6. Permutations

That method is: systematical permutations with the 19 found squares of group 1. Starting with an arbitrary chosen square of the 1-group I can generate 11 new squares by means of systematical permutations of rows; one square belonging to the 2-group, one belonging to the 3-group, one belonging to the 4-group, two belonging to the 5-group, two belonging to the 6-group, and four belonging to the 7-group. See the illustration below, in which I perform the permutation act with LS103 (composition 1, 8, 14, 18, 18), *and in which I maintain the third row on its place*. In this act the availability of Solatino cards plays no role; changing place of rows is not easily done with Solatino.

3	1	5	2	4		**3**	1	5	2	4		**3**	1	5	2	4		**3**	1	5	2	4
2	**3**	4	5	1		2	**3**	4	5	1		4	5	2	1	**3**		4	5	2	1	**3**
1	2	**3**	4	5		1	2	**3**	4	5		1	2	**3**	4	5		1	2	**3**	4	5
5	4	1	**3**	2		4	5	2	1	**3**		2	**3**	4	5	1		5	4	1	**3**	2
4	5	2	1	**3**		5	4	1	**3**	2		5	4	1	**3**	2		2	**3**	4	5	1

C O M O

3	1	5	2	4		**3**	1	5	2	4		5	4	1	**3**	2		5	4	1	**3**	2
5	4	1	**3**	2		5	4	1	**3**	2		**3**	1	5	2	4		**3**	1	5	2	4
1	2	**3**	4	5		1	2	**3**	4	5		1	2	**3**	4	5		1	2	**3**	4	5
4	5	2	1	**3**		2	**3**	4	5	1		2	**3**	4	5	1		4	5	2	1	**3**
2	**3**	4	5	1		4	5	2	1	**3**		4	5	2	1	**3**		2	**3**	4	5	1

M O B O

5	4	1	**3**	2		4	5	2	1	**3**		4	5	2	1	**3**		4	5	2	1	**3**
4	5	2	1	**3**		5	4	1	**3**	2		**3**	1	5	2	4		**3**	1	5	2	4
1	2	**3**	4	5		1	2	**3**	4	5		1	2	**3**	4	5		1	2	**3**	4	5
3	1	5	2	4		**3**	1	5	2	4		5	4	1	**3**	2		2	**3**	4	5	1
2	**3**	4	5	1		2	**3**	4	5	1		2	**3**	4	5	1		5	4	1	**3**	2

M B M O

Upper-left you find LS103 (= C), the initial square, pattern 1 (number **3**) is clearly recognizable. The second square is generated with changing place rows 4 and 5 (permutation O), the third square is generated with changing place row 2 and 4 of the second square (permutation M), the fourth with changing place of rows 4 and 5 of the foregoing (O again), etc…The seventh square is generated with changing place row 1 and 2 of the sixth (permutation B). And so on. Summarized: a permutation act after the sequence COMOMOBOMBMO.

Why this special COMOMOBOMBMO sequence? The answer is: This is one of the many arbitrarily chosen sequences of permuting with which reflections – they are superfluous and just troublesome - are avoided in advance.

The permutation act shows that LS103 generates the squares LS214, 308, 402, 513, 525, 610, 628, 712, 718, 737 and 743. That is not the COMOMOBOMBMO-sequence, which is LS103-610-718-525-737-308-712-402-214-628-743-513.

If you would try to reconstruct the above permutation row of squares with the Solatino cards, and you would maintain in the middle row the color sequence red-blue-black-green-yellow, you would discover that you can compose the whole row of squares without any problem. This is the point of the mathematical solution of the puzzle, see the manual Solatino ("find the mathematical background…") .