

### MTO 15.1 Examples: Lind, An Interactive Trichord Space

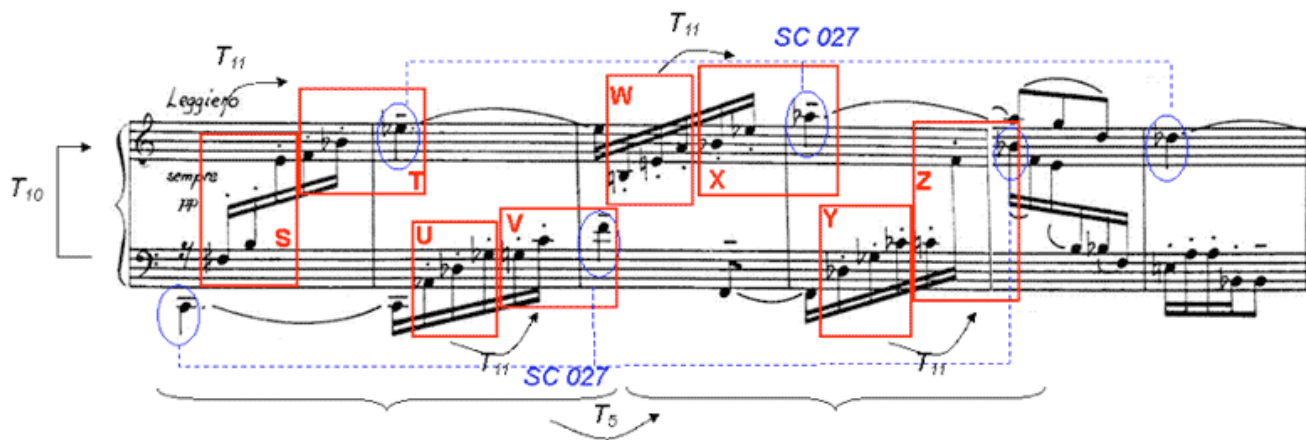
(Note: audio, video, and other interactive examples are only available online)

<http://www.mtosmt.org/issues/mto.09.15.1/mto.09.15.1.lind.php>

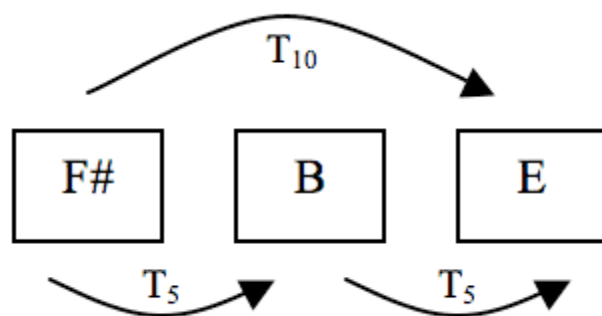
Figure 1. Pépin, *Toccate no. 3*, mm. 8–12



Figure 2. Pépin, *Toccate no. 3*, mm. 18–23

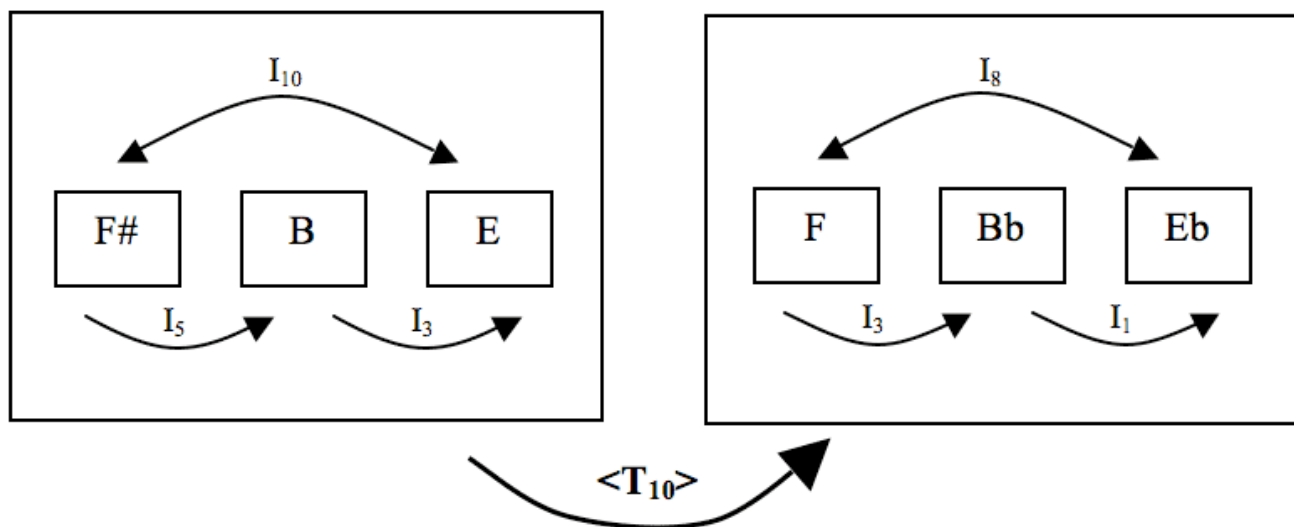


**Figure 3.** Transformations characteristic of SC 027 trichords (trichord  $\langle F\#, B, D \rangle$  as an example)

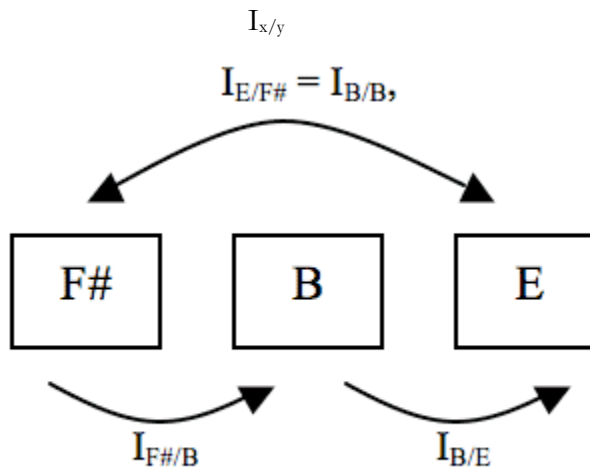


**Figure 4.** Other possible analyses of pitch- and pitch-class relations among instances of SC 027

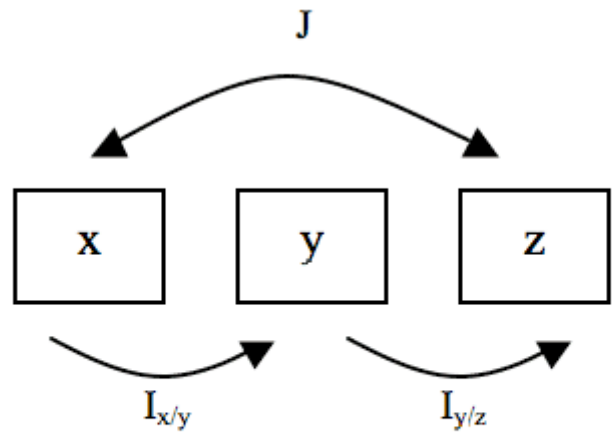
a. Depicting trichords **S** and **T** as a result of inversive processes



b. Depicting trichord **S** with inversions in the format

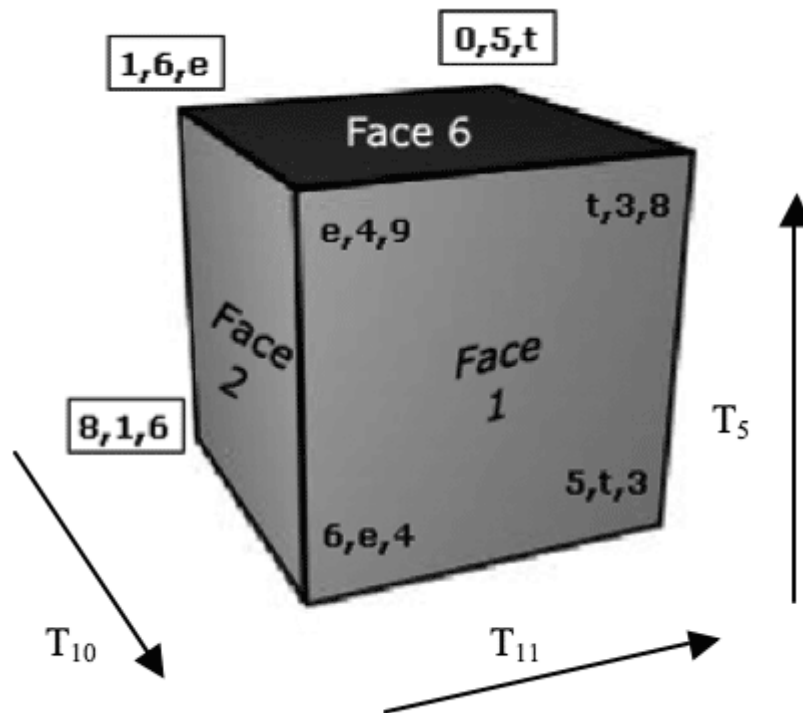


c. Depicting ordered SC 027 trichords with a contextual inversion



**J** = contextual inversion about **y** in the ordered SC 027 trichord  $\langle x, y, z \rangle$

Figure 5. A cubic lattice for Pépin's *Toccate no. 3*



**Table 1.** Cubic lattice relationships

<i>Face:</i>	<i>Grouping (red indicates trichords on <b>Figure 2</b>):</i>	<i>Transformation to the corresponding objects of opposite face:</i>	<i>Same axial transformations as:</i>
1	upper voice only ( <b>T</b> , <b>W</b> , <b>X</b> , <b>Z</b> )	$T_{10}/T_2$	Face 5
2	first of each group ( <b>S</b> , <b>U</b> , <b>W</b> , <b>Y</b> )	$T_{11}/T_1$	Face 4
3	first four ( <b>S</b> , <b>T</b> , <b>U</b> , <b>V</b> )	$T_5/T_7$	Face 6
4	last of each group ( <b>T</b> , <b>V</b> , <b>X</b> , <b>Z</b> )	$T_{11}/T_1$	Face 2
5	lower voice only ( <b>U</b> , <b>V</b> , <b>Y</b> , <b>Z</b> )	$T_{10}/T_2$	Face 1
6	last four ( <b>W</b> , <b>X</b> , <b>Y</b> , <b>Z</b> )	$T_5/T_7$	Face 3

**Animation 1.**

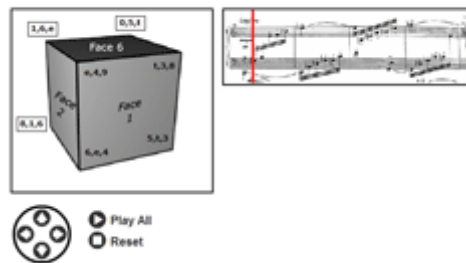


Figure 6. Motion paths and transformations between trichords, where  $T_x$  and  $T_y$  are axial transpositions

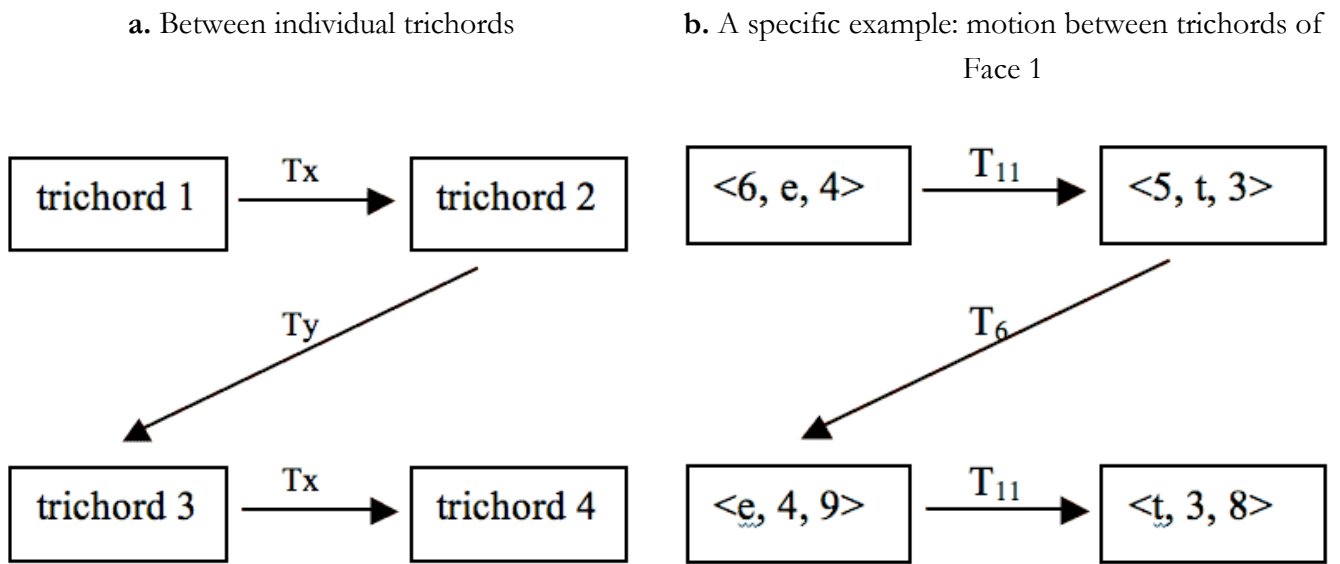


Figure 7. Still shots from the animations on three faces of the cube

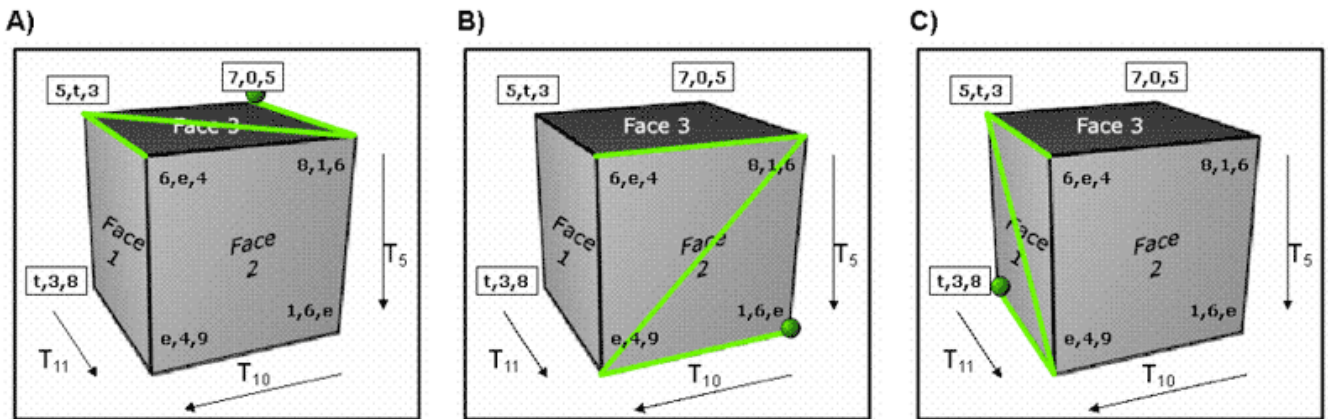


Figure 8. Transformational networks for the six faces of the cube

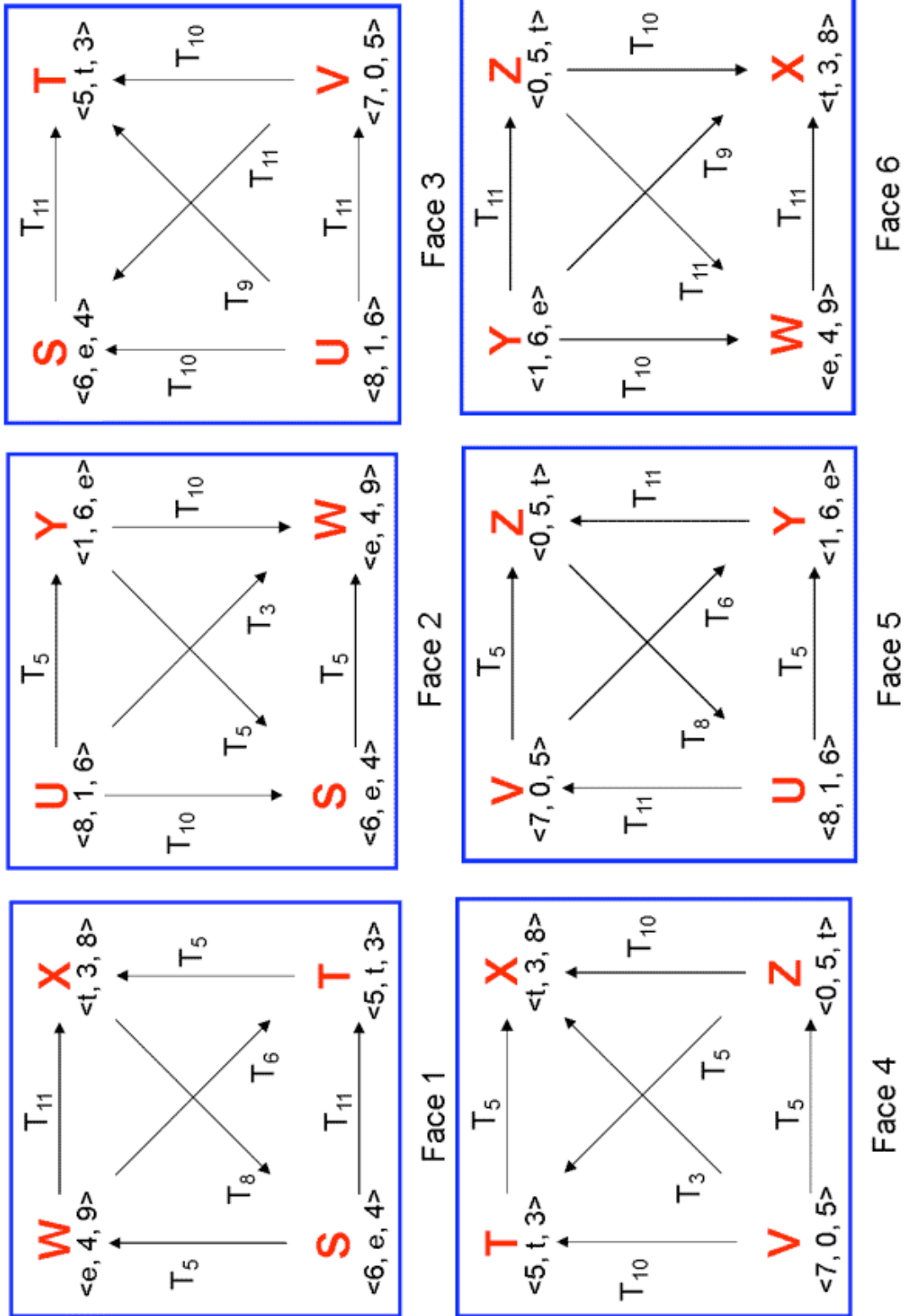
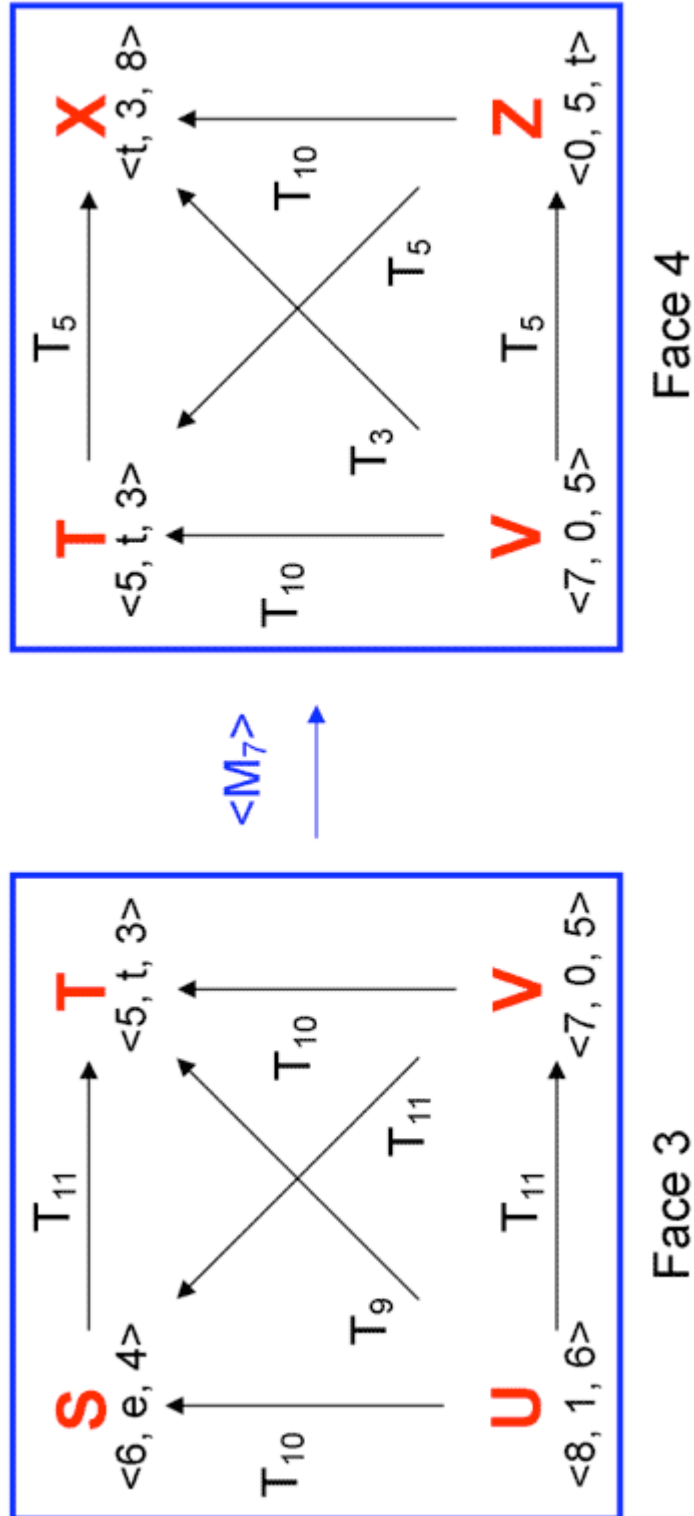


Figure 9. Trichord-network isography under  $\langle M_7 \rangle$



**Figure 10.** Faces whose transformations map onto one another via  $\langle M_5 \rangle$  and  $\langle M_7 \rangle$

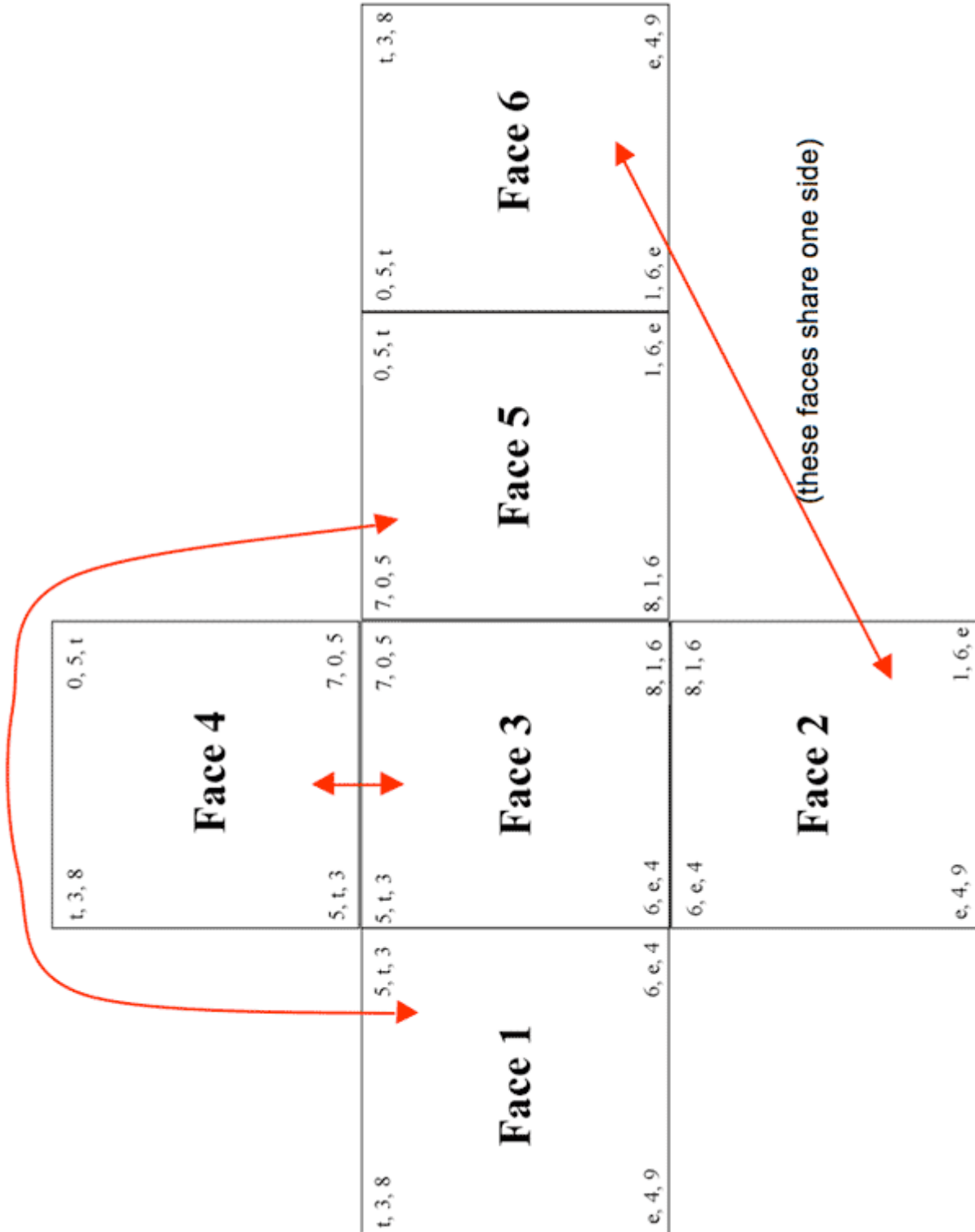




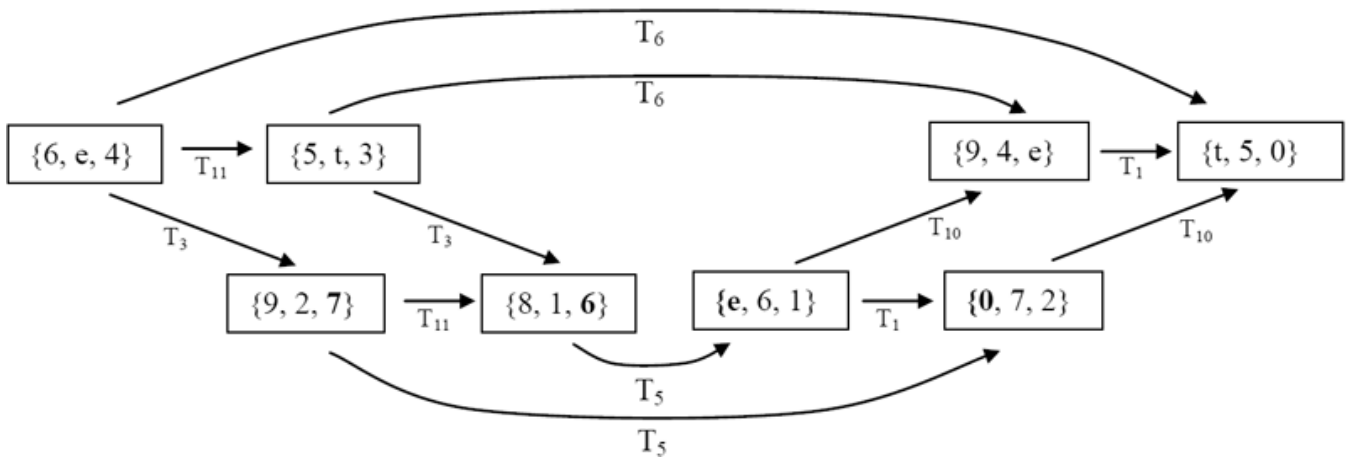
Figure 11. Pépin, *Toccate no. 3*, measures 111–119

The image shows a piano score for Pépin's *Toccate no. 3*, measures 111–119. The score is written for piano and is in 4/4 time. The tempo is marked *Molto Leggiero*. The dynamics are marked *pp* (pianissimo) at the beginning and *poco* (poco) towards the end. The score consists of two systems of music, each with a treble and bass staff. The first system shows the beginning of the piece with a treble staff starting on a G4 and a bass staff starting on a G3. The second system continues the piece, with the treble staff starting on a G4 and the bass staff starting on a G3. The piece ends with a double bar line.

Figure 12. Expected upper voice in Pépin, *Toccate no. 3*, measures 111–118

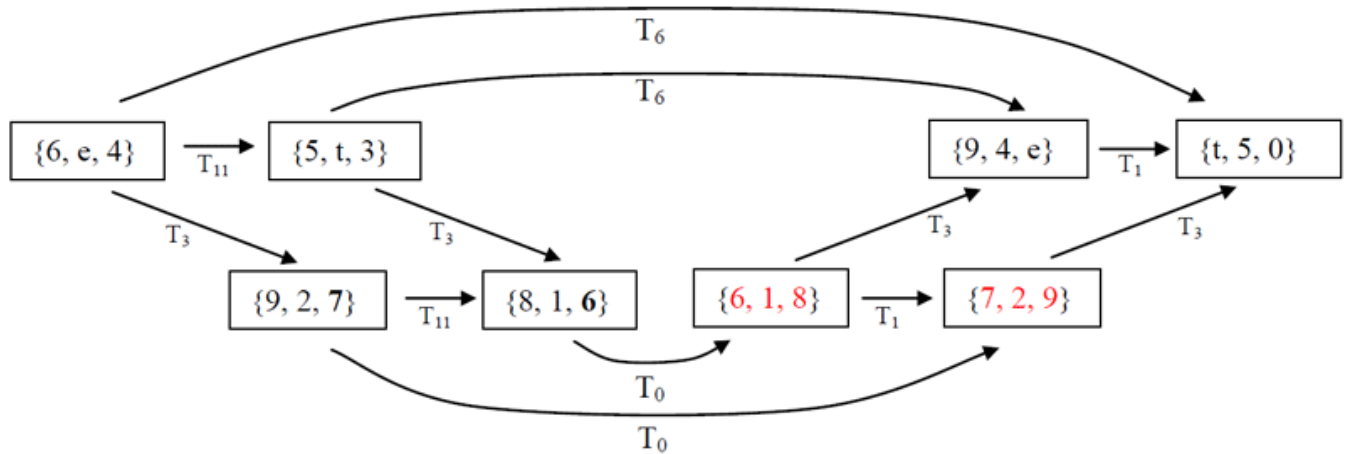
The image shows a single staff of music representing the expected upper voice in Pépin's *Toccate no. 3*, measures 111–118. The staff is in treble clef and 4/4 time. The key signature has one sharp (F#). The music consists of a series of eighth and sixteenth notes, with some rests. The piece ends with a double bar line.

**Figure 13.** A network depicting transformations between trichords in the expected upper voice, measures 111–118

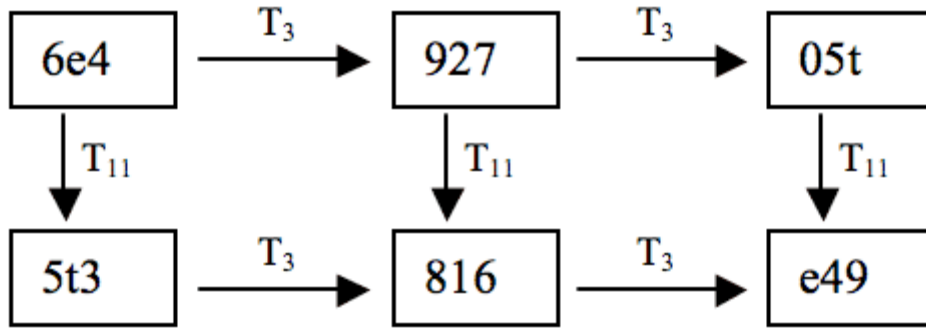


**Figure 14.** A second interpretation of the upper-voice pitch classes in measures 111–119

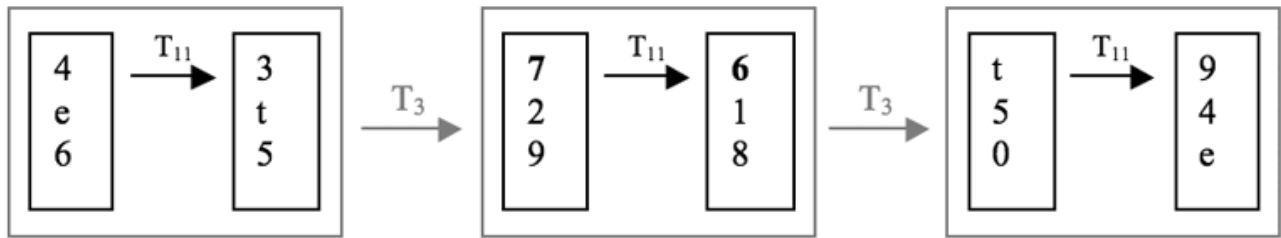
a. Understanding ‘distorted’ pitch classes as an indicator of a new grouping structure



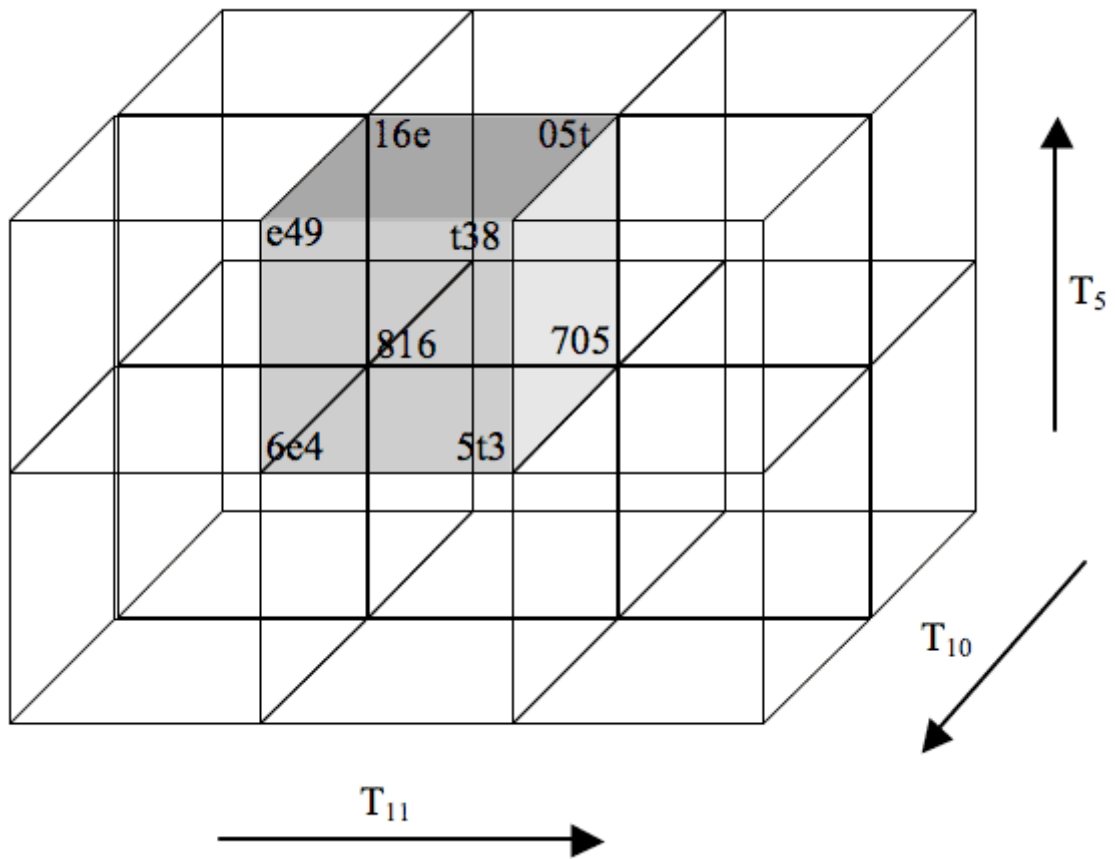
b. Re-interpreting the progression as a product network, eliminating repeated trichords and emphasizing the repetition of transformations



c. Re-interpreting the progression via a network-of-networks, emphasizing the grouping structure of the passage

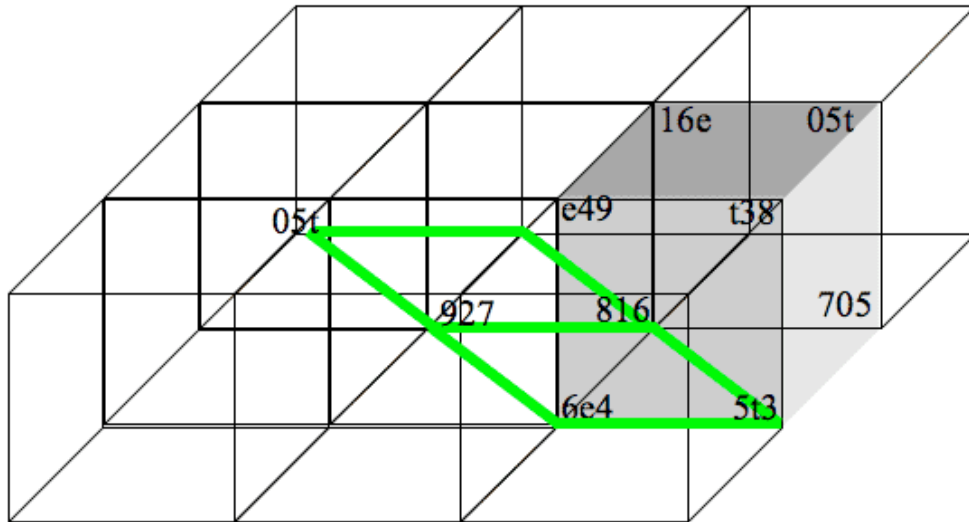


**Figure 15.** A segment of a 3D lattice based on the established cubic lattice



**Figure 16.** One plane of the expanded three-dimensional lattice

a. In three dimensions



b. In two dimensions, via a top-down view

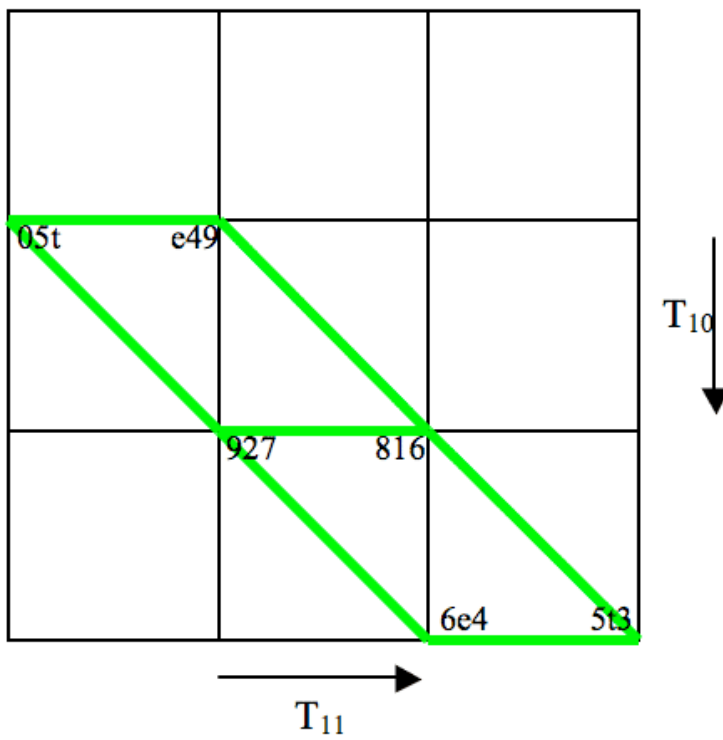


Figure 17. Pépin, *Toccate no. 3*, measures 194–199



Figure 18. A network depicting transformations between unordered 027 trichords in measures 194–198

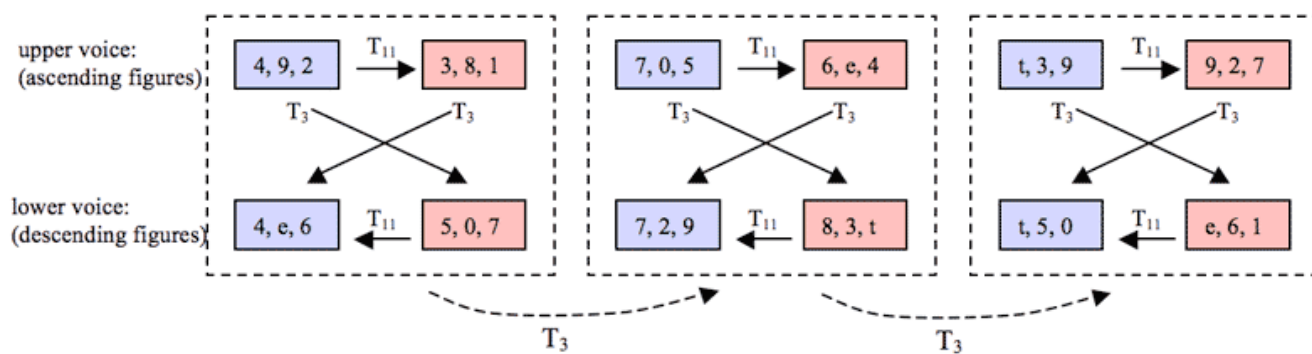


Figure 19. Motion paths along a single plane of a three-dimensional space for measures 194–198

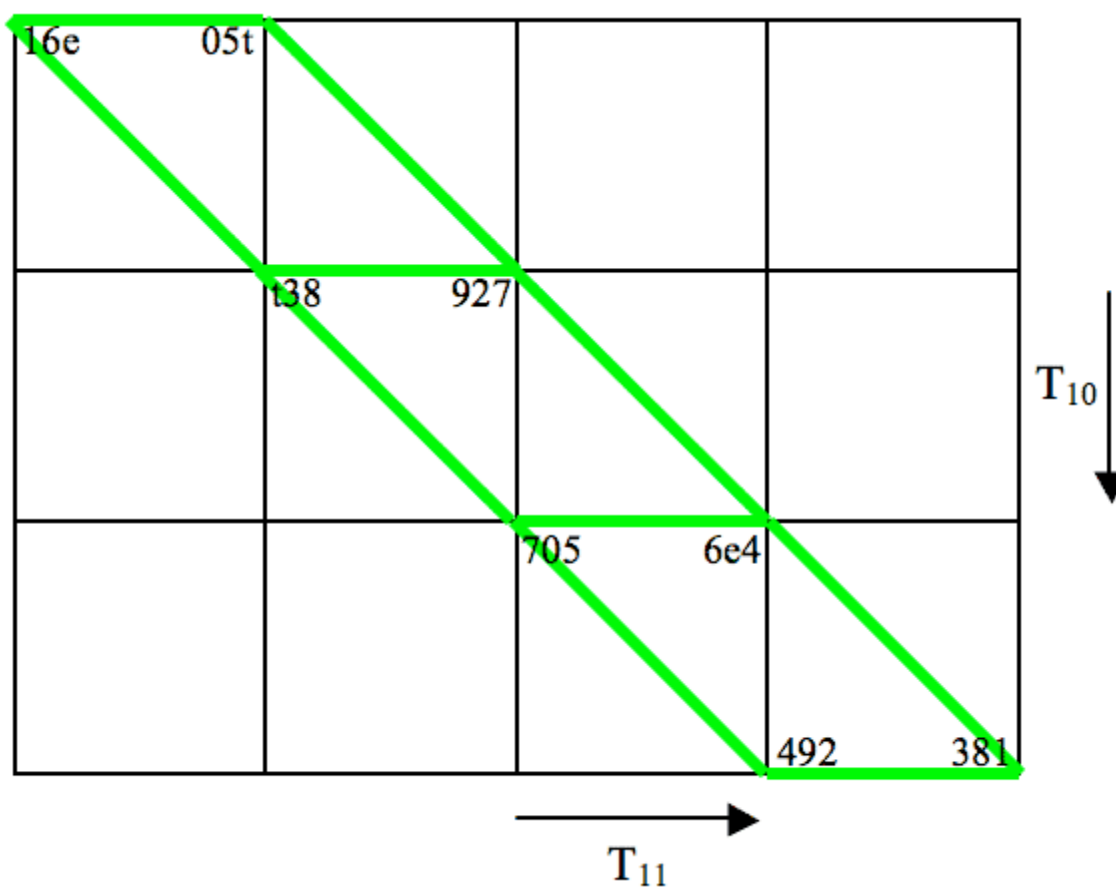


Figure 20. SC 027 trichords in measures 300–302

*a tempo*

Ped.

**Figure 21.** A product network demonstrating transformations between SC 027 trichords in measures 300–301

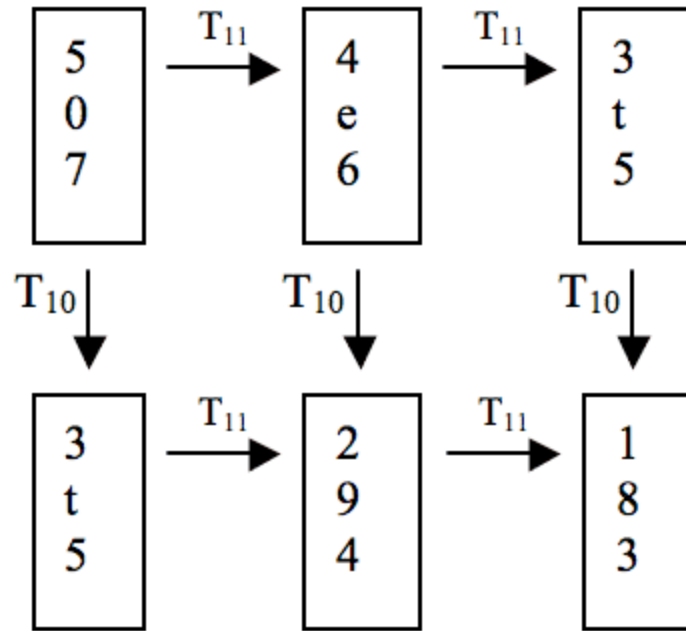




Figure 22. Trichord mapping within a single plane depicting motion within measures 300–301

