

Schwabing, Op. 22/1

~~7-4: {2, 3, 4, 7}~~

7-237: {5, 6, 8, 9, 10, 11}

6-219: {5, 6, 9, 10, 11} *the signature*

5-21: {5, 6, 9, 10, 11}

4-7: {5, 6, 9, 10}

5-20: {6, 7, 9, 11, 2}

4-7: {8, 9, 11}

m. 2

5-16: {8, 11, 0, 2, 3}

5-21: {10, 11, 2, 3, 6}

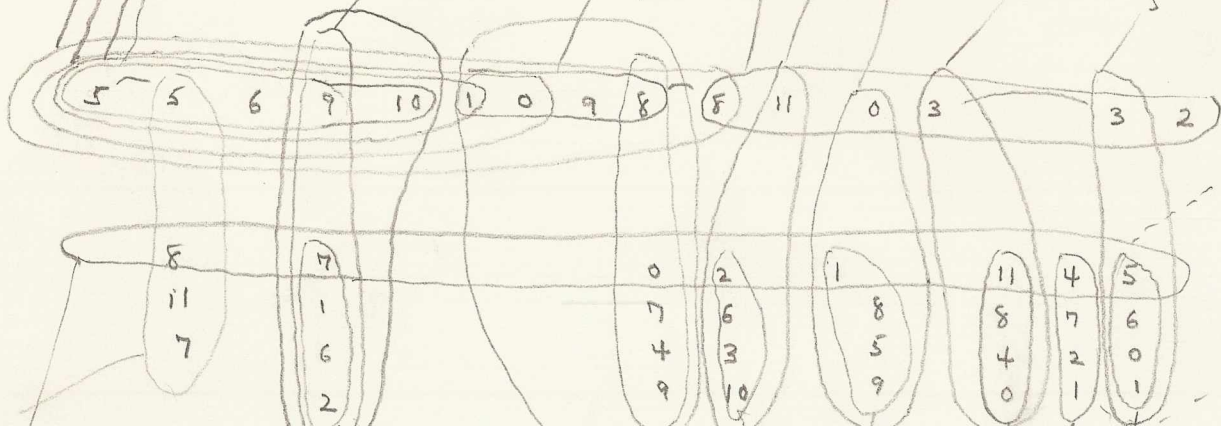
5-21: {5, 8, 9, 11}

5-21: {8, 11, 0, 3, 4}

5-21: {0, 1, 3, 5, 6}

m. 3

All ①
To be checked
for vertical
subsets
esp. 6-3)



4 7 8

4-12: {5, 7, 8, 11}

8-215: (10, 0, 3, 4)

4-8: {1, 2, 6, 7}

*6-244:

{7, 8, 9, 0, 1, 4}

5-237: {4, 7, 8, 9, 0}

4-19: {4, 8, 11, 0}

4-13: {6, 2, 4, 7}

?7-6: {0, 1, 2, 3, 4, 7, 8}

6-219: {6, 7, 9, 10, 1, 2}

the signature again

the signature again

6-18: {6, 7, 8, 11, 1, 2}

6-31: {0, 1, 3, 5, 8, 9}

5-30: {2, 3, 6, 8, 10}

6-23: {0, 1, 2, 3, 5, 6}

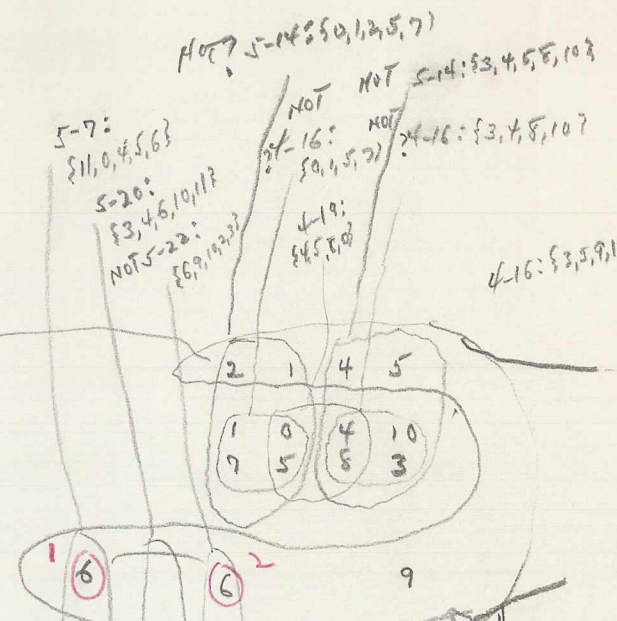
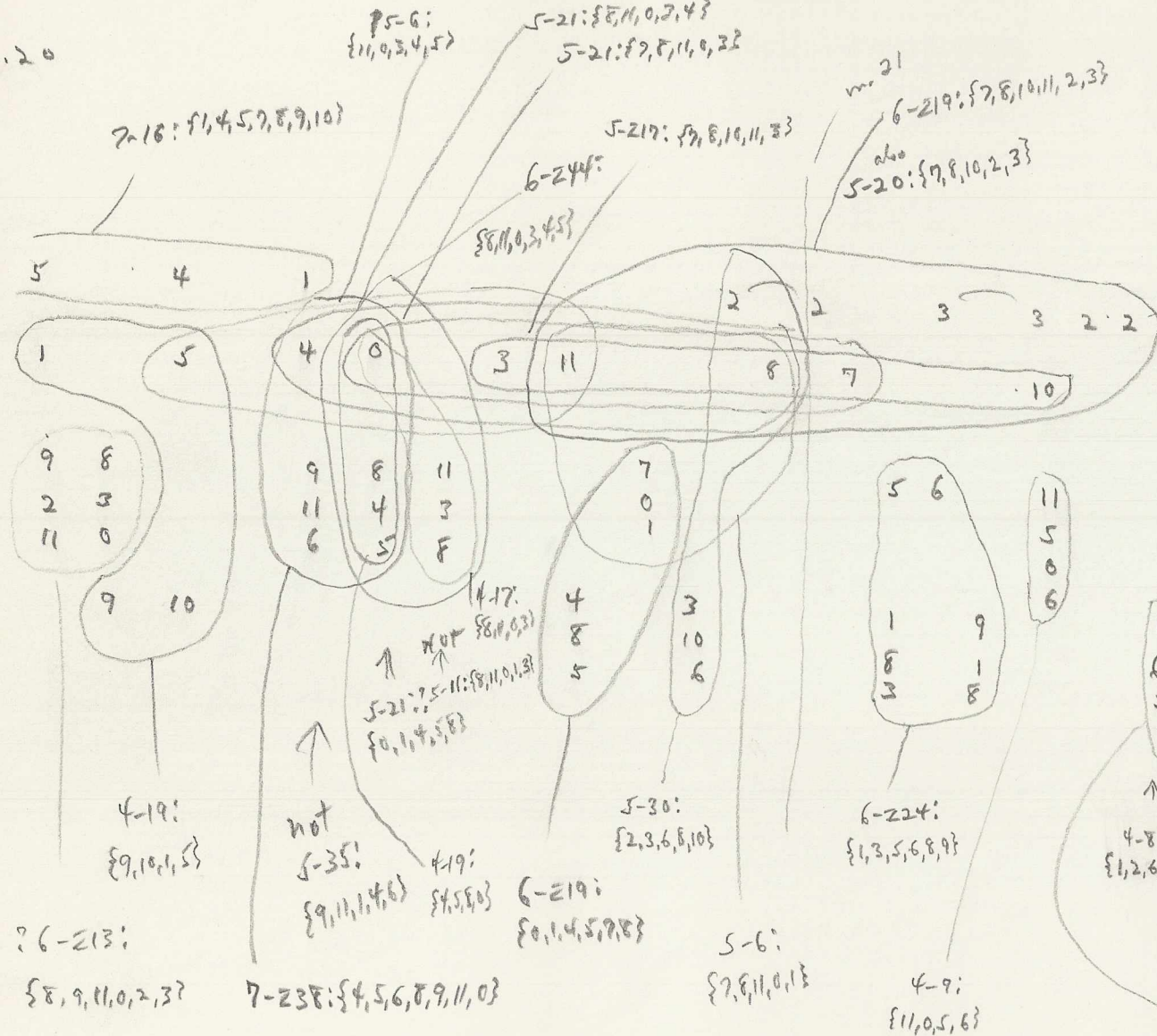
6-34: {2, 3, 6, 8, 10, 11}

5-6: {0, 1, 2, 5, 6}

*It's a complaint
of proceeding 6-219

h. 20

Voice:



? 8-12: (4, 6, 7, 10)

NOT ? 7-23: (7, 10, 0, 1, 2)
{3, 4, 5, 8, 9, 11}

"Separation of strata"

1 here 6 belongs to 4-8 in lower parts
2 here 6 does not belong to lower part (5-22)
but to 4-8 in upper {1, 2, 6, 7}
and {0, 1, 5, 6}
and to 6-26: {0, 1, 2, 5, 6, 7}

Voice and
Tpt. through
der form
8-19:
{1, 2, 4, 5, 8, 9, 11}

Schoenberg, Op. 22/1

m. 22

voice:

6

9

8

10

11

7

3

10

4

7

8

6

2

11

5

9

10

0

8

4

4-18: {3,4,7,8,10,11}
5-216: {3,4,7,8,10,11}

5-32: {5,6,9,11,2}

NOT ?6-14: {3,4,6,7,8,10}

?5-22: {9,10,1,4,5}

2-21: {8,9,10,1,4,5}

"Chromatics" in vocal line?

No - part of composite segment with instrument (Tpt.) and voices

6-219: {3,4,6,7,10,11}

6-246: {5,6,7,9,11,2}

4-19: {9,10,1,5}

8-18: {5,6,8,9,10,1,2}

Here vocal line seems to separate from instruments, but is not

8-12: (1,3,4,7)

8-19: {8,9,10,1,2,4,5}

7-30: {9,10,1,2,4,5,6}

8-8: {8,9,10,1,2,4,5}

?6-243: {4,5,6,9,10,1}

8-18: {4,5,6,7,9,10,1,2}

7-218: {2,3,4,5,7,10,11}

11

9

8

0

2

9

10

6

0

4

6

5

1

5

2

0

5

9

6

4

10

5

8

1

2

7

3

11

7

9

1

0

11

0

9

8

5

4

6

8

10

3

11

0

1

10

7

3

4

10

5

5

7

3

6

6

11

2

11

4-13: {8,9,11,2}

5-218: {8,10,11,2,3}

6-18: {0,1,3,6,7,8}

6-27: {1,4,6,7,9,10}

6-228: {4,5,7,9,10,1}

5-16: 6-243: {5,7,8,11,0,1}

NOT ?5-26: {8,9,11,0,3} {7,9,11,0,3}

i.e., no interlocking/overlapping here, although this procedure is used immediately afterward

6-27: {5,6,8,9,11,2}

with yea 6-15: {0,1,2,4,5,8} with pto 6-249: {1,2,4,5,8,10} 6-249 (B)

question of slur or tie - C or Bb?

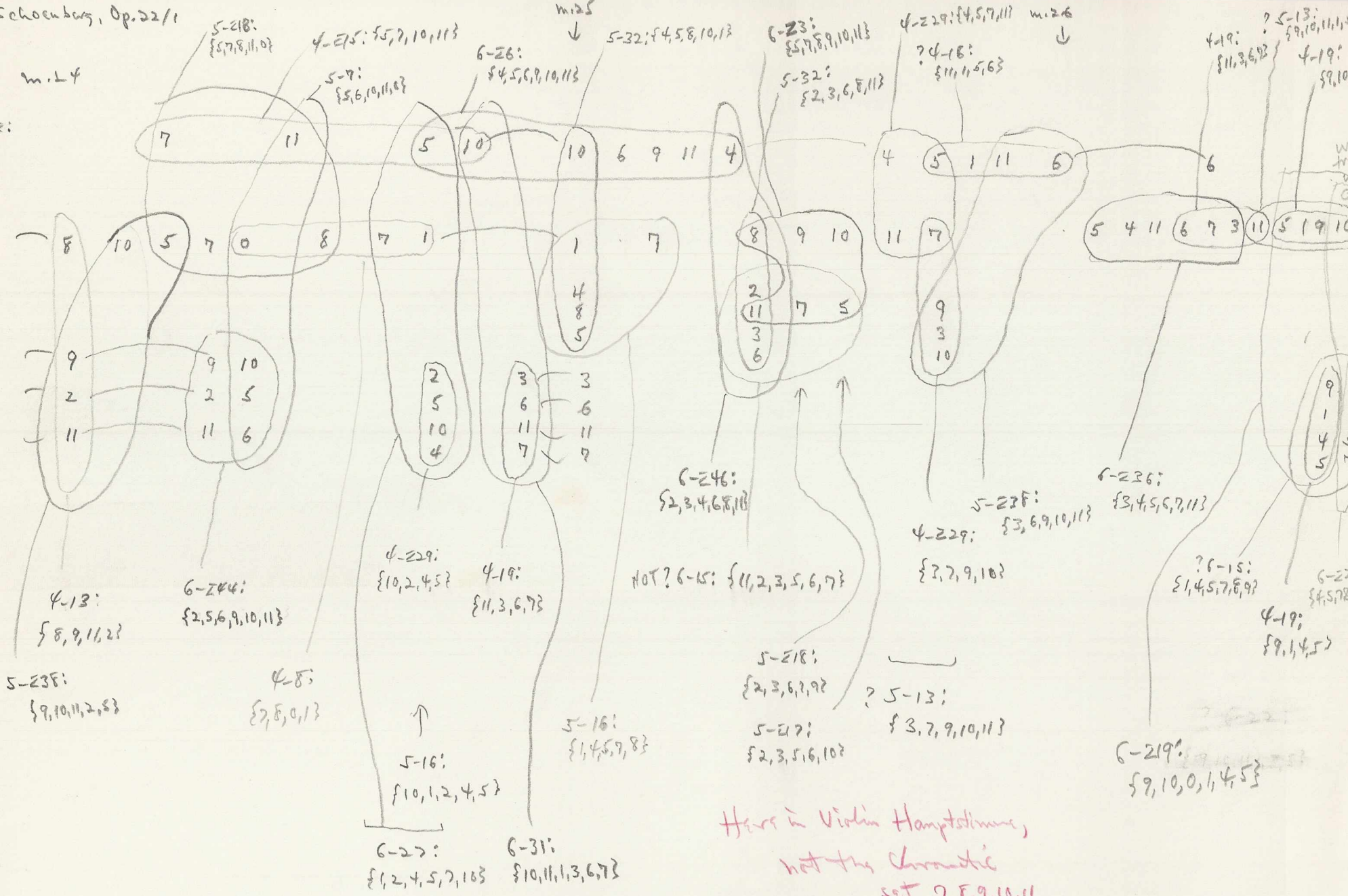
EXAMP 8-18 & 8-19 & 8-8

m. 24

Schoenberg, Op. 22/1

m. 4

voice:



Here in Violin Hauptstimme,
not the chromatic
set 7, 8, 9, 10, 11

Schoenberg, op. 22/1

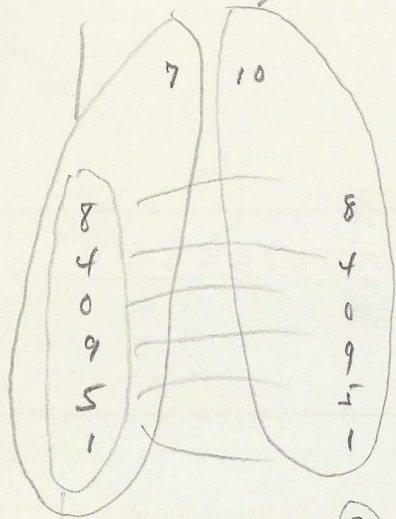
m. 29

ITS

m. 28

7-21: {0, 1, 4, 5, 7, 8, 9}

7-21: {8, 9, 10, 0, 1, 4, 5}



6-20: {4, 5, 8, 9, 0, 13}

5-22: {6, 9, 11, 2, 3}

? 8-17: {11, 2, 3, 6}

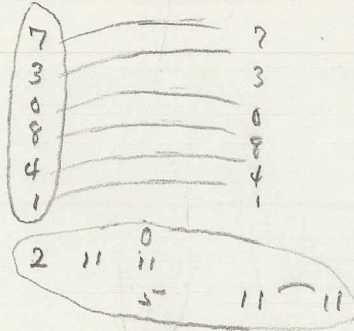
NOT 'CHROMATIC' PROGRESSION!

m. 29

6-29: {0, 1, 3, 4, 7, 8}

6-34: {9, 10, 0, 2, 4, 6}

2 0 4

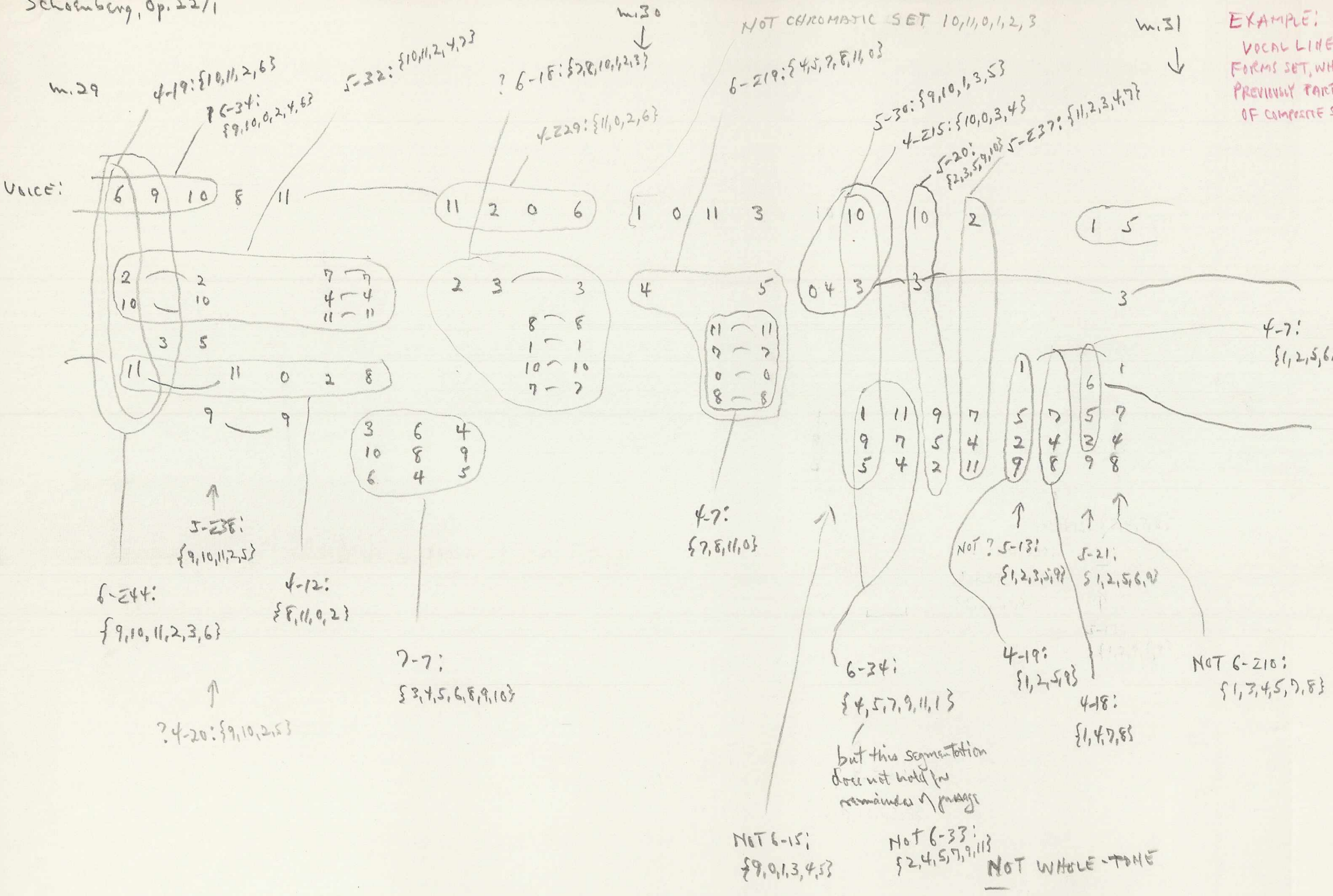


5-32: {7, 10, 0, 3, 4}

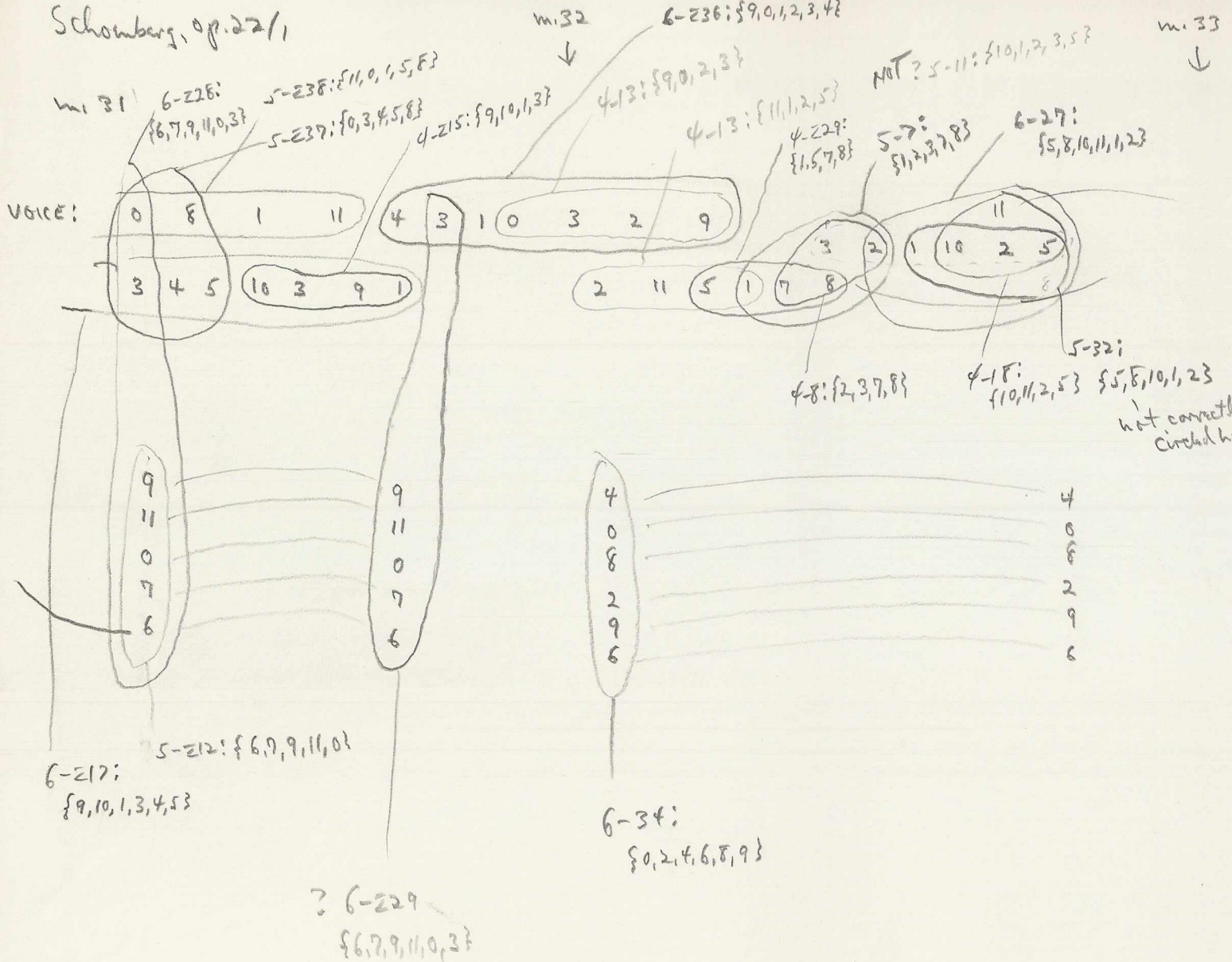
4-13: {11, 0, 2, 5}

? 7-6: {0, 1, 2, 3, 4, 7, 8}

? 5-212: {11, 0, 2, 4, 5}



Schubert, op. 22/1



EXAMPLE:
 VOCAL LINE IN
 31 & 32 - SET
 INDEPENDENT
 ON RHYTHMIC
 ARTICULATION
 BUT UN. FIG.
 IN M. 32
 is not a set

Schoenberg, Op. 22/1

m. 31

m. 35

m. 36

m. 37

m. 38

6-244:
{1,4,5,8,9,10}
NOT 6-242:
{0,3,6,7,8,9}

6-246:
{6,7,8,10,0,3}

6-31:
{4,5,7,9,0,1}

5-16:
{1,2,4,5,8}

6-249:
{1,2,4,5,8,10}

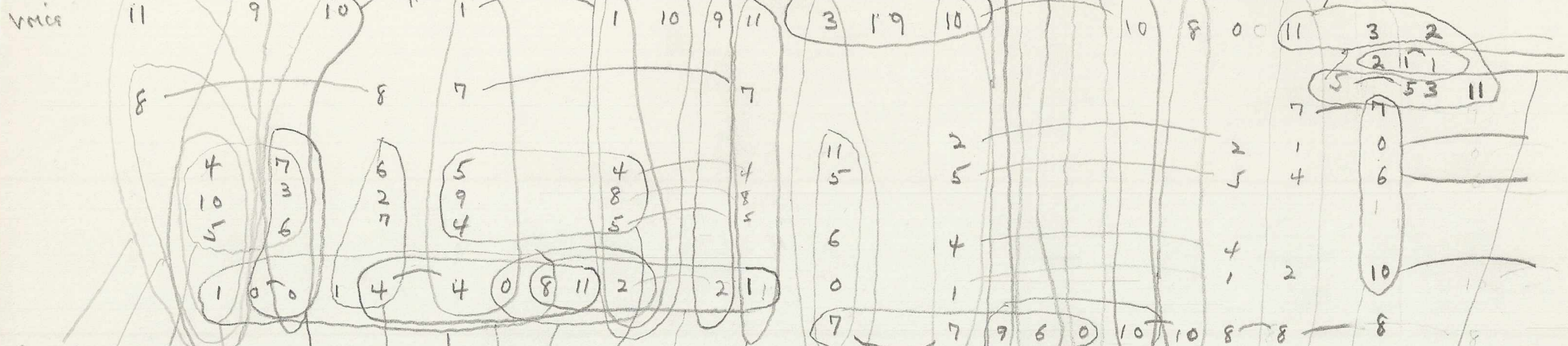
5-218:
{2,4,5,8,9}

4-215:
{9,10,4,3}

? 6-15:
{0,1,2,4,5}

? 6-239:
{10,0,1,2,4,5}

EXAMPLE
(COMPLEX)
M. 33



6-250:
{4,5,8,10,11}

6-236:
{3,4,5,6,7,10}

4-18:
{10,11,4,5}

4-18:
{0,3,6,7}

5-212:
{1,2,4,6,7}

NOT 4-5:
{4,5,8,9}

6-249:
{4,5,7,8,11}

6-217:
{11,0,3,5,6,7}

5-7:
{5,6,7,11,0}

6-27:
{1,2,4,5,7,10}

6-249:
{9,10,12,4,3}

5-16:
{10,11,2,4,5}

4-215:
{6,7,10,0}

4-13:
{1,2,4,9}

5-32:
{4,5,8,10,11}

7-218:
{4,5,8,10,11,0,1}

4-19:
{4,8,11,0}

4-13:
{8,11,1,2}

NOT ? 6-239 H (vc.)
{8,11,0,1,2,4}

but 5-237:
{8,11,0,1,4}

8-19:
(2,3,6,10)

7-21:
{4,5,7,8,9,0,1}

4-13:
{6,7,9,0}

4-12:
{6,9,10,0}

NOT 5-10
{1,2,4,5,7}

6-250:
{7,8,11,1,2,4}

NOT 5-9:
{6,7,8,10,0}

and
4-13:
{2,3,5,8}

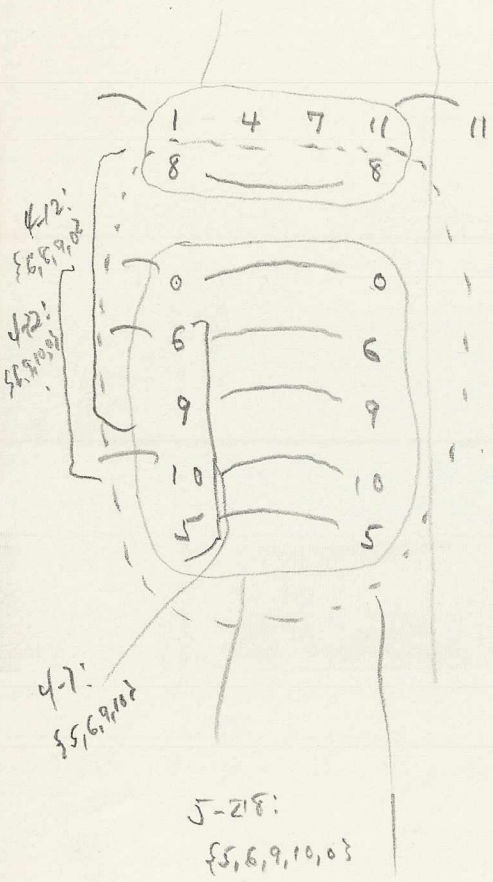
Schoenberg, Op. 22/1

m. 39

m. 38

5-32: {1, 4, 7, 8, 11}?

~~EXAMPLE OF SEPARATE DATA (m. 38): NO VERTICALS FROM SIGNIFICANT SETS~~



5-218:

{5, 6, 9, 10, 0}

NOT? 6-211:

{5, 6, 8, 9, 10, 0}

Schoenberg, Op. 22/1

m. 39

NOT 6-15: {5, 8, 9, 11, 0, 1}

NOT 5-26: {2, 4, 6, 7, 10}

6-224: {8, 11, 13, 4, 5}

6-224: {2, 4, 6, 7, 9, 10}

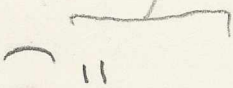
? 6-228: {1, 2, 4, 6, 7, 11}

m. 40

6-219: {1, 4, 5, 6, 7}

EXAMPLE OF COMPLEX MEAS. (m. 3)

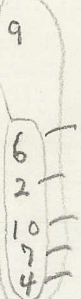
5-219: {1, 3, 4, 6, 7}



5-238: {5, 6, 8, 10, 11}

5-217: {5, 6, 8, 9, 11}

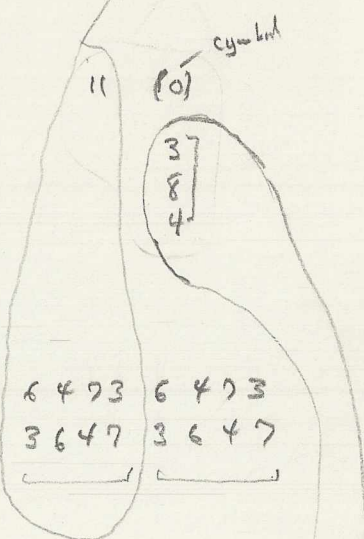
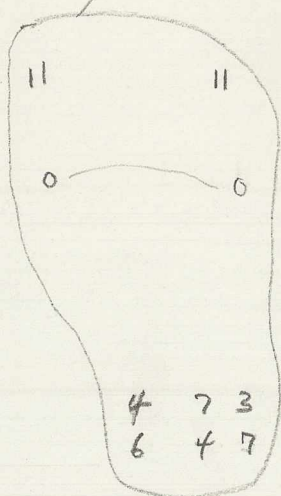
6-238: {8, 9, 10, 11}



4-7: {3, 4, 7, 8}

6-31: {10, 11, 2, 4, 6, 7}

4-13: {5, 7, 9, 10}



? 6-217: {8, 9, 0, 2, 3, 4}

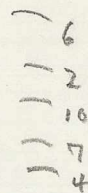
4-20: {8, 11, 3, 4}

4-16: {9, 8, 11}

4-215: {3, 4, 7, 9}

4-9: {5, 7, 10}

4-10: {5, 7, 10}



4-12: {6, 8, 9, 0}

9 0 8 2 4 3 11 8 7 4 3 9 4 10 7

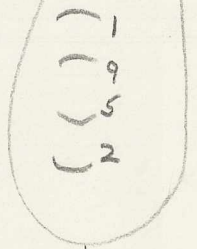
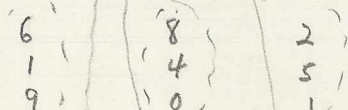
6 9 8 1 5 4 6 9 4 1 2 8 9

6-34: {0, 2, 4, 6, 8, 9}

2 5 0 11 9 3 7 6 9 0 11

4-229: {1, 2, 4, 8}

4-8: {8, 9, 1, 2}



6-219: {5, 6, 8, 9, 0, 1}

8-215: (6, 7, 10, 0)

6-34: {0, 2, 4, 6, 8, 9}

4-19: {10, 2, 5, 6}

4-12: {3, 6, 7, 9}

4-13: {6, 7, 9, 0}

? 6-16: {0, 1, 4, 5, 6, 8}

4-19: {0, 4, 7, 8}

4-12: 6-34: {3, 6, 7, 9} {0, 1, 4, 6, 8, 9}

4-13: {6, 9, 11, 0}

4-19: {1, 2, 5, 7}

8-19: (3, 7, 10, 11)

4-12: {9, 11, 0, 3}

4-18: {1, 4, 7, 8}

4-13: {11, 0, 2, 5}

? 6-15: {0, 1, 2, 4, 5, 8}

NOT 6-239: {9, 11, 0, 1, 2, 5}

6-238: {6, 7, 8, 9, 1, 2}

NOT 4-3: {3, 4, 6, 7}

NOT 5-3: {3, 4, 6, 7, 8}

NOT 8-2: {8, 10, 11, 0}

not significant
in a subset

7-6: {2, 3, 4, 5, 8, 9}

Schramberg, 0 p. 22/2

w. 41
↓

2-21:
{4, 5, 6, 8, 9, 0, 1}

? 6-20:
{0, 1, 4, 5, 8, 9, 2}

4-19: {9, 1, 4, 5}
4-19: {8, 9, 0, 4}

4-19: {0, 4, 7, 8}
m. 42
↓

4-7: {1, 2, 5, 6}

4-229:
{6, 7, 9, 1}

4-12:
{8, 10, 11, 2}

? 4-17: {1, 4, 5, 8}

4-18: {9, 10, 1, 2}

? 4-19: {9, 0, 1, 4}

? 4-24: {6, 8, 10, 0}

see below

7 1 2 0 11 3 2 11 0

1 9 7 6 11 8 2 10



7
0
8
4

5
1
6
2

11
9

4
8
5
1

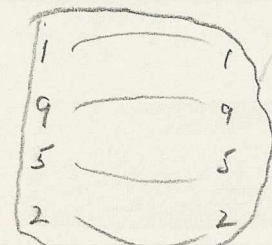
1
7
2
10

0
4
1
9

8
2
10
6

11
7
3
0

6 4 7 2
3 6 4 7



4-19: {1, 2, 5, 9}

? 7-16: {0, 3, 4, 6, 7, 8, 9}

5-217:

{1, 2, 4, 5, 9}

union of 2 forms
of 4-19

8-7:
{11, 0, 1, 2, 3, 4, 7, 8}

5-218:

{11, 1, 2, 5, 6}

5-6:

{0, 1, 2, 5, 6}

6-31:

{8, 9, 11, 1, 4, 5}

↑ ↑ ↑

6-31: ? 6-210:

{8, 9, 11, 1, 4, 5}

? 6-239:

{2, 7, 10, 11, 1, 2} {6, 8, 9, 10, 11, 2}

4 1 0 8

4-19

2 4 7 8

4-215

10 1 2 5

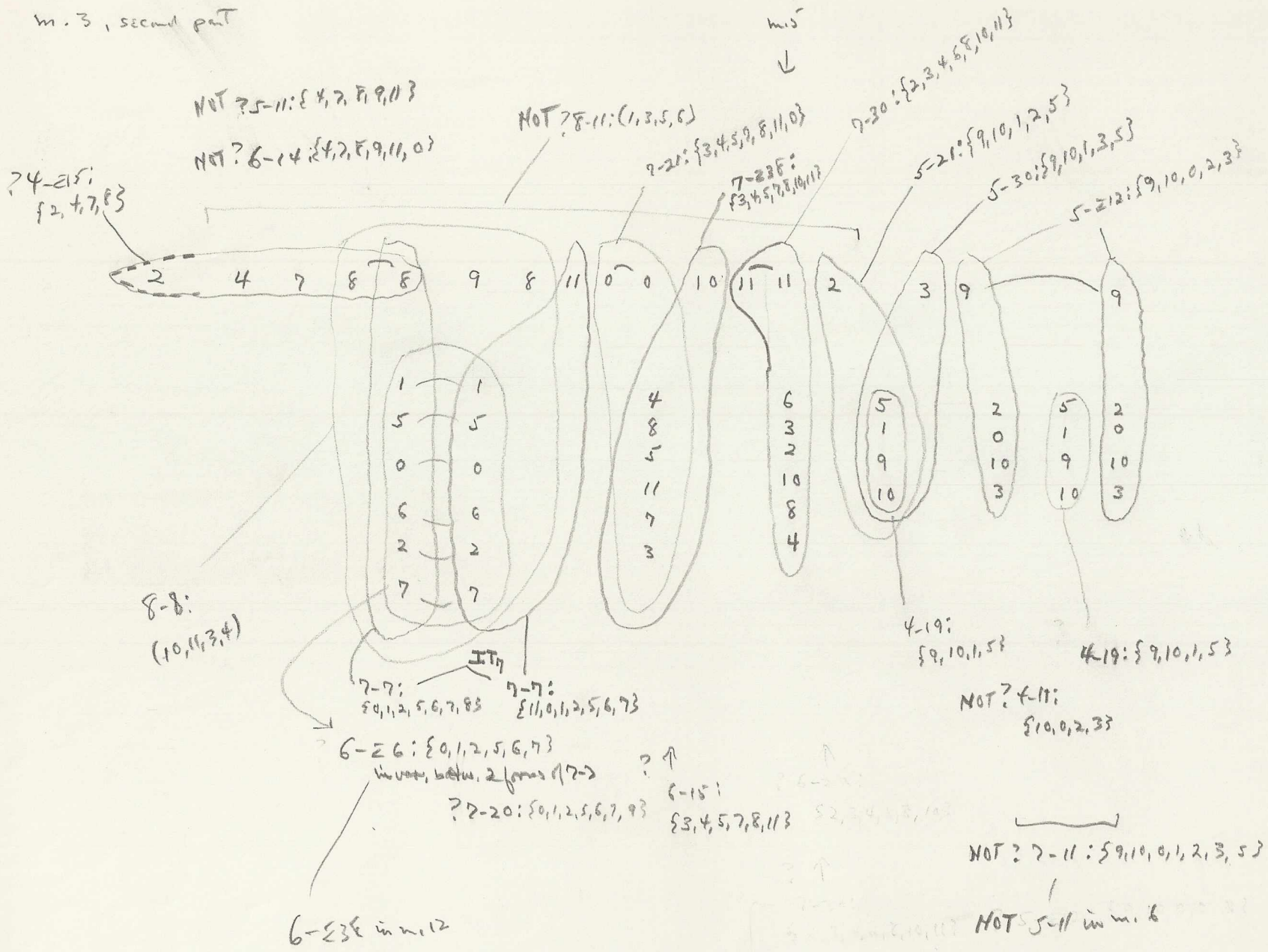
4-17?

6 9 10 1

4-17?

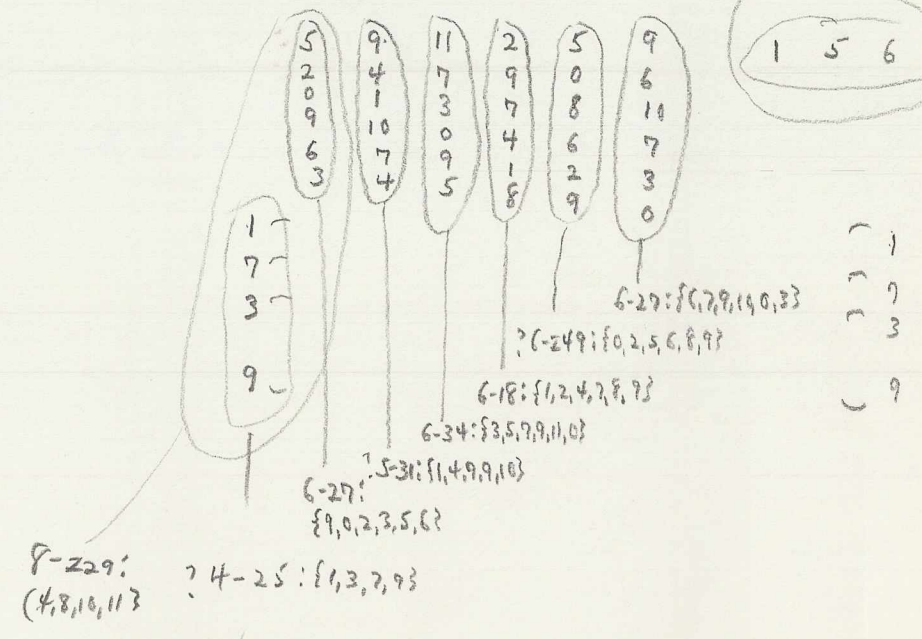
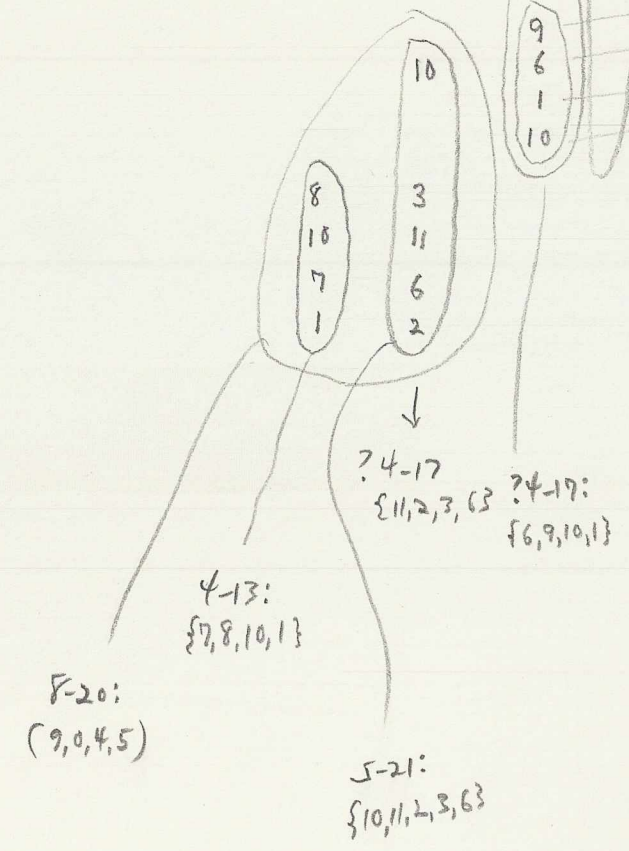
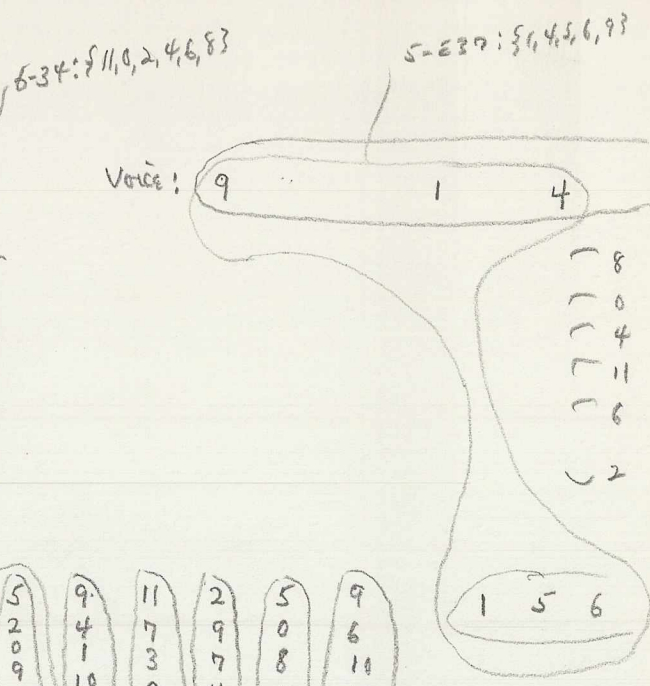
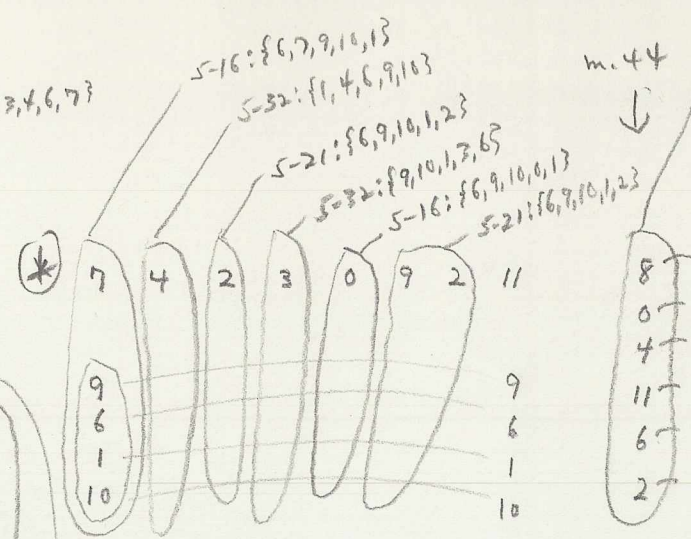
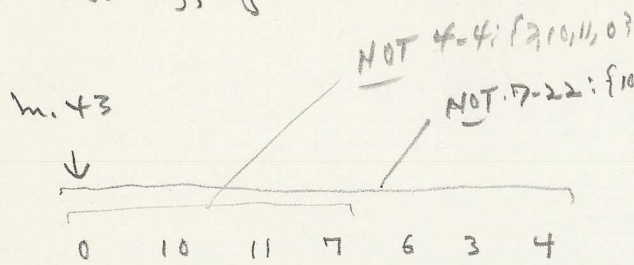
Schubert, Op. 22/1

m. 3, second part



NB. Here the melodic line is not independent with respect to interval structure, as was case in first phrase, but is dependent upon accompanying chord

Schönberg, Op. 22/1



? "whole-tone"

* How the melodic line is not a structural unit (7-27)

Good Examples

Schenberg, Op. 22/1

6-24: {11, 9, 2, 4, 6, 8}
6-236: {9, 0, 1, 2, 3, 4}

m. 45

Voice: 0 2 3

8
0
4
11
6
2

3 5 11

1
7
3

9
10

? 5-24: {11, 1, 3, 5, 6}

Hot

6-34: {1, 3, 5, 7, 9, 10}

6-23:
{4, 5, 7, 8, 9, 10}

Complement
previous used phrase

4-12: {11, 1, 2, 5}

2 11 5 1

9 7 10 9 5 8 4

m. 46
↓

6-219:
{4, 5, 8, 9, 11, 0}

5-21: {4, 5, 8, 9, 0}

7-6:
(1, 2, 3, 6, 7)

6-219:
{1, 2, 4, 5, 8, 9}

4-19:
{8, 6, 4, 5}

? 6-249: {6, 7, 9, 10, 1}

5 4 0 9 8

10 9 11 8

9 5 4

1
6
9
7
3
10

4-229:
{1, 2, 4, 8}

11 11 7 10 10 11 7 10 4 1 8 2

7 10 6 4 3 3 6 3 3 7 5

5-218:
{4, 6, 7, 10, 11}

4-19:
{1, 2, 5, 9}

4-13:
{8, 9, 11, 2}

6-228: {8, 9, 11, 1, 2, 5}

6-236:
{3, 4, 5, 6, 7, 10}

(6-249 in vertical)

7-6 with Trem. 2
(adda pell)

NB. 7-6 also in Violin part here

Schönberg, Op. 22/1

m. 47

4-7: {5,6,9,10}

?6-210: {3,5,6,7,9,10}

4-12: {3,6,7,9}

6-219:

{5,6,8,9,0,1}

m. 48

↓

4-8: {0,1,5,6}

Voice

5 10 6 9 7 3

4 11 1

5 5 8 9 6 5 1 0

1
6
9
7
3
10
1

2
10
7
3
0
9

2
10
7
3
0
9

11
7
8

4
8
5

9
10
3
6

6-249: {6,7,9,10,1,3}

5-16: {4,5,9,8,11}

?6-225: {7,9,10,0,2,3}

?5-32: {7,8,11,4}

4-18:

{3,6,9,10}

7-32: {6,7,9,10,0,2,3}

6-15: {8,11,0,2,3,4}

m. 49

↓

5-238: {8,11,2,3,4}

6-15: {8,11,0,2,3,4}

8
11 2 3 4 0

8 4 2 3
0 0 11

5 6
2 1

9

1 2
9 6
10 7

6-219: {6,7,9,10,1,2}

4-7: {1,2,5,6}

?6-16: {3,4,7,8,9,11}

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

6-236: {5,8,9,11,11,0}

6-230: {10,11,0,1,2,5}

Schomberg, Sp-22/1

m.50
↓
Vries: 11

5 3 3 11 2

9 7 1 10

11 2 8 0

7 6 4 5 8 11

9 3 2 4

9 10 8 11
0 5

0 11 11
6 9

3 3 4 7 3
8

6 9 5 3

5 4 1
7

3
8
6

4 4 2
9 9 7
10 10 11

11 11
4 4
0 0

2 11 9 7
9 5 4 0
4 1 11 2

6-236: {5,8,9,10,11,0}

?6-225:
{2,4,7,9,10,11}

6-9:
{3,3,4,7}

6-224 {9,11,1,2,4,5}

5-32: {9,11,1,4,5}

?4-9: {5,6,11,0}

m.51

↓
4-13:
{6,9,11,0}

4-12: {1,2,3,5}

4-7:
{3,4,7,8}

4-12:
{7,9,10,1}

m.52

↓
4-12:
{3,5,6,9}

4-12: {1,4,5,7}

m.53

↓
4-12: {8,11,9,2}

6-236:
{4,5,6,7,8,11}

m.54

d-13: {11,2,4,5}

m.55

6-23: {11,0,2,3,4,5}

m.56

m.57

m.58

4-7: {8,9,10,11}

not 7-35

d-13: {5,8,10,11}



11 10

5
1
6
9
4

5 8 4
1 0

10 10
6 6
0 0
9 9
4 4

9
3
11
6
2

10
9
3
11
6
2

11
8
1
8
5
2

10 10
8
5
1
7
3

2
10
6

11
7
3
0
6
5

9 9 8 0 1

5 5
1 1
10 10
2 11

9 9 8 0 1
5 5
11 11
7 7
4 4

8
2
10
9
5

7
0
9
11
6

4
9
6
2
10

7-20:
{0,2,3,7,8}

7-7:
{1,2,3,7,8}

5-32:
{6,7,11,2,3}

7-20:
{0,1,5,7,8}

6-229:
{5,6,8,11,1,2}

6-31:
{11,0,3,5,7,8}

5-16:
{10,11,2,8}

5-30: {2,4,6,9,10}

5-237:
{1,4,5,6,9}

5-21:
{0,1,4,5,8}

5-21:
{10,1,2,5,6}

4-19:
{9,10,1,5}

8-19:
{2,3,6,10}

5-238:
{2,5,8,9,10}

NOT 6-226
{4,5,7,9,11,0}

Schubert, Op. 22/1

m. 59

7-16: {6, 9, 10, 9, 12}

5-30: {10, 0, 2, 5, 6}

m. 60

4-7: {0, 1, 4, 5}

6-23: {0, 1, 2, 3, 5, 6}

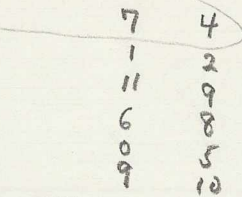
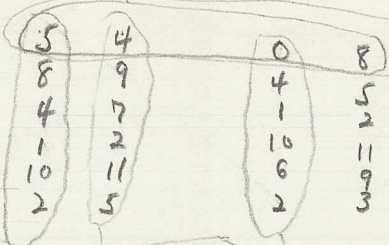
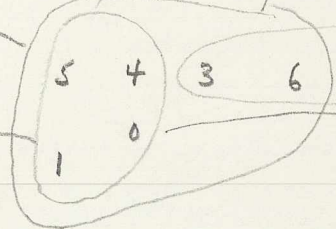
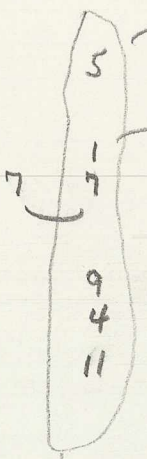
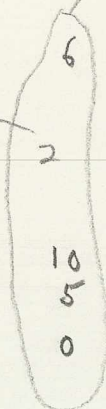
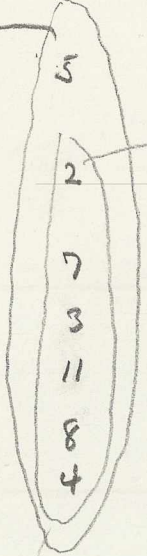
4-18: {3, 6, 9, 10}

5-217: {4, 5, 7, 8, 0}

m. 61

4-7: {9, 10, 1, 2, 3}

voice:



6-219: {2, 3, 4, 7, 8, 11}

6-34: {4, 5, 7, 9, 11, 1}

6-217: {5, 6, 7, 9, 0, 1}

6-249: {1, 2, 4, 5, 8, 10}

? 6-21: {10, 0, 1, 2, 4, 6}

4-8: {2, 3, 7, 8}

4-19: {7, 8, 11, 3}

? not 6-33: {2, 4, 5, 7, 9, 11}

4
10
5

9
11

16
9
10

5
1
7

Schoenberg, Op. 22/1

m. 63

NB. MULTIPLE FORMS OF 6-20

m. 62

4-13: {6, 9, 11, 0}

4-18: {0, 3, 6, 7}

5-238: {0, 3, 6, 7, 8}

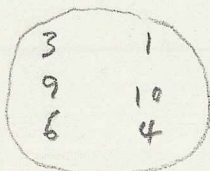
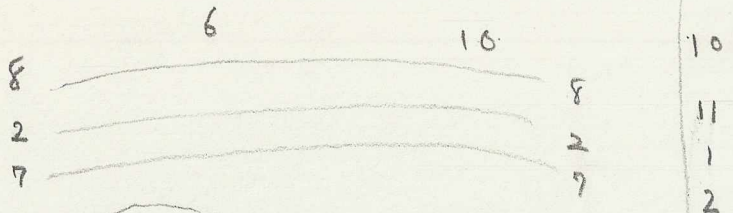
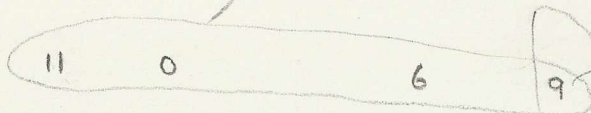
4-20: {7, 8, 9, 3}

6-246: {6, 7, 8, 10, 0, 3}

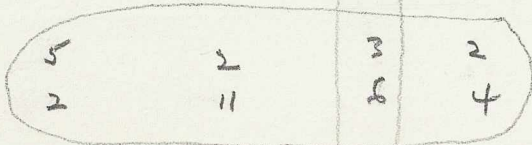
6-20: {2, 3, 6, 7, 10, 11}

6-20: {0, 1, 4, 5, 8, 9}

VOICE 2

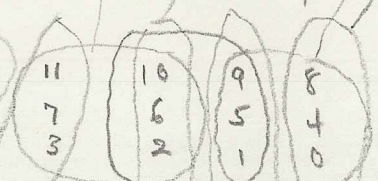
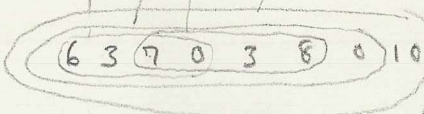


6-250: {1, 3, 4, 6, 9, 10}



6-236: {1, 2, 3, 4, 5, 6}

7-217: {4, 5, 7, 8, 0}



6-20: {3, 4, 7, 8, 11, 0}

6-20: {1, 2, 5, 6, 9, 10}

5-19: {6, 7, 10, 9, 1}

Schubert, Op. 22/1

m. 64

NB. MULTIPLE FORMS OF 6-20 CONTINUE
7-13: {6, 8, 9, 10, 0, 1, 2}

voice through
m. 68:
7-7: {11, 0, 1, 5, 6} m. 65

NOT 6-212: {8, 9, 10, 0, 2, 3}

NOT 5-236: {8, 9, 10, 0, 3}

Voice:

8

7

10

2

9

2

6

8

1

0

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

8	9	10	8
3	2	0	3
0	10	9	0

9	10	8	9	10	8	9	10	8	9	10	8	9	10	8
2	0	3	2	0	3	2	0	3	2	0	3	2	0	3
10	9	0	10	9	0	10	9	0	10	9	0	10	9	0

1
0
10
7
6

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

10	8	7	10
7	5	3	7
4	1	10	4

8	7	10	8	7	10	8	7	10	8	7	10
5	3	7	5	3	7	5	3	7	5	3	7
1	10	4	1	10	4	1	10	4	1	10	4

3

? 6-213:
{6, 8, 9, 10, 0, 1}

6-20:
{3, 4, 7, 8, 11, 0}

6-20:
{1, 2, 5, 6, 9, 10}

6-20:
{3, 4, 7, 8, 11, 0}

? 6-27:
{4, 5, 7, 8, 10, 11}

6-31:
{7, 8, 10, 0, 3, 4}

6-244:
{8, 9, 10, 1, 2, 5}

NOT 5-25:
{7, 9, 10, 0, 3}

7-32:
(5, 6, 7, 11, 2)

outer parts: 5-238: {8, 9, 10, 1, 4}

7-218:
{7, 8, 9, 10, 0, 3, 4}

7-20:
{11, 0, 4, 6, 7}

↑

Schoenberg, Op. 22/1

5-6: {10, 11, 0, 3, 4}

m. 62 (next page)

↓ yes - 7-6 in cl. immediately preceding
> 5-6: {11, 0, 3, 4, 5}

4-215: {11, 0, 3, 5}

m. 66

voice:

4

11

0

10

0

4

11

0

9	10	8	9	10	8	9	10	8	9	10	8	9	10	8	9	10
2	0	3	2	0	3	2	0	3	2	0	3	2	0	3	2	0
10	9	0	10	9	0	10	9	0	10	9	0	10	9	0	10	9

3

5

3 2 9 4 8 2 5 1 3

5

3

8	7	10	8	7	10	8	7	10	8	7	10	8	7	10	8	7
5	3	7	5	3	7	5	3	7	5	3	7	5	3	7	5	3
1	10	4	1	10	4	1	10	4	1	10	4	1	10	4	1	10

7-6: {1, 2, 3, 4, 5, 8, 9}

5-6 on downbeat of
m. 67
and resolved
immediately before
this

m. 6

NOT ? 6-24: {5, 6, 9, 10, 0}

? 7-9: {4, 5, 6, 9, 10, 11, 0}

? 3-31: {7, 8, 10, 0, 3, 4}

? 1-13: {5, 11, 1, 2}

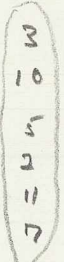
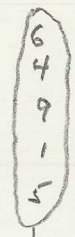
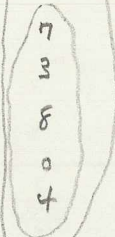
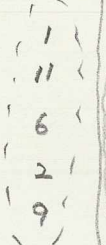
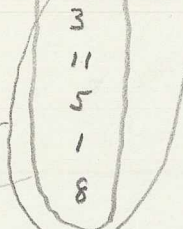
? 6-18: {3, 4, 5, 8, 10, 11}

? 4-29: {4, 8, 10, 11}



IT 0, 1, 2, 3 m. 7 ↓

m. 6 ↓



? 6-24: {11, 0, 1, 3, 5, 8}

8-19: (2, 6, 9, 10)

? 5-11: {6, 9, 10, 11, 1}

5-21: {0, 3, 4, 7, 8}

5-23: {1, 4, 5, 6, 9}

NOT ? 5-34: {11, 1, 3, 5, 8}

? 5-27: {6, 9, 11, 1, 2}

? 6-22: {3, 4, 6, 9, 11, 0}

? 6-31: {2, 3, 5, 7, 10, 11}

? 6-34: {11, 1, 3, 5, 7, 8}

? 6-14: {6, 9, 10, 11, 1, 2}

yes - see m. 13

NOT ? 7-26: (6, 9, 10, 0, 2)

NOT 5-27: {6, 9, 11, 1, 2}

possibly 5-238 - check on these occurrences
{6, 9, 0, 1, 2} with
cb instead of cb
↑ 5-238, 5-21,
and 5-237

Schröding, Op. 22/1

m. 69

m. 70
↓

m. 71
↓

m. 72
↓

m. 73
↓

4-12: {2, 4, 5, 8}

4-19: {4, 5, 8, 0}

3

1

6

0

5

5

8

4

4

0
8

11
0

6
8

0
8

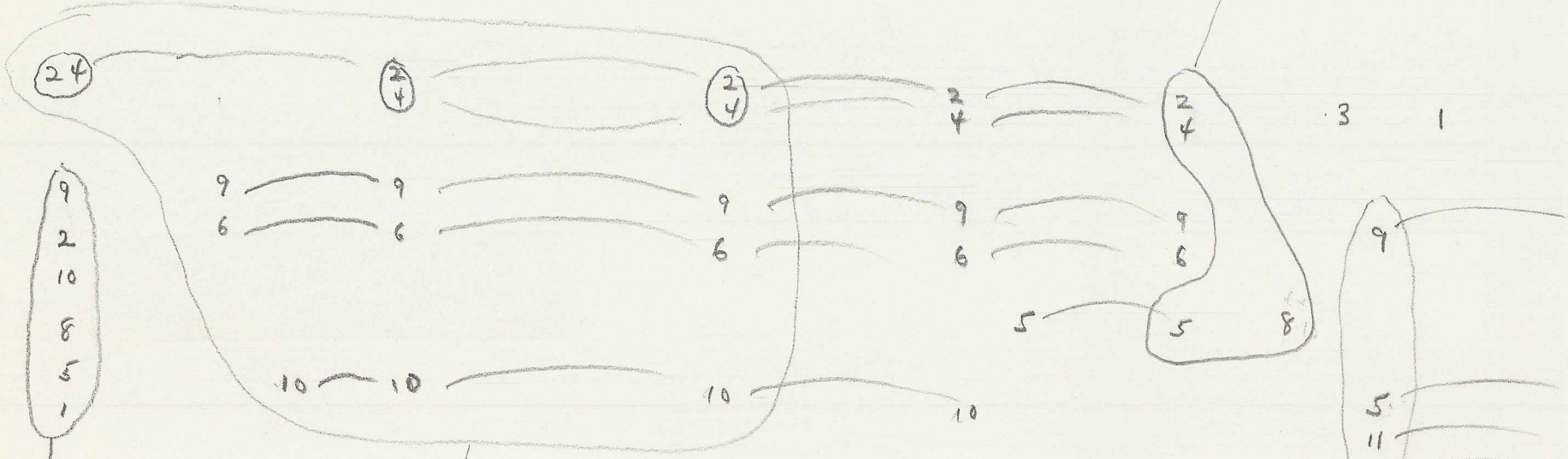
11
0

0
8

0
8

0
8

0
8



6-244: {8, 9, 10, 1, 2, 5}

↑
8-24: (11, 1, 3, 7)
a set?

5-21:
{2, 4, 6, 9, 10}

4-215:
{5, 9, 11}

Schoenberg, Op. 22/1

m. 74

NOT 5-31: {1, 4, 7, 9, 10}

m. 75

6-27: {1, 4, 6, 7, 9, 10}

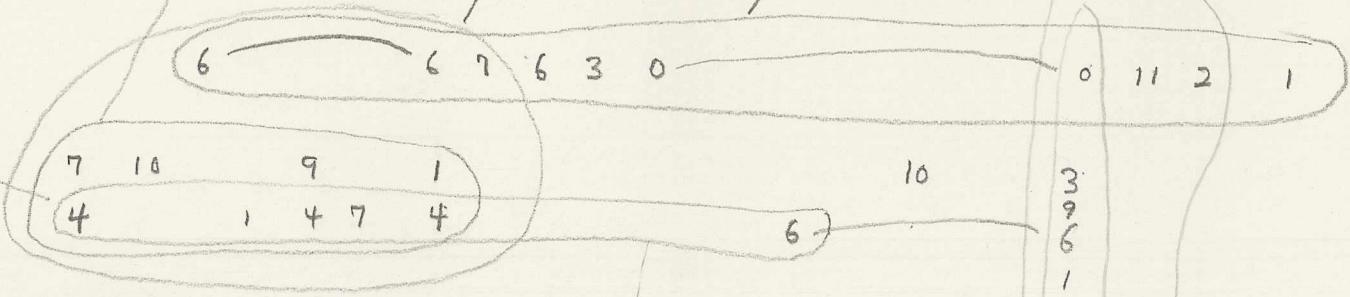
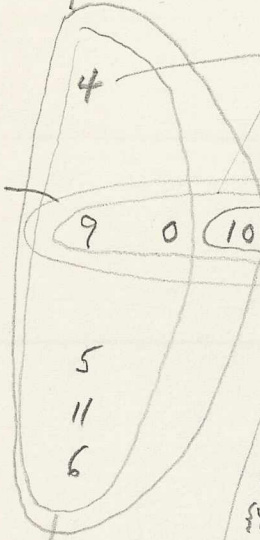
m. 76

m. 77

NOT 6-21: {2, 9, 10, 0, 1, 2}

7-7: {4, 5, 6, 9, 10, 11, 0}

7-6: {11, 0, 1, 2, 3, 6, 7}



6-18: {4, 5, 6, 9, 11, 0}

4-18: {8, 10, 1, 2}

4-8: {8, 9, 1, 2}

NOT 4-16: {8, 10, 2, 3}

6-243: {2, 3, 4, 7, 8, 10}

NOT 7-5: (11, 3, 4, 5, 6)

6-219: {10, 11, 2, 3, 5, 6}

4-13: {1, 4, 6, 7}

8-12: (4, 7, 8, 10)

6-228: {0, 1, 3, 5, 6, 9}

5-20: {2, 3, 5, 9, 10}

NOT 6-16: {0, 1, 4, 5, 6, 8}

Schaumburg, Op. 22/1

m. 77

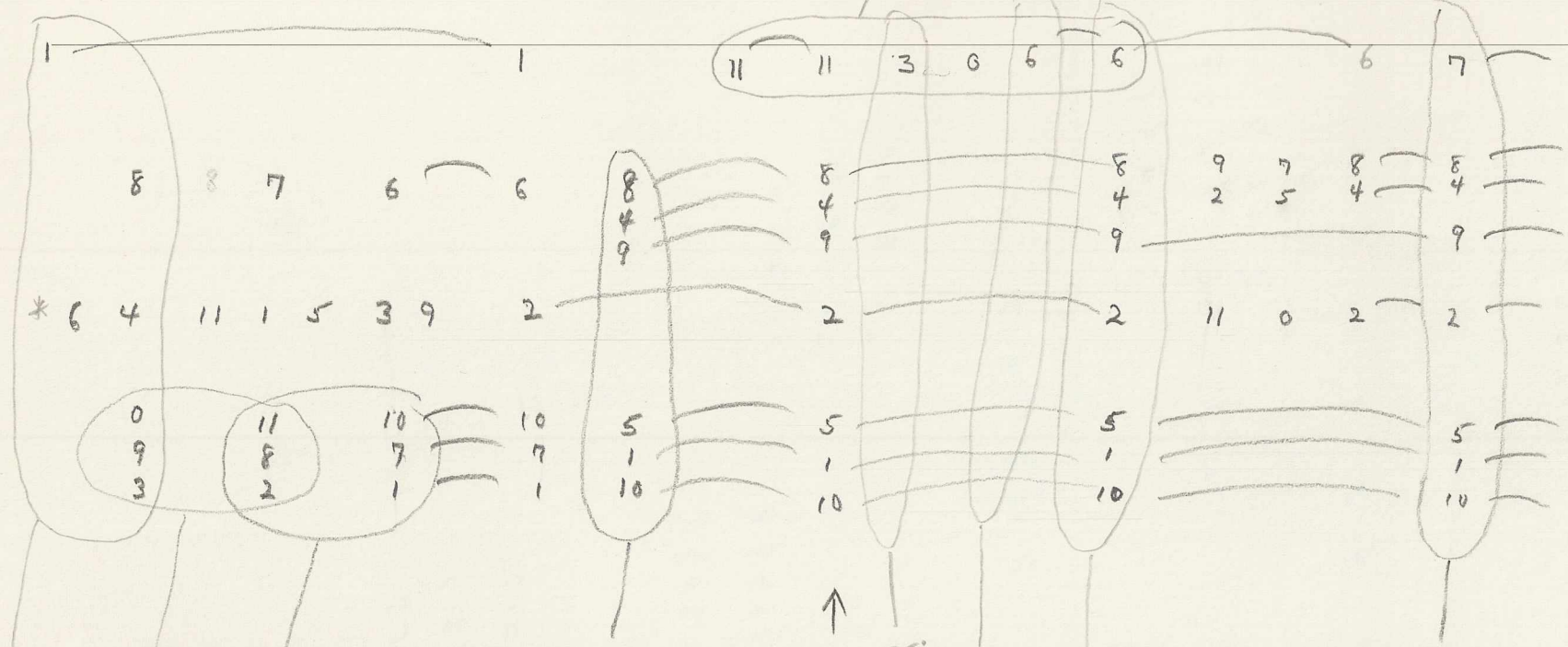
m. 78
↓

m. 79
↓

↓ 18:
{11, 0, 3, 6}

m. 80
↓

m. 81
↓



6-213: 6-213:
{8, 9, 11, 0, 2, 3} {2, 8, 10, 11, 1, 2}

6-244:
{1, 4, 5, 8, 9, 10}
but not 7-22:
{11, 0, 3, 6, 7}
-i.e., vertical

8-18: (6, 7, 11)
8-19: (11, 3, 6, 7)
8-19: (11, 0, 3, 7)
8-18: (11, 0, 3, 6)

* NOT 7-24: {9, 11, 1, 3, 4, 5, 6}

7-32: {0, 1, 3, 4, 6, 8, 9}

10 11 2 3 5 6 ~~11~~

01 4 5 7 F

11, VIOLA 12, CONTRABASS

01 3 4 7 F

2 3 4 7 F 10

01 2 5 6 F

~~11~~

1 4 6 7

0 3 5 6

4-13

0 1 3 6

3 5 6 7 10 11

0 2 3 4 7 F

01 4 5 6 F

1 3 4 6 7

0 2 3 5 6

11 9 2 3 6 7 ~~11~~

0 4 5 6 7

0 1 3 4 6

0 1 2 7 7

4 5 8 9 10

0 1 4 5 6

0 1 2 5 6

11 0 1 2 3 6 7

0 1 2 3 4 7 8

3 7 9 10

0 4 6 7

0 1 4 7

8 0 1 2 7 9 10 0 1 2

0 2 3 5 6 7

0 1 2 4 5 7

Schoenberg, Op. 22/1

m. 81

m. 82



8-18:
(0,3,6,9)

m. 83



8-18:
(0,3,6,9)

m. 84



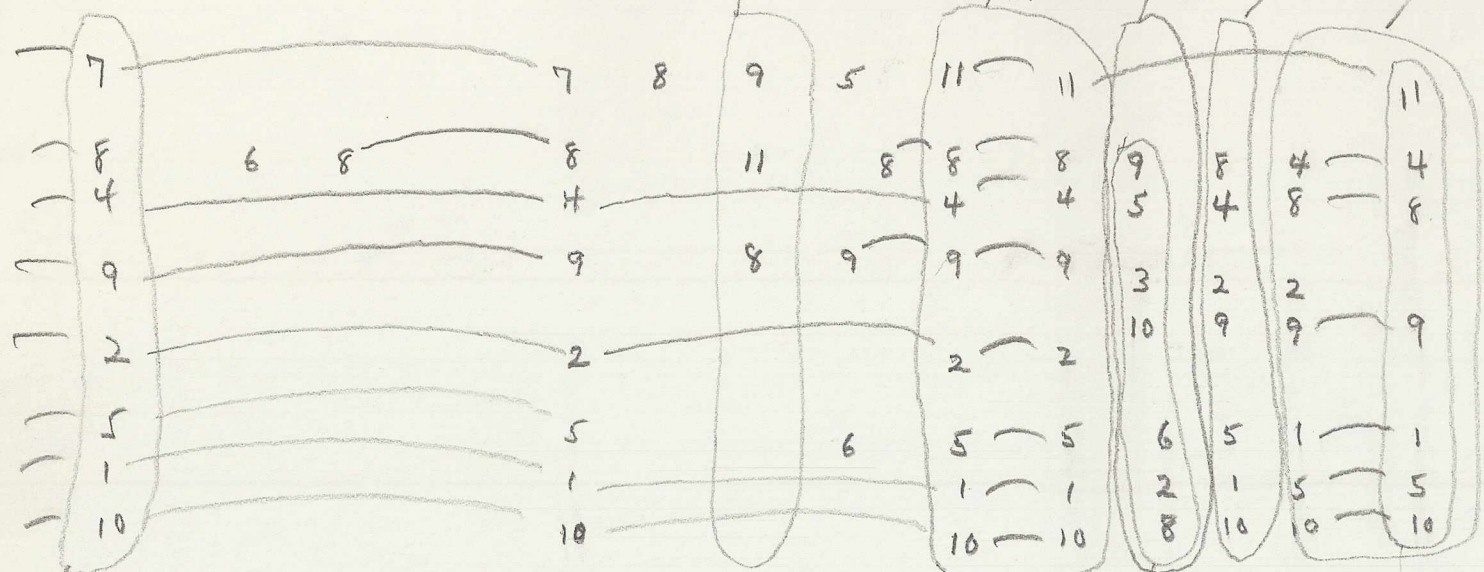
8-18:
(0,1,4,7)

8-18:
(0,3,6,9)

m. 85



8-18:
(0,3,6,9)



6 3 8 0 11 2 6 3

3 3 3
6-6

4 3 3

6



9-5

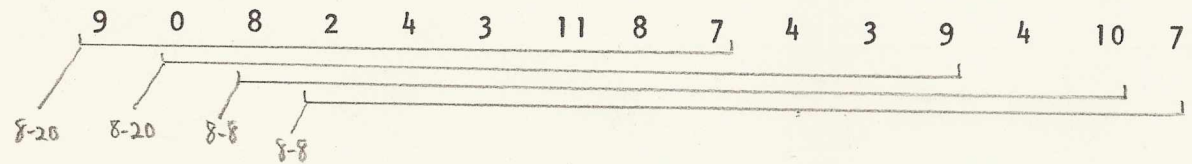
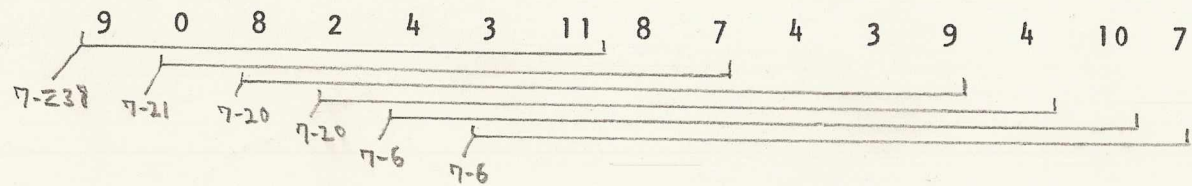
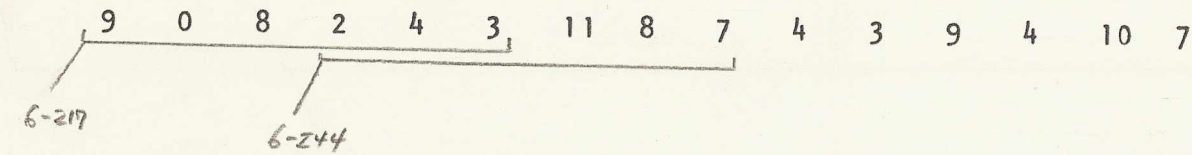
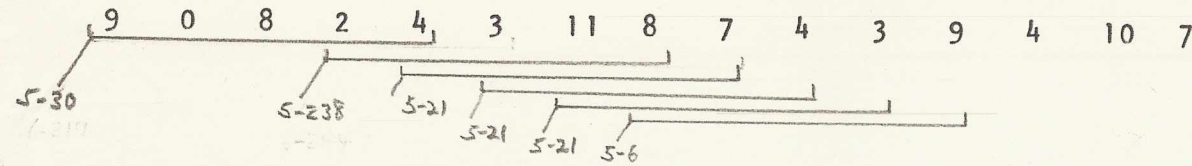
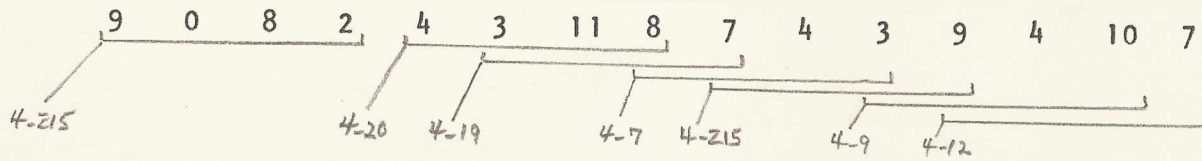
8-18:
(11,0,3,6)

6-249:
{11,0,2,3,6,8}

? 9-238:

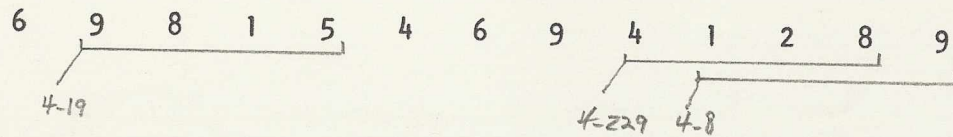
{2,3,5,8,9,10}

7-218: {4,5,8,9,10,11,1}

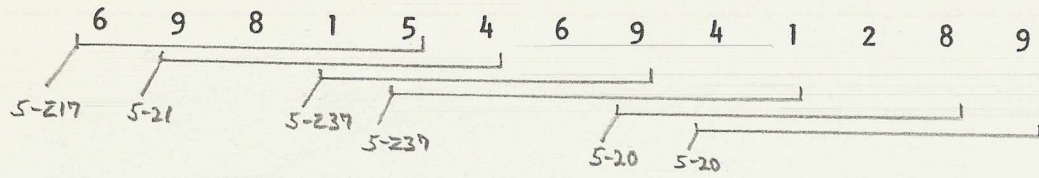


NB. Repeated notes from circular permutations and thus serve as segment delimiters. Also creates lines like with dots.

Schoenberg, Op.22/1, m.39: Vc.2



4-element segments

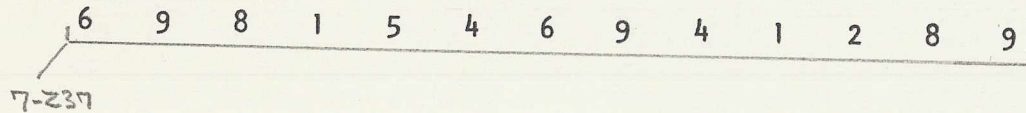


5-element segments

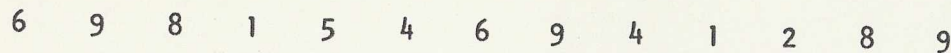


6-element segments

all 6-14 (?) {1,2,4,5,6,9}
 Except 6-226: {1,2,4,6,8,9}

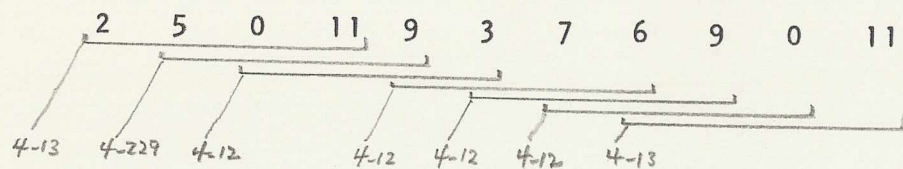


7-element segments only 1



8-elements segments None

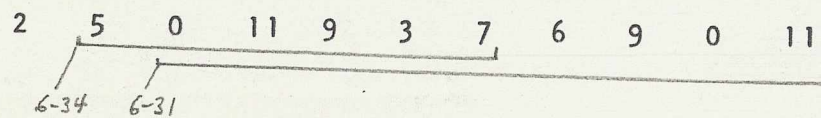
Schoenberg, Op.22/1, m.39: Vc. 2



4-element segments

2 5 0 11 9 3 7 6 9 0 11

5-element segments: NONE



6-element segments

2 5 0 11 9 3 7 6 9 0 11

7-element segments: NONE

2 5 0 11 9 3 7 6 9 0 11

8-element segments: NONE

Schoenberg, Op.22/1, m.39: Vc, Combined

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

4-12 4-229 4-215

4-element segments

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

5-element segments none

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

6-34 6-236

6-element segments

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

7-6 7-217 7-30

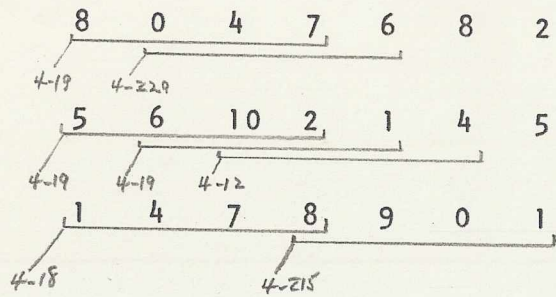
7-element segments

Schoenberg, Op.22/1, m.39 *Vc. comb. w/nd*

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

8-element segs *w/nd*

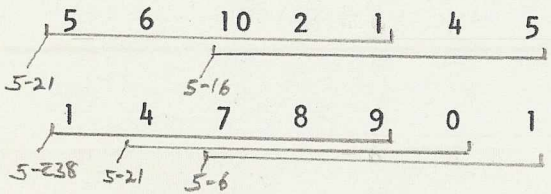
Schoenberg, Op.22/1, m.39: Cb. 1



4-element segments

8 0 4 7 6 8 2 (NONE)

5-element segments NB.



8 0 4 7 6 8 2

not 6-22:
{0, 2, 4, 6, 7, 8}

6-element segments

5 6 10 2 1 4 5

not 6-15:
{0, 1, 2, 4, 5, 6}

1 4 7 8 9 0 1

6-244: {7, 8, 9, 0, 1, 4}

8 0 4 7 6 8 2

7-element segments None

5 6 10 2 1 4 5

Composite
Segments

8-element segments None

1 4 7 8 9 0 1

6-238 6-31

not 6-15: {0, 1, 2, 4, 5, 8}

~~8 0 4 7 6 8 2~~

Schoenbers, Op. 22/1
m. 8, second part

m. 9
↓

m. 10
↓

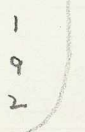
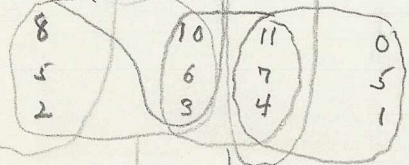
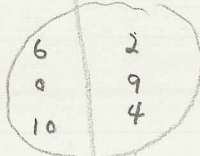
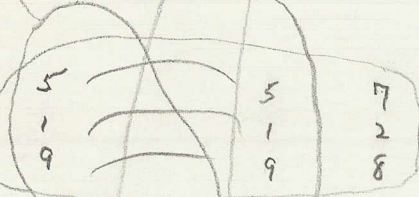
(4)

5-212: {3, 4, 6, 7, 11}
6-34: {4, 5, 7, 9, 11, 13}
7-16: {6, 9, 10, 1, 2, 3}

6-31: {9, 10, 1, 3, 5, 6}



6-212: {1, 2, 5, 7, 8, 9}



5
10
6

6-212: {1, 2, 5, 7, 8, 9}

6-243: {11, 0, 1, 4, 5, 7}

6-219: {3, 4, 6, 7, 10, 11}

7-6: {2, 3, 4, 5, 6, 9, 10}

↑
? 6-18: {0, 1, 2, 5, 7, 8}

6-34: {9, 10, 0, 2, 4, 6}

? 6-224: {2, 3, 5, 6, 8, 10}

? 6-20: {1, 2, 5, 6, 9, 10}
yes (m. 14, cl. 1)

Schoenberg, Op.22/1, m.39: Vn. & Cl.

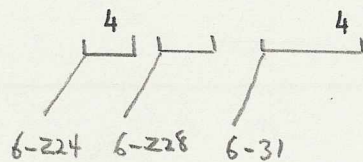
10 0 9 1 11 (not 5-1)

6 6

2 2

10 10

7 7



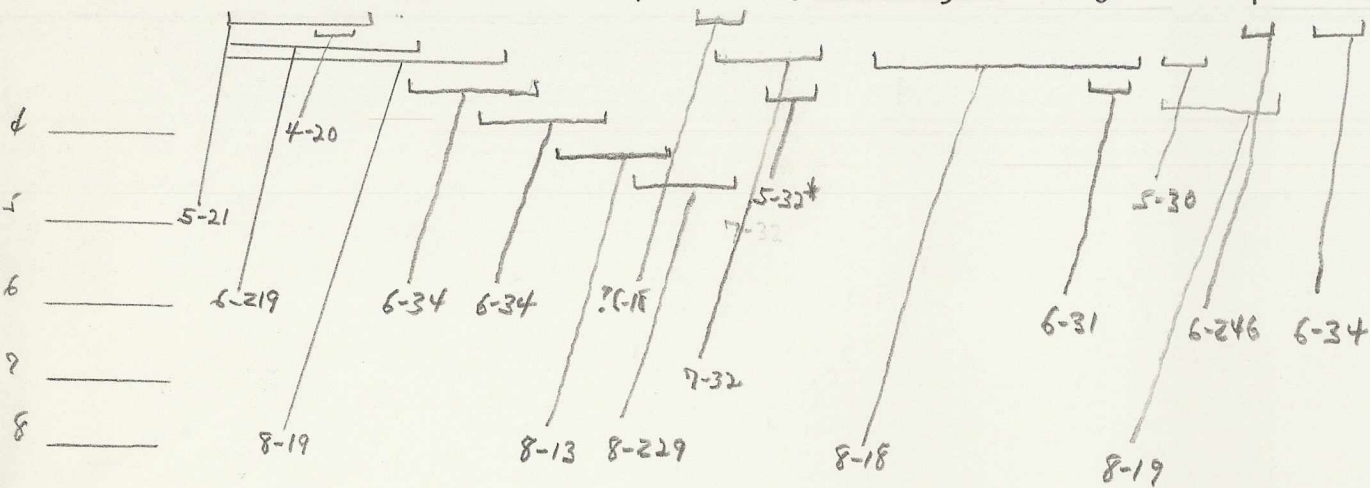
NB. Not 5-26: {2,4,6,7,10}

Schoenberg, Op.22/1, m.39: Vc. & Cb. -- composite segments
 strata 2 & 3

8-19

5-20
↓ 20

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



cf. 6-18
 on "after beat"

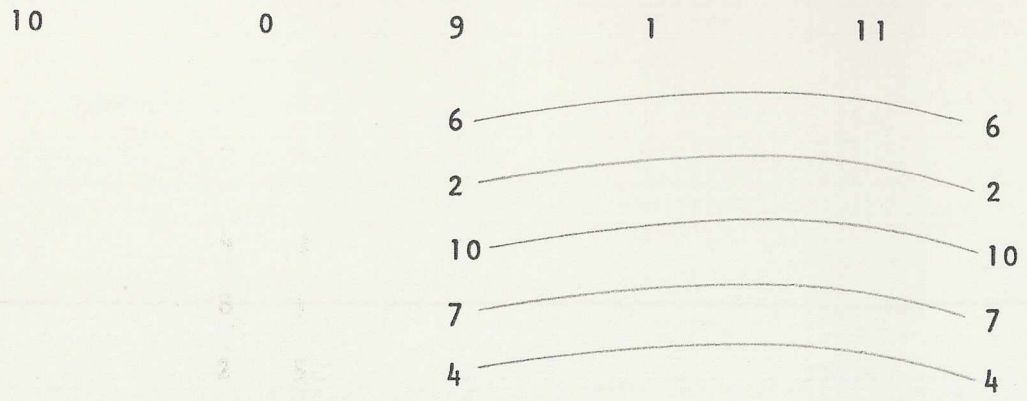
↑ not whole-tone
 {0, 2, 4, 6, 8}

↑ not 6-245

* Embedded complement

Schoenberg, Op.22/1, m.39: strata 1 & 2 (Vn. & Vc.)
 Composite segments

Association of these two strata does not yield significant sets.



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

not 7-33
 (wholes-fms)
 not 5-13

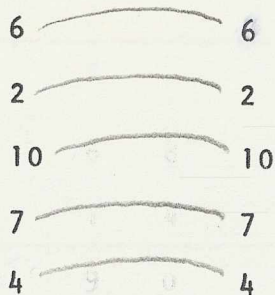
not 8-11

not 7-29

Schoenberg, Op.22/1, m.39: strata 1 & 3 (Vn. & Cb.)
Composite segments

Association of trans 2 strata
yields significant sets

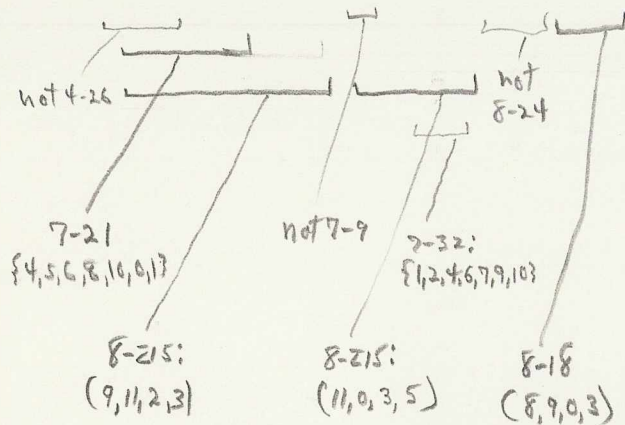
10 0 9 1 11



8 0 4 7 6 8 2

5 6 10 2 1 4 5

1 4 7 8 9 0 1



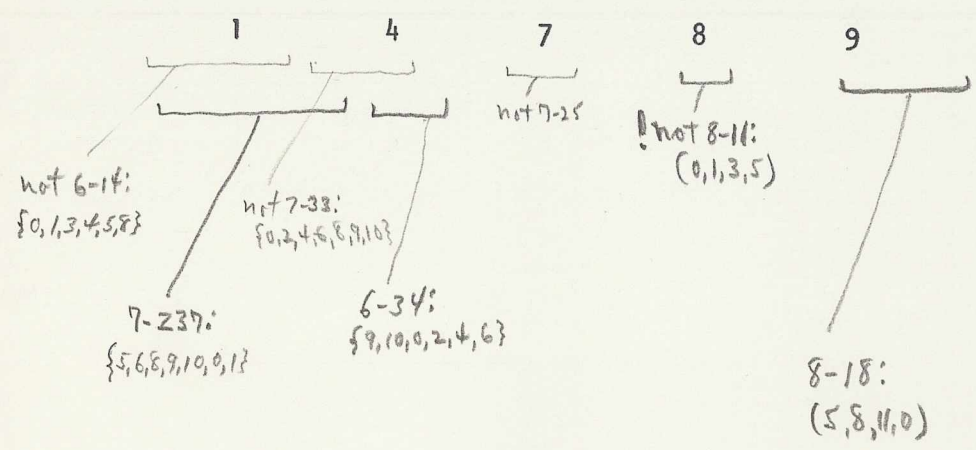
IT₂

Schoenberg, Op.22/1, m.39: all strata
Composite segments

NB. vertical under pc 9 in stratum 1

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

overall segments are inconsistent



Op. 22/1

tentative list of sets

(10)

4-7

4-8

4-9 unique bips

4-12

4-13

? 4-16 (m. 21)

? 4-17 4-Z15/8-Z15

4-18/8-18

4-19

8-20

4-Z29/8-Z29

(11)

5-6

5-7/7-7

5-16/7-16

5-Z17

5-Z18/7-Z18

5-20/7-20

5-21/7-21 unique bips

5-30/7-30

7-32

5-Z37/7-Z37

5-Z38

(14)

6-Z3/6-Z36

6-Z6/6-Z38

6-Z13/6-Z42

6-Z15 6-Z17/6-Z43

6-18

6-Z19/6-Z44

6-20 unique bips

6-Z24/6-Z46

6-27

6-Z29/6-Z49

6-Z29/6-Z50

6-31

6-32 unique bip

6-34

first vocal phrases

? 5-13

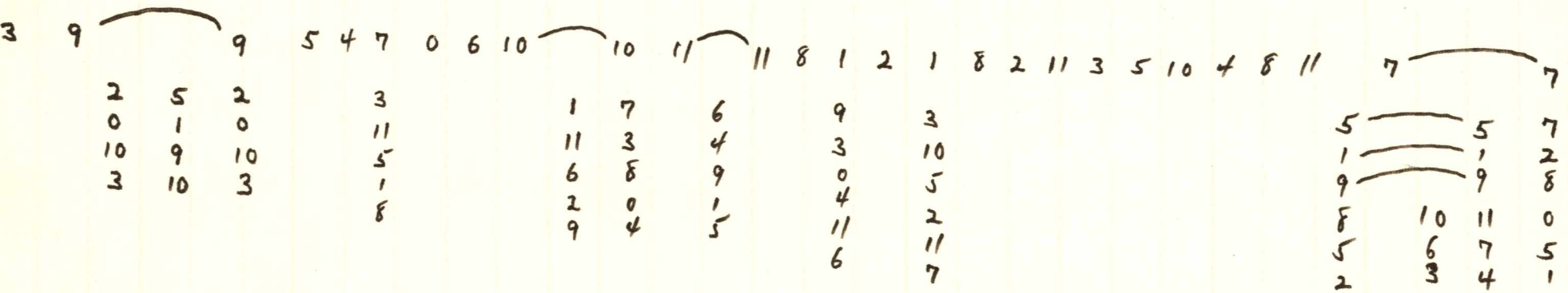
5-Z12

6
↓

7
↓

8
↓

9
↓



6-219: f5,6,9,10,11

Schoenberg, op. 22/1

?5-20: {9, 10, 0, 4, 5}

NEEDS MORE WORK
(5)

m. 10

4-215: {3, 4, 7, 9}

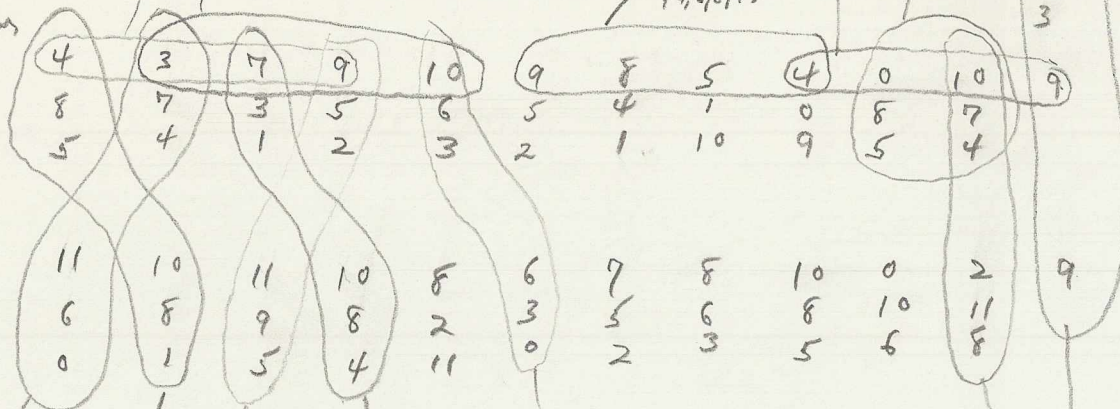
4-229: {3, 7, 9, 10}

NOT 6-16: {4, 5, 8, 9, 10, 0}

4-229: {9, 10, 0, 4}

4-224: {4, 5, 7, 9, 10}

NB. NOT: 5-19
{3, 4, 7, 9, 10}
but overlapping
4-215 and
4-229



6-219: {11, 0, 3, 4, 6, 7}

5-32: {4, 5, 8, 10, 11}

?4-27: {4, 11, 2, 5}

6-229: {7, 8, 10, 11, 4}

* 0, 7, 9

?4-29: {10, 0, 3, 6}

?6-229: {7, 8, 10, 11, 3, 4}

6-219: {4, 5, 6, 8, 11, 0}

?6-35: {1, 3, 5, 9, 11}

?6-31: {2, 3, 6, 8, 10, 11}

6-243: {2, 4, 5, 7, 9, 10}

?6-27: {9, 0, 2, 3, 5, 6}

?6-16: {4, 5, 8, 9, 10, 0}

?6-213: {1, 2, 4, 5, 7, 8}

?6-32: {1, 3, 5, 6, 8, 10}

?5-24: {5, 6, 8, 10, 0}

?6-249: {7, 8, 10, 11, 2, 4}

6-224: {1, 3, 5, 6, 8, 9}

6-228 downward

* for 0, 7, 9 6-27: {6, 7, 9, 10, 0, 3}

? 6-211: {7, 8, 9, 11, 0, 2}

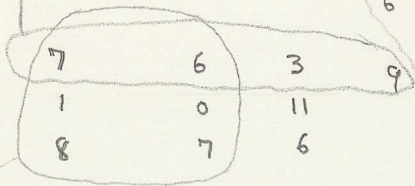
This measure not yet completely deciphered — special "cross-formation" yields significant sets, but not consistently

Schreyer, p. 22/1

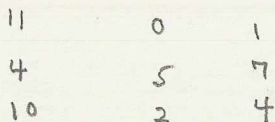
EXAMPLE

m. 11

4-12: {3, 6, 7, 9}



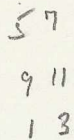
5-7: {6, 7, 8, 0, 1}



5-218: {11, 0, 3, 4, 6}



m. 12



6 8

2 4

0 2

11 1

5 7

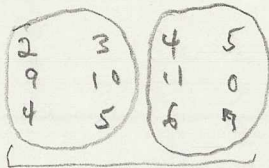
2 9

0 2

6 8

8 10

3 notes



cf. m. 10

6-27: {7, 8, 10, 11, 1, 4}

5-14: {0, 2, 5, 6, 7}

6-224: {11, 1, 3, 4, 6, 7}

6-229: {3, 4, 6, 9, 11, 0}

cf. end of m. 10

6-219: {5, 6, 8, 9, 0, 1}

6-219: {7, 8, 10, 11, 2, 3}

NOT "whole-tone sets"

7-6-238: {2, 3, 4, 5, 9, 10}

6-238: {4, 5, 6, 7, 11, 0}

6-18: {11, 0, 2, 5, 6, 7}

6-18: {1, 2, 4, 7, 8, 9}

6-26 Earlin - m. 3, 2nd part

and 6-18

NOT "chromatic" sets, but 2 forms of 6-238 - cf. "trilled" forms of 6-219 above or "chords in 4ths"

m. 14
↓

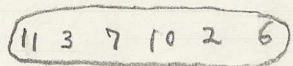
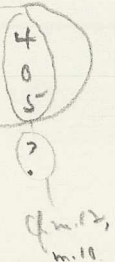
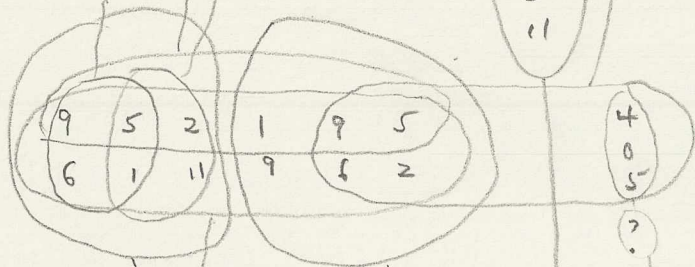
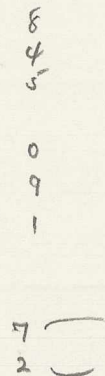
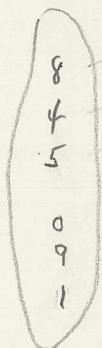
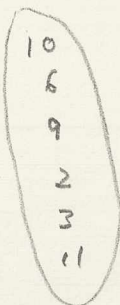
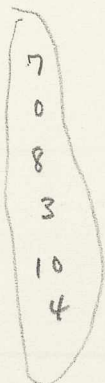
? 6-24:
{9, 0, 2, 4, 5, 6}

m. 13

ϕ -19: {1, 2, 5, 9}

ϕ -19:
{5, 6, 9, 13}

ϕ -12:
{1, 11, 2, 5, 3}



6-31:
{7, 8, 10, 0, 3, 4}

6-31:
{5, 6, 9, 11, 1, 2}

5-21:
{4, 2, 5, 6, 9}

6-244:
{9, 10, 11, 2, 3, 6}

6-20:
{0, 1, 4, 5, 8, 9}

? 8-20: (10, 11, 3, 6)

6-20:
{2, 3, 6, 7, 10, 11}

no invar.
also has
entire
configuration

unique bip
44445

unique bip
34444

Schoenberg, op. 22/1

Here the complete chromatic, hexachordally partitioned

m. 15

6-20: {0, 1, 4, 5, 8, 9}

also 5-21, but trivial since 5-21 is only s-subset subset of 6-20

4-19: {8, 9, 0, 4}

4-19: {5, 9, 0, 1}

4-215

4-19: {3, 7, 10, 11}

4-19: {3, 7, 10, 11}

4-19: {6, 7, 10, 2}

7
2

11	3	11	10	2	6
7	11	3	6	10	2
3	7	11	2	6	10
10	2	6	11	3	7
6	10	2	7	11	3
2	6	10	3	7	11

4-19: {2, 3, 6, 10}

4-19: {6, 7, 10, 2}

4-19: {10, 11, 2, 6}

8-20:

{10, 11, 3, 6}

6-20:

{2, 3, 6, 7, 10, 11}

t=2

here 2 "dimensions" and implication

X

and 4-17: {11, 2, 3, 6}
{2, 10, 11, 23}

m. 16

6-243: {9, 11, 0, 3, 4, 5}

5-16: {0, 3, 4, 6, 7}

? 6-248: {9, 10, 11, 2, 4, 6}

6-34: {5, 7, 9, 11, 2, 3}

6-224: {4, 5, 7, 8, 10, 0}

6-224: {3, 4, 6, 7, 9, 11}

11
6
3
4
5
9

3
6
0
7
4

9
11
2
4
6
10

7
2
1
11
5
9

10
4
0
7
8
5

9
3
11
6
7
4

6
1

5
2

3
0

0
6

11
2

6-25:

{0, 1, 2, 3, 5, 6}

as at end of m. 12

4-229:

{11, 0, 2, 6}

not 7-2: {0, 2, 3, 4, 5, 6, 7}

8-229:

{9, 8, 10, 2}

8-229:

{1, 5, 7, 8}

Not

8-16:

{3, 4, 8, 10}

Not

8-27:

{1, 3, 6, 9}

6-246:

{5, 8, 10, 0, 1, 2, 3}

(6-224)

? 4-12: {10, 1, 2, 5}

7	2	5	10
8	5	0	5
0	10	2	1

2
10
3

8-20:

{0, 1, 5, 8}

again, as in m. 15, a hexachordal partitioning of total chromatic

8 EXAMPLE

(m. 15)

- possibly first example

Schoenberg, Op. 22/1

m. 17

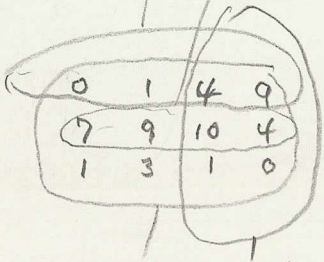
m. 18
↓

m. 19
↓

4-18: {9, 0, 1, 4}

8
5
1
10
6
3

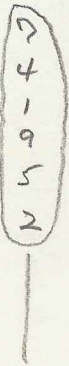
4-13: {4, 7, 9, 10}



2-32: {7, 9, 10, 0, 1, 3, 4}
5-16: {9, 10, 0, 1, 4}

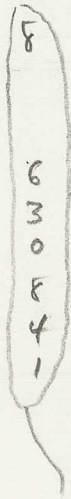
? 6-32: {1, 3, 5, 6, 8, 10}

Same pers as in m. 10



6-224: {1, 2, 4, 5, 7, 9}
6-224: {0, 1, 3, 4, 6, 8}

t=11

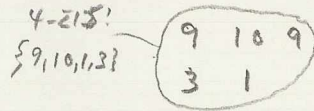


VOICE:

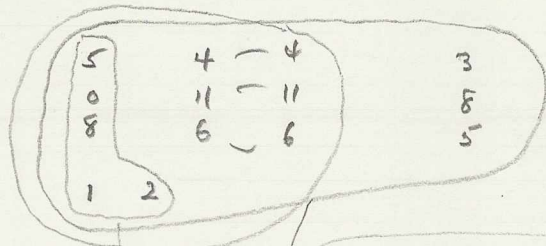


? 5-13: {3, 4, 5, 7, 11}

4-229: {4, 5, 7, 11}



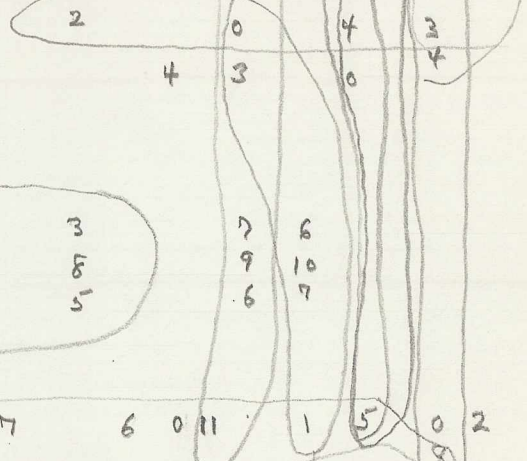
4-215: {9, 10, 1, 3}



8-229: {3, 7, 9, 10}

5-238: {0, 1, 2, 5, 8}

? 7-21: {8, 9, 0, 1, 3, 4, 5}



? 7-216: {3, 4, 5, 6, 8, 11, 0}

? 5-6: {6, 7, 8, 11, 0}

? 7-32: {3, 4, 6, 7, 9, 11, 0}

6-228: {6, 7, 9, 11, 0, 3}
4-20: {9, 0, 4, 5}
4-19: {4, 5, 8, 0}
4-18: {3, 4}

5-21: {0, 3, 4, 7, 8}

6-250: {6, 7, 10, 0, 1, 3}

? 7-7: {5, 6, 7, 8, 11, 0, 1}

? 7-11: { }