

# Web movements

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## What's wrong with Mitchell movements?

Mitchell movements are perfect if the number of tables happens to be the same as the desired number of rounds. For a session of 24, 26, or 27 boards, there are four perfect Mitchell movements:

- 8 tables, 24 boards, 8 three-board rounds, relay and bye stand
- 9 tables, 27 boards, 9 three-board rounds
- 12 tables, 24 boards, 12 two-board rounds, relay and bye stand
- 13 tables, 26 boards, 13 two-board rounds

If the number of rounds isn't equal to the number of tables and you only use Mitchell movements, then you can't have everyone play all the same boards. You have to compromise. Sometimes the necessary compromises are unobjectionable. Sometimes they're very awkward. (Note that even minor compromises are more objectionable at IMPs than at matchpoints, because some pair is sure to miss a potential 17-IMP swing while some other pair misses a potential 1-IMP swing.)

## What's the point of Web movements?

ACBL tournament director John "Spider" Harris invented Web movements in the 1970s. Web movements can have any number of boards in play. For example, a section of anywhere from 14 to 25 or more tables can play 13 two-board rounds with everybody playing *the same* 26 boards.

Webs require two or three copies of each board (more for very large sections), but we have dealing machines. Webs are more vulnerable than Mitchells to erroneous board movement, but we have electronic scoring devices that tell players which boards to play.

## How do Web movements work?

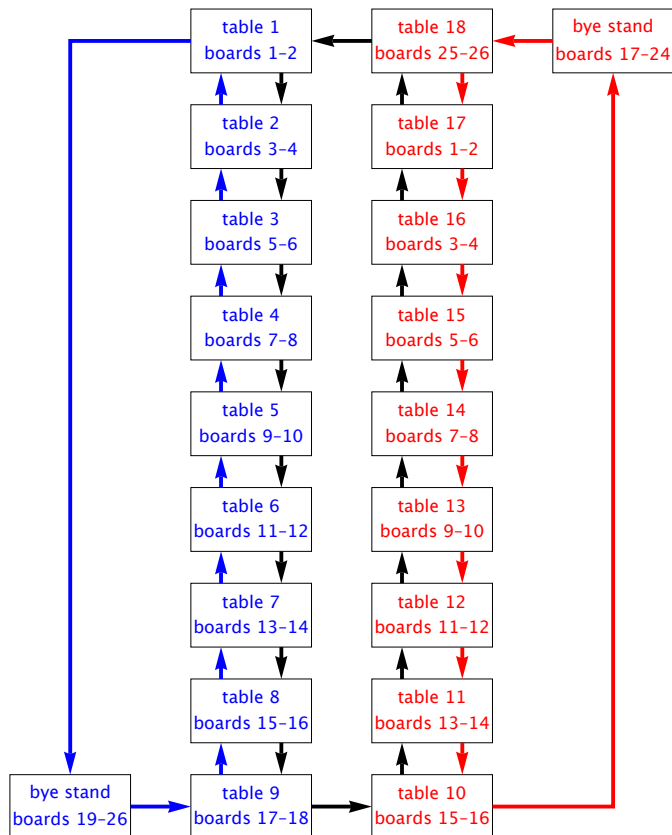
The following five practical examples explain Web movements. The examples show, in increasing degree of difficulty:

- even number of tables, odd number of rounds (the original Web movement)
- even number of tables, even number of rounds (original Web with a skip)
- odd number of tables, odd number of rounds (combination Mitchell and Web)
- odd number of tables, even number of rounds—two methods:
  - use the odd-table-odd-round movement for one more round and don't play the last round
  - use the even-table-even-round movement for one less table and add a "party" table

## 18-table Web, 13 2-board rounds, 26 boards in play

This example shows a basic Web movement, which works with an even number of tables and an odd number of board pairs.

- NS pairs are stationary and EW pairs move up, just like a Mitchell. In the diagram below, black arrows show EW pair movement.
- Everybody plays boards 1–26, and nobody plays boards 27–36, just like a 13-table Mitchell.
- The boarding pattern is “9-up-9-down”:
  - Use two sets of boards 1–26, **one for tables 1–9**, and **one for tables 10–18**.
  - **Board tables 1–9** just like the first 9 tables of a 13-table Mitchell, putting the leftover boards on a bye stand next to table 9.
  - Here’s the trick that makes a Web movement work: **Board tables 10–18** with the boards in *descending* order, as shown below. Table 10 must start with the same boards as table 8, and table 18 must start with the highest-numbered boards in play.
- Boards move down, just like a Mitchell, except that tables 1 and 10 pass to the bye stands. **Table 9** takes boards from their **bye stand** in ascending order. **Table 18** takes boards from their **bye stand** in *descending* order. In the diagram below, **blue** and **red** arrows show board movement.
- Although the number of tables is even, there is no skip, because the number of *board pairs* is odd.

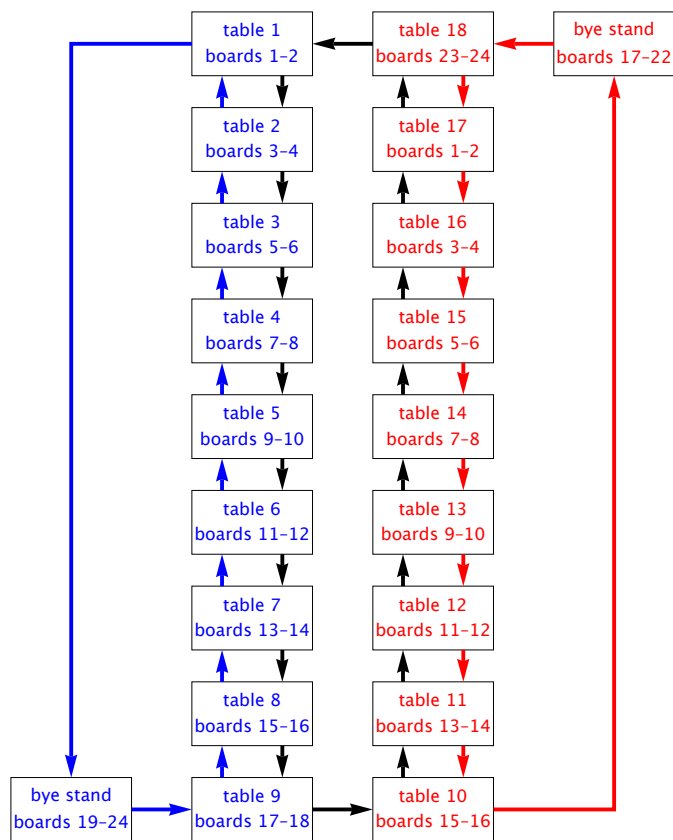


	round 1			round 2			round 3			round 4			round 5			round 6			round 7			round 8			round 9			round 10			round 11			round 12			round 13		
	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd			
table 1	1	1	1	1	18	3	1	17	5	1	16	7	1	15	9	1	14	11	1	13	13	1	12	15	1	11	17	1	10	19	1	9	21	1	8	23	1	7	25
table 2	2	2	3	2	1	5	2	18	7	2	17	9	2	16	11	2	15	13	2	14	15	2	13	17	2	12	19	2	11	21	2	10	23	2	9	25	2	8	1
table 3	3	3	5	3	2	7	3	1	9	3	18	11	3	17	13	3	16	15	3	15	17	3	14	19	3	13	21	3	12	23	3	11	25	3	10	1	3	9	3
table 4	4	4	7	4	3	9	4	2	11	4	1	13	4	18	15	4	17	17	4	16	19	4	15	21	4	14	23	4	13	25	4	12	1	4	11	3	4	10	5
table 5	5	5	9	5	4	11	5	3	13	5	2	15	5	1	17	5	18	19	5	17	21	5	16	23	5	15	25	5	14	1	5	13	3	5	12	5	5	11	7
table 6	6	6	11	6	5	13	6	4	15	6	3	17	6	2	19	6	1	21	6	18	23	6	17	25	6	16	1	6	15	3	6	14	5	6	13	7	6	12	9
table 7	7	7	13	7	6	15	7	5	17	7	4	19	7	3	21	7	2	23	7	1	25	7	18	1	7	17	3	7	16	5	7	15	7	7	14	9	7	13	11
table 8	8	8	15	8	7	17	8	6	19	8	5	21	8	4	23	8	3	25	8	2	1	8	1	3	8	18	5	8	17	7	8	16	9	8	15	11	8	14	13
table 9	9	9	17	9	8	19	9	7	21	9	6	23	9	5	25	9	4	1	9	3	3	9	2	5	9	1	7	9	18	9	9	17	11	9	16	13	9	15	15
table 10	10	10	15	10	9	13	10	8	11	10	7	9	10	6	7	10	5	5	10	4	3	10	3	1	10	2	25	10	1	23	10	18	21	10	17	19	10	16	17
table 11	11	11	13	11	10	11	11	9	9	11	8	7	11	7	5	11	6	3	11	5	1	11	4	25	11	3	23	11	2	21	11	1	19	11	18	17	11	17	15
table 12	12	12	11	12	11	9	12	10	7	12	9	5	12	8	3	12	7	1	12	6	25	12	5	23	12	4	21	12	3	19	12	2	17	12	1	15	12	18	13
table 13	13	13	9	13	12	7	13	11	5	13	10	3	13	9	1	13	8	25	13	7	23	13	6	21	13	5	19	13	4	17	13	3	15	13	2	13	13	1	11
table 14	14	14	7	14	13	5	14	12	3	14	11	1	14	10	25	14	9	23	14	8	21	14	7	19	14	6	17	14	5	15	14	4	13	14	3	11	14	2	9
table 15	15	15	5	15	14	3	15	13	1	15	12	25	15	11	23	15	10	21	15	9	19	15	8	17	15	7	15	15	6	13	15	5	11	15	4	9	15	3	7
table 16	16	16	3	16	15	1	16	14	25	16	13	23	16	12	21	16	11	19	16	10	17	16	9	15	16	8	13	16	7	11	16	6	9	16	5	7	16	4	5
table 17	17	17	1	17	16	25	17	15	23	17	14	21	17	13	19	17	12	17	17	11	15	17	10	13	17	9	11	17	8	9	17	7	7	17	6	5	17	5	3
table 18	18	18	25	18	17	23	18	16	21	18	15	19	18	14	17	18	13	15	18	12	13	18	11	11	18	10	9	18	9	7	18	8	5	18	7	3	18	6	1

### 18-table Web, 12 2-board rounds, 24 boards in play

This example is similar to the first example, but the number of board pairs is even. The differences from the first example are:

- Table 18 starts with boards 23–24 (the highest-numbered boards in play).
- The bye stands start with boards 19–24 and boards 17–22.
- EW pairs must skip after round 6, when they have played half the boards. This is necessary because the number of board pairs is even.

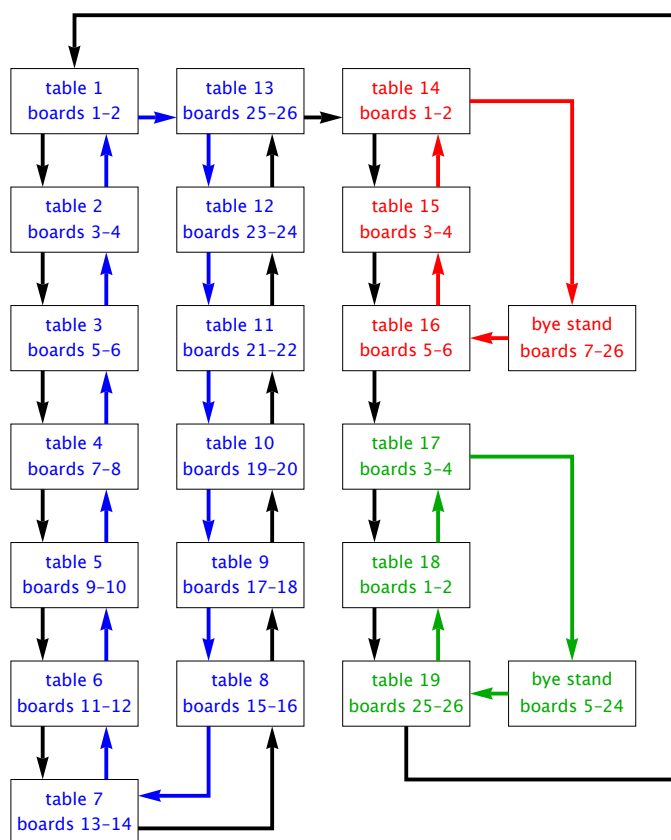


	round 1			round 2			round 3			round 4			round 5			round 6			round 7			round 8			round 9			round 10			round 11			round 12				
	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW
table 1	1	1	1	1	18	3	1	17	5	1	16	7	1	15	9	1	14	11	1	12	13	1	11	15	1	10	17	1	9	19	1	8	21	1	7	23		
table 2	2	2	3	2	1	5	2	18	7	2	17	9	2	16	11	2	15	13	2	13	15	2	12	17	2	11	19	2	10	21	2	9	23	2	8	1		
table 3	3	3	5	3	2	7	3	1	9	3	18	11	3	17	13	3	16	15	3	14	17	3	13	19	3	12	21	3	11	23	3	10	1	3	9	3		
table 4	4	4	7	4	3	9	4	2	11	4	1	13	4	18	15	4	17	17	4	15	19	4	14	21	4	13	23	4	12	1	4	11	3	4	10	5		
table 5	5	5	9	5	4	11	5	3	13	5	2	15	5	1	17	5	18	19	5	16	21	5	15	23	5	14	1	5	13	3	5	12	5	5	11	7		
table 6	6	6	11	6	5	13	6	4	15	6	3	17	6	2	19	6	1	21	6	17	23	6	16	1	6	15	3	6	14	5	6	13	7	6	12	9		
table 7	7	7	13	7	6	15	7	5	17	7	4	19	7	3	21	7	2	23	7	18	1	7	17	3	7	16	5	7	15	7	7	14	9	7	13	11		
table 8	8	8	15	8	7	17	8	6	19	8	5	21	8	4	23	8	3	1	8	1	3	8	18	5	8	17	7	8	16	9	8	15	11	8	14	13		
table 9	9	9	17	9	8	19	9	7	21	9	6	23	9	5	1	9	4	3	9	2	5	9	1	7	9	18	9	9	17	11	9	16	13	9	15	15		
table 10	10	10	15	10	9	13	10	8	11	10	7	9	10	6	7	10	5	5	10	3	3	10	2	1	10	1	23	10	18	21	10	17	19	10	16	17		
table 11	11	11	13	11	10	11	11	9	9	11	8	7	11	7	5	11	6	3	11	4	1	11	3	23	11	2	21	11	1	19	11	18	17	11	17	15		
table 12	12	12	11	12	11	9	12	10	7	12	9	5	12	8	3	12	7	1	12	5	23	12	4	21	12	3	19	12	2	17	12	1	15	12	18	13		
table 13	13	13	9	13	12	7	13	11	5	13	10	3	13	9	1	13	8	23	13	6	21	13	5	19	13	4	17	13	3	15	13	2	13	13	1	11		
table 14	14	14	7	14	13	5	14	12	3	14	11	1	14	10	23	14	9	21	14	7	19	14	6	17	14	5	15	14	4	13	14	3	11	14	2	9		
table 15	15	15	5	15	14	3	15	13	1	15	12	23	15	11	21	15	10	19	15	8	17	15	7	15	15	6	13	15	5	11	15	4	9	15	3	7		
table 16	16	16	3	16	15	1	16	14	23	16	13	21	16	12	19	16	11	17	16	9	15	16	8	13	16	7	11	16	6	9	16	5	7	16	4	5		
table 17	17	17	1	17	16	23	17	15	21	17	14	19	17	13	17	12	15	17	10	13	17	9	11	17	8	9	17	7	7	17	6	5	17	5	3			
table 18	18	18	23	18	17	21	18	16	19	18	15	17	18	14	15	18	13	13	18	11	11	18	10	9	18	9	7	18	8	5	18	7	3	18	6	1		

### 19-table Web, 13 2-board rounds, 26 boards in play

This example has an odd number of tables and an odd number of board pairs. It is a combination of a 13-table Mitchell and a 6-table Web.

- The boarding pattern is “13-up-3-up-3-down”:
  - Use three sets of boards 1–26, one each for tables 1–13, 14–16, and 17–19.
  - Board tables 1–13 just like a 13-table Mitchell.
  - Board tables 14–19 just like a 6-table Web: tables 14–16 in ascending order and tables 17–19 in descending order.



	round 1			round 2			round 3			round 4			round 5			round 6			round 7			round 8			round 9			round 10			round 11			round 12			round 13					
	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd
table 1	1	1	1	1	19	3	1	18	5	1	17	7	1	16	9	1	15	11	1	14	13	1	13	15	1	11	19	1	10	21	1	9	23	1	8	25						
table 2	2	2	3	2	1	5	2	19	7	2	18	9	2	17	11	2	16	13	2	15	15	2	14	17	2	13	19	2	12	21	2	11	23	2	10	25						
table 3	3	3	5	3	2	7	3	1	9	3	19	11	3	18	13	3	17	15	3	16	17	3	15	19	3	14	21	3	13	23	3	12	25	3	11	1						
table 4	4	4	7	4	3	9	4	2	11	4	1	13	4	4	19	15	4	18	17	4	17	19	4	16	21	4	15	23	4	14	25	4	13	1	4	12	3					
table 5	5	5	9	5	4	11	5	3	13	5	2	15	5	1	17	5	19	19	5	18	21	5	17	23	5	16	25	5	15	1	5	14	3	5	13	5						
table 6	6	6	11	6	5	13	6	4	15	6	3	17	6	2	19	6	1	21	6	19	23	6	18	25	6	17	1	6	16	3	6	15	5	6	14	7						
table 7	7	7	13	7	6	15	7	5	17	7	4	19	7	3	21	7	2	23	7	1	25	7	19	1	7	18	3	7	17	5	7	16	7	7	15	9						
table 8	8	8	15	8	7	17	8	6	19	8	5	21	8	4	23	8	3	25	8	2	1	8	1	3	8	19	5	8	18	7	8	17	9	8	16	11						
table 9	9	9	17	9	8	19	9	7	21	9	6	23	9	5	25	9	4	1	9	3	3	9	2	5	9	1	7	9	19	9	9	18	11	9	17	13						
table 10	10	10	19	10	9	21	10	8	23	10	7	25	10	6	1	10	5	3	10	4	5	10	3	7	10	2	9	10	1	11	10	19	13	10	18	15						
table 11	11	11	21	11	10	23	11	9	25	11	8	1	11	7	3	11	6	5	11	5	7	11	4	9	11	3	11	11	2	13	11	1	15	11	19	17						
table 12	12	12	23	12	11	25	12	10	1	12	9	3	12	8	5	12	7	7	12	6	9	12	5	11	12	4	13	12	3	15	12	2	17	12	1	19						
table 13	13	13	25	13	12	1	13	11	3	13	10	5	13	9	7	13	8	9	13	7	11	13	6	13	13	5	15	13	4	17	13	3	19	13	2	21						
table 14	14	14	1	14	13	3	14	12	5	14	11	7	14	10	9	14	9	11	14	8	13	14	7	15	14	6	17	14	5	19	14	4	21	14	3	23						
table 15	15	15	3	15	14	5	15	13	7	15	12	9	15	11	11	15	10	13	15	9	15	15	8	17	15	7	19	15	6	21	15	5	23	15	4	25						
table 16	16	16	5	16	15	7	16	14	9	16	13	11	16	12	13	16	11	15	16	10	17	16	9	19	16	8	21	16	7	23	16	6	25	16	5	1						
table 17	17	17	7	17	16	1	17	15	25	17	14	23	17	13	21	17	12	19	17	11	17	17	10	15	17	9	13	17	8	11	17	7	9	17	6	7						
table 18	18	18	1	18	17	25	18	15	21	18	15	21	18	14	19	18	13	17	18	12	15	18	11	13	18	10	11	18	9	9	18	8	7	18	7	5						
table 19	19	19	25	19	18	23	19	17	21	19	16	19	19	15	17	19	14	15	19	13	13	19	12	11	19	11	9	19	10	7	19	9	5	19	8	3						

### 19-table Web, 12 2-board rounds, 26 boards in play

There are two ways to manage an odd number of tables playing an even number of rounds. Both have drawbacks.

The simpler method is to use a movement for one more round than will be played and curtail the last round. So, for 19 tables playing 12 rounds, use the movement above (19 tables, 26 boards in play) but don't play the 13th round.

The obvious drawback is that each pair misses two boards. This is minor, at least at matchpoints.

The more serious drawback is messy factoring. 18 boards are played 18 times, four boards are played 17 times, and four boards are played 16 times. ACBLscore factors the boards that are played 16 or 17 times up to a 17 top, but pairs that nearly tied are often separated by small fractions of a matchpoint,

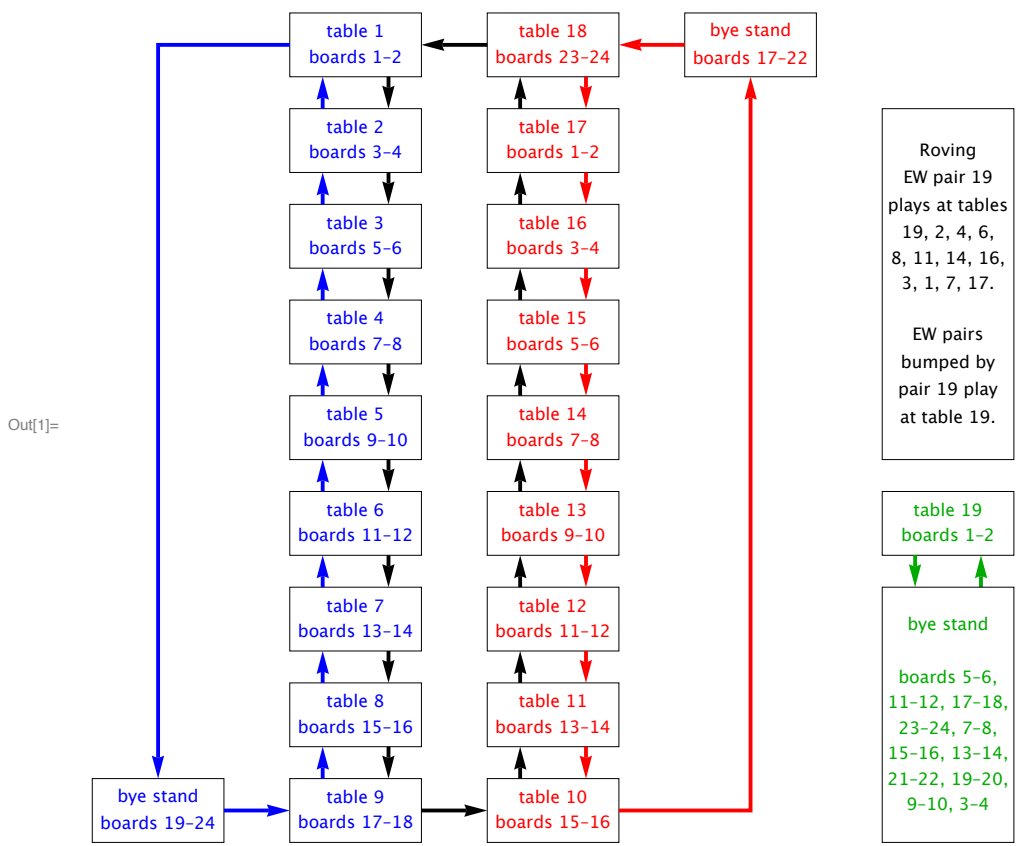
and pairs that exactly tied sometimes have their ties broken randomly by rounding error.

### 18-table Web plus “party” table, 12 2-board rounds, 24 boards in play

The other way to manage an odd number of tables playing an even number of rounds has “clean” scoring (no extra boards in play, no factoring), but needs the director to manage a roving pair.

For 19 tables playing 12 2-board rounds with just 24 boards in play, set up the movement above for an 18-table Web with 12 2-board rounds and 24 boards in play. Set up a nineteenth table as far away from tables 18 and 1 as practical (because EW pairs leaving table 18 go to table 1, not 19).

The nineteenth table is sometimes called an “appendix” or “rover” table, but since EW pairs go there only by invitation, it’s fun to call it a “party” table. The EW pair that starts at the nineteenth table is a rover. The pairs bumped by the rover are invited to the party table.



	round 1			round 2			round 3			round 4			round 5			round 6			round 7			round 8			round 9			round 10			round 11			round 12		
	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd	NS	EW	bd			
table 1	1	1	1	1	18	3	1	17	5	1	16	7	1	15	9	1	14	11	1	12	13	1	11	15	1	10	17	1	19	19	1	8	21	1	7	23
table 2	2	2	3	2	19	5	2	18	7	2	17	9	2	16	11	2	15	13	2	13	15	2	12	17	2	11	19	2	10	21	2	9	23	2	8	1
table 3	3	3	5	3	2	7	3	1	9	3	18	11	3	17	13	3	16	15	3	14	17	3	13	19	3	19	21	3	11	23	3	10	1	3	9	3
table 4	4	4	7	4	3	9	4	19	11	4	1	13	4	18	15	4	17	17	4	15	19	4	14	21	4	13	23	4	12	1	4	11	3	4	10	5
table 5	5	5	9	5	4	11	5	3	13	5	2	15	5	1	17	5	18	19	5	16	21	5	15	23	5	14	1	5	13	3	5	12	5	5	11	7
table 6	6	6	11	6	5	13	6	4	15	6	19	17	6	2	19	6	1	21	6	17	23	6	16	1	6	15	3	6	14	5	6	13	7	6	12	9
table 7	7	7	13	7	6	15	7	5	17	7	4	19	7	3	21	7	2	23	7	18	1	7	17	3	7	16	5	7	15	7	7	19	9	7	13	11
table 8	8	8	15	8	7	17	8	6	19	8	5	21	8	19	23	8	3	1	8	1	3	8	18	5	8	17	7	8	16	9	8	15	11	8	14	13
table 9	9	9	17	9	8	19	9	7	21	9	6	23	9	5	1	9	4	3	9	2	5	9	1	7	9	18	9	9	17	11	9	16	13	9	15	15
table 10	10	10	19	10	9	21	10	8	23	10	7	1	10	6	3	10	5	5	10	3	7	10	2	9	10	1	11	10	18	13	10	17	15	10	16	17
table 11	11	11	21	11	10	23	11	9	1	11	8	3	11	7	5	11	19	7	11	4	9	11	3	11	11	2	13	11	1	15	11	18	17	11	17	19
table 12	12	12	23	12	11	1	12	10	3	12	9	5	12	8	7	12	7	9	12	5	11	12	4	13	12	3	15	12	2	17	12	1	19	12	18	21
table 13	13	13	1	13	12	3	13	11	5	13	10	7	13	9	9	13	8	11	13	6	13	13	5	15	13	4	17	13	3	19	13	2	21	13	1	23
table 14	14	14	3	14	13	5	14	12	7	14	11	9	14	10	11	14	9	13	14	19	15	14	6	17	14	5	19	14	4	21	14	3	23	14	2	1
table 15	15	15	5	15	14	7	15	13	9	15	12	11	15	11	13	15	10	15	15	8	17	15	7	19	15	6	21	15	5	23	15	4	1	15	3	3
table 16	16	16	7	16	15	9	16	14	23	16	13	21	16	12	19	16	11	17	16	9	15	16	19	13	16	7	11	16	6	9	16	5	7	16	4	5
table 17	17	17	1	17	16	23	17	15	21	17	14	19	17	13	17	17	12	15	17	10	13	17	9	11	17	8	9	17	7	7	17	6	5	17	19	3
table 18	18	18	23	18	17	21	18	16	19	18	15	17	18	14	15	18	13	13	18	11	11	18	10	9	18	9	7	18	8	5	18	7	3	18	6	1
table 19	19	19	1	19	1	5	19	2	11	19	3	17	19	4	23	19	6	7	19	7	15	19	8	13	19	12	21	19	9	19	14	9	19	5	3	

## What's wrong with Web movements?

The main danger is boarding a movement before discovering that your table count is wrong or is changing. Because even and odd sizes are boarded so differently in a Web, it's harder to add or subtract one table than in a Mitchell.

An ounce of prevention: Be especially careful that you have an accurate table count and a butt in every seat before boarding a Web.

A pound of cure: You can add or remove *two* tables in the *middle* of a Web (and then renumber tables). You can add one table by creating a "party" table as described above.

## Web movements in ACBLscore

Web movements for an even number of tables and an odd number of rounds are built into ACBLscore. All other Web movements, including Mitchell/Web combinations and variants with rovers and party tables, require external movement files.

Some Web movement files are supplied with ACBLscore in its default location for external movements: \ACBLSCOR\MOV\.

Over 1000 additional Web movement files can be downloaded from <http://bridgewebs.com/westwood/> (click For Directors).

The recommended location for commonly used Web movement files (8 to 25 tables playing 8, 9, 12, or 13 rounds with no rover) is \ACBLSCOR\MOV\WEBS\. The recommended location for additional Web movement files (6 to 45 tables playing 6 to 15 rounds, including rover-and-party-table variants) is \ACBLSCOR\MOV\MOREWEBS\.

**N.b.: Directory and file names in \ACBLSCOR\MOV\ must not be longer than the old DOS limit—8-character names plus 3-character extensions—due to lingering bugs in ACBLscore!**

The movement file names begin *Wttbb*, where *tt* is the number of tables and *bb* is the number of groups of 2 or 3 boards (usually) in play. So, for the five examples above, the file names are

- w1813.MOV (18 tables, 13 board groups in play)
- w1812.MOV (18 tables, 12 board groups in play)
- w1913.MOV (19 tables, 13 board groups in play)
- w191312.MOV (19 tables, 13 board groups in play, shortened to 12 rounds)
- w1812ER.MOV (18 table base, 12 board groups in play, with **EW Rover** and party table, for a total of 19 tables)

In some cases there are alternative Web movements for the same number of tables and board groups. E.g.:

- w1008.MOV is a 5-up-5-down Web for 10 tables and 8 board groups
- w1008A.MOV is an 8-up-1-up-1-down Web for 10 tables and 8 board groups

## board requirements

Ideally each segment has its own full set of boards, so even-table Webs need two sets, and most Mitchell/Webbs need three sets. A party table needs its own set.

Two small segments in a Mitchell/Web can share a set of boards with little trouble. For example, in a 12-up-1-up-1-down Web, tables 13 and 14 can share a set of boards and will never need the same boards in the same round. In a 13-up-1-up-1-down Web, tables 14 and 15 both play boards 13 and 14 in round 7. They play different boards in every other round. To avoid sharing, make an extra copy of just boards 13 and 14 before round 7. In a 13-up-2-up-2-down Web, the same boards are played at table 14 or 15 and table 16 or 17 in rounds 1, 7, and 13. To avoid sharing, make an extra copy of boards 1–4 and 13–16.

## crossovers

Crossovers for Webs aren't significantly different from crossovers for Mitchells, but there are two situations that are more common with Webs that benefit from special techniques:

- One Web section that you'd like to crossover in place with as few playbacks as possible without resorting to an interwoven Howell.
- One or more complete Mitchell sections plus one larger Web section.

## single section

To crossover a single section to itself with minimum playbacks:

1. Exchange directions for half the pairs, preferably contiguous.
2. Reverse the order of the pairs that are not changing directions.
3. Shift all second-session EW pairs up one table.

Here's an 18-table example:

table	first session		step 1		step 2		step 3		playbacks	
	NS	EW	NS	EW	NS	EW	NS	EW	NS	EW
1	N1	E1	E1	N1	E1	N1	E2	N1	3	4
2	N2	E2	E2	N2	E2	N2	E3	N2	2	3
3	N3	E3	E3	N3	E3	N3	E4	N3	1	2
4	N4	E4	E4	N4	E4	N4	E5	N4	0	1
5	N5	E5	E5	N5	E5	N5	E6	N5	0	0
6	N6	E6	E6	N6	E6	N6	E7	N6	1	0
7	N7	E7	E7	N7	E7	N7	E8	N7	2	1
8	N8	E8	E8	N8	E8	N8	E9	N8	3	2
9	N9	E9	E9	N9	E9	N9	E10	N9	4	3
10	N10	E10	N10	E10	N18	E18	N18	E1	3	4
11	N11	E11	N11	E11	N17	E17	N17	E18	2	3
12	N12	E12	N12	E12	N16	E16	N16	E17	1	2
13	N13	E13	N13	E13	N15	E15	N15	E16	0	1
14	N14	E14	N14	E14	N14	E14	N14	E15	0	0
15	N15	E15	N15	E15	N13	E13	N13	E14	1	0
16	N16	E16	N16	E16	N12	E12	N12	E13	2	1
17	N17	E17	N17	E17	N11	E11	N11	E12	3	2
18	N18	E18	N18	E18	N10	E10	N10	E11	4	3



Note that each pair has between 0 and 4 playbacks (average 1.8). As far as I know, the only way to do better is to crossover the NS pairs into one section (or the low-pair-number half of an interwoven Howell) and the EW pairs into another section (or the high-pair-number half or an interwoven Howell).

This method approaches playback-free as the section size increases. It's completely playback-free if the number of tables is at least twice the number of rounds.

### unequal-size sections

If you have, say, a 13-table section A (Mitchell) and an 18-table section B (Web):

1. Do a normal 2-section crossover with at least **five double-NS and five double-EW pairs from B, preferably contiguous**. You'll have five extra EW pairs in A. (Five is the difference in section sizes.)
2. **Move five double-EW pairs who started in B back to B.**
3. **Reverse the order of the double-NS and double-EW pairs in B.**
4. **Shift all second-session EW pairs in B up one table.**

table	first session		step 1		step 2		step 3		step 4	
	NS	EW	NS	EW	NS	EW	NS	EW	NS	EW
A1	AN1	AE1	<b>BE1</b>	<b>AN1</b>	BE1	AN1	BE1	AN1	<b>BE2</b>	AN1
A2	AN2	AE2	<b>BE2</b>	<b>AN2</b>	BE2	AN2	BE2	AN2	<b>BE3</b>	AN2
A3	AN3	AE3	<b>BE3</b>	<b>AN3</b>	BE3	AN3	BE3	AN3	<b>BE4</b>	AN3
A4	AN4	AE4	<b>BE4</b>	<b>AN4</b>	BE4	AN4	BE4	AN4	<b>BE5</b>	AN4
A5	AN5	AE5	<b>BE5</b>	<b>AN5</b>	BE5	AN5	BE5	AN5	<b>BE6</b>	AN5
A6	AN6	AE6	<b>BE6</b>	<b>AN6</b>	BE6	AN6	BE6	AN6	<b>BE7</b>	AN6
A7	AN7	AE7	<b>BE7</b>	<b>AN7</b>	BE7	AN7	BE7	AN7	<b>BE8</b>	AN7
A8	AN8	AE8	<b>BE8</b>	<b>AN8</b>	BE8	AN8	BE8	AN8	<b>BE9</b>	AN8
A9	AN9	AE9	<b>BE9</b>	<b>AN9</b>	BE9	AN9	BE9	AN9	<b>BE10</b>	AN9
A10	AN10	AE10	<b>BE10</b>	<b>AN10</b>	BE10	AN10	BE10	AN10	<b>BE11</b>	AN10
A11	AN11	AE11	<b>BE11</b>	<b>AN11</b>	BE11	AN11	BE11	AN11	<b>BE12</b>	AN11
A12	AN12	AE12	<b>BE12</b>	<b>AN12</b>	BE12	AN12	BE12	AN12	<b>BE13</b>	AN12
A13	AN13	AE13	<b>BE13</b>	<b>AN13</b>	BE13	AN13	BE13	AN13	<b>BE14</b>	AN13
B1	BN1	BE1	<b>AE1</b>	<b>BN1</b>	AE1	BN1	AE1	BN1	AE1	BN1
B2	BN2	BE2	<b>AE2</b>	<b>BN2</b>	AE2	BN2	AE2	BN2	AE2	BN2
B3	BN3	BE3	<b>AE3</b>	<b>BN3</b>	AE3	BN3	AE3	BN3	AE3	BN3
B4	BN4	BE4	<b>AE4</b>	<b>BN4</b>	AE4	BN4	AE4	BN4	AE4	BN4
B5	BN5	BE5	<b>AE5</b>	<b>BN5</b>	AE5	BN5	AE5	BN5	AE5	BN5
B6	BN6	BE6	<b>AE6</b>	<b>BN6</b>	AE6	BN6	AE6	BN6	AE6	BN6
B7	BN7	BE7	<b>AE7</b>	<b>BN7</b>	AE7	BN7	AE7	BN7	AE7	BN7
B8	BN8	BE8	<b>AE8</b>	<b>BN8</b>	AE8	BN8	AE8	BN8	AE8	BN8
B9	BN9	BE9	<b>AE9</b>	<b>BN9</b>	AE9	BN9	AE9	BN9	AE9	BN9
B10	BN10	BE10	<b>AE10</b>	<b>BN10</b>	AE10	BN10	AE10	BN10	AE10	BN10
B11	BN11	BE11	<b>AE11</b>	<b>BN11</b>	AE11	BN11	AE11	BN11	AE11	BN11
B12	BN12	BE12	<b>AE12</b>	<b>BN12</b>	AE12	BN12	AE12	BN12	AE12	BN12
B13	BN13	BE13	<b>AE13</b>	<b>BN13</b>	AE13	BN13	AE13	BN13	AE13	BN13
B14	BN14	BE14	<b>BN14</b>	<b>AE14</b>	BN14	<b>BE14</b>	<b>BN18</b>	<b>BE18</b>	BN18	<b>BE1</b>
B15	BN15	BE15	<b>BN15</b>	<b>AE15</b>	BN15	<b>BE15</b>	<b>BN17</b>	<b>BE17</b>	BN17	<b>BE18</b>
B16	BN16	BE16	<b>BN16</b>	<b>AE16</b>	BN16	<b>BE16</b>	<b>BN16</b>	<b>BE16</b>	BN16	<b>BE17</b>
B17	BN17	BE17	<b>BN17</b>	<b>AE17</b>	BN17	<b>BE17</b>	<b>BN15</b>	<b>BE15</b>	BN15	<b>BE16</b>
B18	BN18	BE18	<b>BN18</b>	<b>AE18</b>	BN18	<b>BE18</b>	<b>BN14</b>	<b>BE14</b>	BN14	<b>BE15</b>

## acknowledgments

Tim Wright was the first director I saw use Web movements.

I first learned about combination Mitchell/Web movements indirectly from Doug Grove.

Despite their initial skepticism, Bob Simpson and David Metcalf allowed me to run Web movements in their clubs.

The `bridgemats` program <<http://web.mit.edu/mitdlbc/www/bridgemats/>> written by Pete Matthews, Jr., creates placemats from ACBLscore .MOVEMENT files and dumps .MOVEMENT files. These placemats are a big help when running a funky movement without electronic scorepads. Pete's code

also helped me figure out how to generate .MOVEMENT files for ACBLscore.

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Harris, John “Spider.” “Web Movements.” In the PAIRS tech file distributed with ACBLscore, \ACBLSCOR\TECH\PAIRS.

Manning, J.R. *The EBU Manual of Duplicate Bridge Movements*. Aylesbury, UK: The English Bridge Union, 2002.

McKinnon, Ian. *Duplicate Bridge Schedules, History and Mathematics*. Toronto: Master Point Press, 2012.

Nachtwey, Millard. “Web Movement Variations.” In the PAIRS tech file distributed with ACBLscore, \ACBLSCOR\TECH\PAIRS.

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## revision history

- 2019 January 29
  - rewrote crossover documentation
- 2018 November 27
  - more documentation simplification and clarification
  - removed the board-sets-in-play hack (too little gain for too much confusion)
  - added curtailed movements (e.g., W151312 is the same as W1513 with the 13th round omitted)
- 2018 September 16
  - added movements for short sessions (as few as six rounds)
- 2018 May 10
  - rewrote and illustrated introduction
- 2018 March 24
  - documentation edits
- 2016 July 12
  - Corrected the board-sets-in-play hack. Now the field in .MOVEMENT files really is set to *two* more than the actual number of board sets used, as documented. This makes it possible to bring an extra board set or two into play with EDMOV.
- 2016 March 9
  - documentation edits
- 2015 July 31
  - Added two to the board-sets-in-play field in .MOVEMENT files. This makes it possible to bring an extra board set or two into play with EDMOV.
- 2015 February 13

- added crossover discussion
- 2014 August 10
  - minor documentation edits
- 2014 March 31
  - when no rover movements exist for the max number of rounds, generate rover movements with one less round
- 2014 March 24
  - included revenge round in movements with more board sets than tables
- 2014 March 18
  - minor documentation tweaks (including noting the addition on 2014 March 5 of a few NS-rover Webs to the ACBLscore distribution)
- 2014 March 9
  - .MOVEMENT file names shortened to comply with the old DOS "8+3" limit (although ACBLscore sometimes works with longer file names, the mere presence of a longer file or folder name in the \ACBLSCOR\MOV folder can crash ACBLscore)
  - for easier management, the .MOVEMENT files are split into two folders, WEBS and MOREWEBS
  - many more .MOVEMENT files included
  - documentation extensively revised
- earlier revisions not logged