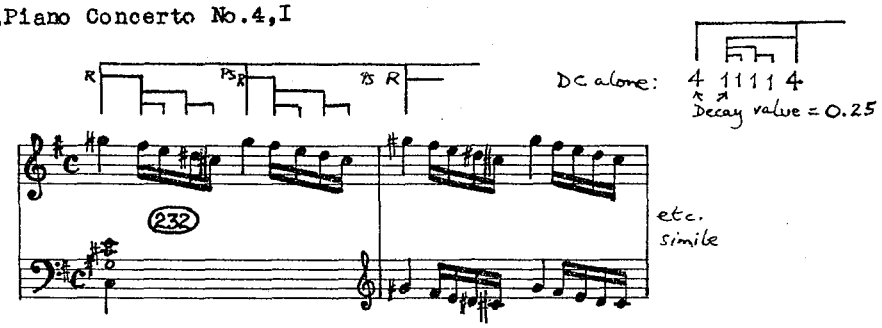


Ex.4/162: Mozart,Sonata in C,K.330,III

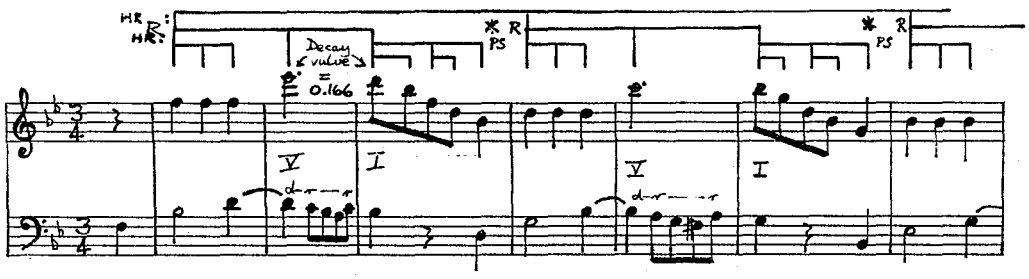




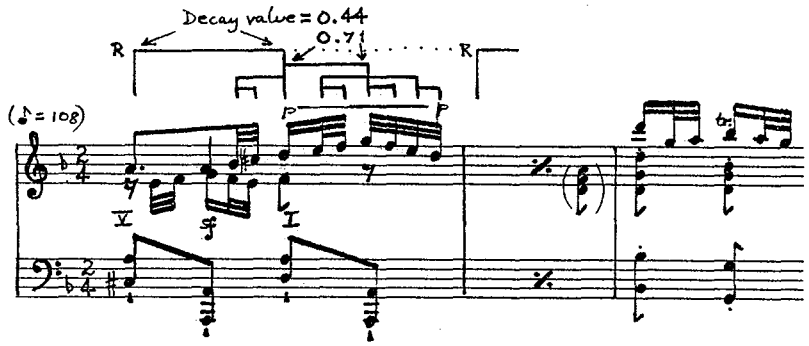
Ex.4/163: Beethoven,Piano Concerto No.4,I



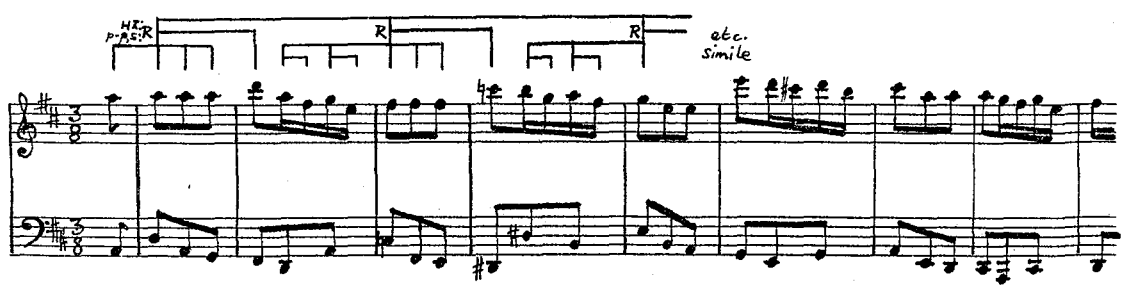
Ex.4/164: Mozart,Symphony No. 40,K.550,III



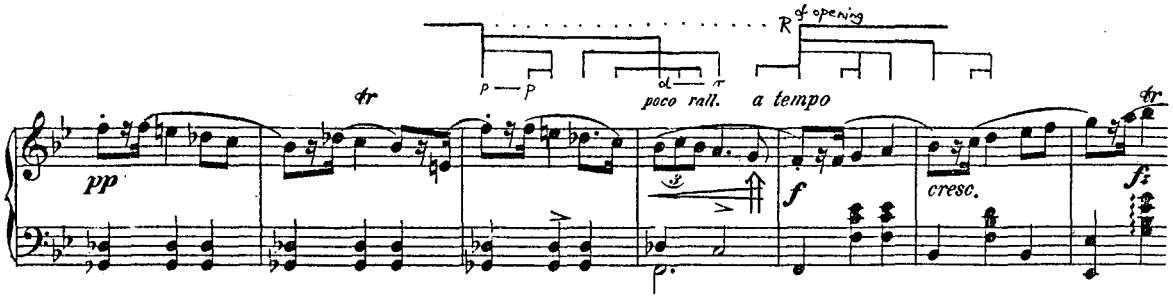
Ex.4/165: Schumann,Sonata in A minor (Violin and Piano),Op.105,II



Ex.4/166: Bach,Mass in B minor,XXI,'Hosanna'

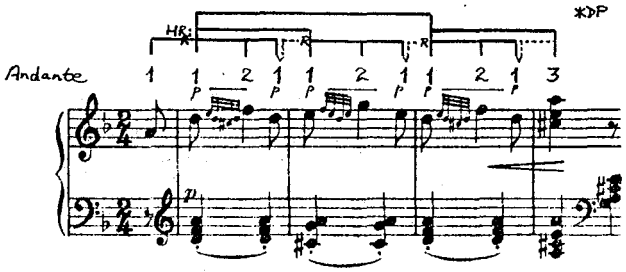


Ex.4/167: Chopin,Mazurka in B♭,Op.7/1

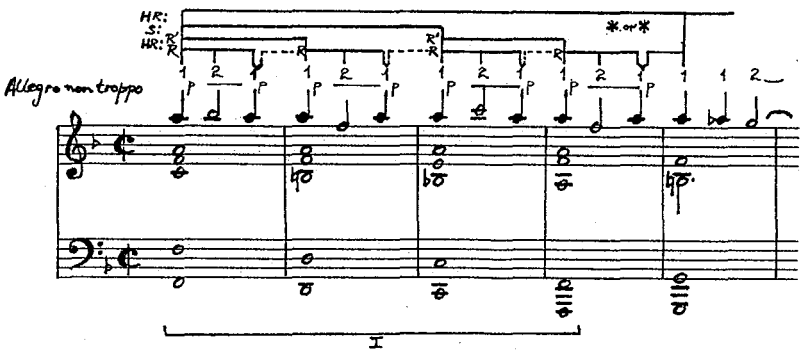


Ex.4/168

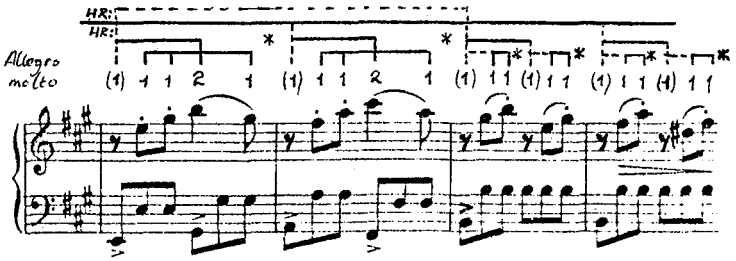
a: Mozart,Sonata in F (Piano and Violin),K.377,II



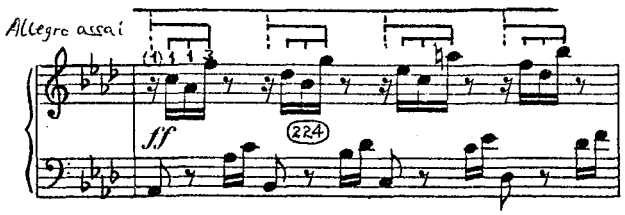
b: Franck,Symphony in D minor,I



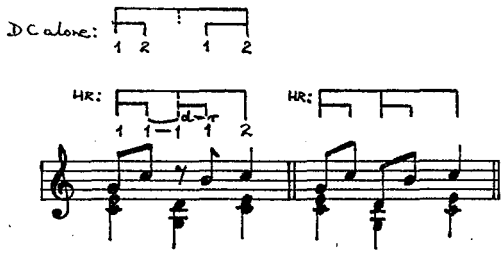
Ex.4/169: Mozart,Sonata in A (Piano and Violin),K.305,I



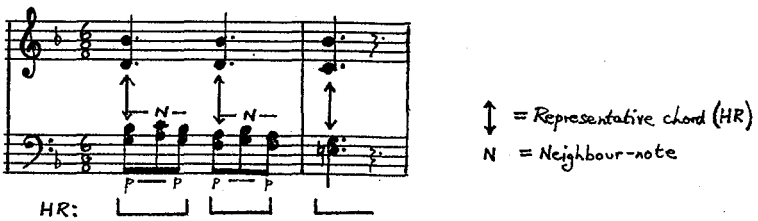
Ex.4/170: Beethoven,Sonata in F minor,Op.57,I



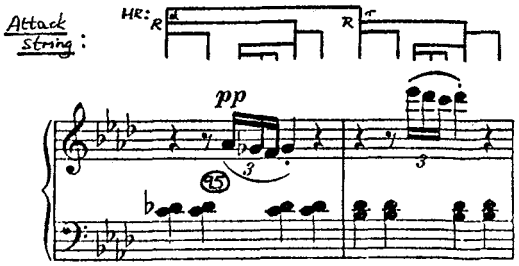
Ex.4/171



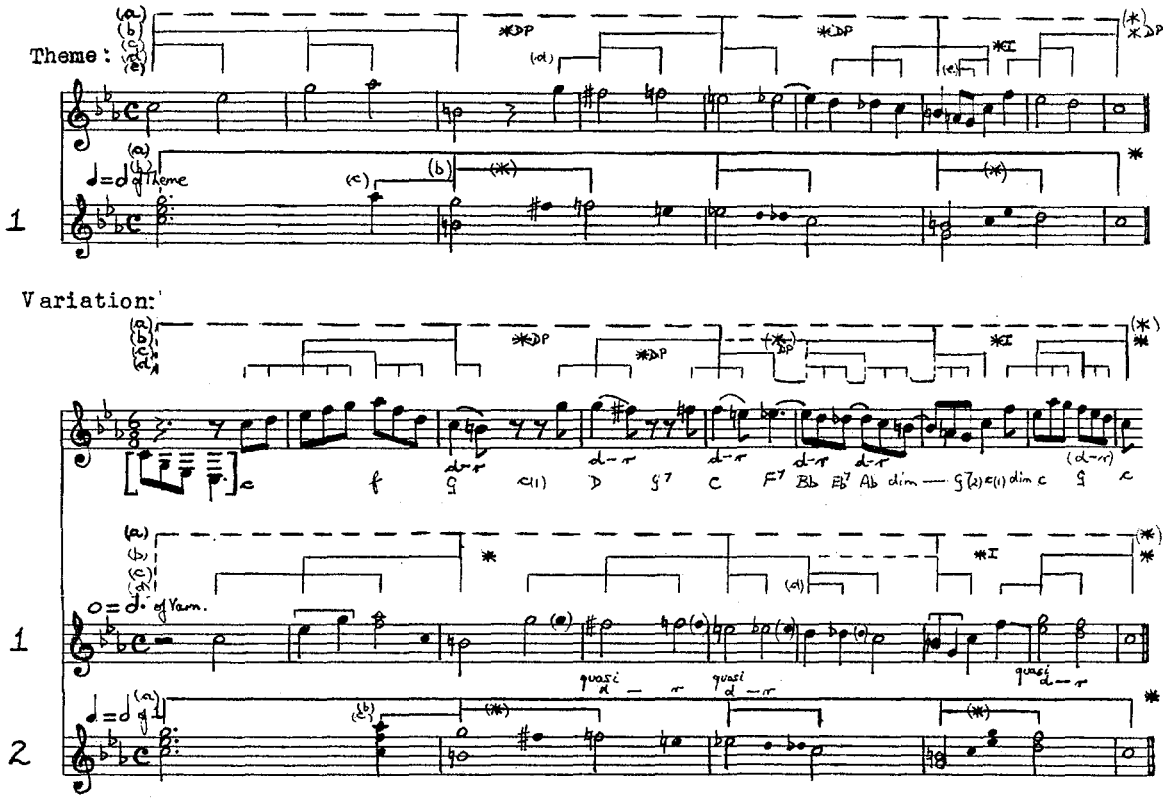
Ex.4/172



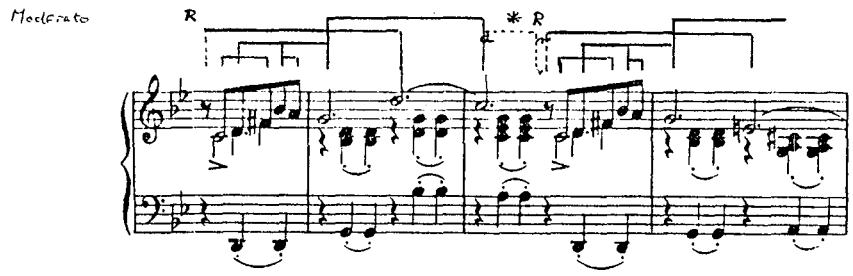
Ex.4/173: Beethoven,Sonata in F minor,Op.2/1,I



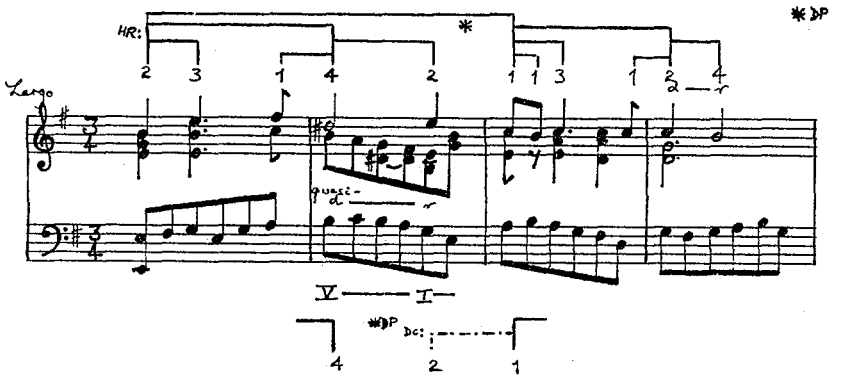
Ex.4/173.1: Bach, Musical Offering (as Ex.1/6)



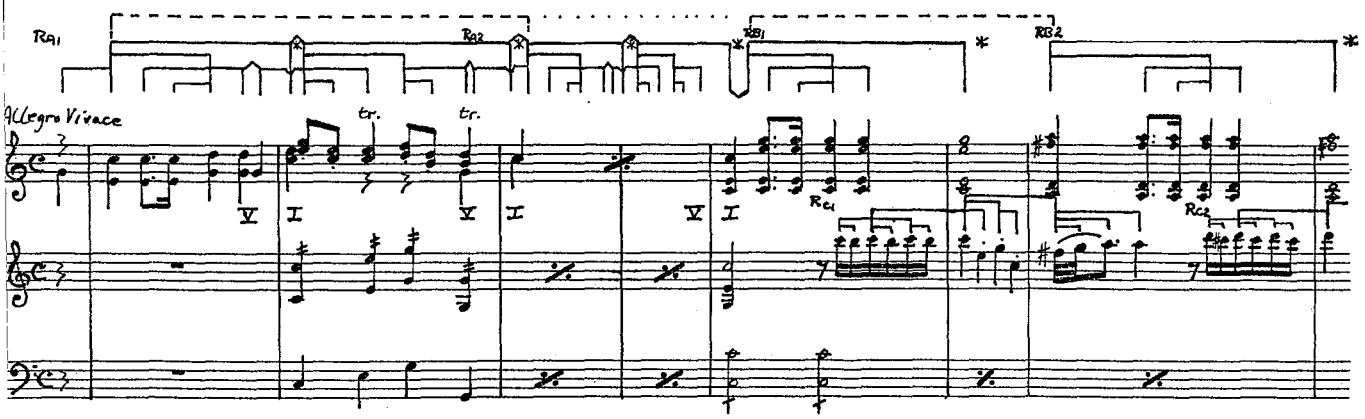
Ex.4/174: Chopin,Ballade No.1,Op.23



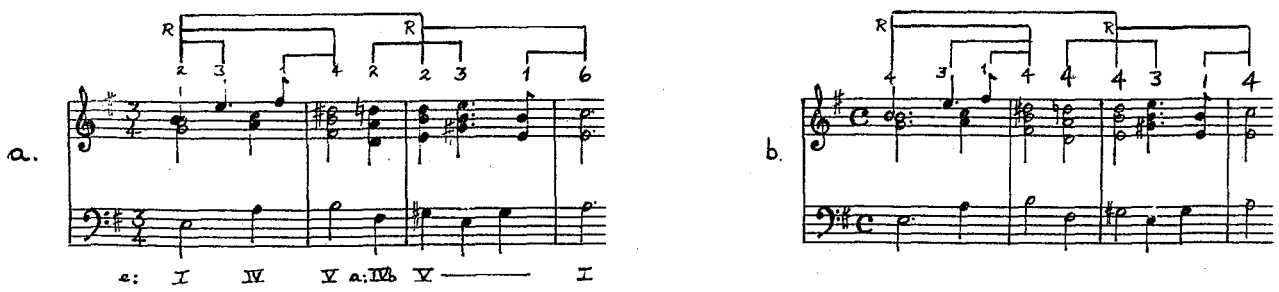
Ex.4/175: Corelli,Sonata,Op.5/8,Sarabanda



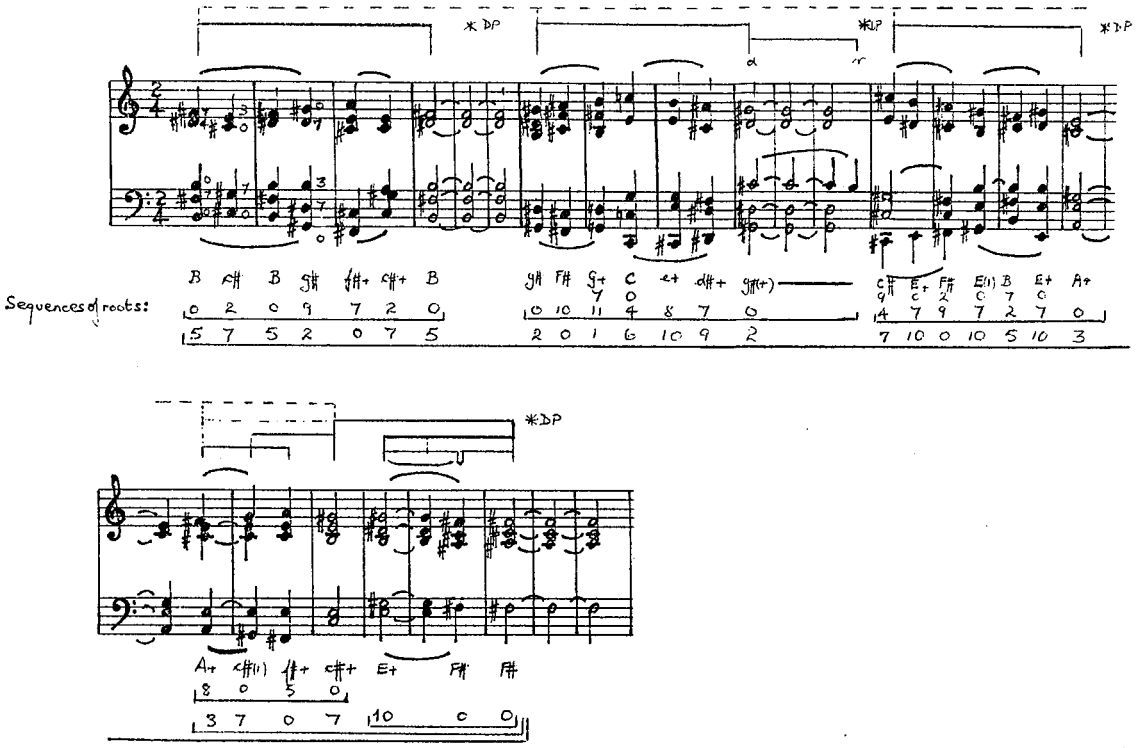
Ex.4/176: Mozart,Symphony No.34,K.338,I



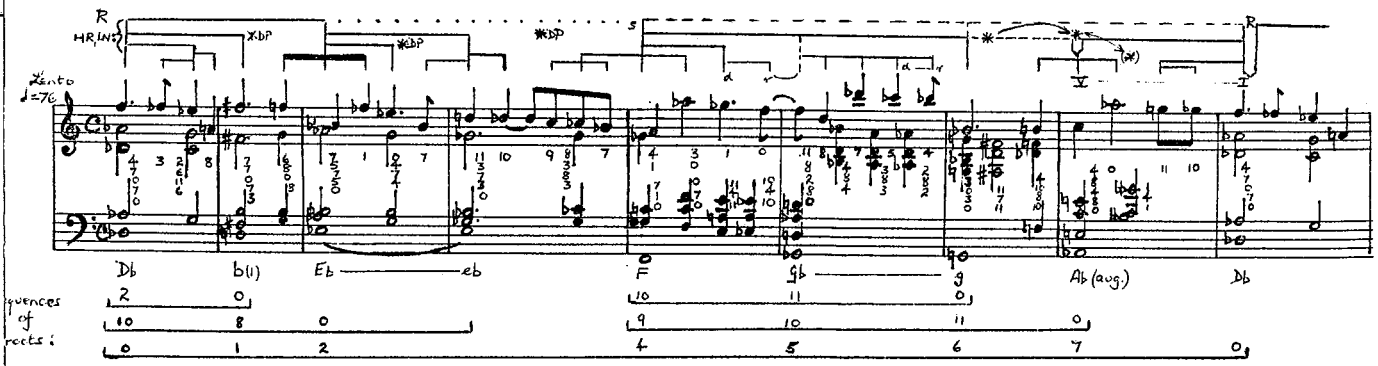
Ex.4/177



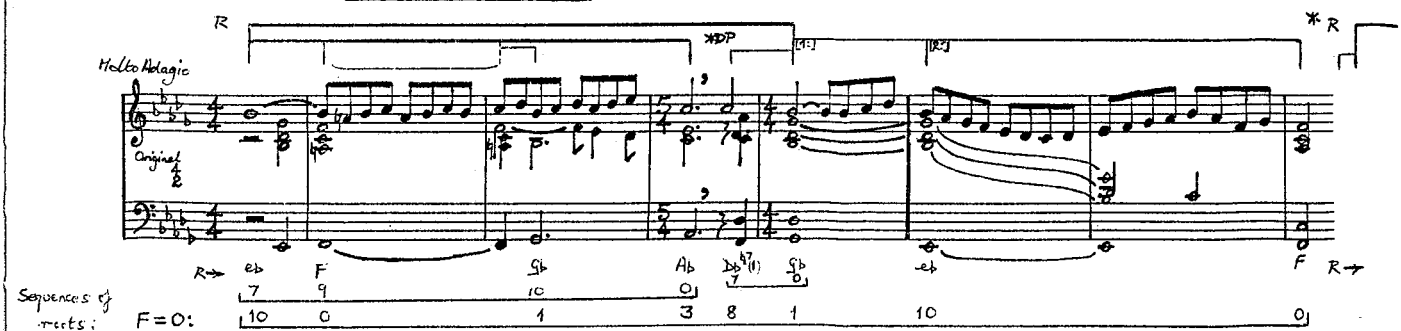
Ex.4/178: Bartók, Concerto for Orchestra, II



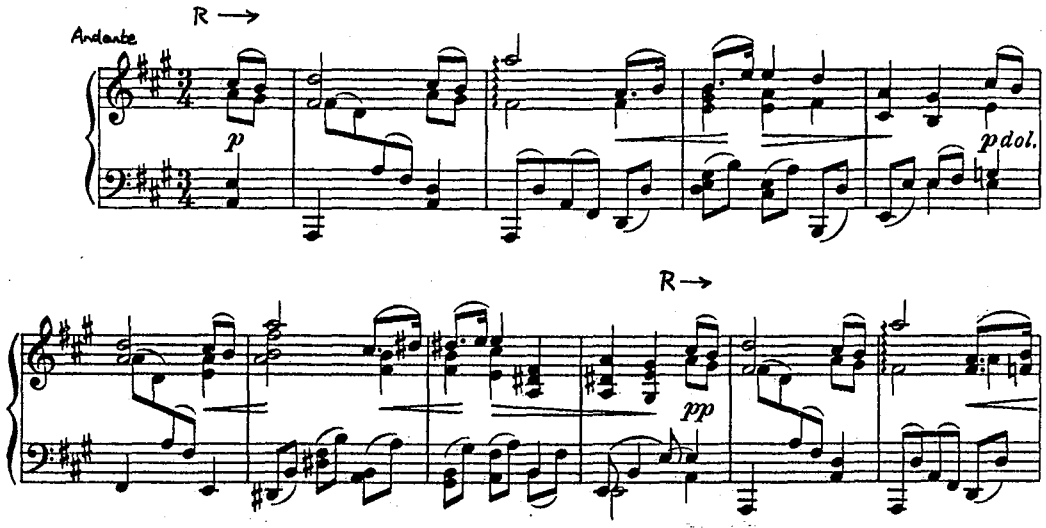
Ex.4/179: Shostakovich, Symphony No.1, III



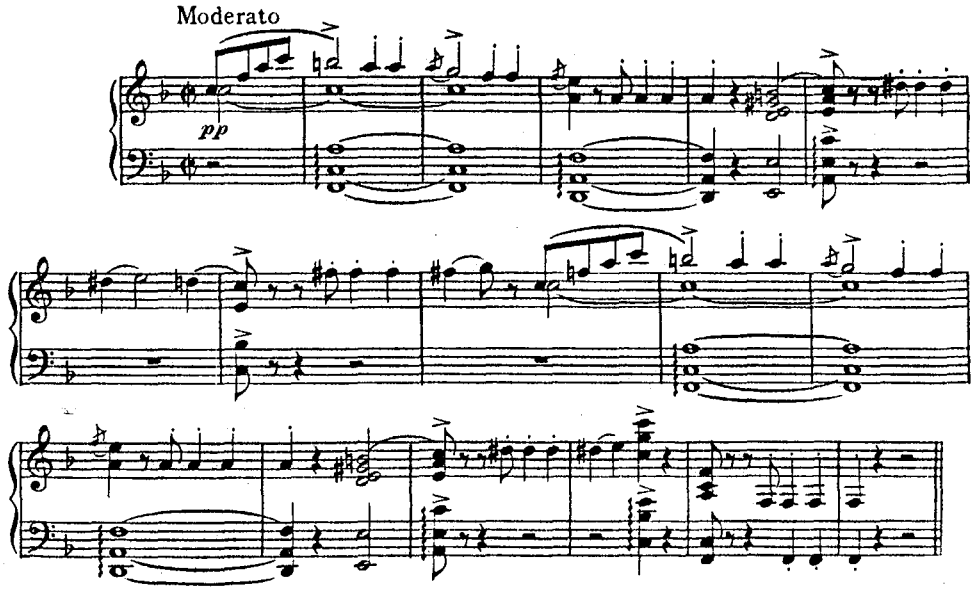
Ex.4/180: Barber, Adagio for Strings



Ex.4/181: Brahms,Intermezzo in A,Op.118/2



Ex.4/182: R.Rogers,The King and I,'March of the Siamese Children'



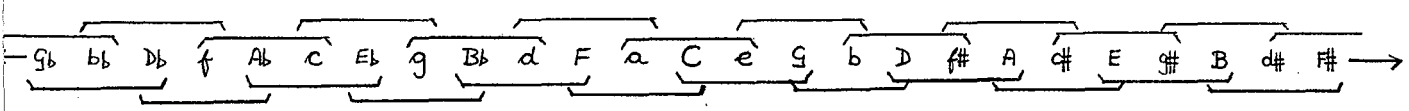
Ex.4/183

D♯	A♯	E♯	B♯	Fx	Cx	Gx
B	F♯	C♯	G♯	D♯	A♯	E♯
G	D	A	E	B	F♯	C♯
E♭	B♭	F	C	G	D	A
C♭	G♭	D♭	A♭	E♭	B♭	F
A♭♭	E♭♭	B♭♭	F♭	C♭	G♭	D♭

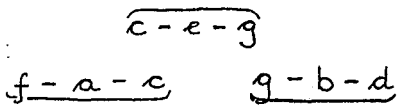
Ex.4/184

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

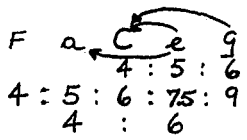
Ex.4/185



Ex.4/186

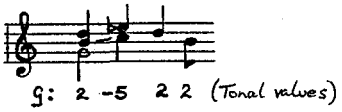


Ex.4/187

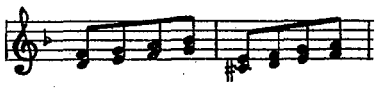


Ex.4/188: see p.121

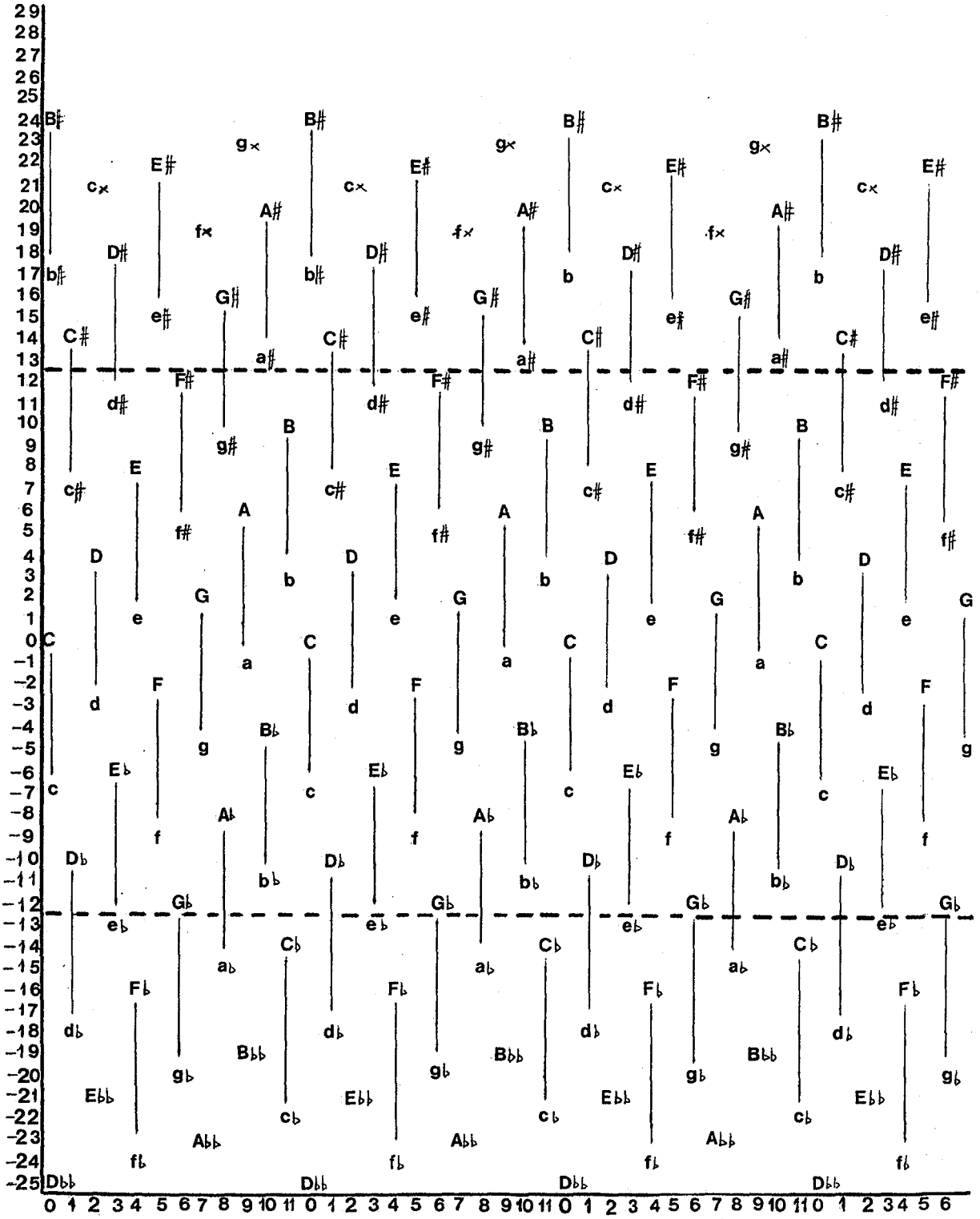
Ex.4/189



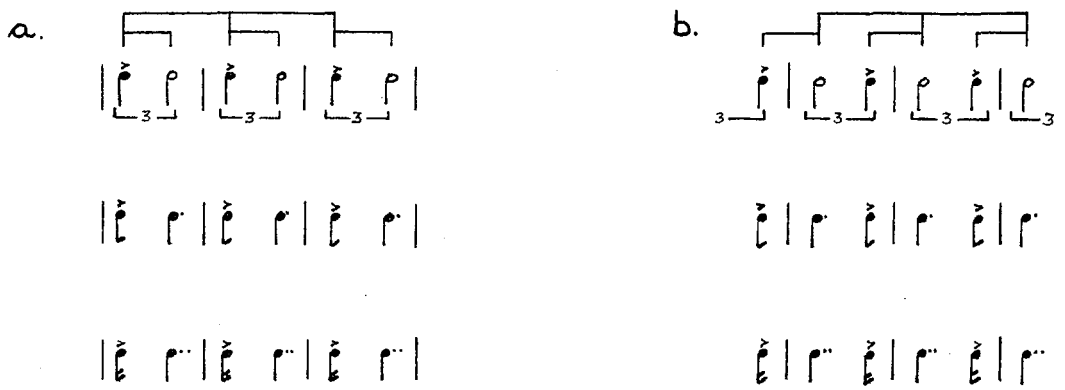
Ex.4/190



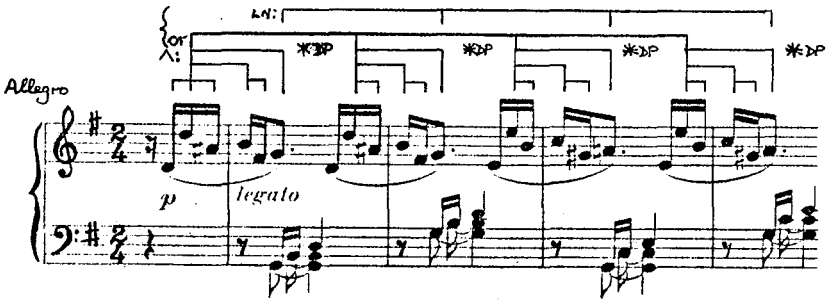
Ex.4/188


29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 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 −15 −16 −17 −18 −19 −20 −21 −22 −23 −24 −25
0 1 2 3 4 5 6 7 8 9 10 11 0 1 2 3 4 5 6 7 8 9 10 11 0 1 2 3 4 5 6 7 8 9 10 11 0 1 2 3 4 5 6

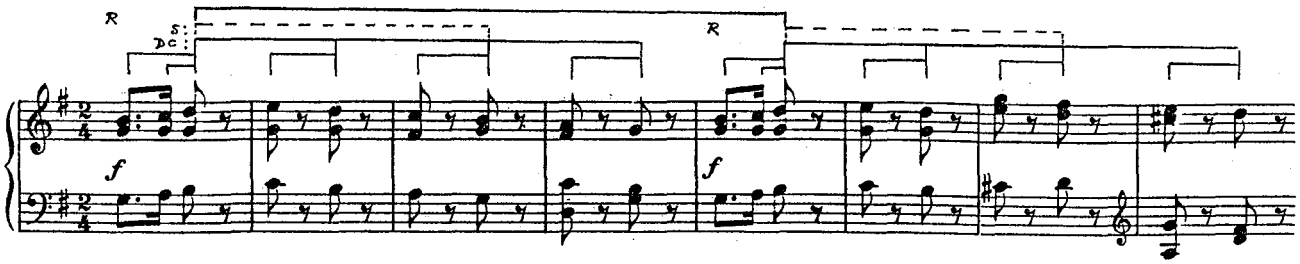
Ex.5/1



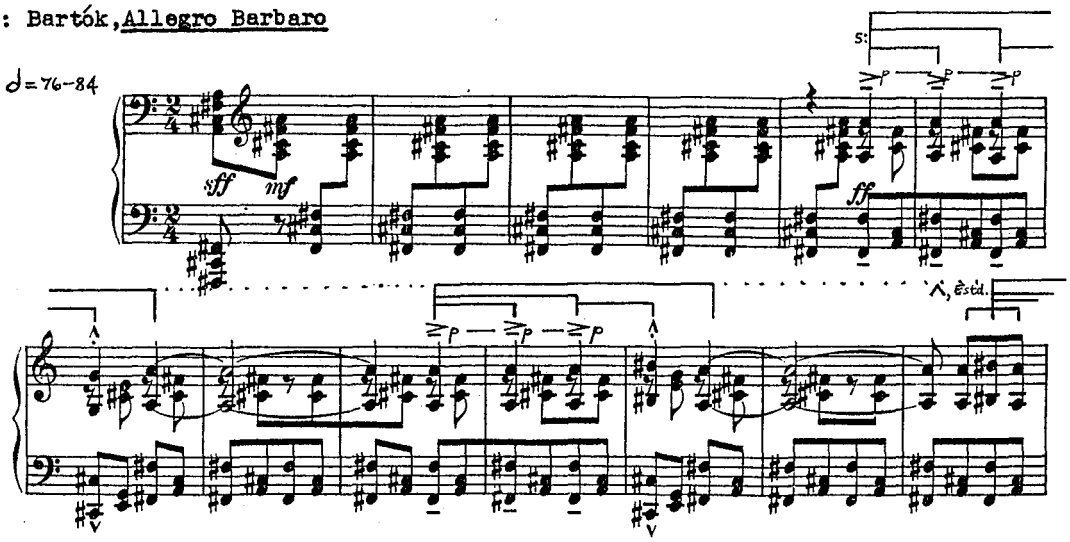
Ex.5/2: Beethoven,Sonata in G,Op.14/2,I



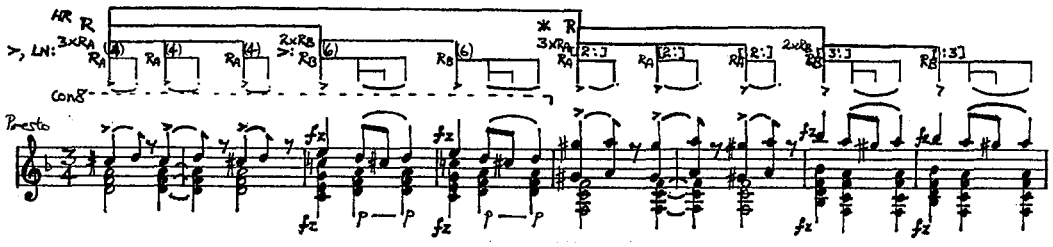
Ex.5/3: Schumann,Album for the Young,Op.68,'Soldiers' March'



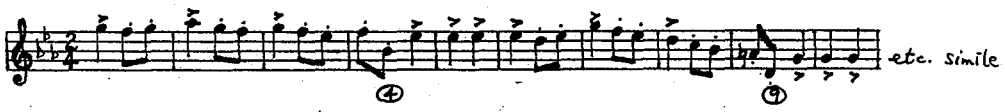
Ex.5/4: Bartók,Allegro Barbaro



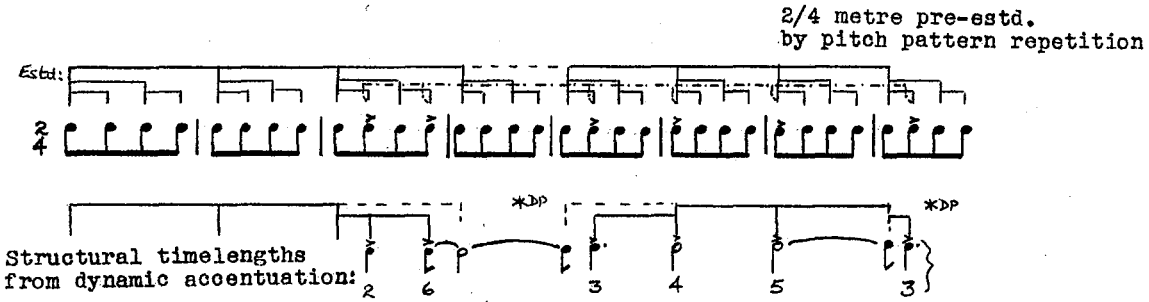
Ex.5/5: Dvořák, Symphony No.6, III



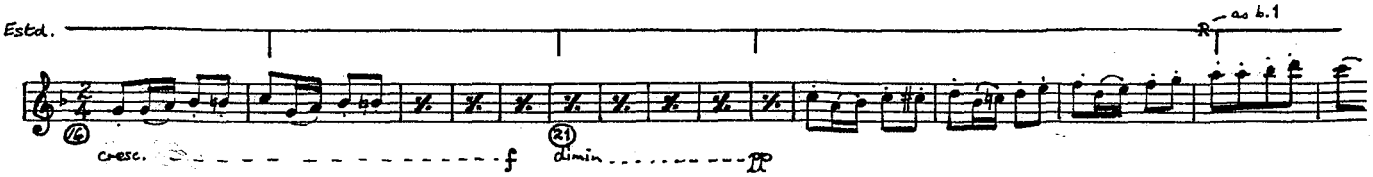
Ex.5/6: Brahms, Rhapsody in E♭, Op.119/4



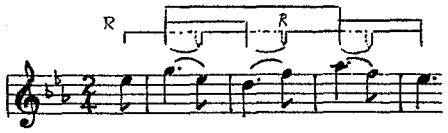
Ex.5/7: Stravinsky, The Rite of Spring, 'Danses des Adolescentes'



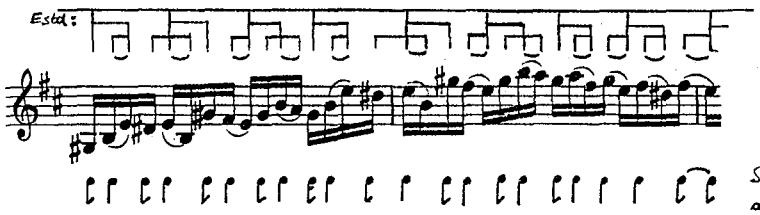
Ex.5/8: Beethoven, Symphony No.6, I



Ex.5/9: Beethoven, Symphony No.3 ('Eroica'), IV

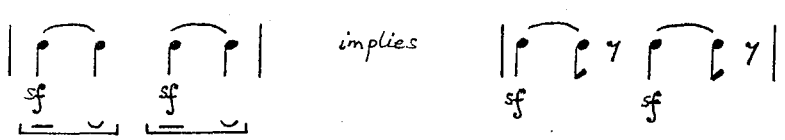


Ex.5/10



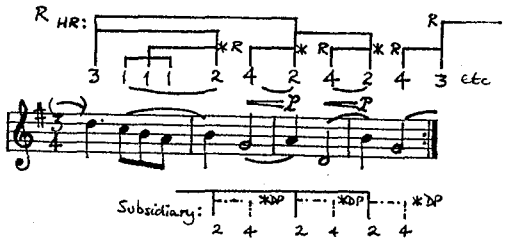
Ex. 5/10.1

Ex. 5/10.2

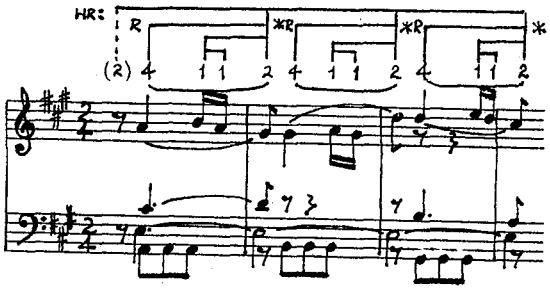


(⌒ = Articulation, not ties)

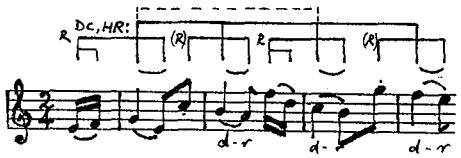
Ex.5/11



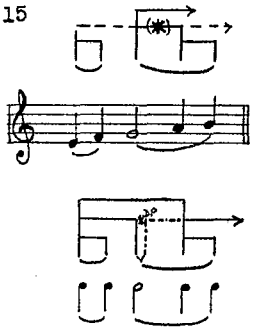
Ex.5/12: Beethoven,Quartet in C♯ minor,Op.131,IV



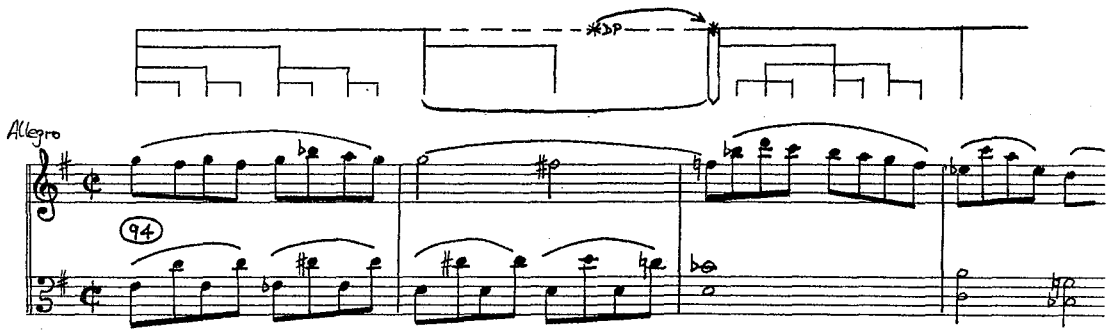
Ex.5/13: Haydn,Symphony No.97 ('Salomon'),IV



Ex. 5/15

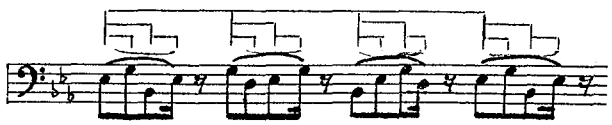


Ex. 5/14: Mozart, Duo for violin and viola, K.423, III

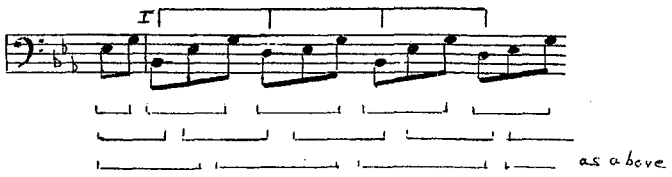


Ex.5/16: adapted from: Beethoven,Sonata in E♭,Op.58/3,IV

a.

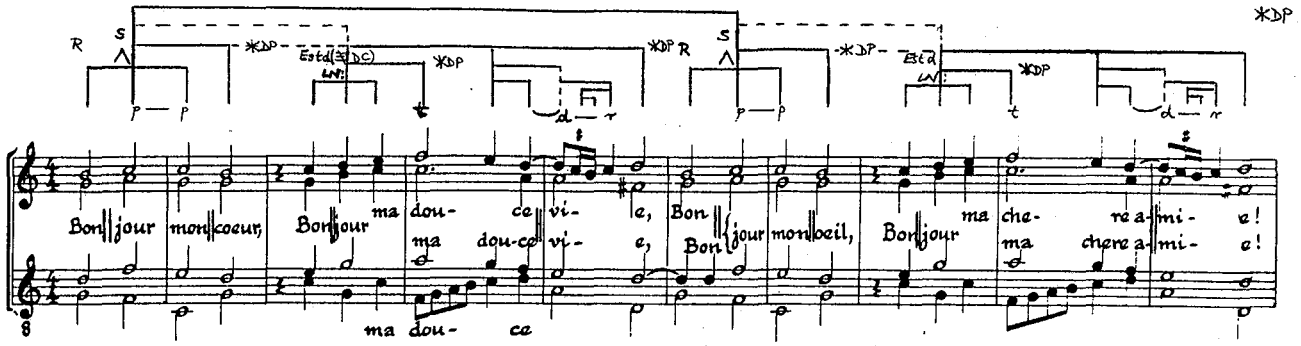


b.

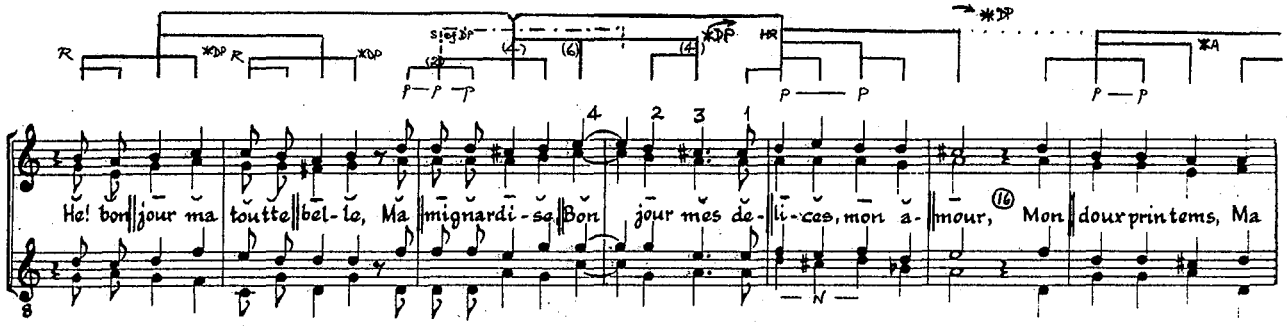


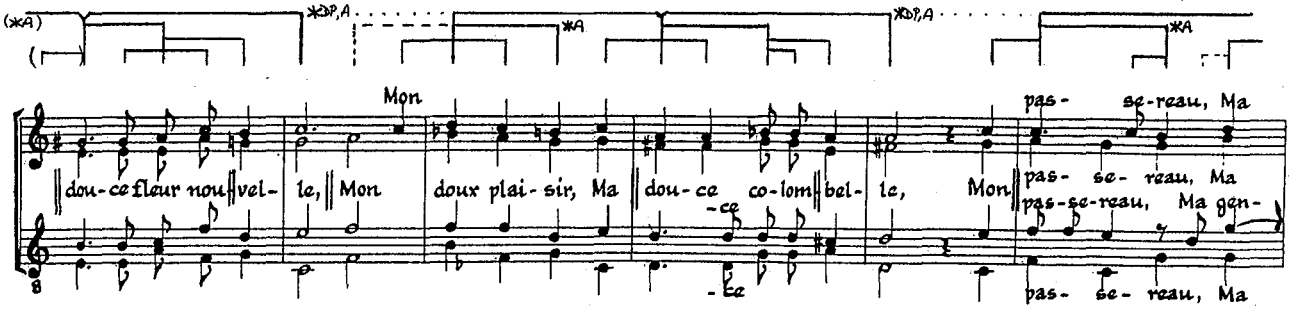
Ex.5/17: Lassus, Chanson, 'Bon Jour Mon Coeur'

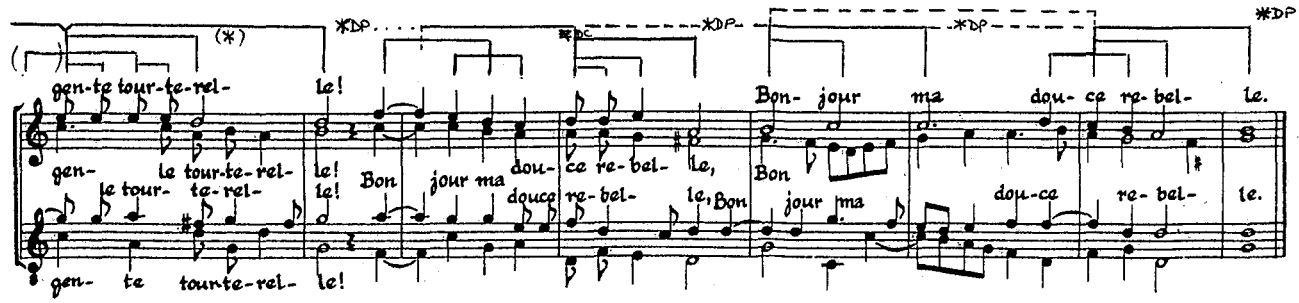
*A = Articulated phrasing



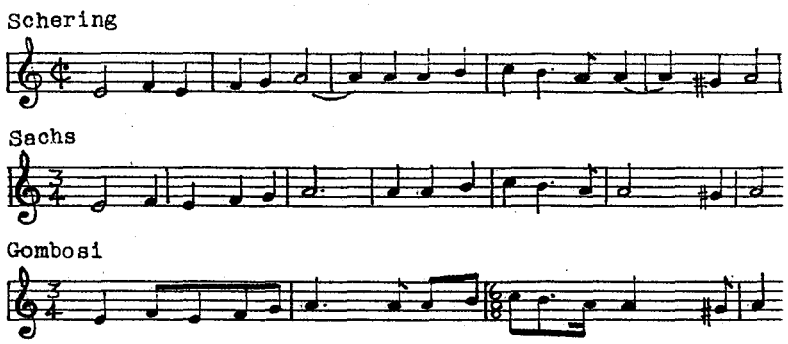
Ex.5/18 Bon jour mon cœur, bon jour ma dou- ce vi - e, Bon etc. as above – see



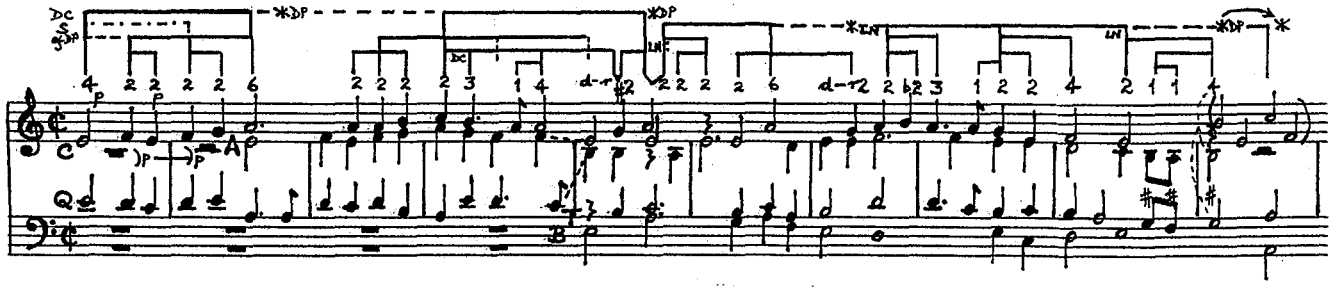




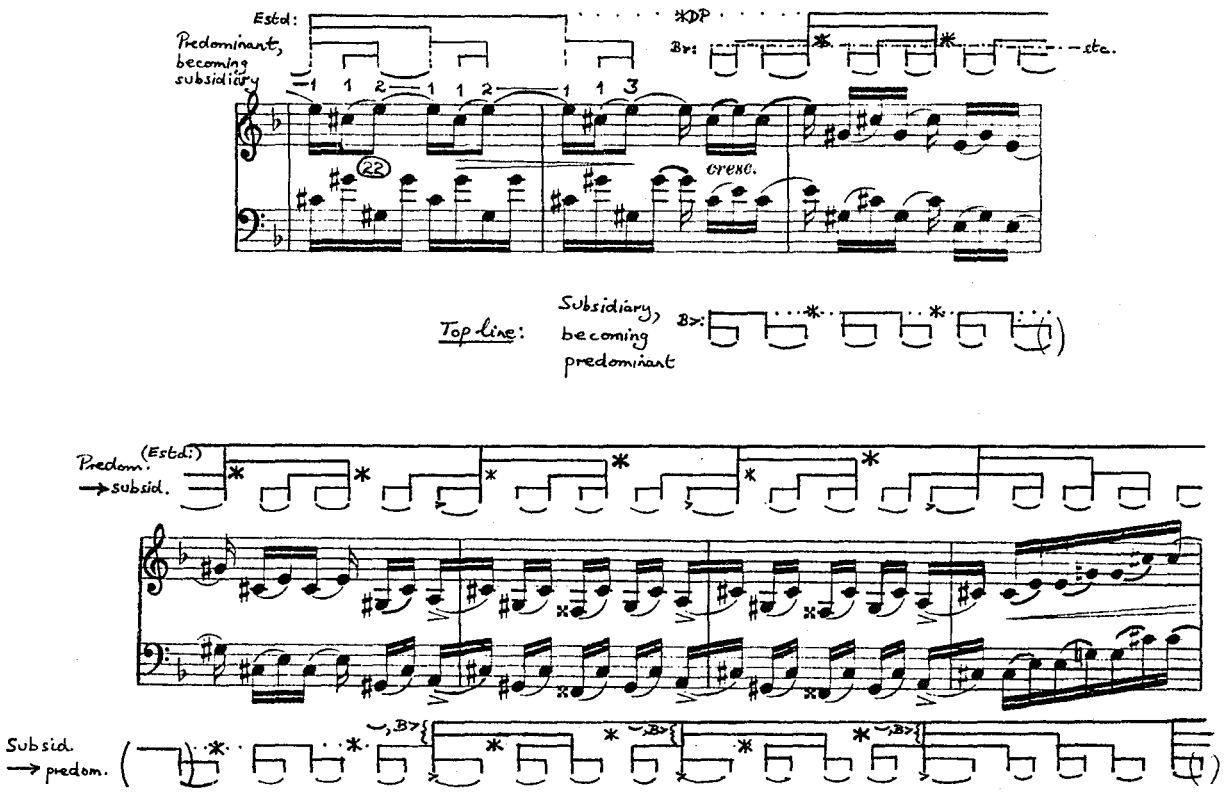
Ex.5/19



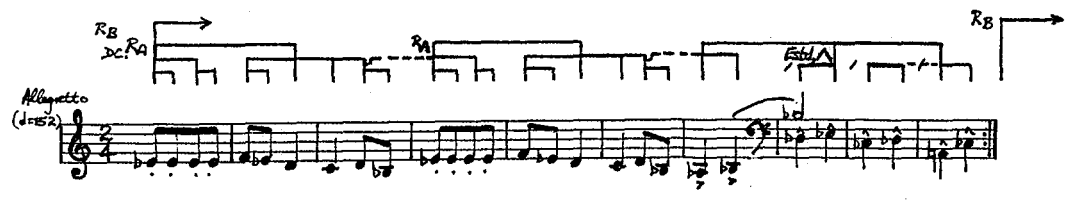
Ex.5/20: Rore,Madrigal,'Quando Lieta Sperai'



Ex.5/21: Brahms,Piano Concerto No.1,III

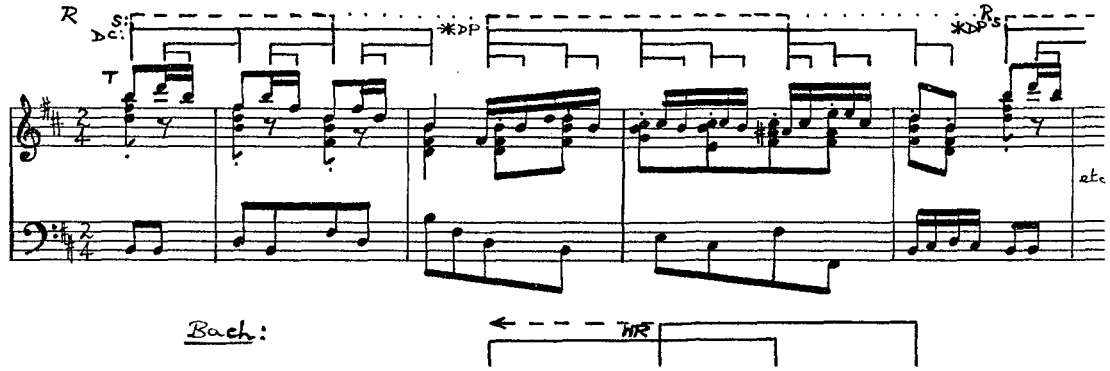


Ex.5/22: Janáček,Sinfonietta,IV

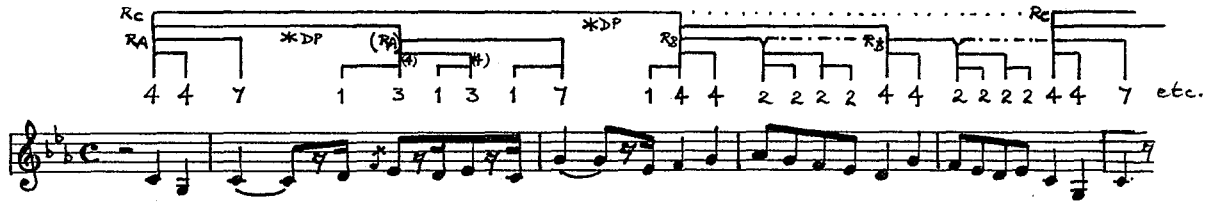


/ = Directional grouping
Estd = Pre-established metre
Λ = Tonic accent

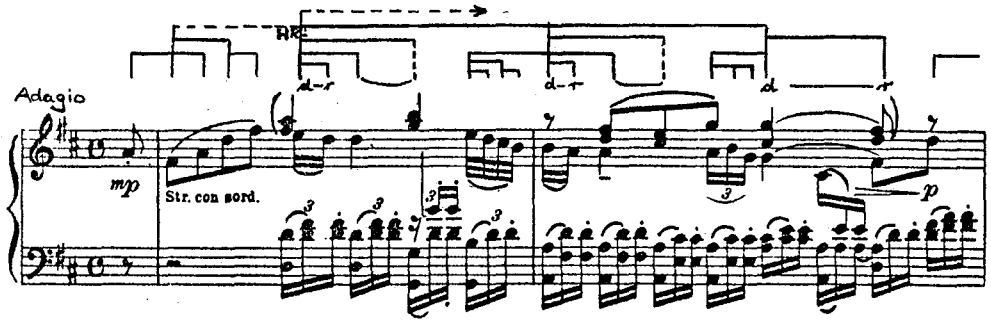
Ex.5/23: Bach,Orchestral Suite No.2 in B minor, Badinerie



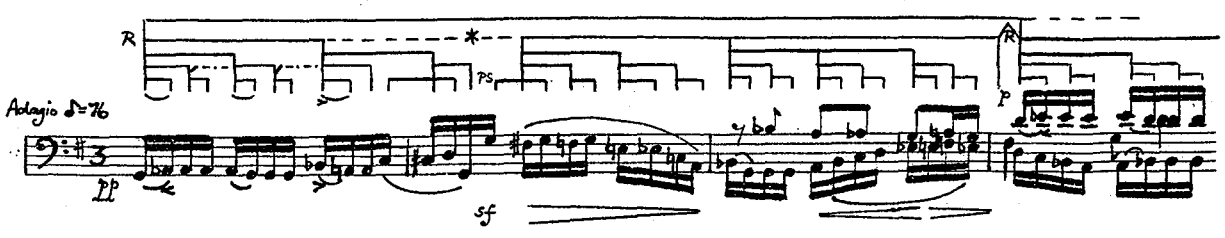
Ex.5/24: Bizet,L'Arlesienne,Suite No.1,I,Overture



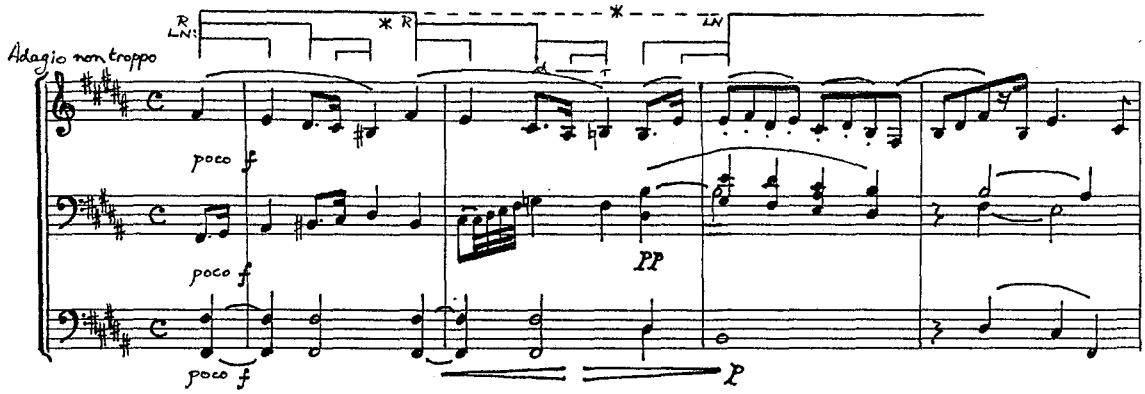
Ex.5/25: Mozart,Violin Concerto in G,K.216,II



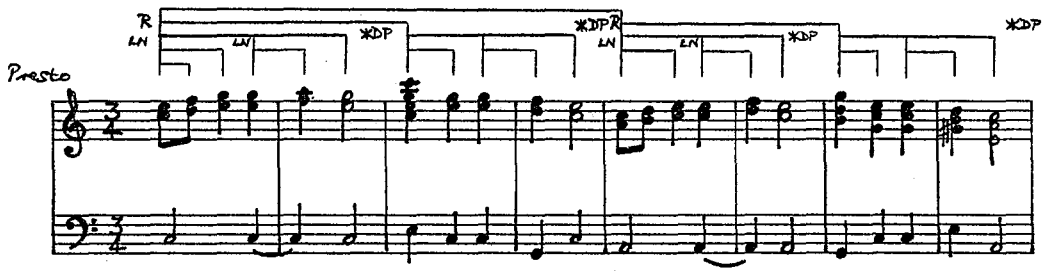
Ex.5/26: Berlioz,Harold in Italy,I



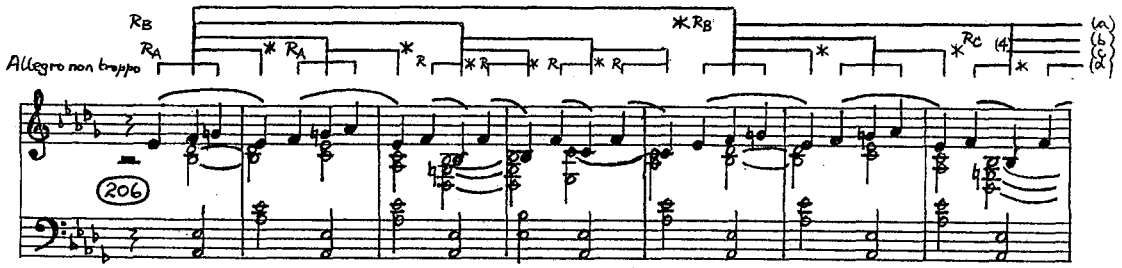
Ex.5/27: Brahms,Symphony No.2,II

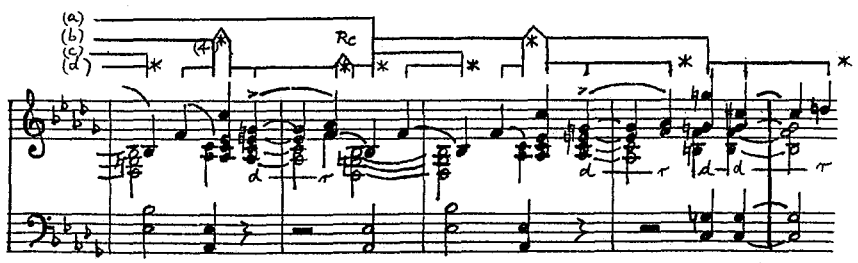


Ex.5/28: Dvořák,Slavonic Dances,Op.46,I

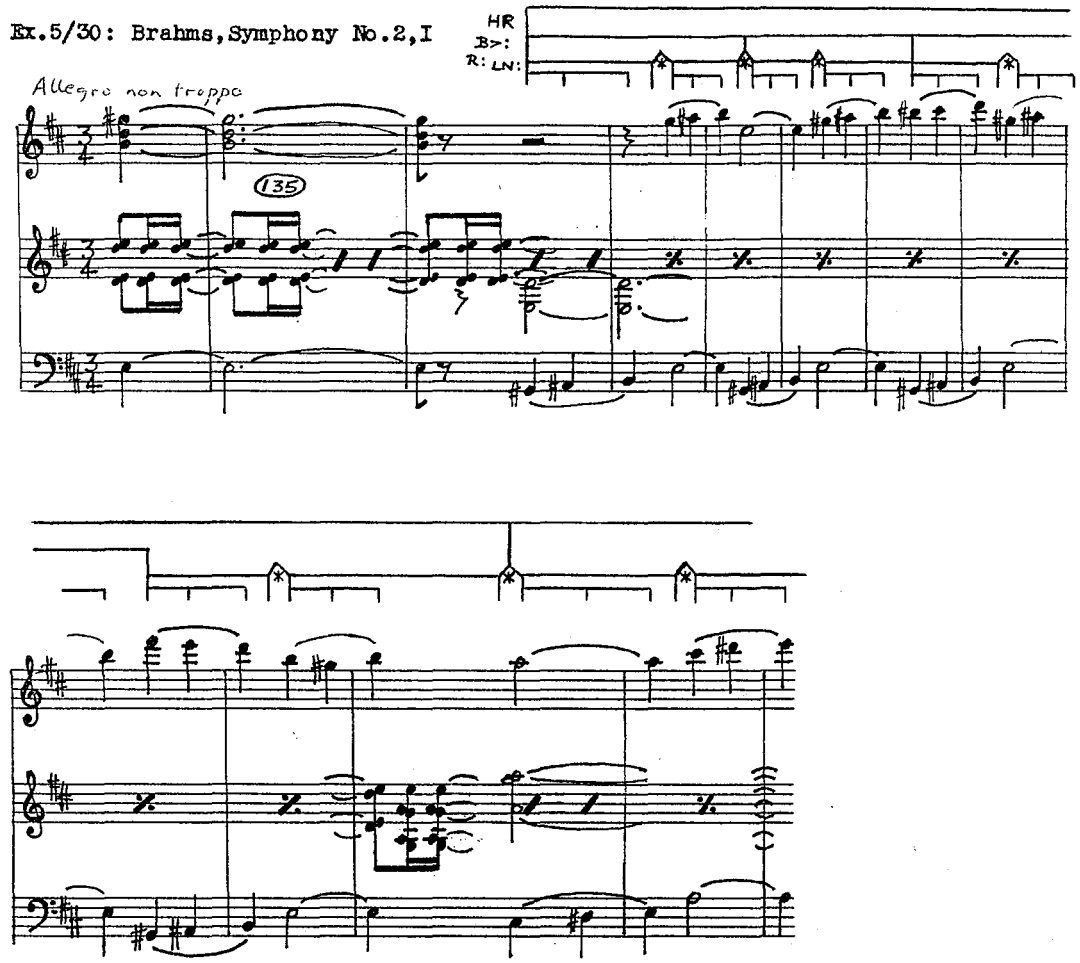


Ex.5/29: Tchaikovsky,Piano Concerto No.1,I



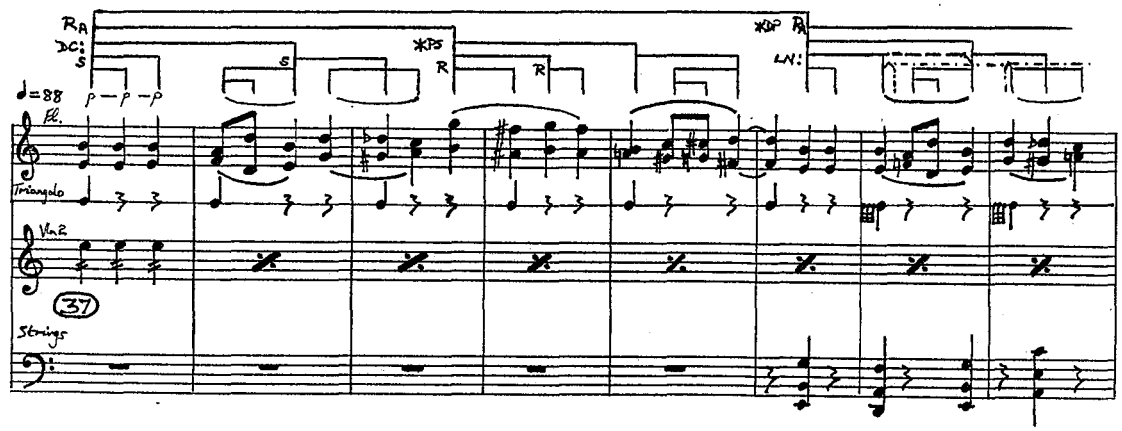


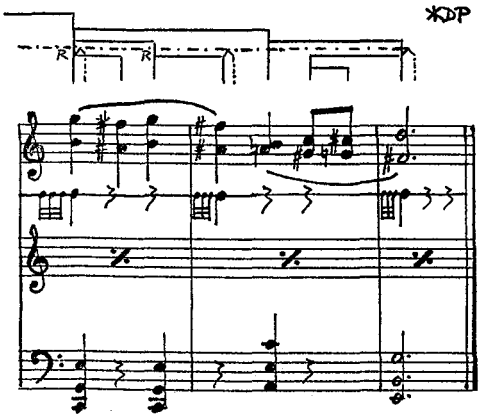
Ex.5/30: Brahms, Symphony No.2, I



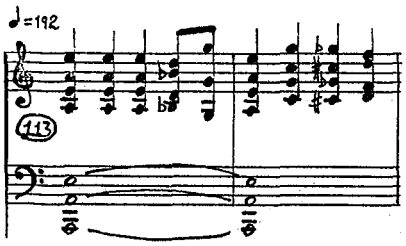
Ex.5/31: Shostakovich, Symphony No.1, II

a.



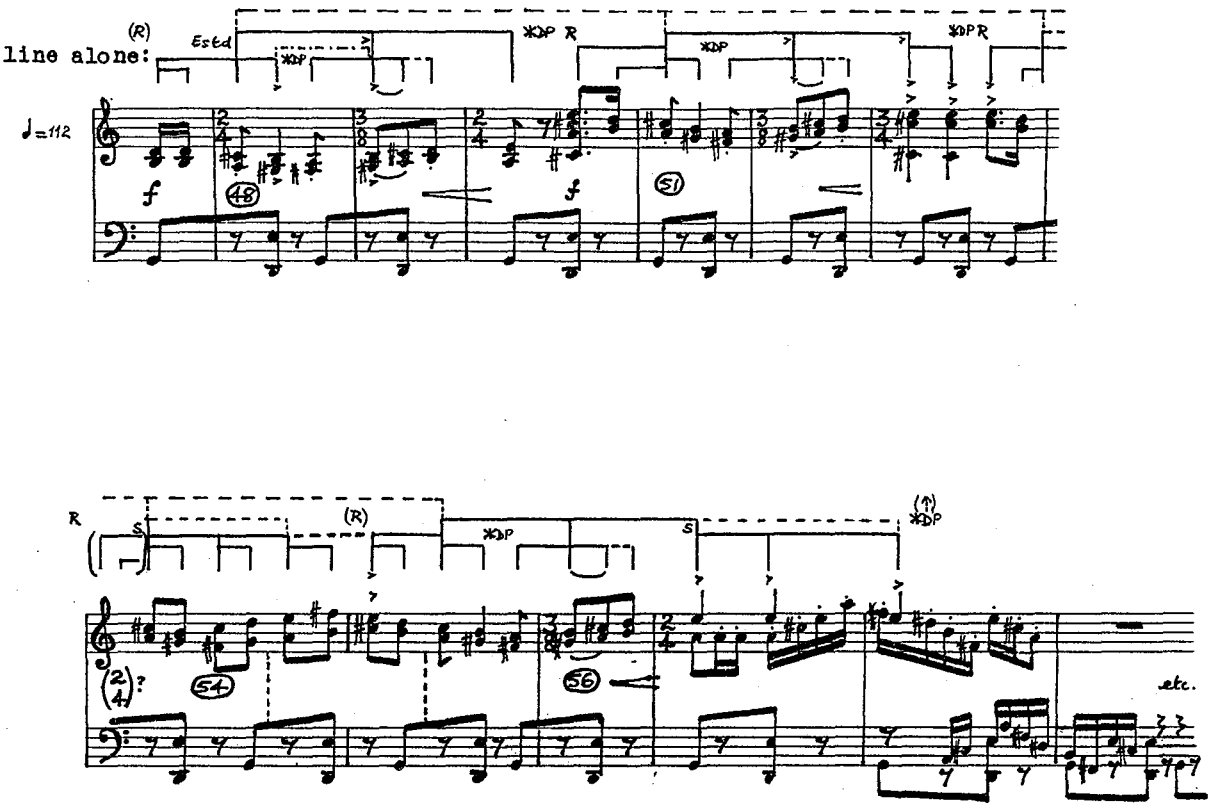


b.



Ex.5/32: Stravinsky, L'Histoire du Soldat, 'Marche du Soldat'

Top line alone:

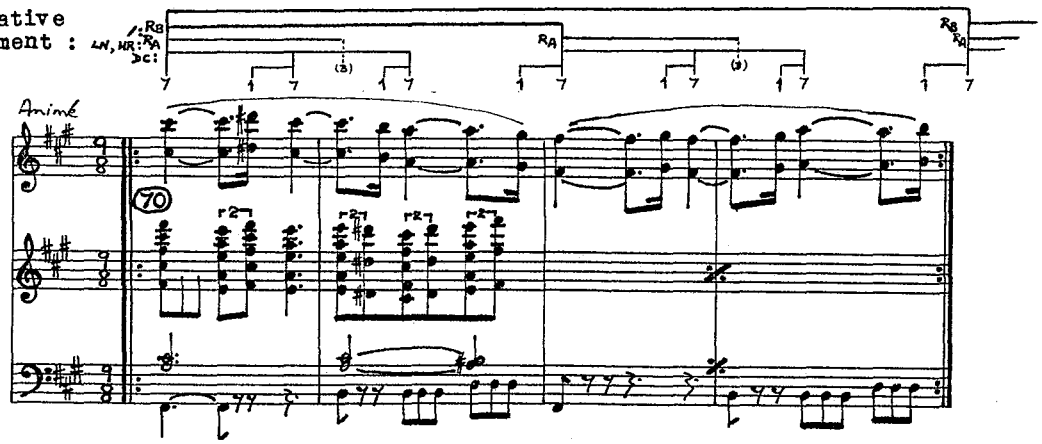


Ex.5/33

a: Debussy, Nocturnes, II, 'Fêtes'

Top line relative to accompaniment :

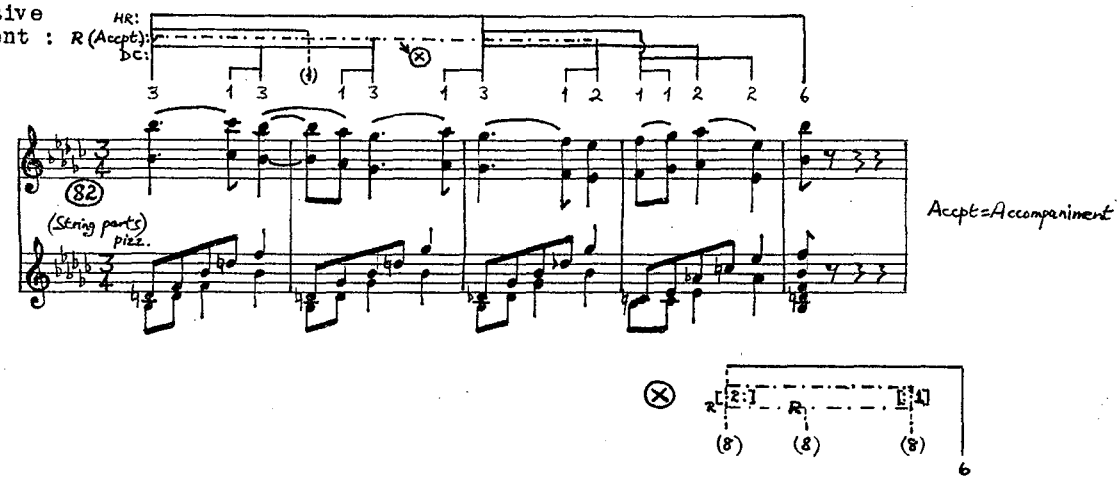
a.



Ex. 5/33 ctd.

b:Ravel,Introduction and Allegro

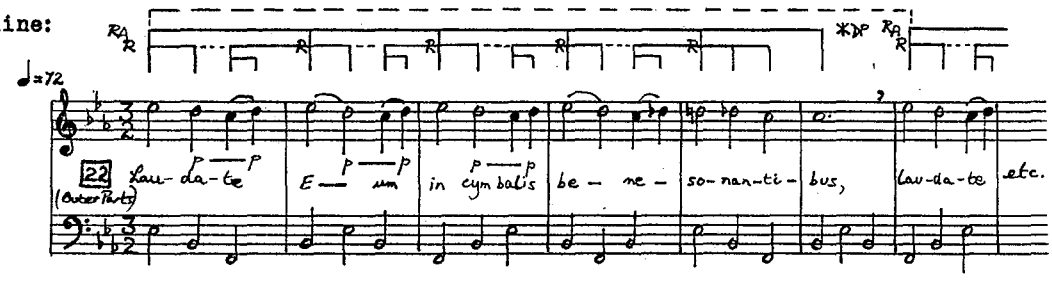
Top line relative to accompaniment :



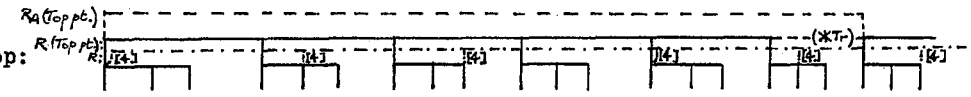
c.

Ex.5/34: Stravinsky,Symphony of Psalms,III

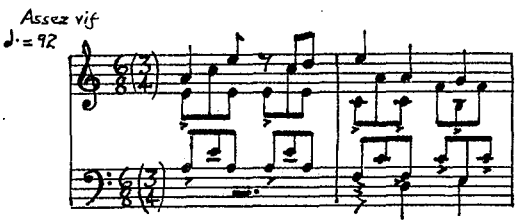
Top line:



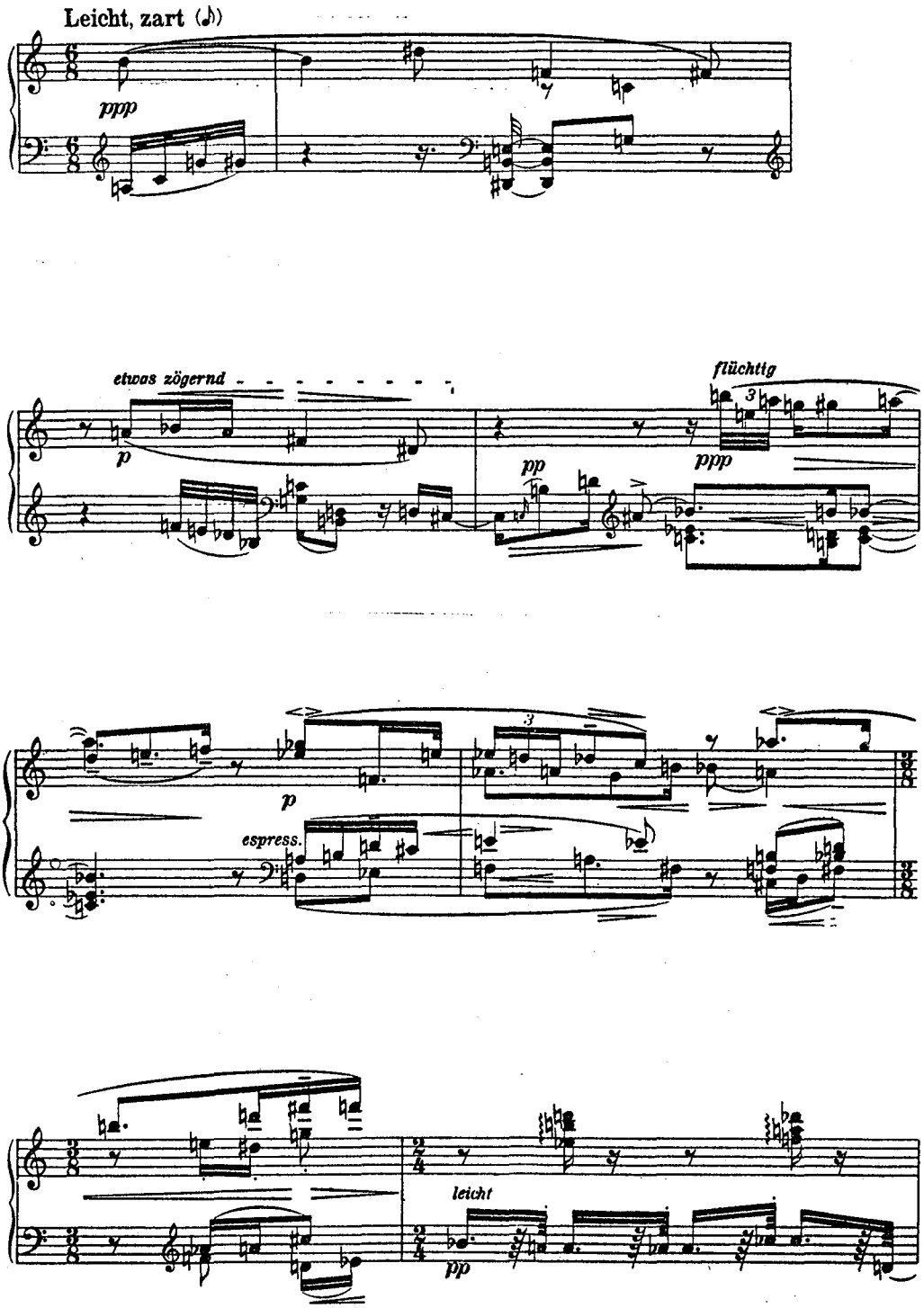
Bottom line relative to top:



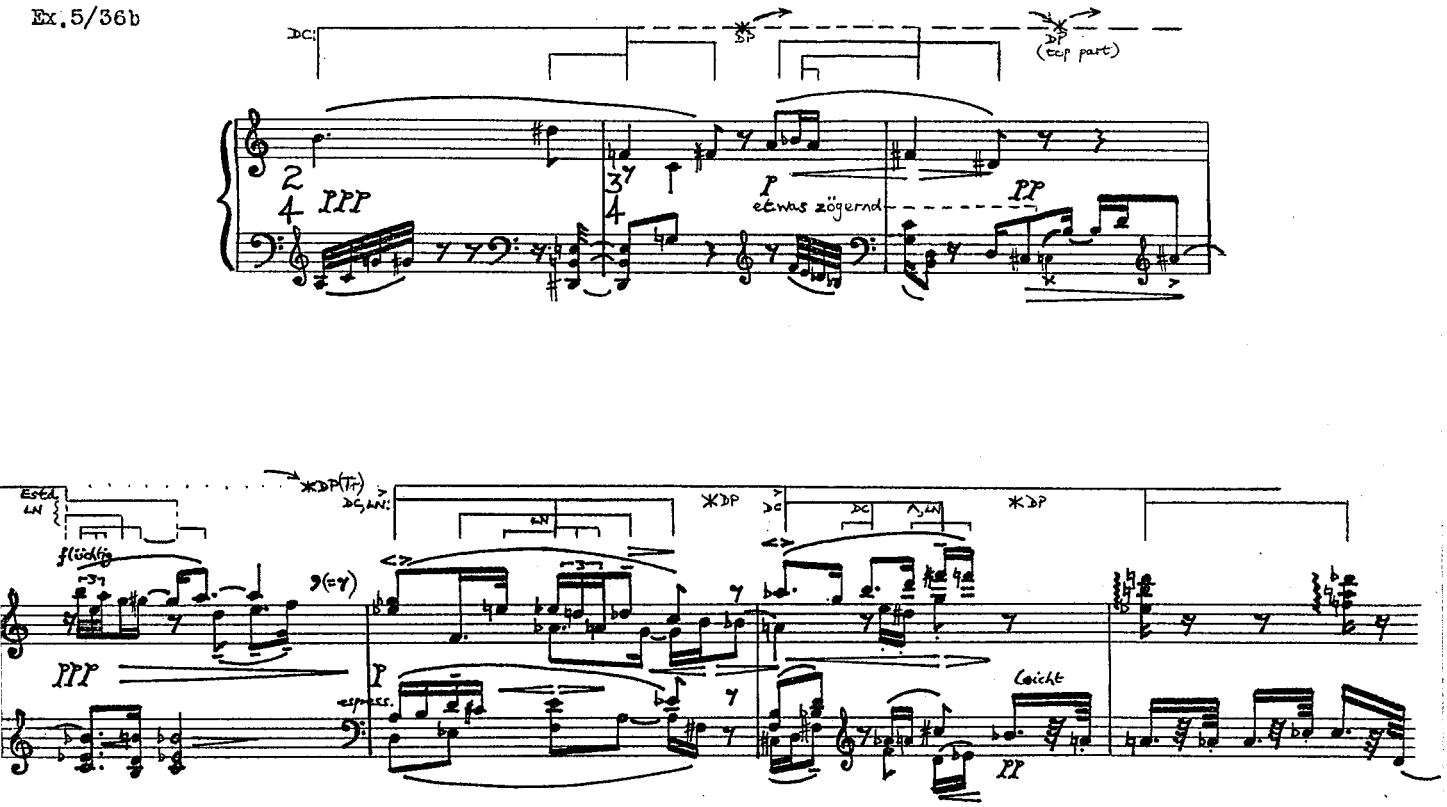
Ex.5/35: Ravel,Quartet in F,II



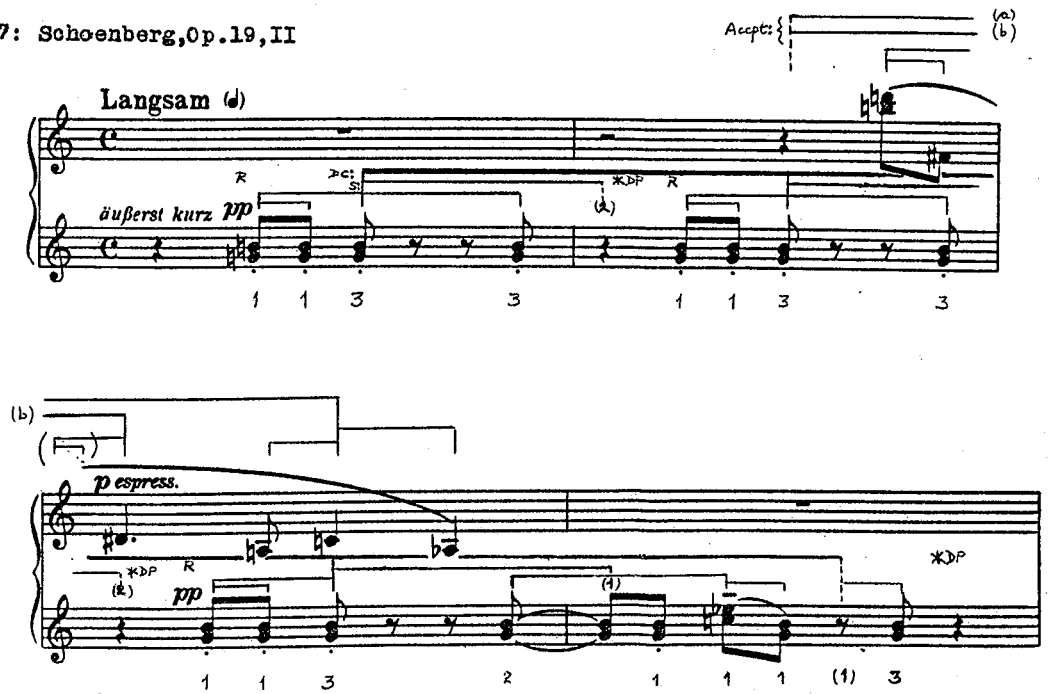
Ex.5/36: Schoenberg, Six Little Piano Pieces, Op.19, I



Ex.5/36b

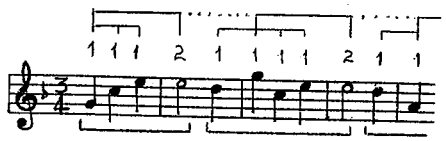


Ex.5/37: Schoenberg,Op.19,II



Ex.5/38

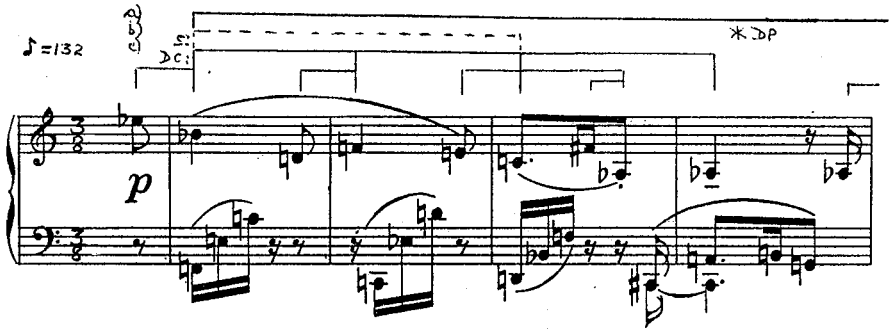
a.

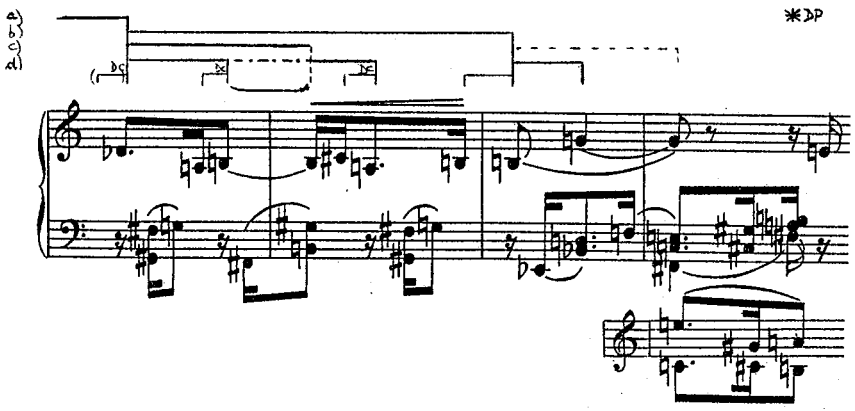


b.

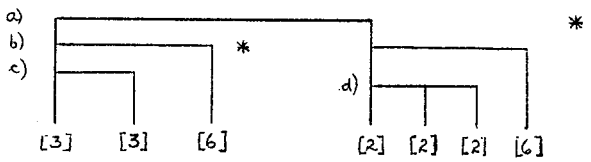
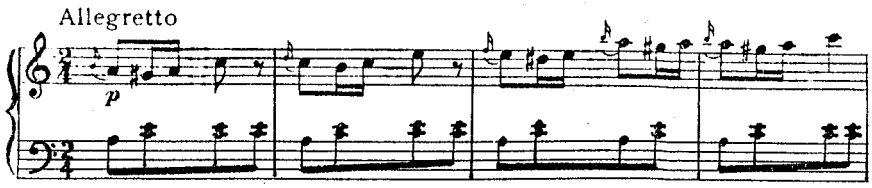
Ex.5/39: Schoenberg,Piano Concerto,I

a.





b.



Ex.5/40: Mozart,Sonata in A,K.331,III (adapted)