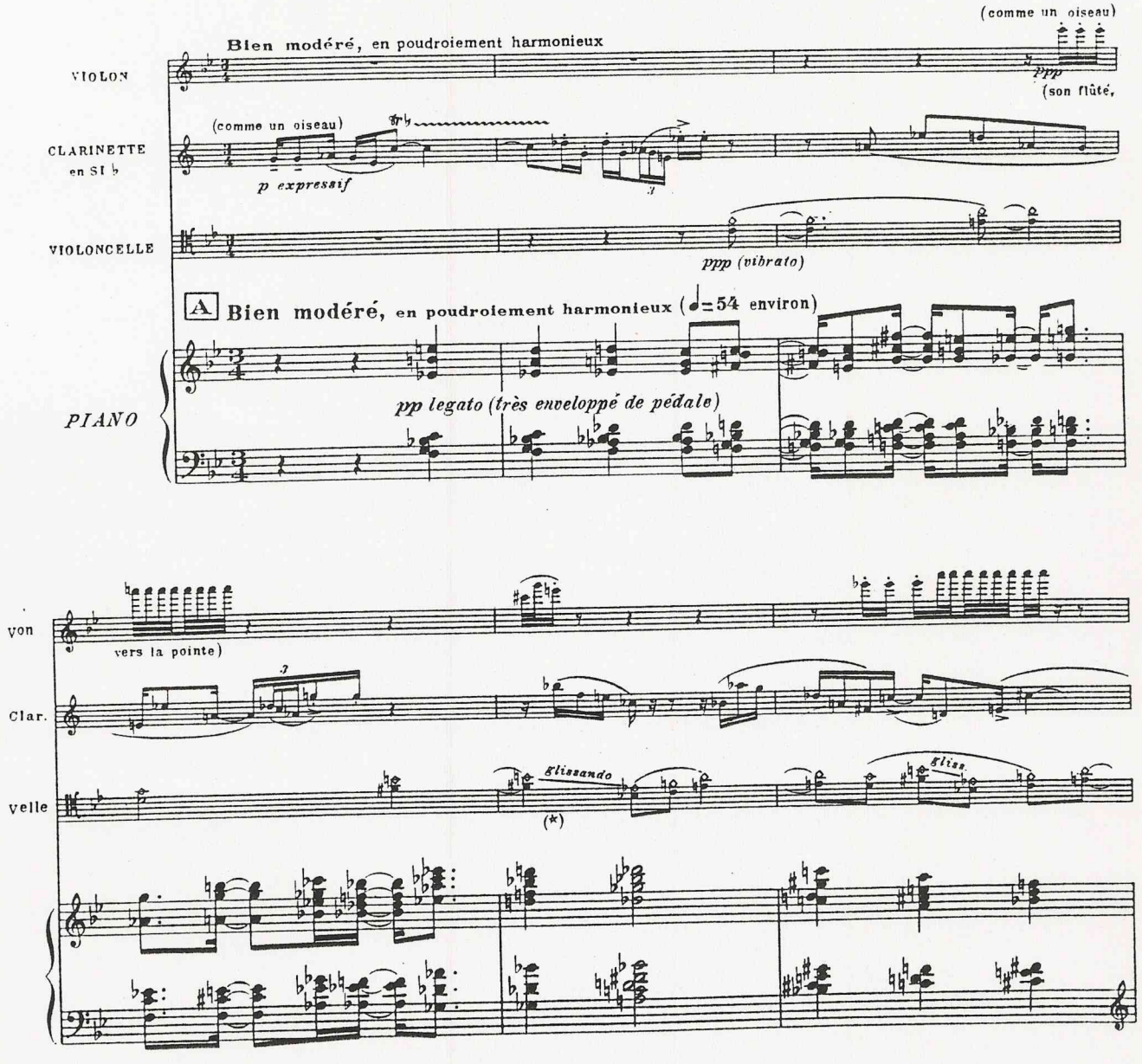
QUATUOR POUR LA FIN DU TEMPS

Violon, Clarinette en Si ♭, Violoncelle et Piano

OLIVIER MESSIAEN

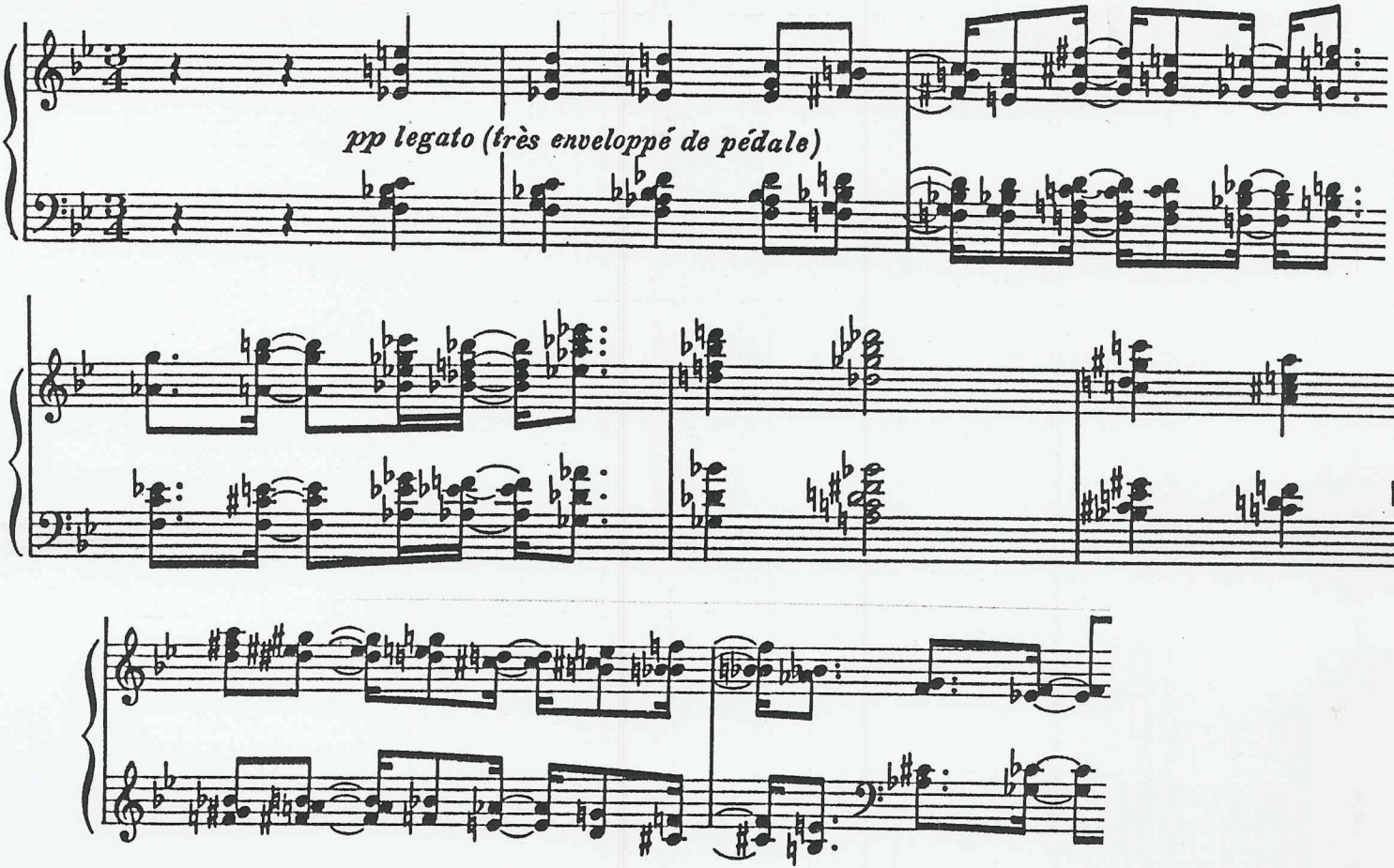
I. Liturgie de cristal



(*) *Glissando bref; id. aux passages similaires.*

D. & C. 14 064

Paris, 4 Place de la Madeleine.


pp legato (très enveloppé de pédale)

Chords at beginning of Liturgie de cristal

7-20: 3,4,5,7,10,11,0

7-35: 9,10,0,2,3,5,7

7-20: 1,2,3,5,8,9,10

7-35: 7,8,10,0,1,3,5

7-20: 10,11,0,2,5,6,7

7-35: 4,5,7,9,10,0,2

7-20: 5,6,7,9,0,1,2

7-35: 11,0,2,4,5,7,9

5-Z38: 10,1,4,5,6

5-25: 11,2,4,5,7 Coll. I

5-27: 0,3,5,7,8

6-34: 4,5,7,9,11,1

5-27: 3,6,8,10,11

5-35: 1,3,5,8,10

5-35: 11,1,3,6,8

5-21: 10,1,2,5,6

6-15: 6,9,10,0,1,2

LIST OF SETS

5-21: 10,1,2,5,6/ (1)

5-25: 11,2,4,5,7/ (1)

5-27: 0,3,5,7,8/3,6,8,10,11/ (2)

5-35: 1,3,5,8,10/11,1,3,6,8/ (2)

5-Z38: 10,1,4,5,6/ (1)

6-15: 6,9,10,0,1,2/ (1)

6-34: 4,5,7,9,11,1/ (1)

7-20:
3,4,5,7,10,11,0/1,2,3,5,8,9,10/10,11,0,2,5,6,7/5,6,7,9,0,1,2/ (4)

7-35:
9,10,0,2,3,5,7/7,8,10,0,1,3,5/4,5,7,9,10,0,2/11,0,2,4,5,7,9/ (4)

Quatuor: The 12 set classes of the 29 chords

Correct incorrect symbols (rerun mtx)

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	
4-z29	þ	o											2
7-20	o	o								þ			2
5-21				þ				o	o	o			4
5-25	o	o	*				o					þ	5
5-27							o			o	o	þ	4
7-35											o	þ	2
5-z38	o	o	o					o	o	o		þ	7
6-14				o	o	o	o	o	o	o	o	*	9
6-15	o	o	o	þ	o	o	o	o	o	o		*	11
6-21	o	o	o	þ	o	o	o	o	o	o		*	11
6-z23	o	o	*			o	o					þ	6
6-34	o	o	o	þ		o	o	o	o	o	o	*	11
Total	8	8	6	5	3	5	7	6	6	8	4	9	
Reduced	1			5						1		5	

Squo Indices in Descending Order with Genera

.216: G4 (augmented)
.181: G12 (dia-tonal)
.177: G10 (atonal-tonal)
.141: G7 (chroma-dia)
.133: G8 (atonal), G9 (atonal-tonal)
.125: G11 (dia)
.121: G3 (diminished)
.115: G1 (atonal)
.111: G2 (whole-tone)
.101: G6 (semichroma)
.094: G5 (chroma)

Although the 12 set classes engage all 12 genera, only 5 genera remain active after judicious application of reduction strategies, primarily derived from the status quotient (squo) calculation, which measures the status of a genus by taking into account the number of representatives of a genus (X), the total set count for the matrix (Y) and the total size of the genus (Z). For a genus Ga: Squo(Ga) = ((X / Y) / Z) . 10. The constant 10 simply shifts the decimal number one place to the left for greater legibility. Matrix display and calculations are done by computer program.

Notice that the sets vary greatly with respect to number of genera affiliations. Whereas 4-z29, one of the all-interval tetrachords, belongs to only two genera, hexachords 6-15, 6-21, and 6-34 (Scriabin's mystic chord) are very gregarious, avoiding only the pure diatonic genus, G11.

The reduced matrix dramatizes the conflict between Genus 4 (augmented) and Genus 12 (dia-tonal) in four instances, with Genus 4 winning preference, largely because of its small size and the corresponding value of Z. Because the difference in Squo is so small, I have compensated by assigning the four sets involved in this dilemma to G12 as well, indicating their secondary membership by *.

Forte, Allen. "Pitch-Class Set Genera and the Origin of Modern Harmonic Species." Journal of Music Theory 32:2, Fall 1988: 187-270.

Messiaen, *Quatuor pour la fin du temps*: Vn, Cl, Vc

	G1	G2	G3	G4	G5	G6	G8	G9	G10	G12
4-5	■	o								
4-8	■									
4-9	■									
4-21		■								
5-13	■	o		o	o	o	o	o	o	
5-z18	■	o	o			o	o	o	o	
5-22	■		o				o	o	o	
5-28	■	o	*			o				o
Counts:	7	5	3	1	1	3	3	3	3	1
	G1	G2	G3	G4	G5	G6	G8	G9	G10	G12

Squo Indices in Descending Order with Genera

.138: G1 (atonal)
.096: G2 (whole-tone)
.091: G8 (atonal), G9 (atonal-tonal), G10 (atonal-tonal)
.083: G3 (diminished), G6 (semichroma)
.059: G4 (augmented)
.043: G5 (chroma)
.027: G12 (dia-tonal)