Sight Resolution of True Hexagons

Electronic Tips for Callers
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In the autumn of 2004, I attended a magnificent callers school with Al Stevens and Randy Dougherty where we were (among other interesting things) playing with true hexagons. We did some comparisons of true hexagons and ordinary squares from the modules point of view. The result is simple: some modules work as expected and some do not. An universal rule for converting 8-dancer modules to 12-dancer modules of equivalent results might exist but none of us did find it.

As literally all "square" modules would have to be verified or modified if one wanted to use them for true hexagons, I decided to look for an easier way of controlling the dancers. I have been thinking a lot about sight calling and sight resolution of true hexagons and I have come to some interesting conclusions. Note that I assume the caller calls directly for true hexagons so the resolution might not work well for a square that might be trying to dance the same calls. Furthermore, it is necessary to use symmetrical choreography only (but I guess almost nobody would dare to sight call a non-symmetrical true hexagon anyway).

Firstly, we need to determine how many couples the caller has to remember in order to be able to resolve. It might seem that we need to identify two head couples and two side couples so that we can determine their respective sequence states. The good news is that this is not necessary if we change the traditional focus of attention when dealing with sequence: it is better to distinguish the sequence of four groups of dancers: head men, head ladies, side men, and side ladies (there are three dancers in each group). If we follow any of these groups of three people, we find out that the dancers always form an equilateral triangle with its center being identical to the center of the hexagon. The triangle might be rotating, shrinking or expanding but there is no way of exchanging two of these dancers while the third one remains at the same position. In other words, if we wanted to change the sequence state within any of these groups using symmetrical choreography, we would need at least four dancers in each group—however, three just cannot do that.

What does this fact tell us? We do not have to worry about sequence more than when working with ordinary squares. Dealing with formation and arrangement is in fact the same as when calling ordinary squares. Therefore, we just need to rotate all the triangles so that original Partners meet, and the proper order of couples is achieved automatically. To ensure this, one dancer from each group is enough to be remembered; in other words, if the caller can remember one head couple, one side couple and their mutual relationship, nothing else is necessary. Remembering one head couple and one of the adjacent side couples or remembering one couple and two adjacent dancers (together with recognizing the Corner relationship of these dancers) is the easiest way—as we can see, it is equivalent to sight-calling an ordinary square. For the sake of resolution, let us remember two adjacent couples **A** and **B** (where the couple **A** was originally standing clockwise from the couple **B**).

It is wise to split the resolution process into two steps, as the traffic patterns differ if the dancers work in the middle or on the outside of the hexagon. We can start by bringing the couple **A** together. This means that the other two corresponding couples (heads or sides) are together as well and their sequence is therefore alright. Then let us put the couple **A** on the outside (for example as Trailers in a Double Pass Thru Formation).

The second step is more complicated because there are nine possibilities of how the center dancers can be arranged (not mentioning six possible arrangements—however, we use normal couples in this description). Obviously, we can easily maneuver the man **B** to be one *Pass Thru* away from the lady **A** (his original Corner) no matter where he started (using *Right And Left Thru* or *Star Thru* once or twice). Now we have to find his original Partner (**B**) and bring them both to a FASR we know a Get-Out from:

- If the man **B** and the lady **B** are already forming a couple, let us call *Veer Left—Bend the Line* to end in a circle with proper sequence or *Veer Left—Veer Right* to end in a Lead Left Box (we can also add *Circle Right 3/4* to end in Zero Lines).

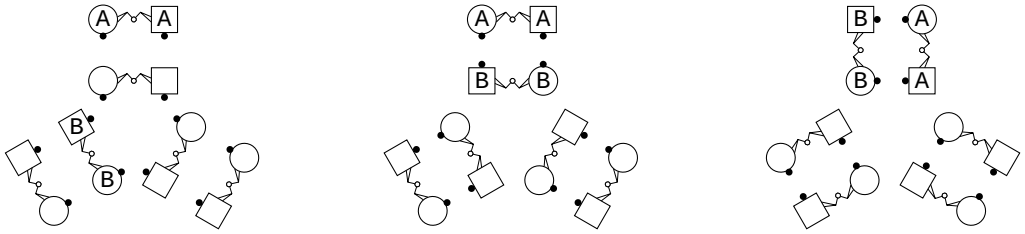

Figure 1: Transition into a Lead Left Box and furthermore into Zero Lines.

- If the lady **B** is rotated one position counterclockwise from the man **B**, one *Pass Thru* will bring them together to a Lead Left Box.

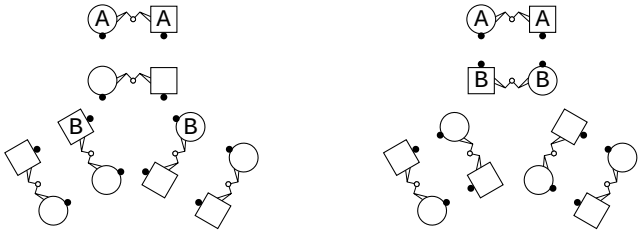

Figure 2: Transition into a Lead Left Box.

- If the lady **B** is rotated one position clockwise from the man **B** (she is standing on his left next to him and they are in fact facing each other), *Pass Thru* will bring them all to a Zero Box.

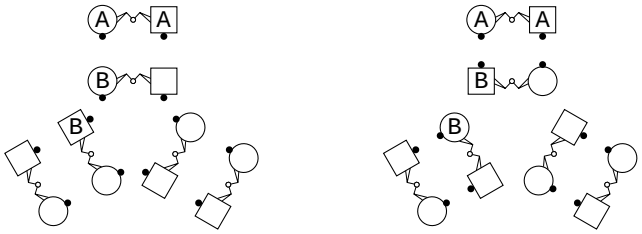

Figure 3: Transition into a Zero Box.

After that, any 4-dancer zero modules can be used (they will not do any harm to the FASR state and they will give those waiting couples some feeling of dance again), and an appropriate Get-Out will bring all dancers home in proper sequence. Of course, there are many other ways of resolving—this one just looked the easiest to me. We could, for example, try to bring all four key dancers together—however, this process is rather complicated because of three possible sequence states of men and three of ladies which we need not worry about when using the method described above. The process can also be varied by using other combinations of calls with the same results; note, however, that equivalents in a true hexagon work in a totally different way when used around the center (as we can see in the figures above, *Veer Left—Veer Right* is not an equivalent of *Pass Thru* when danced in the middle of the hexagon).

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