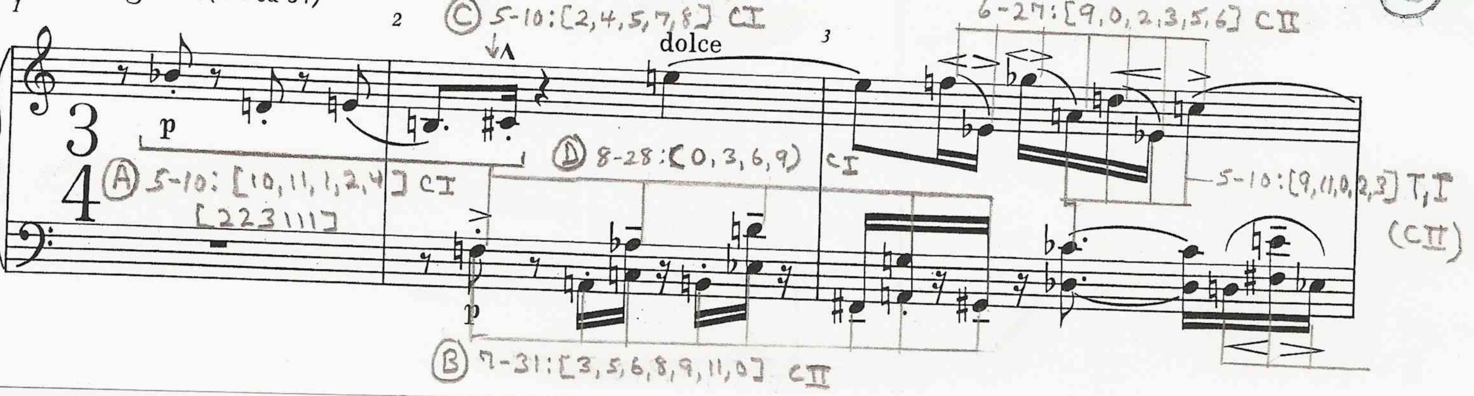
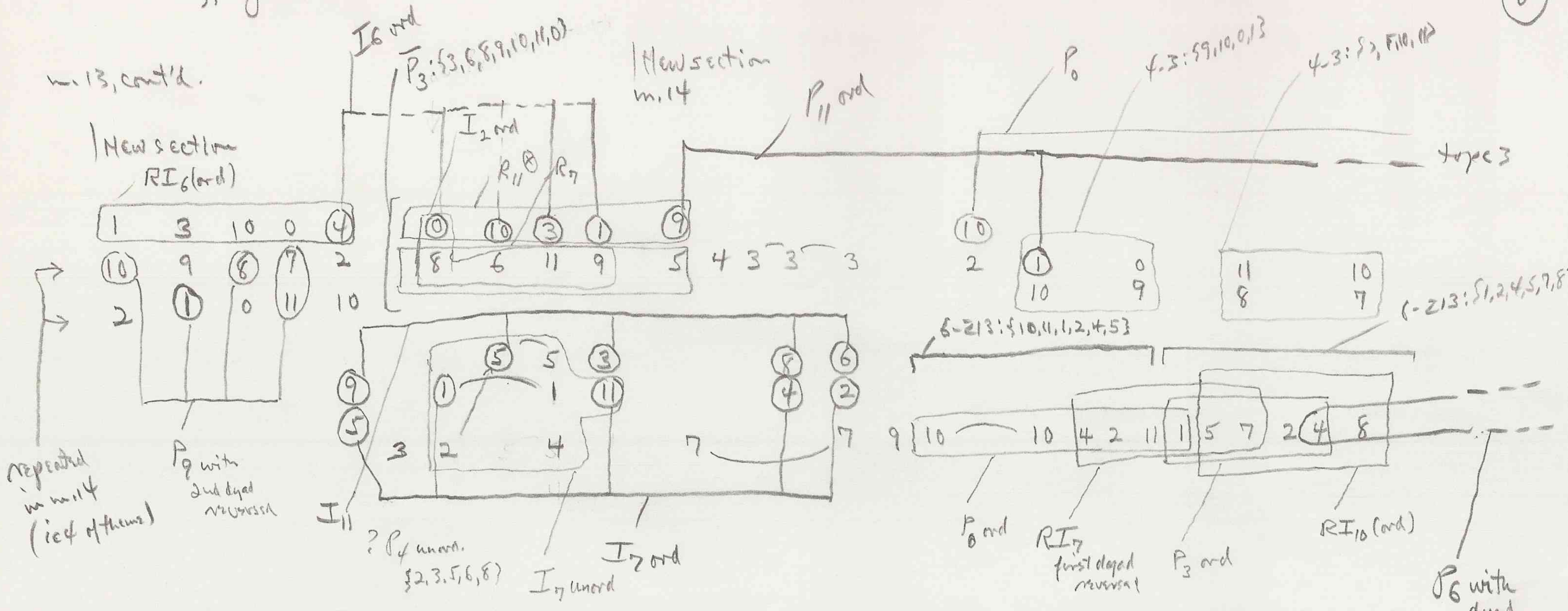
Schoenberg
Op. 23/III

3-2

Langsam (♩ = ca 54)



Schoenberg, Op. 23/3



→ Imbrication in l.h. part

Here each note of P_0 in upper part is preceded by "lower neighbor" – except for 2nd note, D.

(precedents?)

good example of partially ordered imbrication

– note that dyad 4 2 reversed both in P_0 and RI_7

• Note retrograde inversion here
– only 1 retrograde heretofore (m. 1)?

⊗ R_{11} reverses first tetrachord of RI_6

Schoenberg, Op. 23/3

"Reprise"?

New section

m. 16

m. 17

5 8 6

I_{10} dyad reversed

3 1

4 9 7 7

I_0 unord

2 5 6 7 2 8 3 4 5

P_4 ord

? 6-Z3 :

{2, 3, 4, 5, 7, 8}

11 4 1
2
10

P_0 unord

I_4 ord max inv.

2 10 8 1 11

5 11 8
6
9

P_7 partially ordered

I_0 ord.

10 6 4 9 7

5 3 6
9 8

I_{11} ord

5 4 2
1 11

I_7 dyad reversed

Note emphasis on pc 11 here

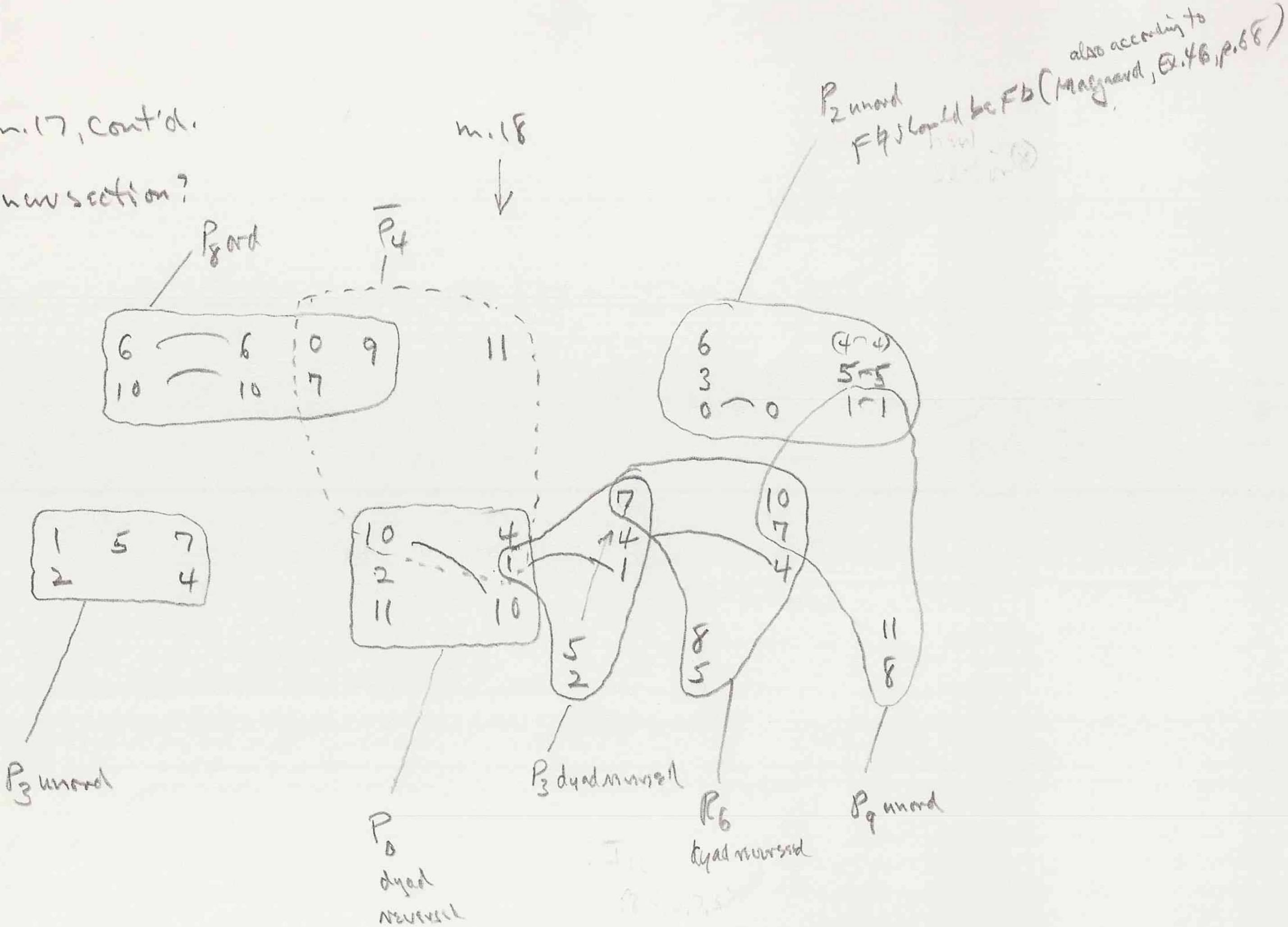
Good example of complex section — parsing of 7-1 into 2 interlocking forms of 5-10

Good example of unordered, ordered, and partially ordered sets

Schoenberg, Op. 23/3

m.17, cont'd.

new section?



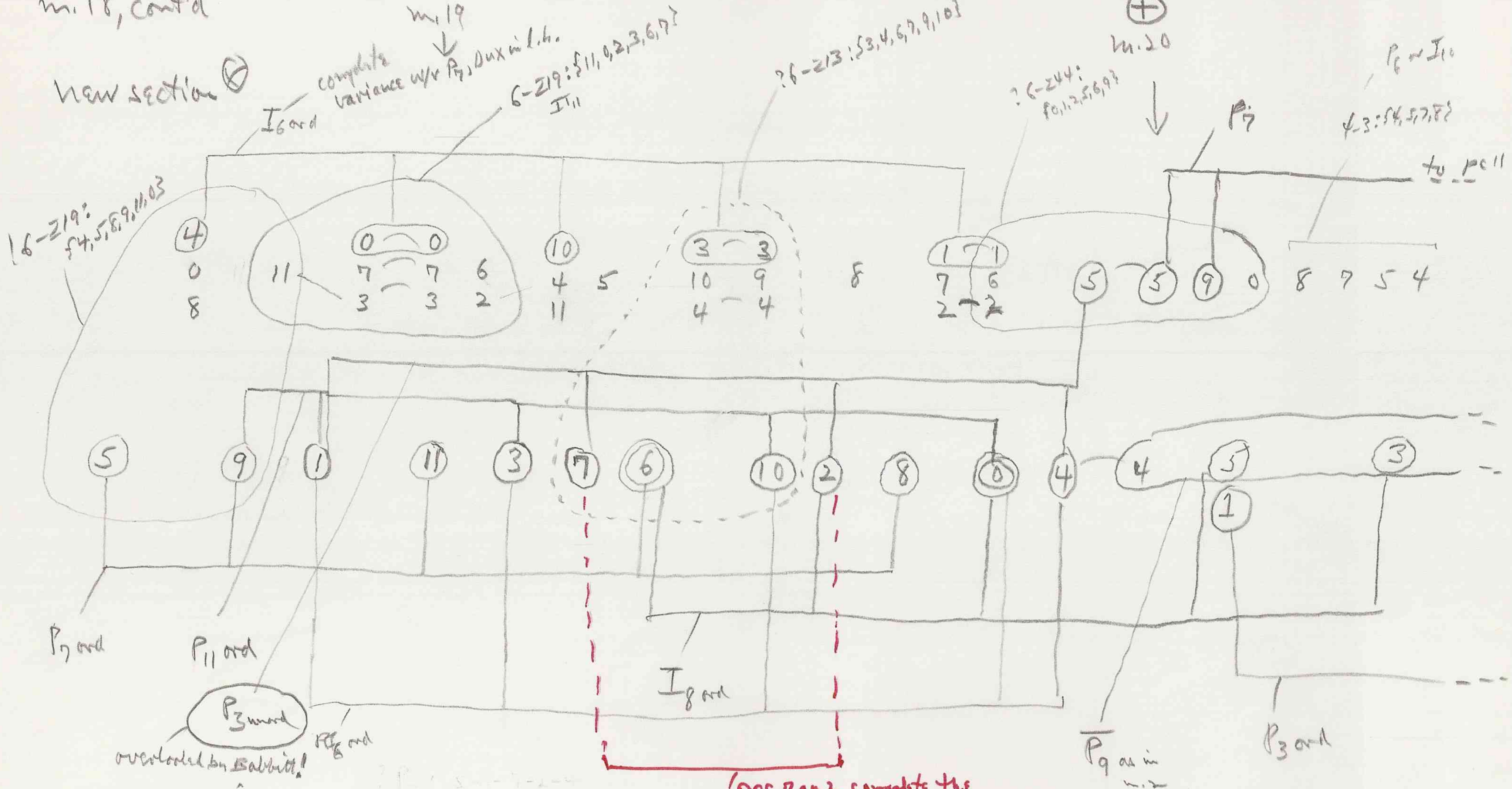
Accented pcs in 1st section:

1 - 4 - 7

Schoenberg, Op. 23/3

Occurrence of 6-Z19 not mentioned by Babbitt –
and, in fact, upper staff, except in I_6 (5-10) not discussed

m. 18, cont'd



overlooked by Babbitt!

Canon featuring head interval of desc. 6th – } P_{11} and I_6 contain retrograde related 4-3: 1-3-10-0, 0-10-3-1

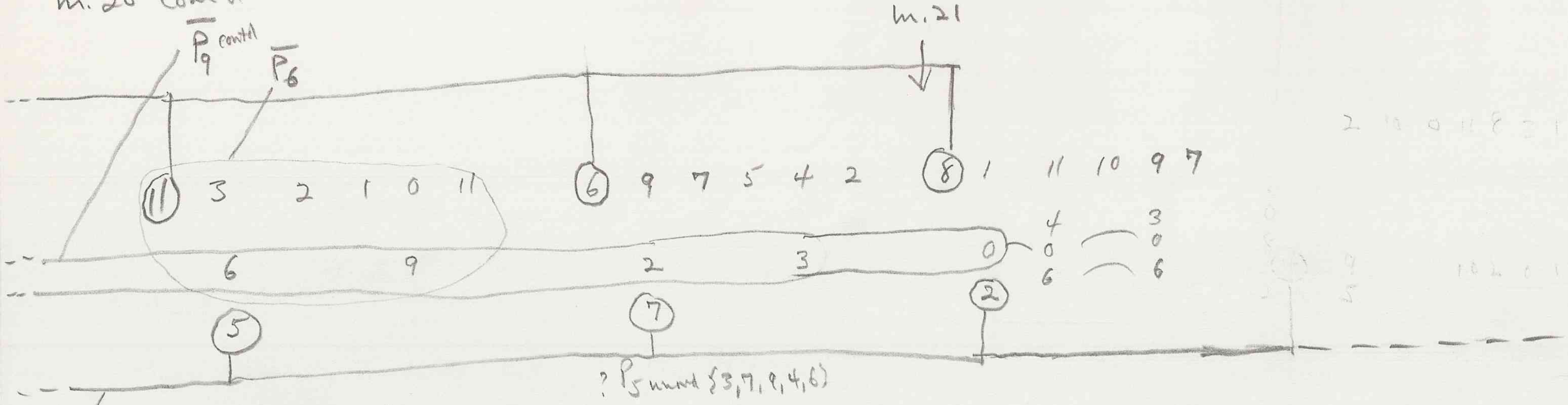
pcs 7 and 2 complete the aggregate with P_7 and I_6 (analogous to pcs 0, 7) – see Babbitt p. 15

⊕ mm. 20-25 are a repetition ("varied") of mm. 2-7

ⓧ Discussed by Milton Babbitt at Symposium "Schoenberg and Serialism", San Diego, Jan. 1975 – and in PNM article

Schoenberg, Op. 23/3

m. 20 cont'd.



? P_5 unord {3,7,9,4,6}

P_3 ord

? P_1 unord: {11,3,5,0,2}

? I_5 unord: {3,11,9,2,0}

? I_8 unord: {6,2,0,5,3}

no pcs 4,7,8,10

8-15: (4,7,8,10)

7-2: (8,10,11,0,1)

none 5

? P_2 unord: {0,4,6,1,3}

P_9 unord: {7,11,1,8,10}

Schoenberg, op. 23/3

m. 21 cont'd.

new section

I_4 ord

2 10 0 11 8 3 1 2 8 11 10 4

10 2 0 1 4 9 11 1

P_0 ord

0
8
4
2
9
5

End of P_3 ord

? RI_7 ord
2-4-11-1-5
↓
F♮ m. 22
(if contour-register not preserved

no pcs 6, 7

C♮ should probably be C♯ by analogy with m. 4, first beat

Here the "I_4" relation, with 4-3 preserved ~~and~~ (order-reversal of dyads)

<u>Note</u>: Contour of inversion preserved thus pc 11 (C♭) third space ≠ pc 11 (B♮) second leger space

Schoenberg, Op. 23/3

New section
m. 22

$\bar{P}_{10}$

10 4

4 9
10 6
5 3 4 1 7

11 8
8 6 4 2
0 10

I₀ unord: {10,6,4,9,7}

P_5 unord:
{3,4,6,7,9}

New section

5 11
7 1 6 9 0 — 0 2 8 4 10

no pc3

no ordered forms of 5-10

10
4 4
11 11

6 6 6 5
1 1 1 1
8 8 8

pc 8 is possibly pc7 (f-g)

? 7-29:
⊅ 5-10

Note surfaces whole-tone
sets here

Schoenberg, Op. 23/3

m.24

m.23

? I_{11} unord: {9, 5, 3, 8, 6} in upper part

new section

ϕ_3: {5, 6, 8, 9}

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

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

2 1 2 11
11 11 10 5 5
5 5 6 0 0

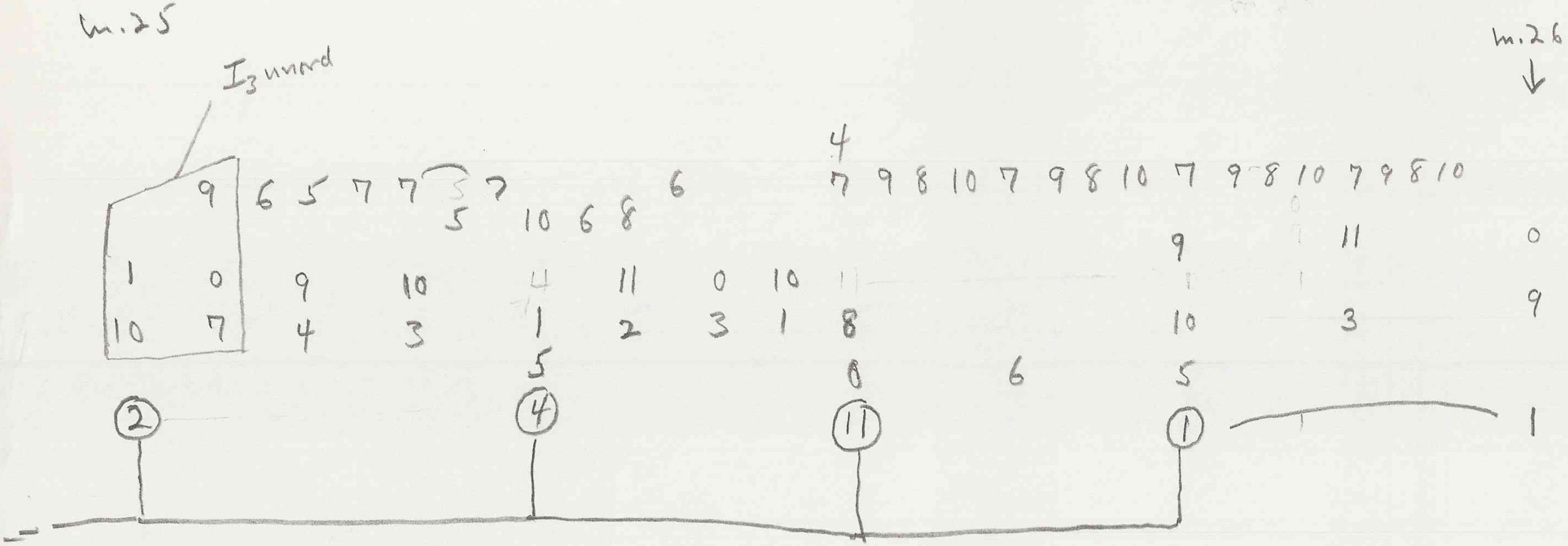
3 2
10 10
5 4

I_9 unord

P_0 ord

9-4 ⊃ 3 unordered / mms
5-11
9-4 ⊅ 7-10

Schoenberg, Op. 23/3



? P_{11} unord
{9,10,0,1,3}

? I_3 unord
{1,9,7,0,10}

? I_6 unord
{4,0,10,3,1}

? I_4 unord
{2,10,8,1,11}?

? I_6 unord
{4,0,10,3,1}

I_8: {7,8,9,10,11,1,4}
R.H. with 2 notes of theme

Schoenberg, Op. 23/3

(18)

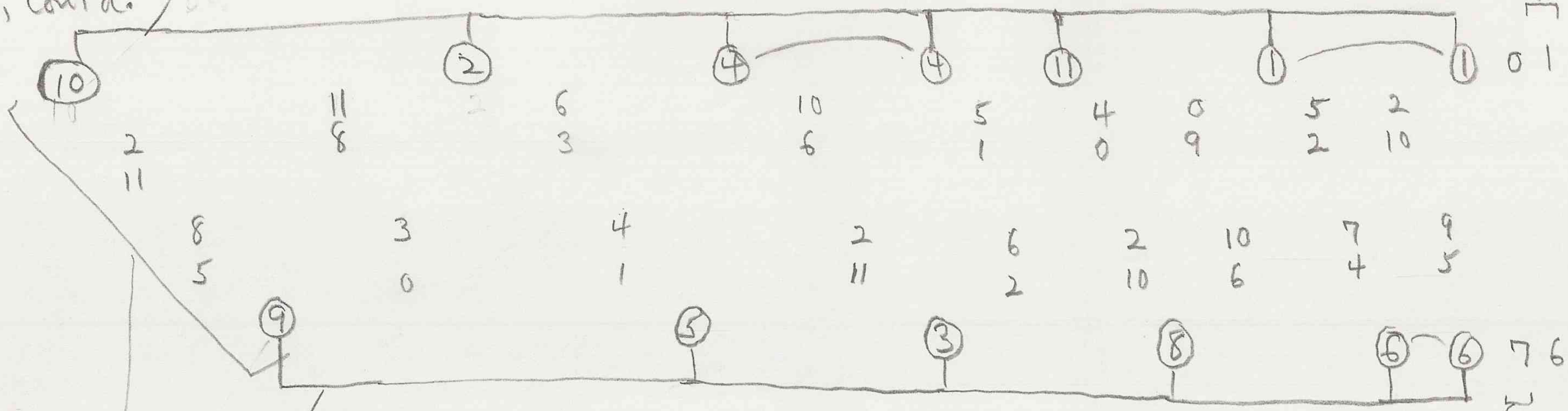
To be checked for forms of 6-Z13 and 6-Z42

m. 27

pcs 1, 6 excluded from $+(P_6, I_{5})$

m. 26, cont'd.

P_0 ord



I_{11} ord

? ⊗ 6-Z42: {8, 9, 10, 11, 2, 5}

? P_2 unord {0, 4, 6, 1, 3}

? P_8 unord {6, 10, 0, 7, 9}

pc set 4-9 with special pcs: 0, 1, 6, 7

Pairing of variant forms in canon for first time(?) NB. excluded pcs 0, 7 occur at end of work

pcs 0, 7 excluded from $+(P_0, I_{11})$

Note that pcs 1, 6 are also terminals of P_8 and I_{11}, resp.

⊗ 6-Z42 ⊂ 7-10; 6-Z42 ⊄ 5-10
i.e., K(5-10, 6-Z13/42)

Complement of 6-Z13 — m. 1 etc.

Schoenberg, Op. 23/3

MIXTURE OF ORDERED & UNORDERED SETS – See Chronology 4

(X) See Perle, Exx. 62–64

Also Rufer and Maegaard; Babbitt, "Since Schoenberg", PNM, Fall–Winter, 1973 and 1st VAM Ex. 28

m. 1 m. 2 m. 3 m. 4

P_0 5-10 {10, 11, 1, 2, 4, 5}

I_{10} ordered

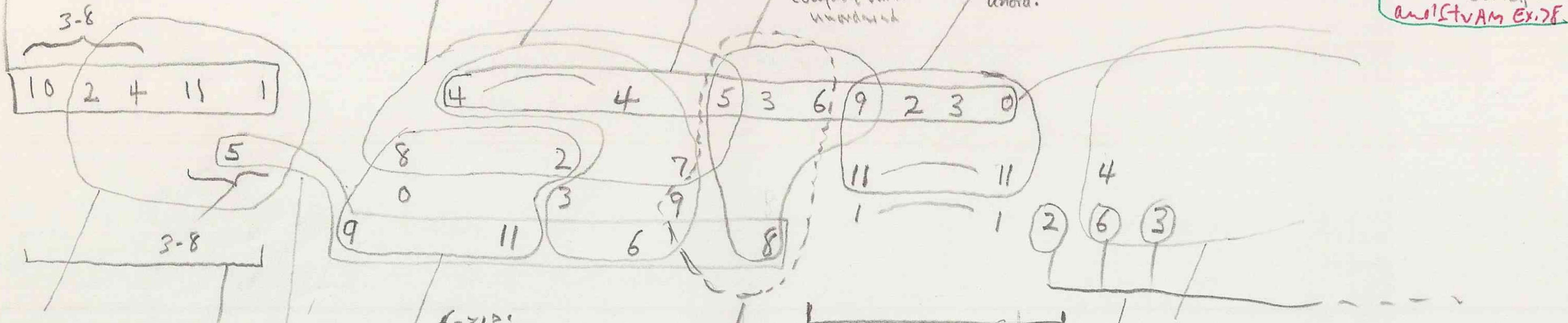
P_5 unordered

7-10 $\overline{P}_9$

I_{11} – ordered if previous pc 9 is first element – as Babbitt 1973 p. 15

complete variance unordered

I_5 unord.



RI_7 with last dyad reversed (max. mirror) – omitted by Perle

5-10

P_7 ordered

P_{10} unordered

6-Z13: {8, 9, 11, 0, 2, 3} (t=10)

7-10 $\overline{P}_6$

P_2 unord {0, 1, 3, 4, 6}

I_{11} ordered – complete variance $\overline{P}_6$

(see Babbitt p. 15)

P_4 unord

? I_5 (3 11 9 2 0) cf. P_5 here and I_5 in m. 2

6-Z13: {10, 11, 1, 2, 4, 5}

Most "obvious" feature of opening is upper staff 5-10 followed by 7-10 $\overline{P}_9$

$\boxed{\text{Check all Bips of 5-10 and 7-10}}$

Note: pc set 5-10 in first form of Question in Ives's Unanswered?

The present reading does not take into account other occurrences of this hexachord (beyond m. 2)

(X) None of these take into consideration

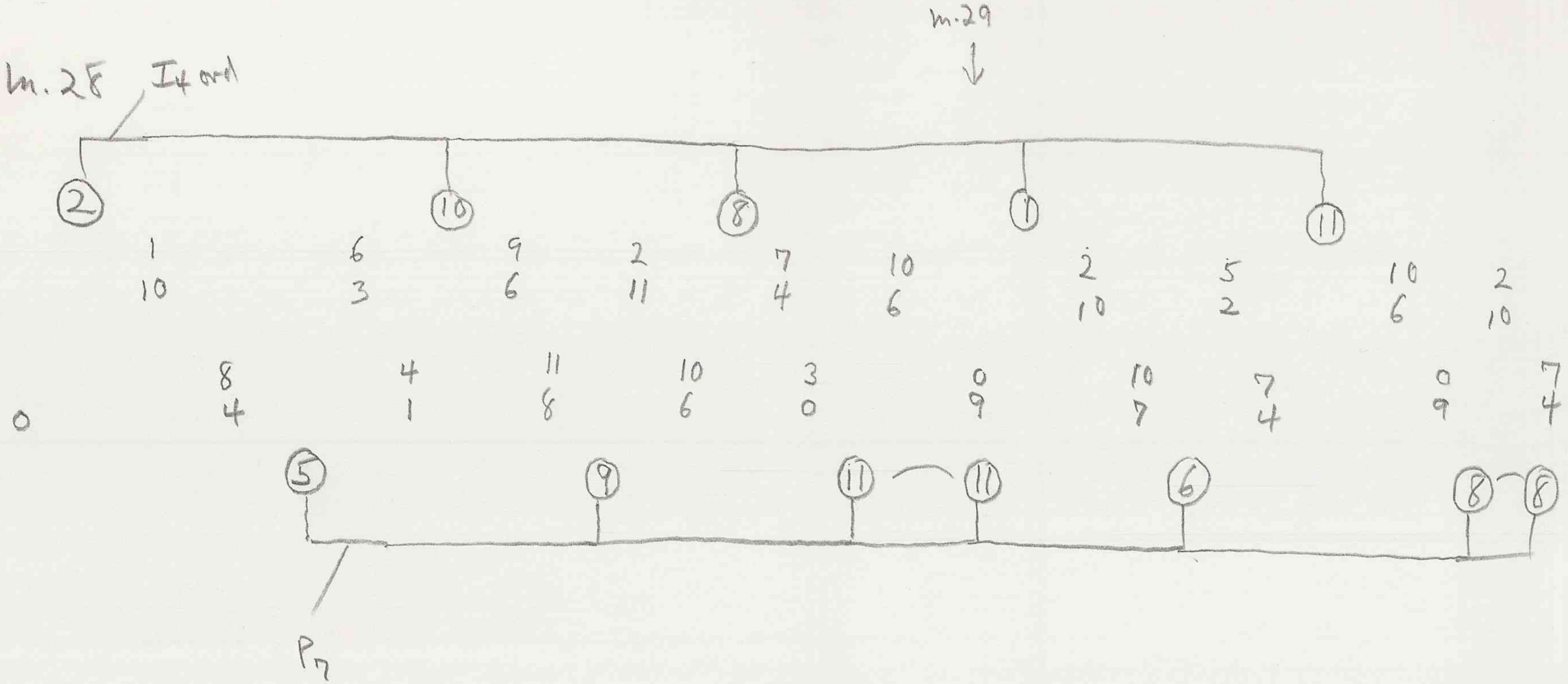
a) The complement 7-10

b) The combination of ordered & unordered sets

c) The hexachords (supersets of 5-10 and subsets of 7-10)

d) sets which are not subsets of 5-10, but which are in 7-10

Schoenberg, Op. 23/3



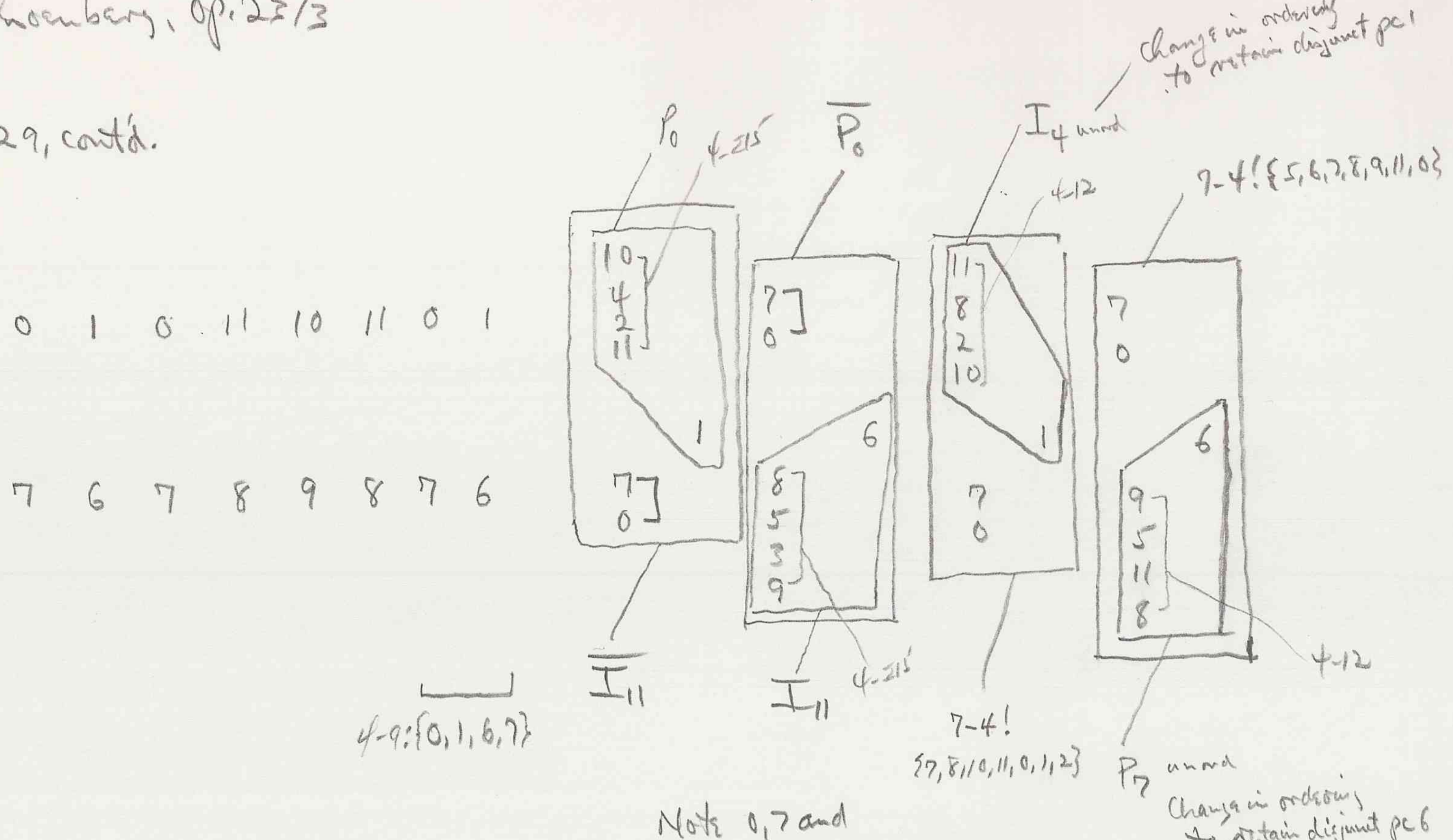
? P_8 avoid
{6, 10, 0, 7, 9}

Here the IT_9 relation —
preserves pcs 8 and 11, which occur in terminal positions
as did pcs 1, 6 in previous
combination of P_0 and I_{11}

The use of IT_4 here has
to do with its relation
to P_0 - 4-3 preserved
with dyad reversed

Schoenberg, Op. 23/3

m. 29, cont'd.



Note 0,7 and 1,6

5^{th}: F# – C#
composed out –
Is this basis for
Chromatic motion –?
See F#–C# at end
See also D^b and F#
in next passage – associated
with C and G!

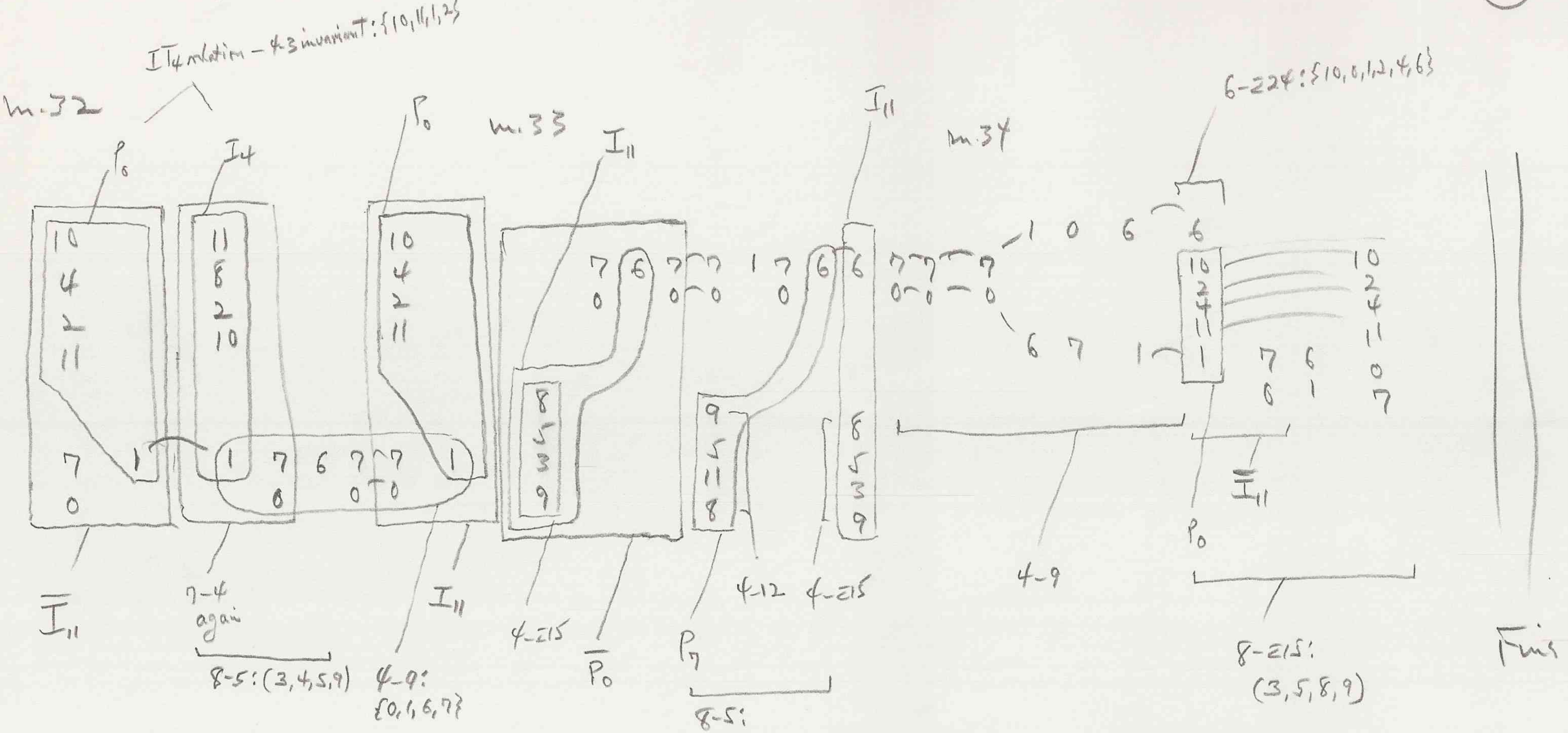
This passage an example in Structure of Atonal Music, Ex. 78, p. 74

Vertical is 6-Z46: {10,11,0,2,4,7}

6-Z24 in m. 34

I_4 and P_7 are IT_3 related, yielding 2 invariant pcs: 8,11

Schoenberg, op. 23/3



SEE m. 18 and check for discontinuous ordered forms of that kind — SEE articulation marks

Check for R and RI throughout

Check for 7-10

SEE Ending for special role of

0, 7

1, 6

and union (4-9, not as subset of 5-10 or 7-10!)

other firm sets — 6-Z42 in m. 26 complement of opening hexachord

For write-up: Discontinuous sets unusual in atonal works (example Op. 11/1, "development")

End of m. 21 for example of octave differentiation

? Contour of ordered set (relative registral positions) preserved throughout

Extended themes in Early works — e.g., opening of Gurrelieder

Schoenberg, Op.23/3

Hexachordal supersets of 5-10:

2.1 Z3.1 Z11.1 Z13.2 Z23.2 Z24.1 27.1

Tetrachordal subsets

3.1 10.1 12.1 13.1 Z15.1

Hexachordal subsets of 7-10

2.1 27.1 Z36.1 Z40.1 Z42.1 Z45.1 Z46.1

8-note supersets of 7-10

3.2 10.2 12.1 13.1 Z15.1

Schoenberg, Op.23/3
Tables are ordered and inversion is in 12-tone fashion ⊗

5-10 [223111]

	P						I				
(0)	10	2	4	11	1	(0)	10	6	4	9	7
(1)	11	3	5	0	2	(1)	11	7	5	10	8
(2)	0	4	6	1	3	(2)	0	8	6	11	9
(3)	1	5	7	2	4	(3)	1	9	7	0	10
(4)	2	6	8	3	5	(4)	2	10	8	1	11
(5)	3	7	9	4	6	(5)	3	11	9	2	0
(6)	4	8	10	5	7	(6)	4	0	10	3	1
(7)	5	9	11	6	8	(7)	5	1	11	4	2
(8)	6	10	0	7	9	(8)	6	2	0	5	3
(9)	7	11	1	8	10	(9)	7	3	1	6	4
(10)	8	0	2	9	11	(10)	8	4	2	7	5
(11)	9	1	3	10	0	(11)	9	5	3	8	6

max. invar. under inversion at IT_4 (4-3) and IT_7 (4-10)

with order reversal of dyads

complete **variance** IT_{11}

with order reversal of invar. tetrachord

omitted pcs from union are 0, 7 — cf. final measure (and var. mvt. of Serenade)

+(P_6, I_5) excludes pcs 1 and 6 (see m. 27 and elsewhere)

7-10 [445332]

Complement table unordered but corresponds to forms of 5-10 above

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

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

max. invariance under inversion IT7 (6-Z42) and IT_4 (6-Z45)

complement of 6-Z13, the first hexachord in the piece

max invar. IT_{11} (2-5)

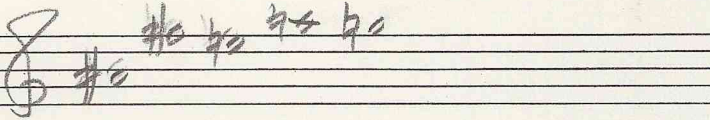
A step toward ordered 12-note row? — see Babbitt's comments in PNM, Vol. 12

⊗ Set forms are indicated in Perle's fashion; P_0 = 10 2 4 11 1
I_0 = 10 6 4 9 7

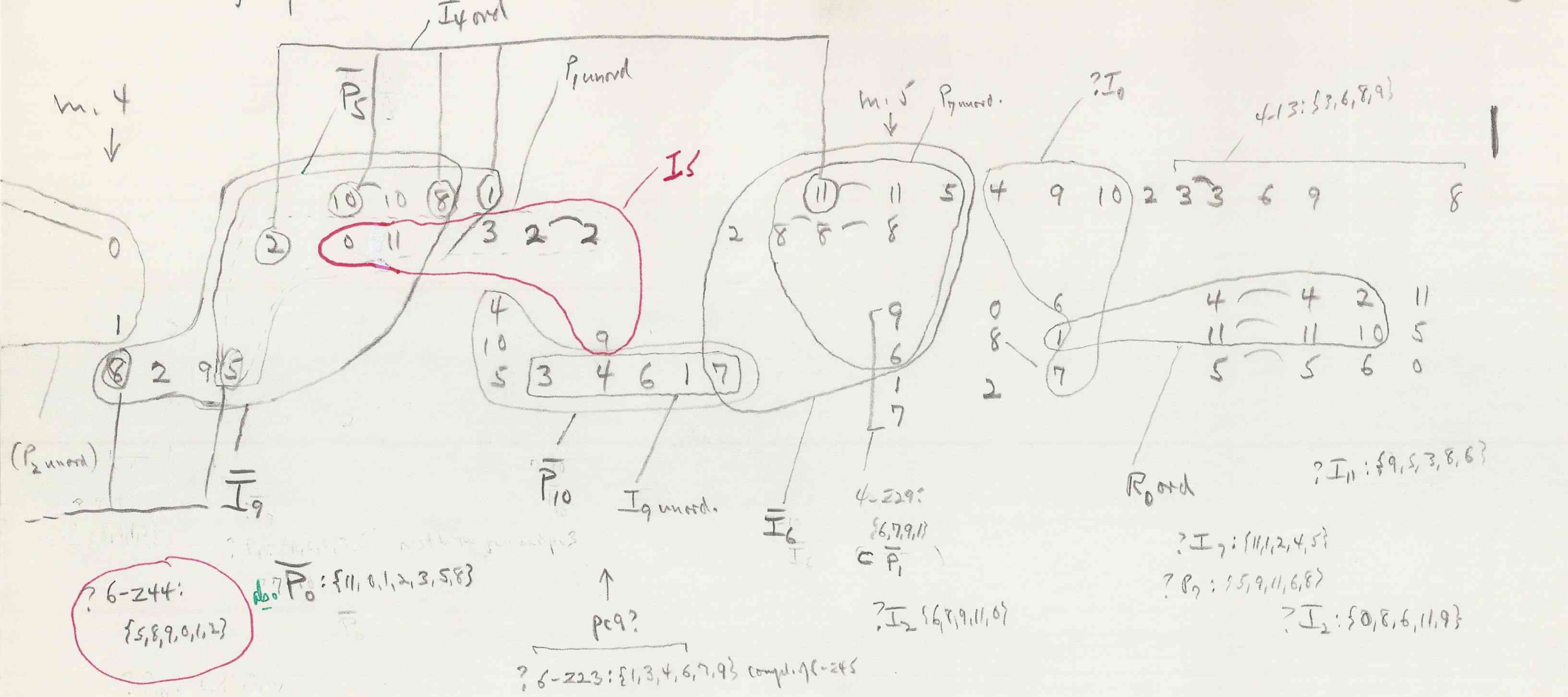
Register & Contours of 5-10 (ordered) preserved throughout

P_0

I_0



Schoenberg, Op. 23/3



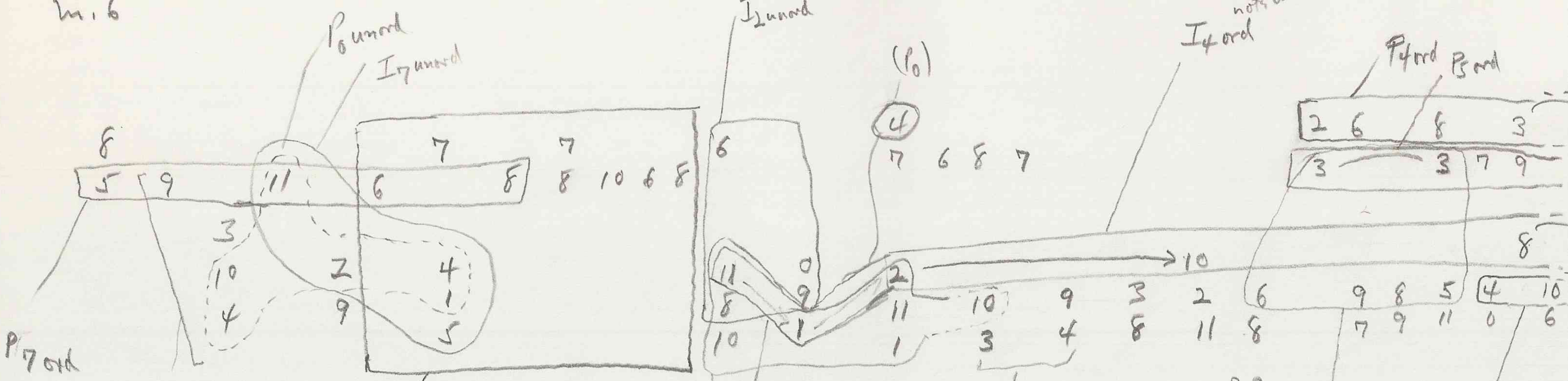
Two forms of 7-10 intersect with max invar. — $\overline{P_5}$ & $\overline{I_9}$ invar. subset is 5-Z45. If $\overline{P_0}$ included, common subset is 5-31: {11, 0, 2, 5, 8}

Schoenberg, Op. 23/3

| New section

m. 6

m. 7



(as in m. 2)

⊗ 4-9: {9, 10, 3, 4}

I_5: {4, 5, 6, 7, 8, 10, 1}

P_0: {10, 2, 4, 11, 1} or R_0

4-9

? P_7: {5, 9, 11, 6, 8}

? I_3: {2, 3, 4, 5, 6, 8, 11}

? P_{10}: {4, 8, 10, 5, 7}

? P_3: {1, 5, 7, 2, 4}

? P_6: {4, 8, 10, 5, 7}

no pc 0

? $\overline{P}_{11}$: {4, 2, 4, 5, 6, 7, 8}

? I_9: {7, 3, 1, 6, 4}

I_4: {8, 10, 11, 1, 2}
unord

P_0: 11 1 2 (4) 10

I_4: 11 1 2 (8) 10

possibly linear continuation 8-1-11

? $\overline{I}_6$ {5, 6, 7, 8, 9, 11, 2}

I_{11} {3, 5, 6, 8, 9}
unord

but pc 10 interferes

NB here in score is ~~to mark~~ notational subset of 5-10

B♮-C♯ - $\underbrace{\text{D♮-B♭}}_{\text{in m. 7}}$

4-3: one of inver. tetrachords under inversion and interlocking ↑ P_0 and I_4

8-note set 8-9 (0, 1, 6, 7)

⊅ 7-10 & ⊅ 5-10

⊗ $+(P_3, I_1)$ ⊅ 3, 10

$+(P_9, I_8)$ ⊅ 4, 9

Schoenberg, Op. 23/3

cited by Rufer, but his reading was incomplete

New section

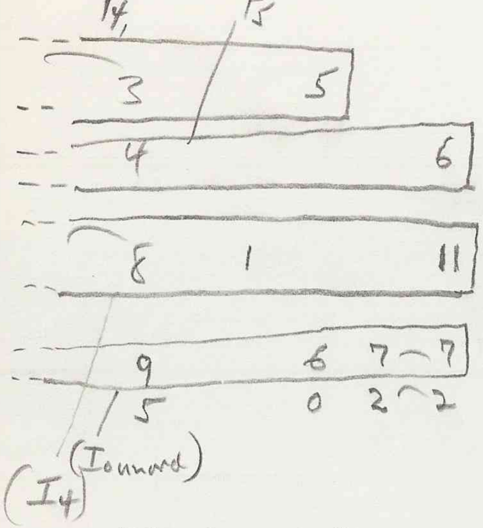
first three
P_9 ord (complete in L.H.) > invariant pcs 7,1 exchange positions

? I_4: {2,10,8,1,11}

first three
P_3 ord

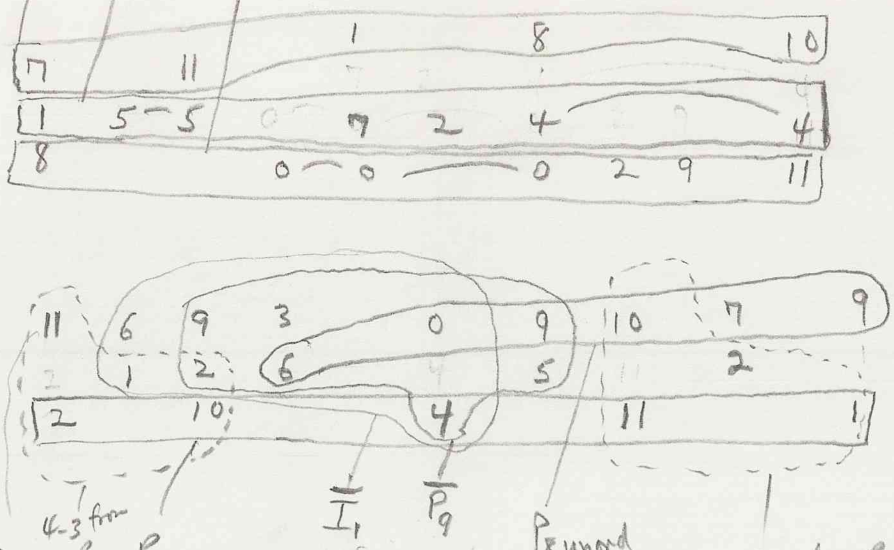
P_{10} ord

m. 8



? I_{11}: {9,5,3,8,6}

? P_5: {3,7,9,4,6}



? I_2: {0,8,6,11,9}

first dyad reversed—because of P_3?

? I_3 unord {7,8,10,0,1}

? P_{11} unord {9,10,0,1,3}

? I_8 unord {0,2,3,5,6}

Between hands:

? P_7 unord {5,6,8,9,11}

? I_2 unord {6,8,9,11,0}

Note "independence" of R.H. and L.H. in terms of pc set 5-10

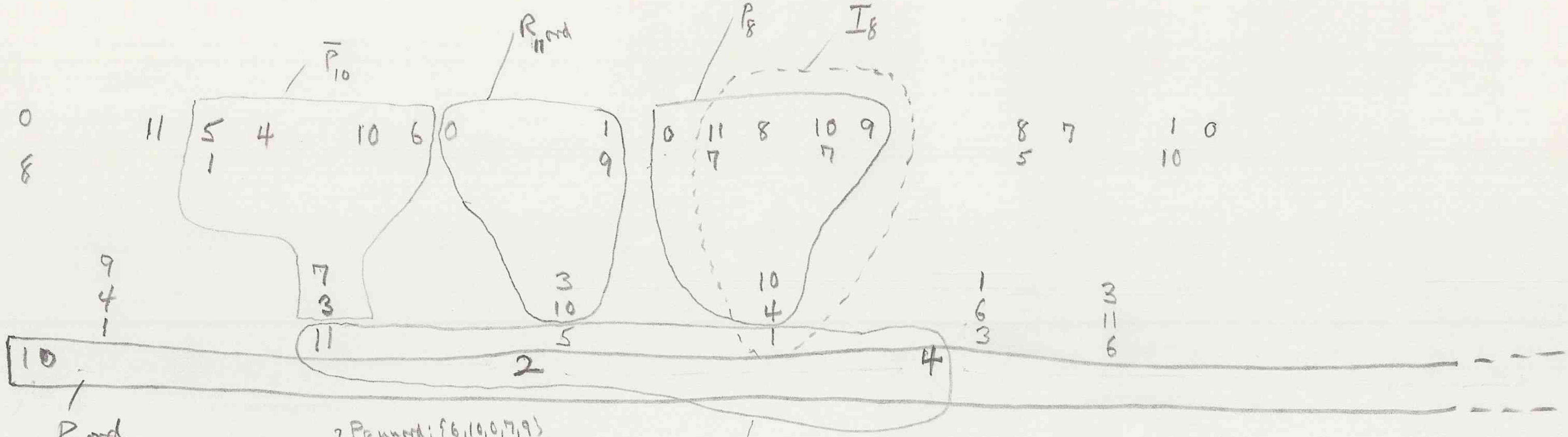
Schoenberg, Op. 23/3

5

no pcs 2,3 in r.h. part

no pcs 0,2,8 in l.h. part (accomp.)

m. 9



? P_8 unord: {6,10,0,7,9}

? I_8: {6,2,0,5,3}

? P_1: {11,3,5,0,2}

↑ only pc 2 in this block

I_7 unord {5,1,11,4,2}

? P_5: {3,7,9,4,6}

? I_0: {10,6,4,9,7}

? I_6: {4,0,10,3,1}

? P_6 {4,5,7,8,10} unord

? I_9 {1,3,4,6,7} unord

first "expanded" statement of P_0

Here the "surface" trichords in the l.h. are: 3-11 3-12 3-9
3-10 3-7 3-11

Of these, only 3-10 ⊂ 5-10

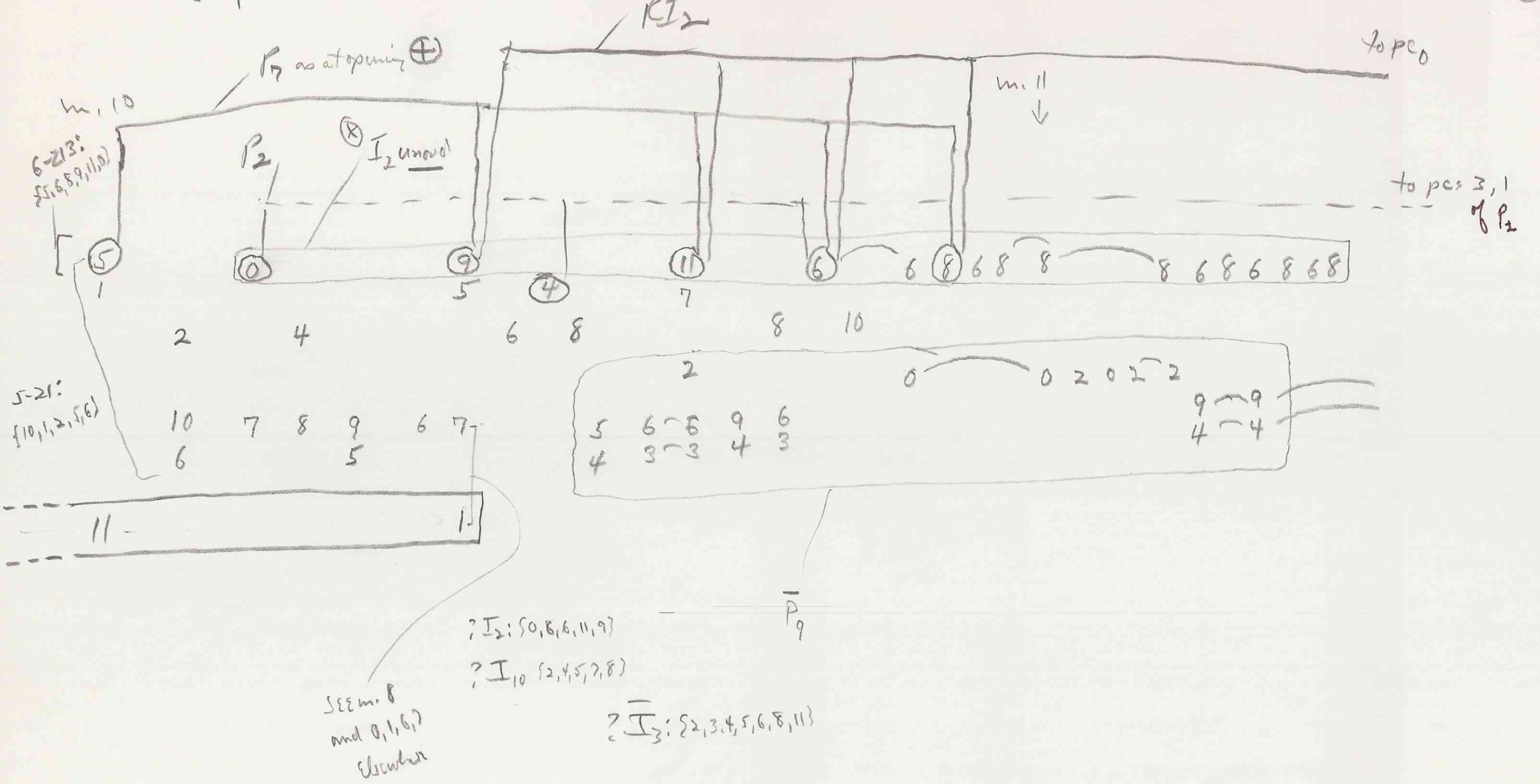
The sum of these trichords, as a distinct level, is 9-8: 1,3,4,5,6,7,9,10,11

none of the 3 forms of 5-10 is formed by a segment

and $\overline{P}_{10}$ is problematic — 10,1,3,4,5,6,7

Schoenberg, op. 23/3

6

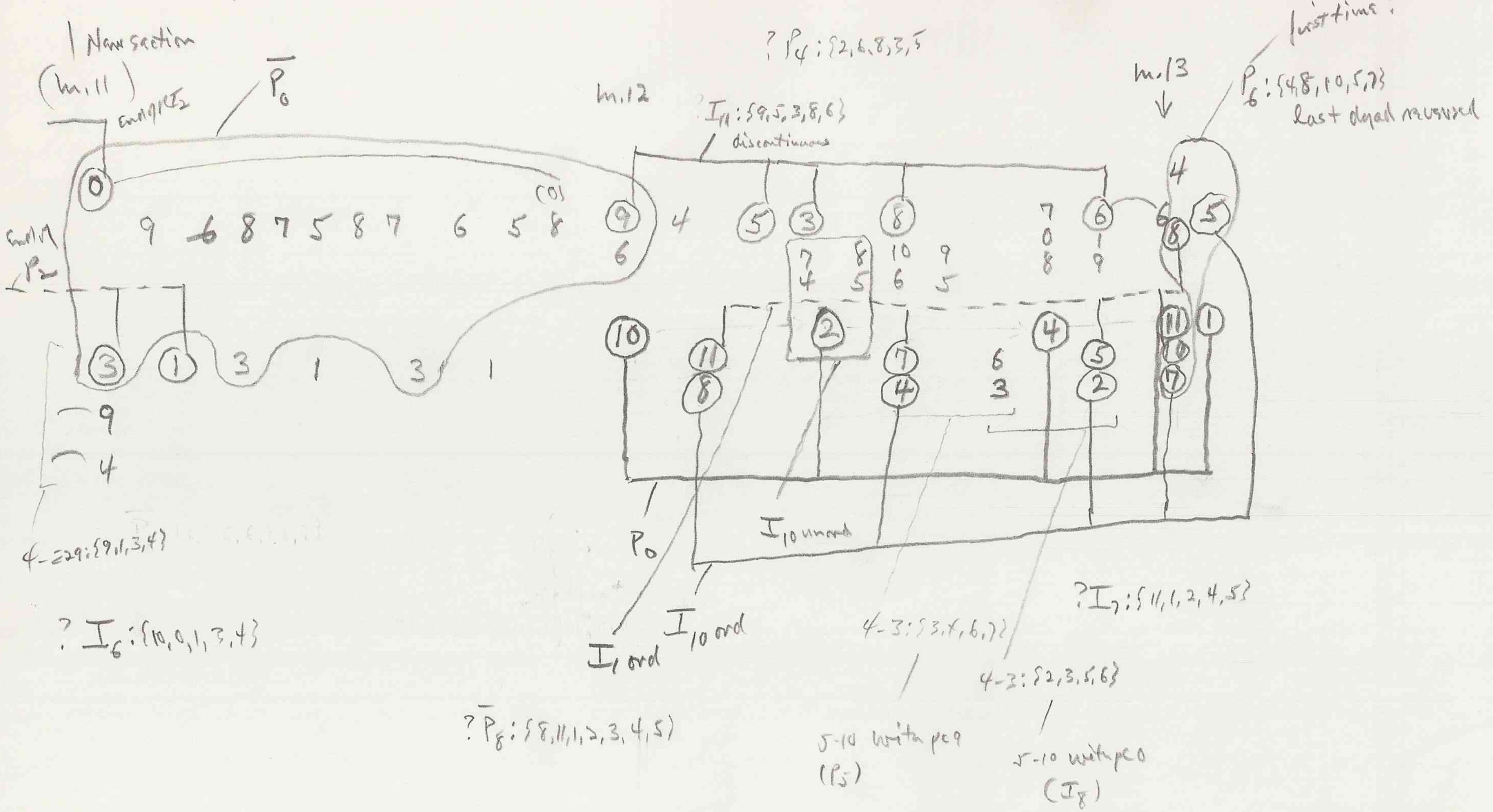


⊗ Basis of succession?

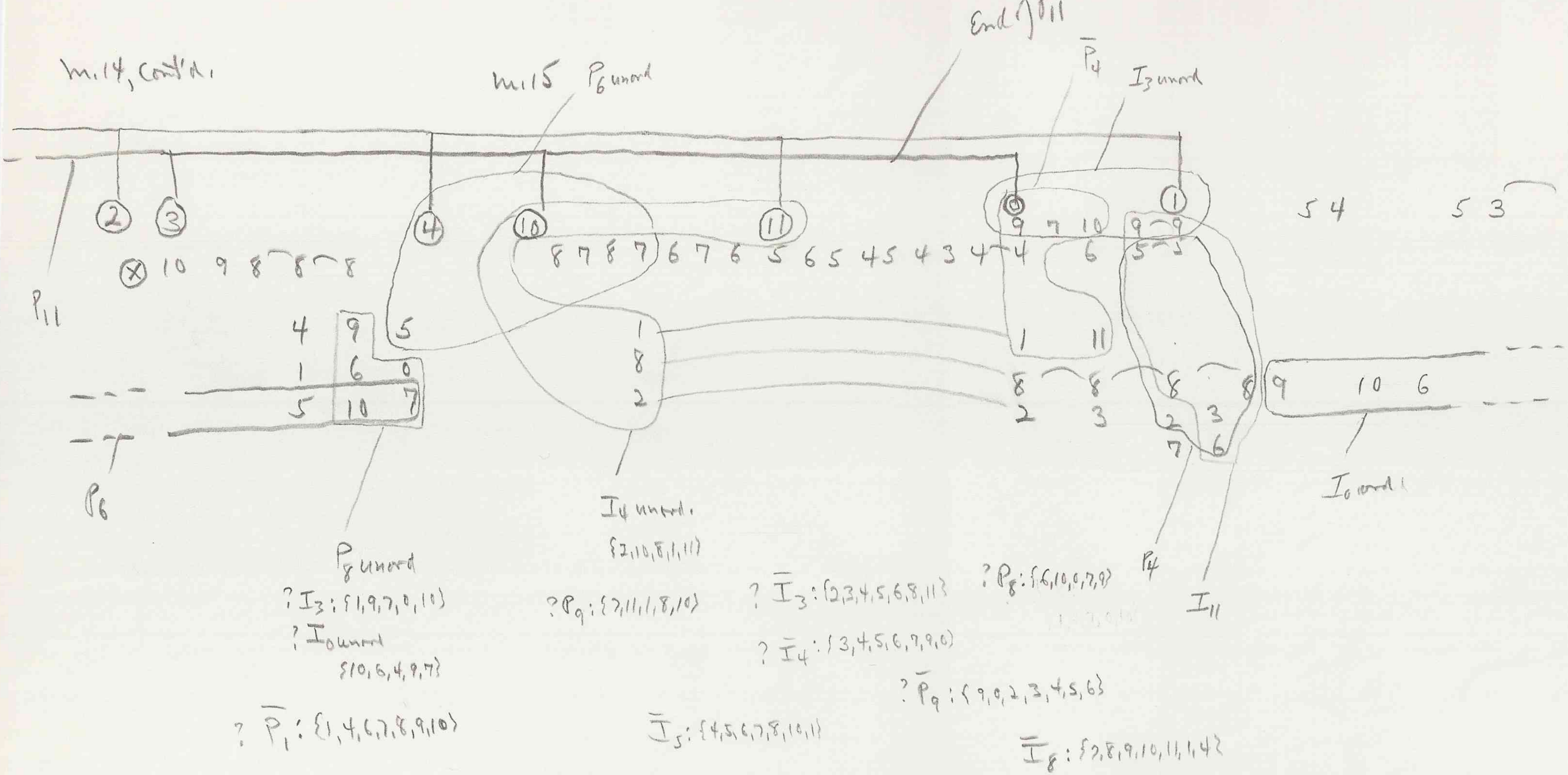
I_2	10	2	4	11	1
P_0	0	9	11	6	8
ic	2	5	5	5	5

⊕ Ambiguity here: P_7 ord or I_2 unord?

Schoenberg, Op. 23/3



Schoenberg, Op. 23/3



(X) The figure B♭-A♮-A♭
replicates F♮-E♮-E♭
at beginning of m. 14.
The latter begins a long
chromatic descent spanning
the 9th, F♮-E♮ (m. 15)