

After the ultra-conservative North/South bidding, with the hearts over dummy's bid suit and trumps seemingly splitting badly, East made a speculative double. Declarer won West's singleton heart lead with dummy's ace and cashed the ace of spades, revealing the 1-1 split. No more cards needed to be played. Declarer could cash the minor-suit aces and crossruff the remaining nine spades. Thirteen tricks and four spades doubled plus three; North/South plus 1390.

Table 2

West	North	East	South
—	1♥	Pass	1♠
Pass	4♣ ¹	Pass	4NT ²
Pass	5♦ ³	Pass	7♠
Pass	Pass	Pass	

1. Splinter.
2. RKCB
3. 1 or 4 key cards

At Table Two, North/South, internationals John Holland (North) and Alan Mould (South) bid very efficiently to seven spades. The play did not tax declarer and 13 tricks were quickly chalked up for plus 2210. That represented a 13-IMP gain for their team, on their way to ultimate victory.

However, the result on the deal could have been so different if either of Tables One's North or South could have uttered the word "Redouble". A redoubled contract making overtricks always scores better than the undoubled higher contract. Four spades redoubled plus three would therefore score more than seven spades: plus 2280 in this case. Redoubling carries the risk that the opponents will pull the redouble to their own contract, but I reckon both East and West would have placed partner with very good spades and stuck it out.

Optimal Seeding in Mitchell Competitions

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Despite the fact that the Howell movement is generally better than the Mitchell, the latter is still used in many clubs. For example, in a Howell with arrow switching, you can have a one-winner event. Hallén, Hanner and Jannersten mention Mitchell movements as an alternative to Howell in their book 'Movements – a Fair Approach' (ref. 1, HHJ). Mitchell is the first alternative in the following cases:

Tables	Rounds	Boards	Type	Tables	Rounds	Boards	Type
6	7	28	EM	12	12	24	SM
7	7	28	SM	12	13	26	EM
8	9	27	EM	13	12	24	PM
9	9	27	SM	13	13	26	SM
11	12	24	EM	13	14	28	EM

The abbreviations are SM=Scrambled Mitchell, EM= Expanded Mitchell and PM= Filled-out Pivot Mitchell.

Ian McKinnon's book 'Duplicate Bridge Schedules, History and Mathematics' (ref 2, IMcK) has a two listings for seeding Mitchell games: one for an odd number of tables and another for an even number. For an odd number of tables, there is no problem with a Mitchell movement; for an even number, you can select either 'share and relay' or 'skip'. A consequence of the skip movement is that the moving pair will never meet one of the sitting pairs. Thus, in sense of balance, 'skip' movement is inferior to 'share and relay'. IMcK thus has a table for 'skip and relay' for an even number of tables. Unfortunately, neither listing tells how many rounds are played. If the count of rounds is equal to the number of tables, there is no great problem with seeding, but, for over 14 tables, moving pairs cannot generally play against all sitting pairs. We usually have the same problem with 9, 10 and 11 tables.

So I made the optimization for three to 15 tables and had all East/West pairs play every North/South pair just one time. In total, 28 deals are played. I used the same method as for Howell movements (IPBA bulletin #619). Every checked movement has several seeded pair's seating giving the same variance. Calculation of variances, according to data in IMcK, generally gave slightly higher values for 3 to 10 tables, but for table numbers greater than 10, my values were better. However, uncertainty of playing strength has a stronger influence on the seating than these minor differences.

Still, I would like to publish my findings, and at the same time warn that there are many, many ways to sit pairs that give exactly the same variance. You can take all North/South pairs from the tables and let them sit as they like as North/South. The same applies for the East/West pairs. If you have T tables, then the NS pairs are numbered 1...N and the EW pairs N+1...2N. Switching NS to EW does not change anything. For visual simplicity, I do not

tabulate the seeding as it is calculated by my program. E.g., for 3 tables, calculation gives 3, 5, 2, 6, 4, 1. I sort the results separately for NS and EW and tabulate them as 1, 4, 6, 2, 3, 5. This is almost what you would intuitively think (1, 4, 5, 2, 3, 6), or seat the best pair first to table 1 as NS then next as EW at table 2, then 3NS, 1EW, 2NS, 3EW.

The results are given in the following table. The number preceding NS and EW is the table number. The following numbers show the ranking of the pairs sitting NS or EW. Just looking at the table, you may say, "this is easy to remember". In fact, you can take the ranking list and give the highest number 1 and so on, then tell odd numbers to sit NS and even numbers to sit EW. The errors in ranking the list will surely be greater than the error you make by not using the optimal list. Note that this assumes that each sitting pair meet every moving pair. Arrow switching lets you have only one winner but it does not change the seating arrangement at the beginning of the game. (I have not seen any movement with arrow switching in the first round.)

3NS	1	4	6		10NS	1	3	8	10	11	12	14	15	17	18
3EW	2	3	5		10EW	2	4	5	6	7	9	13	16	19	20
4NS	1	3	6	8		9NS	1	2	3	4	7	12	15	16	18
4EW	2	4	5	7		9EW	5	6	8	9	10	11	13	14	17
5NS	1	4	5	6	9		8NS	1	2	6	7	9	10	12	15
5EW	2	3	7	8	10		8EW	3	4	5	8	11	13	14	16
6NS	1	4	5	9	11	12		7NS	1	2	3	9	11	12	14
6EW	2	3	6	7	8	10		7EW	4	5	6	7	8	10	13
11NS	1	5	6	8	9	12	14	18	19	21	22				
11EW	2	3	4	7	10	11	13	15	16	17	20				
12NS	1	2	5	7	10	11	12	14	15	16	19	25			
12EW	3	4	8	9	13	17	18	20	21	22	24	26			
13NS		1	2	5	7	10	11	12	14	15	16	19	24	25	
13EW	3	4	6	8	9	13	17	18	20	21	22	23	26		
14NS	1	2	5	8	11	12	14	16	18	21	22	23	26	28	
14EW	3	4	6	7	9	10	13	15	17	19	20	24	25	27	
15NS	1	2	5	9	10	14	15	16	17	18	21	22	25	26	29
15EW	3	4	6	7	8	11	12	13	19	20	23	24	27	28	30

For expanded and pivot Mitchells, the following table gives the optimum result for seeding. The first row shows the pair number. The following row shows how the seeding should be done. E.g., the pair seeded as number 7 should have pair number 5 in a six-table seven-round expanded Mitchell competition (nr. 1).

Pair Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
6T7R_EM_1	3	5	8	9	7	4	12	6	1	10	11	2														
6T7R_EM_2	3	8	5	9	7	6	1	10	11	2	4	12														
6T7R_EM_3	8	12	1	11	5	9	2	3	4	7	6	10														
6T7R_EM_4	9	12	2	6	3	8	5	1	4	10	11	7														
8T9R_EM	8	11	4	5	13	6	12	9	14	1	10	16	2	7	15	3										
11T12R_EM	13	15	18	1	11	16	9	5	20	7	21	8	3	22	10	2	19	14	4	17	12	6				
12T13R_EM	17	7	15	13	16	20	12	5	8	6	19	24	1	10	22	9	4	23	14	2	18	21	3	11		
13T12R_PM	3	1	15	13	16	10	11	22	26	21	7	8	25	23	5	19	9	2	20	4	6	18	12	14	24	17
13T14R_EM	16	7	17	9	14	25	19	6	21	15	3	10	4	20	24	1	11	26	12	2	18	22	5	8	23	13

The calculation time for one minimum for movement 6T7R_EM was only a few hours, therefore I have given four different ways in which all have the same minimum. Calculation time increases with the number of tables and rounds. For 13T14R_EM it was almost 10 hours. In every case I have tested 1,000,000,000 different ways.

If we consider seeding, the best movements are odd-table Mitchell and share-and-relay Mitchell, but obviously arrow-switching does not give a good balance. HHJ recommends mostly different variants of Howell movements and although seeding is a little worse than for standard Mitchell, I think you should follow the suggestions in HHJ. The here-calculated Expanded and Pivot Mitchells are a good compromise both in a seeding and in a balance sense. But, for 11, 12 and 13 tables and only two boards per round, the competition will not run as smoothly as with 3 boards per round.