"Nine Never"

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"Why should you play for the Queen to drop when you have nine trumps? Isn't a 3-1 split more likely than a 2-2?"

It is true that when you are missing four cards, a 3-1 split is more likely than a 2-2 split. However, a specific 2-2 split is more likely than a specific 3-1. When you cash the ace in dummy, lead towards the king-jack in your hand, and RHO follows low, there are only two possibilities left: LHO has the stiff queen or LHO has no more; in the first case you'd play for the drop if you knew, and in the second you would finesse. So why is the 2-2 more likely? The position after you play the ace, (where the question marks show the possible locations of the queen and the cards in parenthesis are the ones which have been played) is:

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             (Ax)xx
 ?(x)                       ?(xx)
             Kjxx(x)
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Each division of the cards does not have equal probability. Once the first card of a particular suit is dealt, the probability of various distributions in that suit changes. Here's the explanantion: imagine that you have four marbles which you roll down a chute one at a time; each marble falls randomly to a container on the right or the left. Once the first two marbles have fallen, there will either be one on each side or two on one side. When the third marble falls the three marbles will be distributed 3-0, 1-2, 2-1, or 0-3. You can see that the possibilities for the final marble are limited by what has happened with the first three - if all three are on one side, the only possibilities are 4-0 and 3-1; if the three marbles are distributed 2-1 the only possibilities are 2-2 and 3-1. Thus the 3-1 has to be more likely as it can occur no matter which way the first three marbles fell.

Here is the math. Skip this paragraph if you want to trust my statement that a specific 3-1 is more likely than a specific 2-2. There are 16 ways that four things can be divided into two groups. The probability of a single 2-2 split (of which there are six) is 6.78% and of a single 3-1 split (of which there are eight) is 6.22%. Finally, the probability of the two possible 4-0 splits is 4.78%. And those are your 16 cases. Note that 6 times 6.78 is 40.68% which is the probability of a 2-2.

So why should you play for the drop missing queen fourth of a suit? Suppose you cash the ace, lead towards the king-jack, and everyone follows low. Now there are only two possible cases left, the 3-1, where the queen can be is finessed, and the 2-2, where the queen is going to drop. As you have already learned, a specific 2-2 is more likely than a specific 3-1, so play for the drop unless other distributional information changes the odds.

A simple example of additional information is when you know from a preempt that seven of the "marbles" in one hand are diamonds, then there is less room in that hand for other "marbles." Now the 3-1 (and the 4-0) are more likely, with the preemptor being short.

If you are seriously interested in the probabilities of bridge you might want to look at *The Mathematical Theory of Bridge* by Emile Borel; the book is out of print (try eBay or a bridge bookseller). A simpler and excellent book is *Bridge Odds for Practical Players (Master Bridge)* by Hugh Kelsey & Michael Glauert.

One reader suggested that “restricted choice” also has a bearing on the decision as to whether to play for the drop or finesse with nine cards in a suit. It does not affect the decision to drop the queen as the fact is that there are only two cases left at the decision point is reflected in the odds above. However, it suggested the next topic for next month’s column.

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