Progressive Squares (with facing lines)

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(DRAFT – not for general distribution)

0. Introduction

This paper continues the extension of the "chicken plucker" module. A number of simple modules are given for specific arrangements of squares. For rectangular arrangements, a detailed analysis provides a one couple sight method to resolve the floor.

1. Modules for fixed regular and irregular configurations

For fixed configurations certain combinations of *ptbtl* and *ptmo* are small period zeros and can be used as the framework of a progressive module.

Some rectangular arrangements:

- 1 = 1x1 = *ptbtl* x 4

Interesting arrangements of Heads and Sides. Half way same numbered dancers together.

- 2 = 1x2 *(ptmo, ptbtl)* x 4
- 3 = 1x3 *(ptmo, ptbtl)* x 4
- 2x2 or 2x3 or 3x2 or 3x3 = *(ptmo, ptbtl)* x 4
- 15 = 3x5 (*(ptmo, ptbtl)*, (*ptmo, ptmo, ptbtl))x2*;
- 4x4 or 4x5 or 5x5: (*ptmo, ptmo, ptbtl)* x 4

Girls exchange squares (period 2) could use for SC

- 2 = 1x2: *ptbtl, ptmo, pttin, bg, rlth, lc, ptmo, ptbtl* (timing – 50)

Girls move to different squares (period 2) (could use for SC)

- k = 1xk; same as above

Girls move to different squares (period 4) (could use for SC)

- 4 = 2x2; *ptbtl, ptmo, rlth, lc, ptmo*
- Any rectangle too.

Half way gets all same numbers together in sequence then can call so brings same numbered men and women together and can work as one square of 'twins'

- 2 = 1x2 *(ptbtl x3, ptmo)* x 2, after first time call *btl, center half-sashay*
- 2 = 2x1 *(ptbtl x3, ptmo)* x 4 is zero, after 3 times call *center half-sashay* (note when lines across, *ptmo* is *rlth*)

Keeps squares together and in sequence but moves to different locations on floor (could call S lead right and circle to line, then the call below and resolve to square, then H lead right circle to line, etc.

- 2x2 *(ptmo, ptmo, ptbtl)* x4 each time moves squares round and in sequence
- 3x3 *(ptmo x 3, ptbtl)* x4 keep square together but move round, middle square always in middle

Irregular Arrangments

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[1] My interest in this was stimulated by recent discussions with Jerry Jestin and Brian Hotchkies, both professional callers adept at calling progressive squares. I set up a mathematical model wrote a computer program to simulate progressive squares to help me.

- 3 = 2x2 with one square missing, *(ptmo, ptbtl)* x 12
- 3 = 2x2 with one square missing, *(ptmo, ptmo, ptbtl)* x 6, (180 rotated), always keeps squares together but move in different places on floor.
- 3 = 2x2 with one square missing, *(ptmo x 3, ptbtl)* x 12
- 5 = 2x3 one square missing on corner, *(ptmo, ptbtl)* x 12
- 5 = 2x3 one square missing in middle top (need table there) *(ptmo, ptbtl)* x 12
- 5 = in cross *(ptmo, ptbtl)* x 6
- 7 = 2x3 with extra in middle back row *(ptmo, ptbtl)* or *(ptmo, ptmo, ptbtl)* x 12, the latter moves dancers further from their original places
- 7 = 2x3 with extra on one side x 12 but *(ptmo, ptbtl)* x 12 not so interesting but *ptmo, ptmo, ptbtl)* x 12 is nicer
- 8 = 3x3 with hole: (*ptmo, ptmo, ptbtl)* x 14 rotates floor 180 all in sequence
  (ptmo, ptbtl) x 12
- 8 = 3x3 with gap top middle: *(ptmo, ptbtl)* x 12
  (*ptmo, ptmo, ptbtl)* x 20
- 12 = 4x4 with hole, (*ptmo, ptmo, ptbtl)* x 12

Irregular with other moves in them

- 3 = 2x2 with one square missing, *face me routine*; *(ptmo, ptmo, ptbtl)* repeated, every other time resolvable with get out *½ tag, swing and prom*. With position of squares changed. Every even repeat has boys facing girls.
- 3 = 2x2 with one square missing, *(ptmo, lc, ptmo, ptbtl)* x 6, *4lc*, rotated 180. (Girls in original places every other time).

3. Rectangular Configurations

Gene Trimmer states in his book (pg. 49) when keeping partners together, "It is not absolutely necessary to take your "key Couple" around the outside as we have done … You can take them through the middle, zig zag or any other way you wish." This is not correct[2]. The generalized chicken plucker does allow for any path which must be traversed both ways (turning round with a *rlth* at the ends). Also section 5 discusses what can happen when any path is used and how to fix things up. Also when using ladies chains to separate partners, he states, " you must … (get them back) … by performing the ladies chains in the reverse order." Again this is not true, there are other ways too.

However the following always works when keeping couples together. Working with lines across the hall, choose the key couple at the lower left. Using *ptbtl* or *ptmo* to move them around the outside of a sub-rectangle to come back home and all will be back. In fact moving them clockwise to get home will always work.

4. Beginning and Ending with an unusual move

Such a journey is a zero, so can start with a routine, then do a progressive squares module, then resolve the first routine.

[2] Examples that fail: On any grid with at least 2 squares; *ptbt*l, repeat *ptmo* to go across and back, *ptbtl*, *ptmo* will take key couple home, but not all. Another example *(ptbtl x3, ptmo)* x 2.

For example, the following (which does not fit in the above scheme) can be used first, then move the key couple around, then get out after squares come back together.

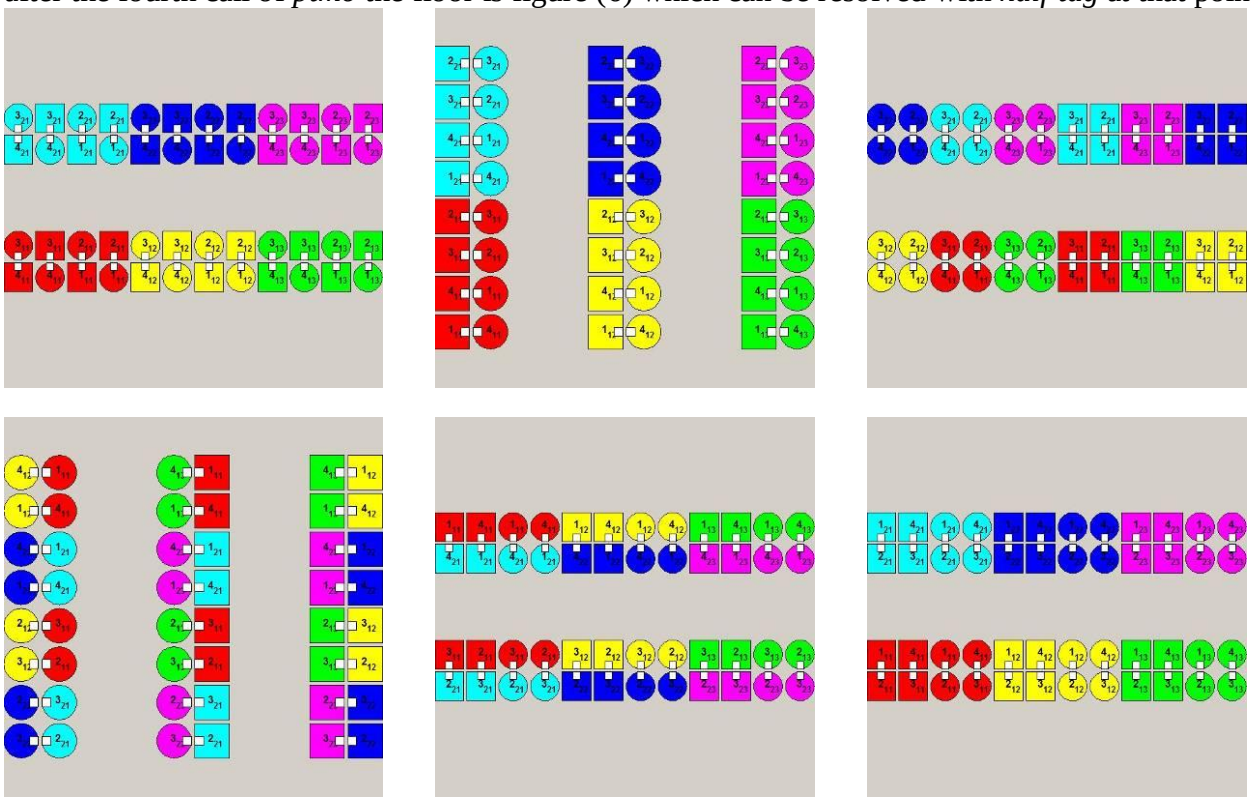
This asymmetric move[3] from 0-lines  gets the sexes on the same sides.

- *Turn thru, (for flow)*
- *tag the line face ME*
- *bend the line,*
- *centers pass thru and u turn back*

A get out from this is

- *Pass thru,*
- *bend the line,*
- *half tag,*
- *RLG (some are wrong some are not),*
- *swing and promenade*

This is easy for beginners and a nice novelty. For rectangular arrangements with the appropriate moves, it gets all the boys on one side of the hall and then back again. For progressive squares use *(ptmo, ptbtl)* x 4. The figures are: (1) the initial set up; (2) after the asymmetric move above; (3, 4, 5) after each *(ptmo, ptbtl).* After a final *(ptmo, ptbtl)* you are back to figure (2) to be resolved as above. Note after the fourth call of *ptmo* the floor is figure (6) which can be resolved with *half tag* at that point.



Another boy vs girl competition example is to start with *centers half sashay*, then one of the routines from section 2 that mixes Heads and Sides.

[3] To call from side facing line, use face LEFT side wall instead of ME. This zeros out after 14 calls!

5. One couple sight[4] for rectangular progressive squares

There are a number of ways this can be done. One key couple needs to be chosen. The method depends on where the key couple is located.

Summary

- Dance em – "two couple normal"
- Get key partners in same row
- Get key partners in same column
- Get em together
- Move key couple to home row
- Move key couple to home column
- Get em home.
- Check and fix
  - May be all home
  - All corners of room same dancers – call *magic* (see table)
  - All only two couple numbers in front rows - call *shift* (see table)
  - Otherwise call *shift, magic*

The discussion here is only for the key couple in one of the corner squares. I will illustrate it for couple #4 in the leftmost front square.

Starting with a rectangular grid of squares, call:

- Sides lead right circle to a line. The lower left couple is the key couple. Remember their position in the line.
- Call anything[5] using the green moves above and zeros to fill. Finish in lines facing head walls, say.
- Get the key couple in same row, by calling *ptmo* and maybe one *lc* if needed (it won't hurt if more *lc* are called)
- Call *ptbtl,* then get key couple in same column
- Pair up key couple using *lc* (at most twice) and *ptbtl* (at most once)
- Move key couple to home position using *ptmo* and *ptbtl*. (Optionally *rlth*, see below). This can always be done by using *ptmo* repeatedly to get in the first row (or column), then *ptbtl*, and *ptmo* repeatedly to get in the first column (or row, resp.). Then it is easy to get them in the correct position of the line.
- Could ask: " Is everyone back at original home?" If not, let's try the magic words!
  - If all not home, then call the "***magic move***[6]" i.e. *(ptbtl x 3, ptmo)* x 2

If no *rlth*'s or *flw*'s have been called[7] they will now be home. Otherwise

- If not at home after above, call *rlth, ptmo*
- If still not all home, call the "*magic move*" again!

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[4] This extends and corrects Gene Trimmer's discussion which said any 'path' could be used to send the key back. There it was said that the lady chains must be done in the same spots and in reverse order.

[5] Any choreography on each line can be used that keeps facing couples together and normal (Needed?).

[6] An alternative magic move for this case is *ptbtl*, as many *ptmo* to come back to first column, *ptbtl*, *ptmo. In general check the table when other key couples are used.*

[7] More precisely the number of times the choreography on each line reversed boys sequence is even.

- Alternatively after asking original question can just use:
  - *rlth, ptmo*. Home?
  - *magic move*. Home?
  - *rlth, ptmo*. Will be home now!

After getting the key couple paired and back to home location, there are only four configurations, which can be discovered by a few tricks, or watching carefully who affirms they are back in their home square. The possibilities are

  - All home! (total *rlth+lc* even)
  - Only four couples home, the key couple and those mirror reflected horizontally and vertically in the other corner squares[8]. An interesting characteristic of this configuration is couples have the same couple number. So asking all original #4 to shout hurray would make this obvious. (total *rlth+lc* even) The "*magic*" move is the fix.
  - All couples only in the same (and horizontally reflected) line as the key couple are in their correct places. Here all front squares contain only couples 1 and 4, while the very back squares contain only couples 2 and 3. (total *rlth+lc* odd) Use *rlth, ptmo* to fix.
  - All couples only in the leftmost and rightmost sides in the same column as the key couple are in their correct places. Here couples 3 and 4 are on the leftmost side, 1 and 2 on the right. (total *rlth+lc* odd) Use *rlth, ptmo, "magic"* to fix.

Other options

- Can first get key man home, but moving to first row, then first column. Then use *(flwh, ptmo)* repeatedly to bring girls to first row/column and on same side as man. Then use *rlth, ptbtl* and *(flwh, ptmo)* repeatedly to get them together! Then continue as above.

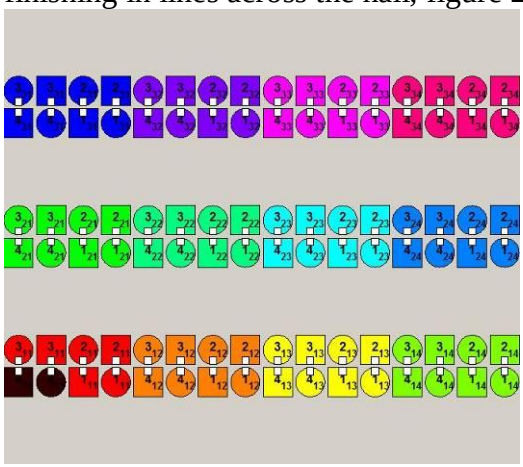
Using other key couples

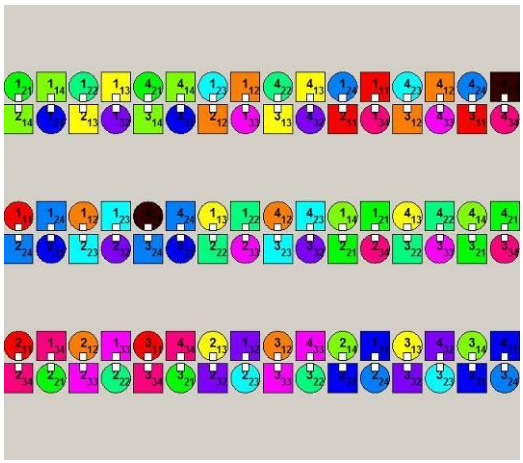
Number of Key couple in front left square		#4	#1	#3	#2
All in corner square same number as key couple	***magic***	*(ptbtl x 3, ptmo)* x 2	*(ptbtl, ptmo)x2*	*rlth, (ptbtl x 3, ptmo)* x 2, *rlth*	*rlth, (ptbtl, ptmo)x2, rlth*
Line of key couple home	***shift***	*rlth, ptmo*	*rlth, ptmo*	*ptmo, rlth*	*ptmo, rlth*
Column of key couple home	*shift, magic*	*rlth, ptmo, (ptbtl x 3, ptmo) x 2*	*(ptbtl, ptmo)x2*	*ptmo, (ptbtl x 3, ptmo) x 2, rlth*	*ptmo, (ptbtl, ptmo)x2, rlth*

[8] For the illustration, couple #3 far left square, couple #2 far right square and couple #1 near right square will also be home.

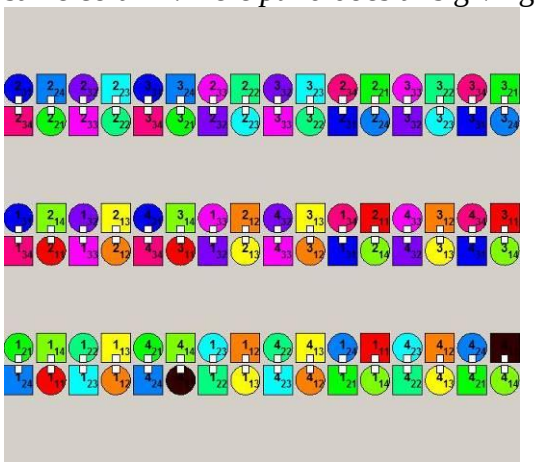
Example Sight Resolution (illustrated with 3 x 4, but applies in all cases)

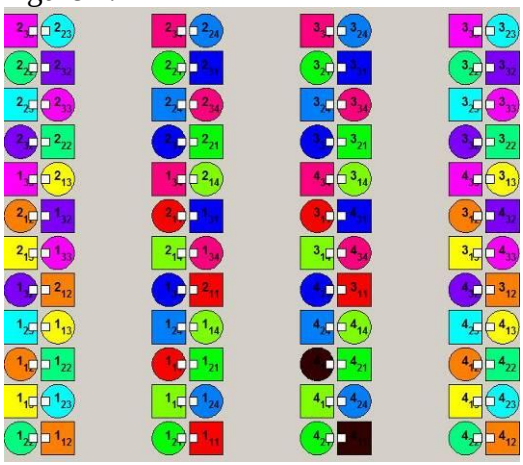
The square starts as shown, with the key couple at lower left (figure 1, note each original square has a different color). They are danced using *ptmo, ptbtl, lc, flw, rlth* and line zeros, finishing in lines across the hall, figure 2.



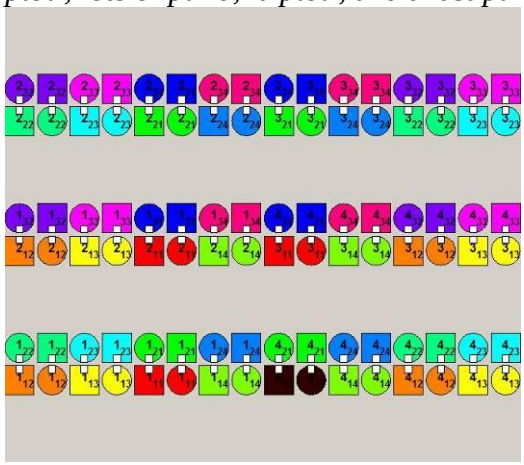


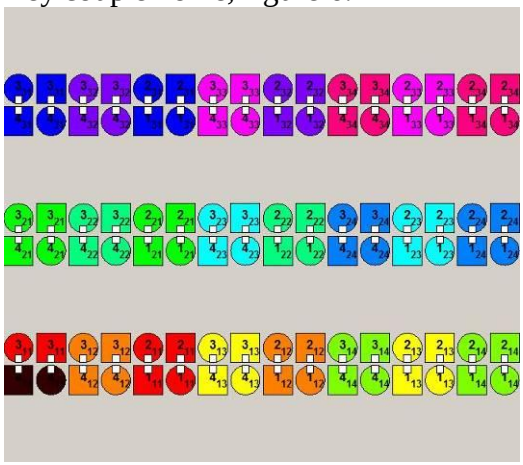
To resolve, first get the key couples in the same row (don't worry about being on the same side). Here did *ptmo, ptmo.* There are many ways to do this, but one way is to call consecutive *ptmo* until they line up or if they overshoot, then a *lc* and some more *ptmo if needed*. The left figure 3 below shows this. The next step is *ptbtl* and then get them in the same column. Here *ptmo* does this giving the right figure 4.



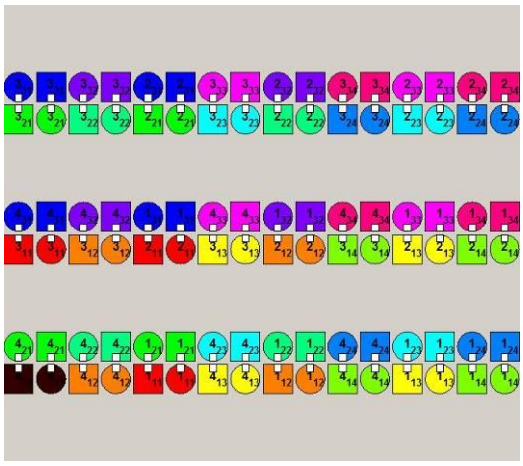


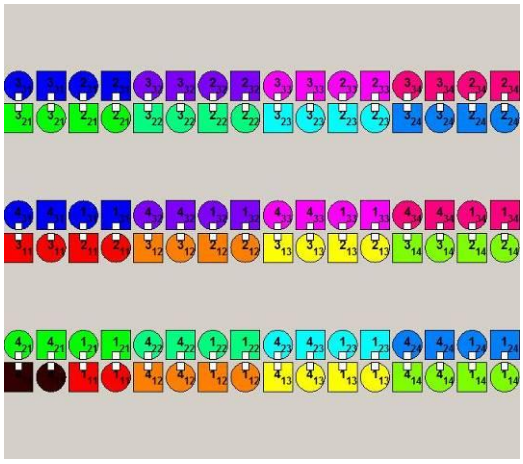
Then a *lc, ptbtl, lc* gets them paired (left figure 5). Since they are already in the first row, *ptbtl*, lots of *ptmo*, a *ptbtl*, and a last *ptmo* gets the key couple home, figure 6.





But not everyone is home, so call *rlth, ptmo* and still all are not back (figure 7), so call the magic move, *(ptbtl x 3) x 2* and everybody is home! Noting that in the above figure 6 that the left side of the room has all couples #3 and #4, while the right side has #1 and #2 would give this away too!





Note figures 1, 6, 7 and 8 are the only configurations when the key couple is home. Figure 7 has all #4 couples in the key square! The get out is the magic move *(ptbtl x 3, ptmo)x2*. The figure 8 has couples #1 and #4 are in the front lines, and the getout in that case is *rlth, ptmo*.

References

Gene Trimmer – Specialized Squares and Crowd Pleasers
Progressive Kansas City Squares RB 183
Jerry Helt ?
Web: ??