



MTO 19.1 Examples: Argentino, Tripartite Structures in *A Survivor from Warsaw*

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

<http://www.mtosmt.org/issues/mto.13.19.1/mto.13.19.1.argentino.php>

Example 1. Text of Schoenberg's *A Survivor from Warsaw*

measures 1–24

I cannot remember ev'rything. I must have been unconscious most of the time. I remember only the grandiose moment when they all started to sing, as if prearranged, the old prayer they had neglected for so many years—the forgotten creed! But I have no recollection how I got underground to live in the sewers of Warsaw for so long a time.

measures 25–31

The day began as usual: Reveille when it still was dark. Get out! Whether you slept or whether worries kept you awake the whole night. You had been separated from your children, from your wife, from your parents. You don't know what happened to them ... how could you sleep?

measures 32–53

The trumpets again. Get out! The sergeant will be furious! They came out; some very slow: the old ones, the sick ones; some with nervous agility. They fear the sergeant. They hurry as much as they can. In vain! Much too much noise, much too much commotion! And not fast enough! The Feldwebel shouts! »Achtung! Stilljstanden! Na wird's mal? Oder soll ich mit dem Gewehrkolben nachhelfen? Na gut, wenn ihr's durchaus haben wollt!«[†] The sergeant and his subordinates hit everybody: young or old, quiet or nervous, guilty or innocent... it was painful to hear them groaning and moaning. I heard it though I had been hit very hard, so hard that I could not help falling down. We all on the ground who could not stand up were then beaten over the head...

measures 54–64

I must have been unconscious. The next thing I heard was a soldier saying: »They are all dead«, whereupon the sergeant ordered to do away with us. Then I lay aside—half-conscious. It had become very still—fear and pain. Then I heard the sergeant shouting: »Abzählen!«^{††}

measures 64–70

They started slowly and irregularly: one, two, three, four; »Achtung!« the sergeant shouted again, »Rascher! Nochmal von vorn anfangen! In einer Minute will ich wissen wieviele ich zur Gaskammer abliefern! Abzählen!«^{†††}

measures 71–80

They began again; first slowly: one, two, three, four, became faster and faster, so fast that it finally sounded like a stampede of wild horses, and all of a sudden, in the middle of it, they began singing the *Shema Yisroel*.

measures 81–99 (English Translation)

⁴Hear, O Israel! The Lord is our God, the Lord is One. ⁵You shall love the Lord your God with all your heart and with all your soul and with all your might. ⁶Take to heart these instructions with which I charge you this day. ⁷Impress them upon your children. Recite them when you stay at home and when you are away, when you lie down and when you get up. (Deuteronomy 6:4–7)

[†] “Stand at attention! Hurry up! Or do you want to feel the butt of my gun? Okay, you've asked for it!”

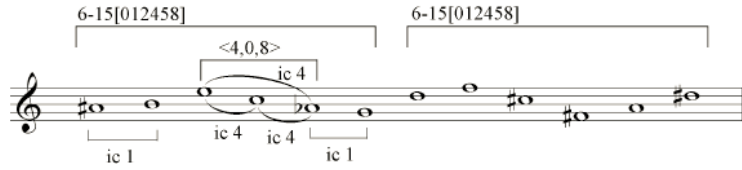
^{††} “Count off!”

^{†††} “Quicker! Start again! In a minute I want to know how many I'm going to deliver to the gas chamber! Count off!”

Example 2a-f. Tripartite text descriptions

- a. Whether you slept or whether worries kept you awake the whole night: you had been separated from your **children**, from your **wife**, from your **parents**, you don't know what happened to them; How could you sleep?
- b. The sergeant and his subordinates hit everyone: **young or old, strong or sick, guilty or innocent**
- c. You shall love the Lord thy God with all thy **heart** and with all thy **soul** and with all your **might**.
- d. I remember only the grandiose moment when they all started to sing, as if prearranged, the **old prayer** they had neglected for so many years - **the forgotten creed!** ... they began singing the *Shema Yisroel*.
- e. Hear, O Israel! **The Lord is our God, the Lord is One.** You shall love the **Lord your God** with all your heart and with all your soul and with all your might.
- f. They came out; some very **slow** ... They started **slowly**, and irregularly ... They began again, first **slowly** ...

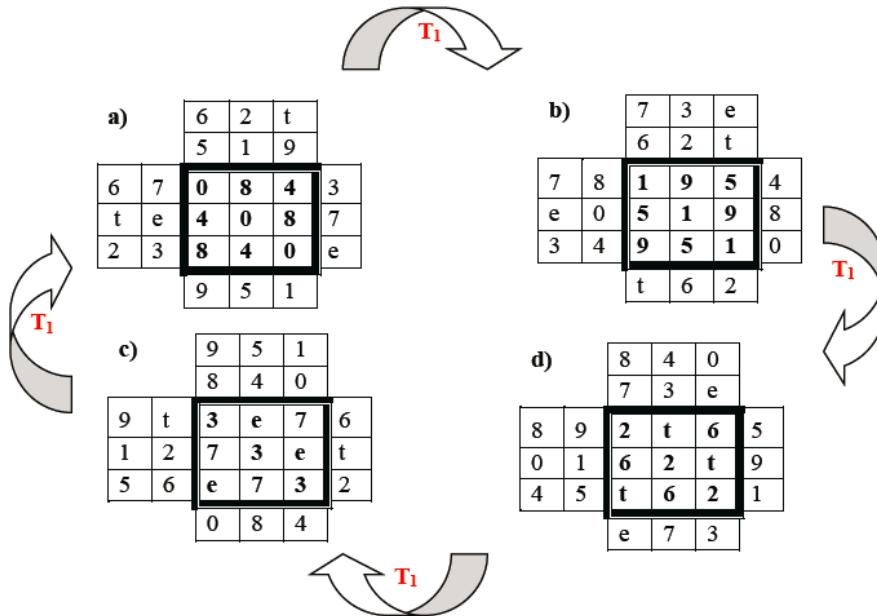
Example 3. Prime row of *A Survivor from Warsaw*



Example 4. Row matrix for *A Survivor from Warsaw*

	I ₀	I ₁	I ₆	I ₂	I ₁₀	I ₉	I ₄	I ₇	I ₃	I ₈	I ₁₁	I ₅	
P ₀	0	1	6	2	t	9	4	7	3	8	e	5	R ₀
P ₁₁	e	0	5	1	9	8	3	6	2	7	t	4	R ₁₁
P ₆	6	7	0	8	4	3	t	1	9	2	5	e	R ₆
P ₁₀	t	e	4	0	8	7	2	5	1	6	9	3	R ₁₀
P ₂	2	3	8	4	0	e	6	9	5	t	1	7	R ₂
P ₃	3	4	9	5	1	0	7	t	6	e	2	8	R ₃
P ₈	8	9	2	t	6	5	0	3	e	4	7	1	R ₈
P ₅	5	6	e	7	3	2	9	0	8	1	4	t	R ₅
P ₉	9	t	3	e	7	6	1	4	0	5	8	2	R ₉
P ₄	4	5	t	6	2	1	8	e	7	0	3	9	R ₄
P ₁	1	2	7	3	e	t	5	8	4	9	0	6	R ₁
P ₇	7	8	1	9	5	4	e	2	t	3	6	0	R ₇
	RI ₀	RI ₁	RI ₆	RI ₂	RI ₁₀	RI ₉	RI ₄	RI ₇	RI ₃	RI ₈	RI ₁₁	RI ₅	

Example 5a-d. Hexachords that share invariant 3–12 trichords



Example 6a. T_4 -related P and I hexachords that share invariant [0,4,8] trichords in order positions 2 through 4: $P_6/I_2, P_{10}/I_6, P_2/I_{10}$

ORDER NUMBERS:		0	1	2	3	4	5
T_4	P_6	6	7	0	8	4	3
	I_2	2	1	8	0	4	5
T_4	P_{10}	t	e	4	0	8	7
	I_6	6	5	0	4	8	9
T_4	P_2	2	3	8	4	0	e
	I_{10}	t	9	4	8	0	1

Example 6b. T_4 -related P and I hexachords that share invariant [0,4,8] trichords in order positions 2 through 4: $I_2/P_{10}, I_6/P_2, I_{10}/P_6$

ORDER NUMBERS:		0	1	2	3	4	5
T_4	I_2	2	1	8	0	4	5
	P_{10}	t	e	4	0	8	7
T_4	I_6	6	5	0	4	8	9
	P_2	2	3	8	4	0	e
T_4	I_{10}	t	9	4	8	0	1
	P_6	6	7	0	8	4	3

Example 7a-b. Segmentation and cyclic combinations of P/I hexachords that share invariant [0,4,8] trichords

a) T_4 -related P and I hexachords that share invariant [0,4,8] trichords

ORDER NUMBERS:		0	1	2	3	4	5
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid red; padding: 2px;"> P_6 I_2 </div> </div>	P_6	6	7	0	8	4	3
	I_2	2	1	8	0	4	5
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid blue; padding: 2px;"> P_{10} I_6 </div> </div>	P_{10}	t	e	4	0	8	7
	I_6	6	5	0	4	8	9
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid green; padding: 2px;"> P_2 I_{10} </div> </div>	P_2	2	3	8	4	0	e
	I_{10}	t	9	4	8	0	1

b) Cyclic combinations

- i) $\langle 0-1 \rangle$
- ii) $\langle 6,7,2,1,t,e,6,5,2,3,t,9 \rangle$ $\langle 2-3-4 \rangle$ $\langle 5 \rangle$
- iii) $9-12(01245689t)$ $3-12(048)$ $6-35(02468t)$

Example 8. Perle's common harmonic element

Three staves of musical notation illustrating Perle's common harmonic element. The first staff shows a sequence of notes with a bracket under the first four notes, labeled P_6 above the first measure and I_6 above the second measure. The second staff shows a similar sequence, labeled P_{10} and I_{10} . The third staff shows a sequence of notes, labeled P_2 and I_2 . Brackets indicate intervals between notes in each measure.

Example 9a. Small-scale invariant T4-cycles from *A Survivor from Warsaw*
Measure 11

Musical score for Example 9a, Measure 11, showing T4-cycles across three staves: Cl. 1, 2; Trmb.; and Vi. I, II. The score includes figured bass notation and labels for intervals and cycles.

Cl. 1, 2: $6-35(02468t)$, $3-12(048)$

Trmb.:

Vi. I, II: $6-20(014589)$

Labels for intervals and cycles: P_6 , I_2 , P_{10} , I_6 , P_2 , I_{10} , T_4 , T_4 , T_4 .

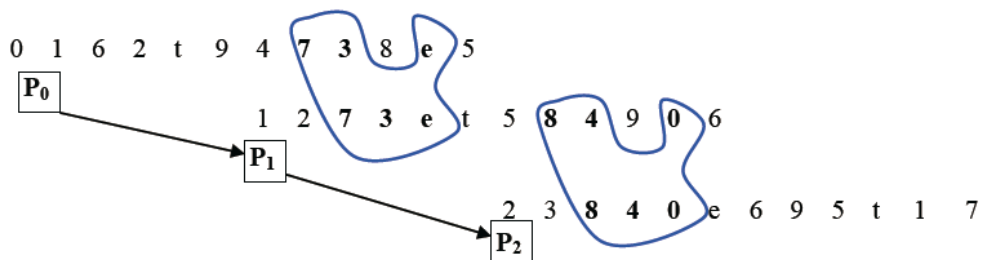
Labels for figured bass: b/R_1 , b/R_0 , P_{10}/R_3 , b/R_1 , P_2/R_7 , I_{10}/R_5 .

Example 9b. Small-scale invariant T4-cycles from *A Survivor from Warsaw*
Measure 10

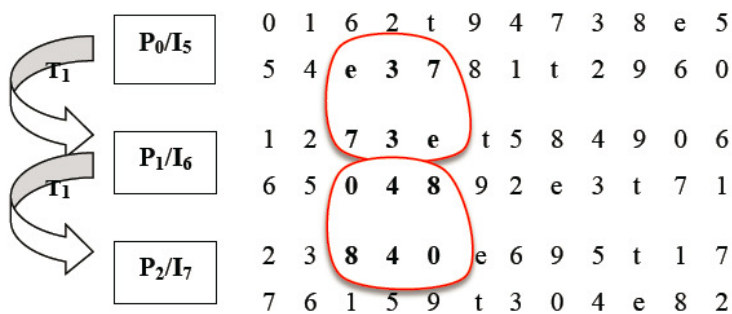
Example 9c. Small-scale invariant T4-cycles from *A Survivor from Warsaw*
Measure 51

Example 10. 3-12 trichords related by ic 1

Example 11a. T_1 -related rows and regions that share identical 3–12 trichords
 T_1 -related rows



Example 11b. T_1 -related rows and regions that share identical 3–12 trichords
 T_1 -related regions



Example 12. Reduction of measures 35–37, *A Survivor from Warsaw*

$P_2 \xrightarrow{T_1} P_3 \xrightarrow{T_1} P_4 \xrightarrow{T_1} P_5$

Ob. 1,2
 Bsn. 1
 Vcl.

Trp. 1,2,3

Trmb. 1,2,3

17 18 19 10

Example 13. Instrumental reduction of measures 72–80, *A Survivor from Warsaw*

The image shows a musical score for measures 72-80 of *A Survivor from Warsaw*. It features four staves: Flute 4 (Flu. 4), Violin (Vln.), Viola (Vla.), and Cello/Double Bass (Vcl. Cb.). Red circles highlight specific intervals in the violin and flute parts. Below the staves, a T₄ interval cycle is indicated with arrows and measure numbers: 72, 73, 74, 75, 76, 77, 78, 79, 80.

Example 14. Rudimentary T₄-interval cycle

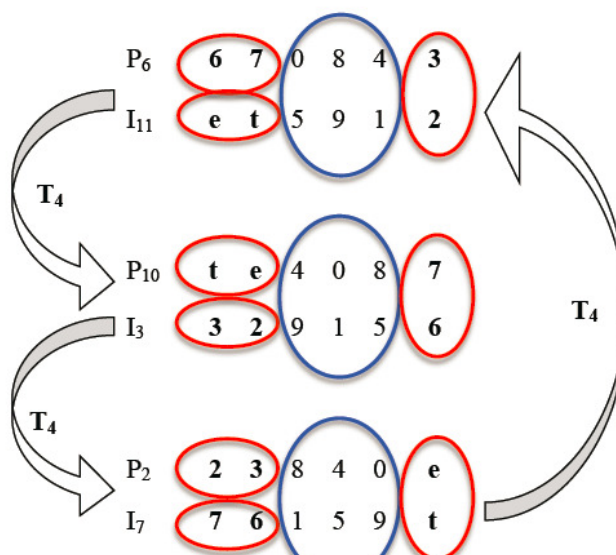
T₄ cycle starting from pc 0 = 0 → 4 → 8 → 0
(T₄) (T₄) (T₄)

Example 15. Regions, *A Survivor from Warsaw*

Example 16. T_4 -interval cycle of I-combinatorial regions with W, M, and SETLIST

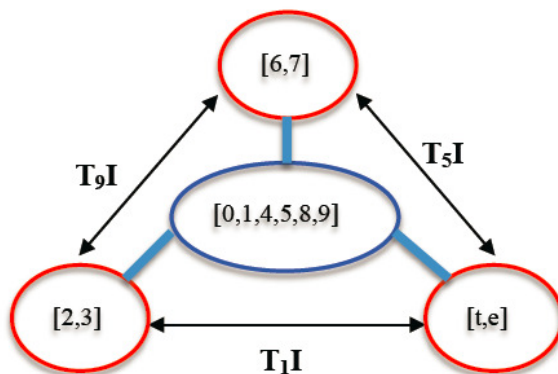
order numbers:

0 1 2 3 4 5



$W = \{\{0,1\}, \{2,3,4\}, \{5\}\}$
 SETLIST $M = (01)^3(014589)^1$
 $M = \{6,7\}, \{t,e\}, \{0,1,4,5,8,9\}, \{2,3\},$

Example 17. Compressed network of the thrice-iterated T_4 -interval cycle of I-combinatorial regions



Example 18. Reduction of measure 31

The image shows a musical score for guitar with three staves: Treble Clef, Middle C (C4), and Bass Clef. The Treble Clef staff contains two measures of music. The first measure has a 3-3[014] chord reduction box above it, with two circles around the notes. The second measure has a 3-3[014] chord reduction box above it, with two circles around the notes. The Middle C staff has a 6-15[012458] chord reduction box above the first measure and another 6-15[012458] box above the second measure. The Bass Clef staff has a 6-20[014589] chord reduction box above the first measure and another 6-15[012458] box above the second measure. Arrows indicate the mapping of notes from the Treble Clef staff to the Middle C and Bass Clef staves.

Example 19. Form and text, *A Survivor from Warsaw*

(click on the blue boxes to hear the accompanying audio)

Region 1
Narration Commentaries
Text: I cannot remember everything
Point of View: First Person

Region 2
SHEMA YISRAEL
First thematic and text reference to the prayer.
Text: ... when they all started to sing, as if pre-arranged, the old prayer they had neglected for so many years—the forgotten creed.

Region 1
Opening Fanfare Repeated (2)
Text: The day began as usual
Point of View: Second Person

Region 1
Opening Fanfare Repeated (3)
Text: The trumpets again.
Point of View: Changes from Second to Third Person

Region 3
Narrator is struck for the first time
Text: I heard it though I had been hit very hard, so hard that I could not help falling down.
Point of View: First Person

Foreign Region
Text: I must have been unconscious.
Text: In einer Minute will ich wissen, wieviele ich am Gaskammer abliegere! / bezaubert!

Region 2, 3, and 1
SHEMA YISRAEL
(in Hebrew)
Point of View: Second Person

Cadence:
1st Small-Scale Cycle:
P₆/I₁, P₀/I₆, P₃/I₉
See Examples 9(A) & (B)

Cadence:
Compressed 1-Combinaatorial Cycle
P₆/I₁, P₀/I₆, P₂/I₇
See Example 18

Cadence:
1st Small-Scale Cycle:
I₂/P₉, I₆/P₂, I₀/P₈
{048}; disappears
Text: I must have been unconscious.
See Example 9(C)

Cadence:
2nd Hexachord
P₁-C₆ contains no {048}; trichord


Cycle: Partial II, small-scale cycle (F₀ shadows mm. 72-80)
P₂/I₇, F₃/I₈, P₄/I₉, I₃
Text: They came out, some very slow, the old ones, the sick ones, some with nervous agility. They fear the sergeant. They hurry as much as they can. In vain!
See Example 12

Cycle: I, Small-Scale Cycle of 3-12 trichords
Text: They began again, first slowly: one, two, three, four, became faster and faster, so fast that it finally sounded like a stampede of wild horses, and all of a sudden, in the middle of it, they began singing the *SHEMA YISRAEL*.
Point of View: Third Person
See Example 13

Example 20. Four-note fanfare

Example 21. Men's chorus and the Tetragrammaton

Men



A- dō noy — el - o - he - noo A - dō - noy

Y H W H

The musical notation is in bass clef and consists of three measures. The first measure contains a quarter rest followed by a quarter note G2, a quarter note F2, and a half note E2 with a slur over it. The second measure contains a quarter note D2, a quarter note C2, a quarter note B1, and a quarter note A1. The third measure contains a quarter note G1, a quarter note F1, a quarter note E1, and a half note D1. The lyrics are aligned with the notes: 'A- dō noy' under the first measure, 'el - o - he - noo' under the second measure, and 'A - dō - noy' under the third measure. Below the lyrics are the Tetragrammaton letters: 'Y H' under 'A- dō noy', 'W' under 'el - o - he - noo', and 'H' under 'A - dō - noy'.