## MTO 13.3 Examples: Losada, K-nets and Hierarchical Structural Recursion: Further Considerations

(Note: audio, video, and other interactive examples are only available online)
http://www.mtosmt.org/issues/mto.07.13.3/mto.07.13.3.losada.php

Example 1. Networks that involve fundamentally different elements, but share a common structure

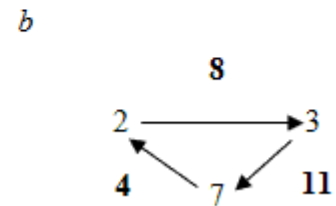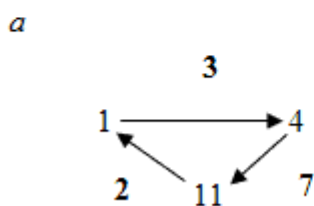a: {1,2,3,5,6,10,15,30}   f: be a divisor of
b: {} {a} {b} {c} {a,b} {a,c} {b,c} {abc}   f: be a subset of

a   b.
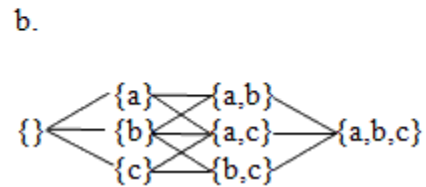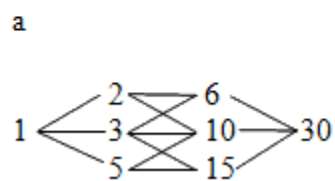
Example 2. Networks that can be related to one another by a functional isomorphism

a: Integers mod twelve under addition
b: Integers mod 13 − {0}under multiplication
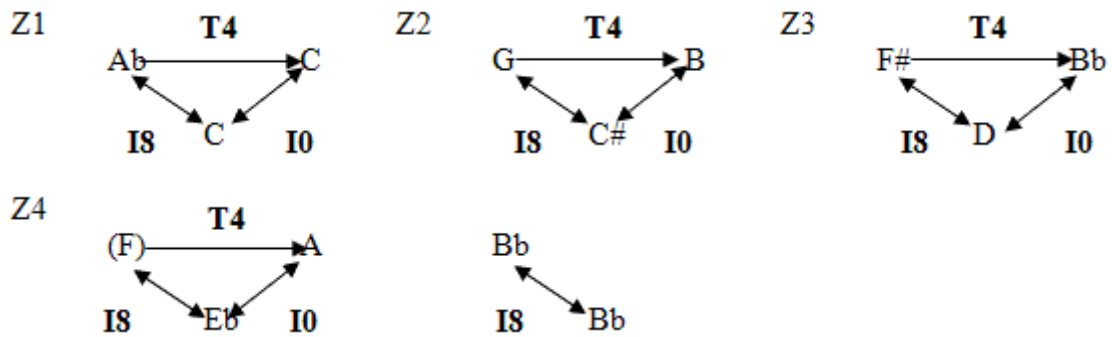
f(a) = b
Let x be a member of a
f(x) = 2^x

a   b

Example 3. Schoenberg Das *Buch der hängenden Gärten*, Op. 15, No. 7 (measures 14–15)
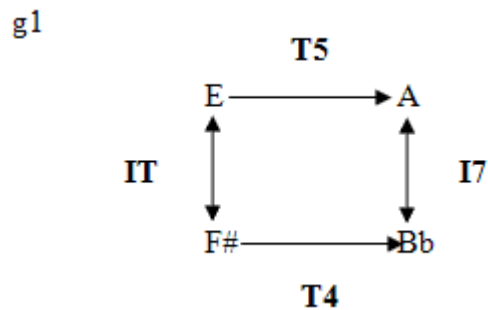
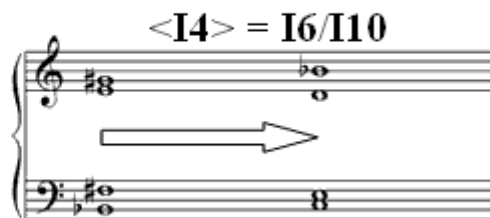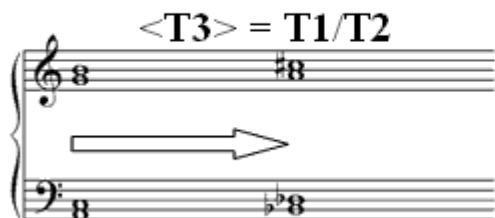

Example 4. K-nets that interpret the chords in Example 3

Example 5. K-net that Lewin uses to interpret the first chord of Schoenberg's Opus 11, No. 2, measures 9–13
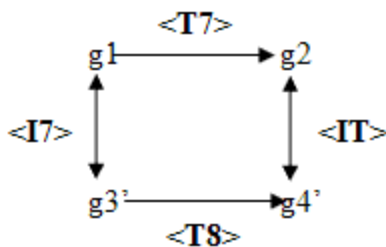
Example 6.

a. <Tj> as total transpositional distance   b. <Ij> as a sum of inversions
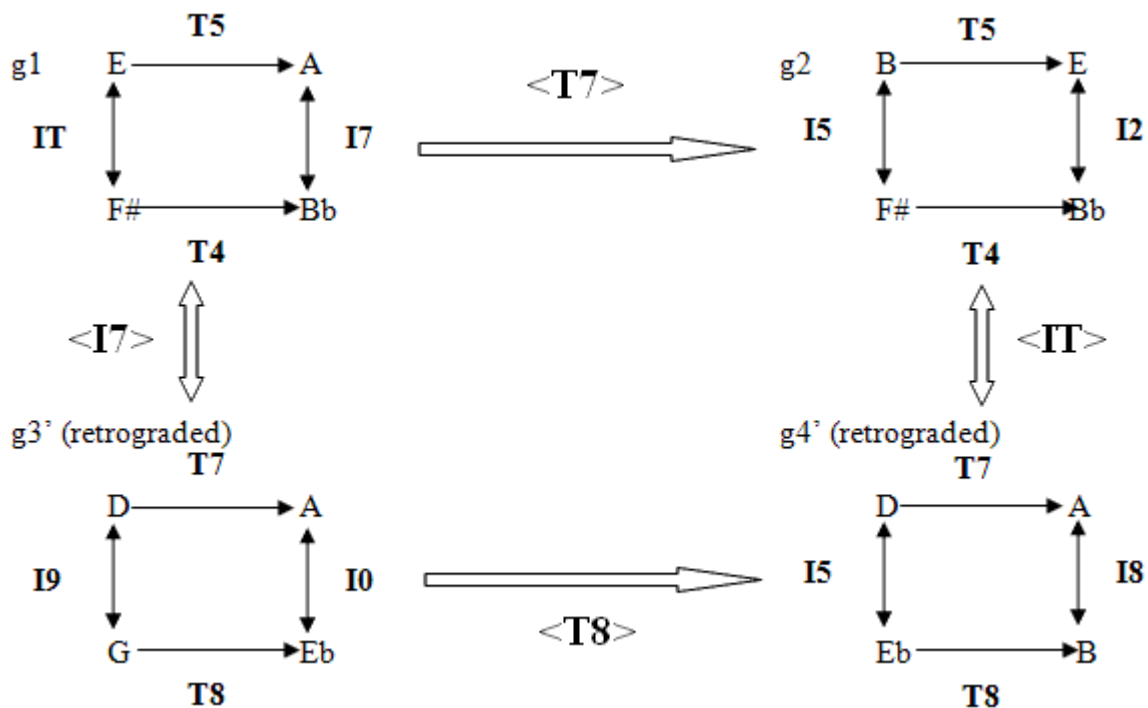
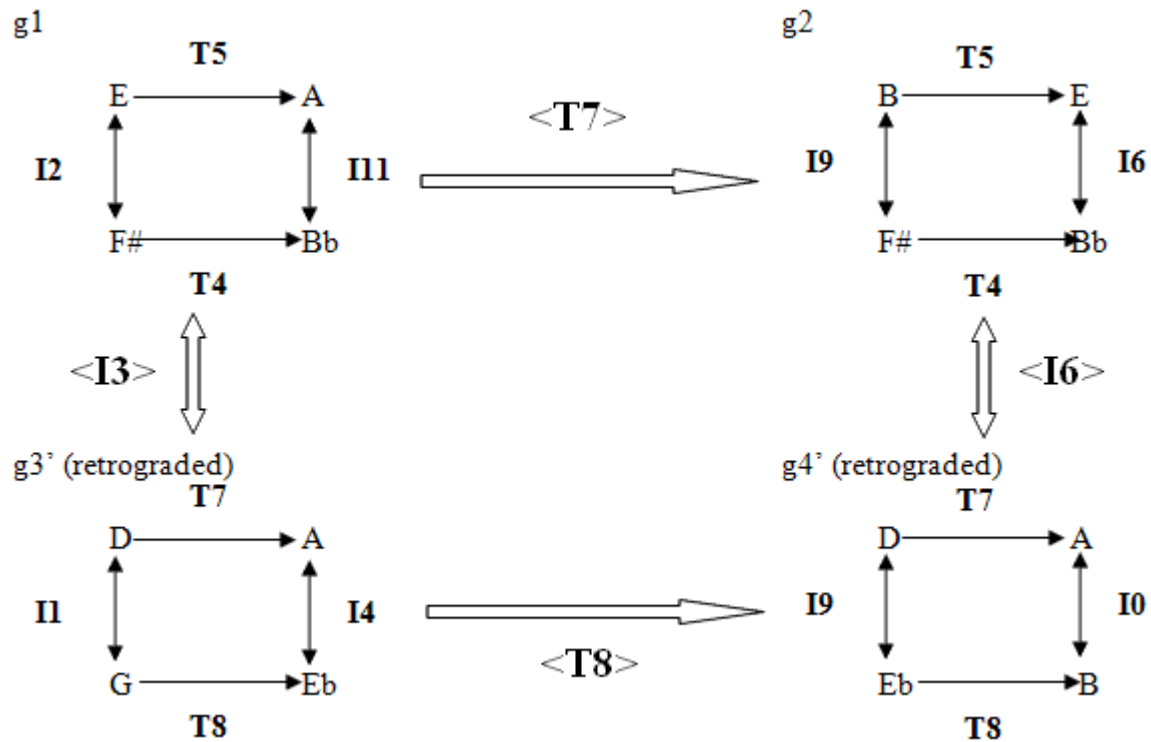$$<T3> = T1/T2 \qquad\qquad <I4> = I6/I10$$

Example 7. Lewin's supernetwork interprets the first four chords in Schoenberg's Op. 11, No. 2
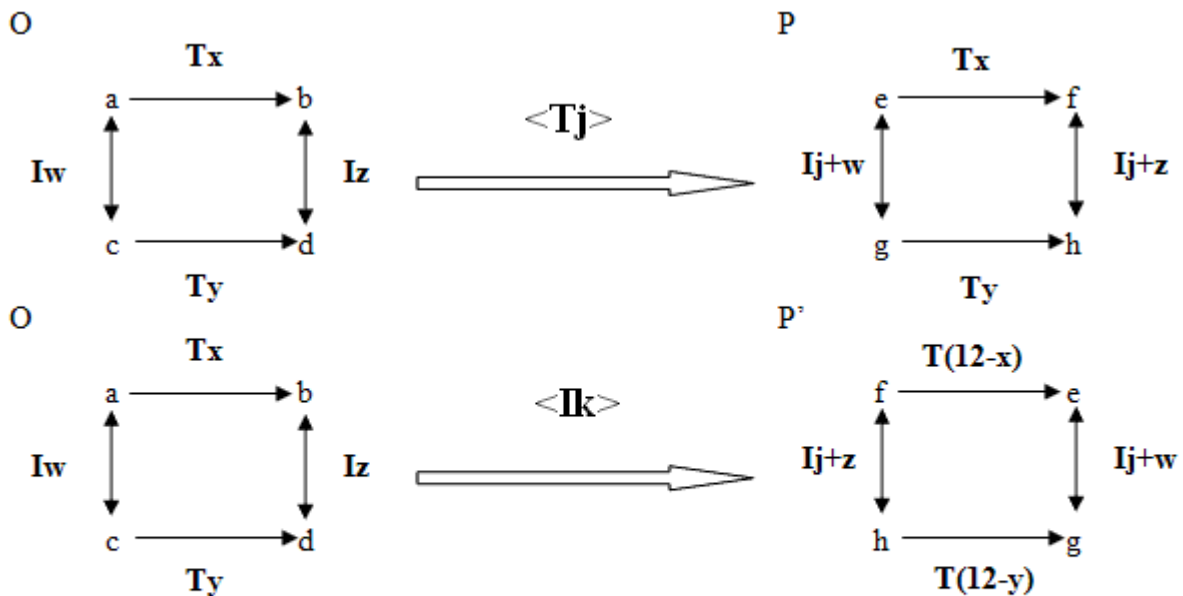

Example 8. Presents the networks that are represented as nodes in Example 8

Example 9. The network presented in Example 9 with the pitch-class labeling changed to E=0

g1

T5

E ──────▶ A

I2   I11

F# ──────▶ Bb

T4

<I3>

g3' (retrograded)

T7

D ──────▶ A

I1   I4

G ──────▶ Eb

T8

<T7>

g2

T5

B ──────▶ E

I9   I6

F# ──────▶ Bb

T4

<I6>

g4' (retrograded)

T7

D ──────▶ A

I9   I0

Eb ──────▶ B

T8

<T8>

Example 10. Demonstrates that certain graphs that are related by <Tj> are also related by <Ik> when one of the graphs is retrograded

O

Tx

a ──────▶ b

Iw   Iz

c ──────▶ d

Ty

<Tj>

P

Tx

e ──────▶ f

Ij+w   Ij+z

g ──────▶ h

Ty

O

Tx

a ──────▶ b

Iw   Iz

c ──────▶ d

Ty

<Ik>

P'

T(12-x)

f ──────▶ e

Ij+z   Ij+w

h ──────▶ g

T(12-y)

P=<Tj>O
w+j+z=z+j+w=k
P'=<Ik>O

Example 11. Schoenberg, *Pierrot Lunaire* No. 4 (*Eine blasse Wäscherin*), measures 13–14
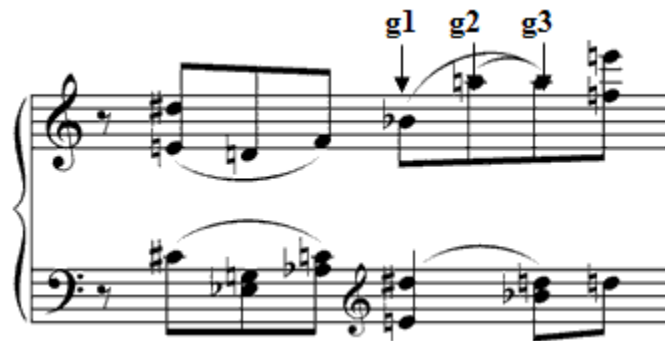
Example 12. K-nets that interpret chords g1, g2 and g3 from Example 12