Figure 1: *Il canto sospeso*, movement n. 8

1.1 Four instrumental groups:

A: 3 trumpets
B: 2 trumpets, 1 trombone
C: 3 trombones
D: 6 horns (à 2)

(trumpets may be replaced by flutes, trombones by clarinets and bass clarinet; timpani are added independent of group divisions)

1.2 3x4 types of densities

			3				2				1
		3	3			2	2			1	1
	3	3	3		2	2	2		1	1	1
3	3	3	3	2	2	2	2	1	1	1	1
3	6	9	12	2	4	6	8	1	2	3	4

1.3 3 categories of dynamics

I	*ppp, p, mp, mf, f, fff*	(simple dynamics)
II	*ppp-fff, fff-ppp, p-f, f-p, mp-mf, mf-mp*	(compound dynamics)
III	Tutto!	(simple and compound dynamics)

1.4 Resulting formal structure

Number of bars per section (sum totals of the density factors):

4	2	6	3	‖ 9	2	8	3	‖ 4	1	6	12

Density, *duration value*, instrumental group:

1 *4* D						**2** *5* C					**3** *7* D
1 *5* C			**1** *5* C	**3** *3* A		**2** *4* B				**2** *4* B	**3** 3 A
1 *3* B		**3** *5* B	**1** *3* B	**3** *5* B	**1** *3* B	**2** *7* A		**2** *7* A		**2** *7* A	**3** *5* B
1 *7* A	**2** *3* D	**3** *4* C	**1** *7* A	**3** *4* C	**1** *7* A	**2** *3* D	**3** *4* C	**2** *3* D	**1** *7* A	**2** *3* D	**3** *4* C

Dynamics, tone repetition (*):

I*	II	III*	I	III*	I*	II	III	II	I	II	III[*]
fff	*mp*	*mf*	*f*	*fff*	*mp*	*f*	*mp*	*mf*	*ppp*	*mf*	Tutto
f	*p*	*mp*	*mf*	*f*	*p*	*mf*	*p*	*mp*		*mp*	
mf		*p*	*mp*	*mf*	*ppp*	*mp*	*ppp*	*p*		*p*	
		ppp	*p*	*mp*		*p*				*ppp*	
				p							

This structure is adhered to with astonishing accuracy in the finished work. Only the last two sections are condensed into one of 14 bars based on the final set of parameters (the maximum density).

Figure 2: *Composizione per orchestra n.2: Diario Polacco '58* (1959)

2.1 Subdivision of materials used (12=3x4)

3 types of sound A, B, C
A: fisso piu suoni (chords and lines)
B: mobile [?] suono (unison/chords with inner mobility of sound – 'vibrazioni')
C fisso con un suono (lines)
(D = A+B)

4 densities (I, II, III, IV) coupled with each of the types of sound

3 groups of duration factors
1, 3, 5, 11 [breve] [A, C, B, A]
2, 8, 10, 12 [lungo] [B, A, C, B]
4, 6, 7, 9 [medio] [C, B, A, C]
(duration factors can be doubled in Parts III and IV, prolonging sound and silences in the latter half of the work; letters indicate the type of sound the factors apply to in each part)

4 duration values
crotchet divided by 4, 5, 6, 7

3 instrumental sections: brass, wind, strings

3 percussion sections: metal, wood, felt

4 identical orchestral groups including all orchestral sections

4 types of sound projection
1 1 1 1 (unison)
1 1 2 2 (2 groups on each side)
1 2 2 3 (2 groups joint in the centre)
1 2 3 4 (all different)

2.2 'Magic square'

[the same square was previously used for *Cori di Didone* (1958)]

1	12	2	11	3	10	4	9	5	8	6	7
6	9	1	10	5	8	2	11	4	7	3	12
3	11	6	8	4	7	1	10	2	12	5	9
5	10	3	7	2	12	6	8	1	9	4	11
4	8	5	12	1	9	3	7	6	11	2	10
2	7	4	9	6	11	5	12	3	10	1	8
8	1	10	3	12	5	11	6	9	4	7	2
10	2	11	6	7	3	9	1	12	5	8	4
11	4	9	1	8	6	12	2	7	3	10	5
9	5	12	2	10	1	7	4	8	6	11	3
12	3	7	4	11	2	8	5	10	1	9	6
7	6	8	5	9	4	10	3	11	2	12	1
R1	*R2*	*R3*	*R4*	*R5*	*R6*	*R7*	*R8*	*R9*	*R10*	*R11*	*R12*

Permutation for horizontal sets 1-6: 11 8 1 6 9 10 3 4 7 12 5 2
Sets 7-12 are the retrogrades of series 6-1
Each vertical row is split in two: numbers 1-6 + numbers 7-12 or vice versa.
For *Diario polacco'58* the rows *R1-R12* are consistently read from bottom to top.
As the work is a group composition, the rows of the square are read together with a specific substitution chart (sometimes several) for each of the formal sections.

2.3 *Diario Polacco '58*: Form

Part I (bars 1-107)	**Part II** (108-240)	**Part III** (240-82)	**Part IV** (282-306)
BI (1-6) F#, *R1-R2* Br. **type B**	**CIII** (108-36) G, *R7-R4* Str. Ww. Perc.// Br. Ww. Perc. **echoes**	**CI** (240-43) D, *R12* Str. Br. Timp.	**DIV (A+B)** (282-85) F, F#, E, G, *R12-R9* Str. Ww. Br.
CIV (6-16) F#, *R2-R12* Str. Ww. Br. Perc.	**DI (A+B)** (136-46) Ab, *R8-R11* Str. Ww. Br. Timp. **blocks**	**AII** (243-49) Eb, *R1-R2* Br. Ww. Timp.	**C** (285-93) F, F#, E, G, *R11-R8* Str. Ww. Perc.
CI (16-19) F#, *R3* Str. **type C**	**CII** (147-66) A, *R9-R4* Br. Str. (+Ww. Perc.) **echoes**	**BIV** (249-74) E, *R2-R8* Str. Ww. Br. Perc. **violent bolt** (whips)	**A+B+C** (294-95) F, *R10* Ww. Br.
BIII (19-38) F#, *R4-R11* Str. Br. Perc.	**DIII** (166-71) Bb, *R10-R12* Str. Ww. Br. Perc. **blocks**	**AII cont.** (275-81) Eb, *R3-R4* Ww. Str.	**C cont.** (295-8) G, Eb, *R8-R7* Perc. Ww. Br.
AI (38-42) F#, *R5* Ww (flutes) **type A**	**BII** (171-75) B, *R11-R12* Br. // Str. Ww.	**CI cont.** (282) D, *R1* Str. Ww. Br.	**A+B cont.** (298-301) Eb, Ab, D, *R8-R6* Str// Ww. Br.
CIII (42-53) F#, *R6-R1* Br. Ww. Str. (db, vc)	**AIII** (176-81) C, *R12-R1* Br. Ww. Str.		**A+B cont.** (302-4) C#, Bb (A?), C, *R5-3* Str. Ww.
AIV (53-107) F#, *R7-R6* Str, Ww. Br. Perc. **blocks**	**CI** (181-85) C#, *R1-R2* Str.		**A+B cont.** (304-6) Bb, B, F, F# Str. Ww. Br. Perc. **climax of violence**
	DIII cont. (185-91) Bb, *R1-R3* Str. Ww. Br. **block** b.189		
	AIII cont. (191-213) C, *R2-R10* Ww. Str.// Full orch **blocks** (whips)		
	CI cont. (213-19) C#, *R2-R4* Str. Ww. **echoes**		
	AIII cont. (219-26) C, *R11-R12* Str. Ww.		
	BII cont. (226-30) B, *R12-R1* Str. Ww. Br. + Timp.		
	DIII cont. (230-40) Bb, *R3-R5* Str. Ww. Br. (+Perc.) **blocks**		

2.4 Serial Generation of Section BI (opening bars 1-6): 'vibrazioni'

Duration factors for type B in Part I: 2, 8, 10, 12
Duration factors for section BI: 2, 8, 10, 12 (+ 3 + 6, added free of choice)

Substitution chart (applies to this section BI only):

	1	2	3	4	5	6	7	8	9	10	11	12
DF	2	8	2	3	10	2	8	6	12	2	10	8
DV	1	3	2	3	2	3	2	4	1	4	4	1
G	1	3	2	1	2	3	2	2	3	1	3	1

DF: duration factors
DV: number of duration values per 'vibrazione'
G: number of pitches per group

Duration values (entire piece): crotchet divided by 4, 5, 6 and 7 [(4), (5), (6), (7)]

Section BI uses *R1* and the first digit of *R2* of the magic square. The above chart is thus reordered as follows:

R1 + R2 (1):

7	12	9	11	10	8	2	4	5	3	6	1	6
8	8	12	10	2	6	8	3	10	2	2	2	2
2	1	1	4	4	4	3	3	2	2	3	1	3
2	1	**3**	3	1	**2**	3	**1**	**2**	2	**3**	1	3
F#	G	F	Ab	E	A	Eb	Bb	D	B	C#	C	F#
8 (6)	8 (7)	12 (7)	5 (5)	1 (6)	1 (7)	5 (6)	2 (5)	7 (6)	2(6)	1 (6)	2 (7)	1(6)
8 (6)	8 (7)	12 (7)	2 (7)	2 (4)	2 (6)	8 (5)	1 (7)	7 (6)	2(6)	1 (7)	2 (7)	1(7)
4 (7)	8 (7)	12 (7)	4 (4)	1 (7)	3 (5)	8 (5)	1 (7)	5 (7)	1 (7)	1 (7)	2 (7)	1(7)
4 (7)	8 (7)	12 (7)	3 (6)	1 (5)	6 (4)	3 (6)	2 (6)	5 (7)	1 (7)	2 (5)	2 (7)	2(5)
tb.1	hrn1/2	tb.1	hrn1/2	trp.1	hrn1/2	tb.1	trp.1	hrn1/2	tb.1	tb.1	hrn	trp.1
tb.2	hrn3/4	tb.2	hrn3/4	trp.2	hrn2/3	tb.2	trp.2	hrn3/4	tb.2	tb.2	hrn	trp.2
tb.3	hrn5/6	tb.3	hrn5/6	trp.3	hrn5/6	tb.3	trp.3	hrn5/6	tb.3	tb.3	hrn	trp.3
tb.4	hrn7/8	tb.4	hrn7/8	trp.4	hrn7/8	tb.4	trp.4	hrn7/8	tb.4	tb.4	hrn	trp.4
p-mf	*f-p*	*p-f*	*p-mf*	*f*	*fff*	*f-p*	*f-fff*	*p-mf*	*mf-p*	*f*	*fff*	*f*
mf-f			*f*	*mf-f*	*f*	*p-fff*	*fff*	*f-p*	*mf*	*fff*		*fff*
			f-p	*mf*	*mf-f*	*f-fff*	*f*			*f-fff*		*fff-f*
					f-p							

Group Characteristics:
Virtually simultaneous entries of pitches
Dynamics:

p-f-p	*p-f*	*f-p*	*f-fff*	*p-f-p*	*f-fff-f*		
	f-p	*p-fff*					

Groups of pitches are preceded by rests of approximately the same duration.