Hand & Suit Patterns

BY KEN MONZINGO

The "expected" frequencies of Hand Patterns listed below are from Borel and Cheron's *The Mathematical Theory of Bridge,* and repeated in Antonio Vivaldi and Gianni Barracho's *Probabilities and Alternatives in Bridge*. The first column of the tables gives the possible distributions of bridge hands - the 14 most common of 39 total. The funny "seven-Other" shown in the left column refers to all hands containing a seven-card suit but not already listed ("six-Other" means the same, six-card suits not listed). The second set of columns are Suit Pattern frequencies.

Note that both books assume hand *and* suit pattern probabilities to be the same.

Hand Patterns (suit distributions)		Suit Patterns (same as Hand Patterns!)	
Distribution	Expected Frequency	Distribution	Expected Frequency
4-4-3-2	21.55%	4-4-3-2	21.55%
5-3-3-2	15.52	5-3-3-2	15.52
5-4-3-1	12.93	5-4-3-1	12.93
5-4-2-2	10.58	5-4-2-2	10.58
4-3-3-3	10.53	4-3-3-3	10.53
6-3-2-2	5.64	6-3-2-2	5.64
6-4-2-1	4.70	6-4-2-1	4.70
6-3-3-1	3.45	6-3-3-1	3.45
5-5-2-1	3.17	5-5-2-1	3.17
4-4-4-1	2.99	4-4-4-1	2.99
7-3-2-1	1.88	7-3-2-1	1.88
6-4-3-0	1.33	6-4-3-0	1.33
5-4-4-0	1.24	5-4-4-0	1.24
5-5-3-0	0.90	5-5-3-0	0.90
8-10 card suits	`0.60%`	8-10 cards	`0.60%`
Other seven-card suits	1.65	Other seven-card suits	1.65
Other six-card suits	1.43	Other six-card suits	1.43

A Hand Pattern is how the 13 cards *you* own are distributed in suits. A Suit Pattern is how the 13 cards of *any* suit might be distributed around the table in the four hands. By these tables, the frequency of any random individual Hand Pattern and Suit Pattern is the same!

So, of the 39 possible distributions, what are the most common patterns? The "balanced" patterns: 4-4-3-2, (21.55%); 5-3-3-2, (15.52%); 5-4-2-2 (10.58%) and 4-3-3-3, (10.53%) constitute 58.18% of all hands dealt. When you add the 6-3-2-2, and 7-2-2-2 patterns, you can see two thirds of all random dealt hands have no short suits - singletons or voids. Or, if you like, one third of all hands have at least one short suit - singleton or void - occasionally both.

Interesting how the 4-4-3-2 (21.55%) pattern is the most dominant, and the 4-3-3-3 pattern is less than half as dominant (102 %) and less frequent than the 5-4-2-2 and 5-4-3-1 patterns. Also, interesting how the 5-4-3-1 (unbalanced) pattern is number 3 in frequency.

Aunt Lucy

BY KEN MONZINGO

I often hear stories about everybody's "Aunt Lucy" who plays bridge and knows every card before the play begins. Of course, *nobody* - Aunt Lucy included - knows *every* card. But I can show you how to easily know *most* of declarer's 13 cards *before* the opening lead is made, and maybe all 13 of 13 very early in the hand - *before* you play.

Example: You hold: ♠Qxx ♥10xxx ♦Axxx ♣Kx
The bidding:

South	Partner	North	You
1♦	Pass	1♥	Pass
1NT	Pass	Pass	Pass

Now's the time to ask yourself what you know. Those asleep, of course, know nothing. But you, using your mental blackboard, write out the following: "Declarer probably has no singletons or voids since he rebid notrump." How many cards does declarer hold? Thirteen? - very good! What are they? You don't know? I know most of them!

Let's count his hand, remembering he has no singletons or voids. How many spades does he have, zero to one? No. Does he have two? Yes, for sure! Does he have three? Maybe. Does he have four? No, he should have bid them if he's a good partner. How many hearts, zero to one? No. Does he have two? Yes. Three? Maybe. Four? No, he would have raised partner. How many diamonds? One to three? No! He has at least four - he must have a four-card suit *somewhere*, and he opened the bidding with 1♦. We've assumed he can't have four hearts or four spades (see above).

So can he have five diamonds? Maybe. Six? No, he would have rebid 2♦ with six, or seven.

How many clubs? Zero to one? No. Two? Maybe (3-3-5-2). Does he have three? Maybe. Four? Maybe. Five? No, he probably would have rebid 2♣ if he were 2-2-4-5 (or opened the bidding 1♣).

What we now know for sure about *Declarer's* Hand Pattern?

		Truth	Maybe
How many does he have?	spades	two	three
	hearts	two	three
	diamonds	four	five
	clubs	two	three or four

Before the first card is led, we can already "see" 10 of declarer's 13 cards! The "truths." Now, if you pay attention to the opening lead from your partner, and, thinking in both *suit* patterns and *hand* patterns you should be able to locate one, two or *three* more. Let's say your partner leads the ♠2 (playing fourth-best opening leads).

You look at the dummy which has, 3-4-3-3 distribution. Now look at your hand pattern (above) which is 3-4-4-2. If partner has four spades, declarer has three! Spades are 4-3-3-3. Suddenly you know 11 of his 13 cards before the first card is called from the dummy. Now look at the club suit! Three in dummy and you have only two. Partner doesn't have five or he would have led one. The missing clubs are 4-4. Declarer is 3-2-4-4! You know all 13!

Maybe Aunt Lucy *was* truly an expert. Maybe she learned to count in hand patterns!