Visualisation and the Law of Restricted Choice

by Chris Bosenberg

On this hand East opens 1D (3+) you decide to overcall 1♠ with a four-card suit (right or wrong!) and you reach 4♠. West leads the 4♦ which you distinguish as a singleton. How do you plan the play?

♠754 ♥K962 ♦AQ3 ♣954
♠AKQ9 ♥J ♦KJT872 ♣Q2

You remember that a few bridge teachers have recommended that you visualise the opponent's hands while playing bridge. Although you did this last week - when RHO had shown 10 points and passed in first seat you finessed the LHO opponent for a Queen and made your contract, you liked the benefits of visualisation but have not always have the energy to apply it on every hand.

You decide that the only way you can make 10 tricks is that the Spades must break so you play AK of ♠ LHO plays a small ♠ and then the T♠.

Wow, that complicates things as you now have an option to finesse the ♠ Jack if RHO has 4. Also, you remember something about the Law of Restricted Choice and may be that applies here as well. Oh well! it seems like a toss-up but what the hell, you might as well try and visualise successfully for the second time in 2 weeks! They are playing 5 card majors, so you know RHO has:

2-4 ♠s (RHO has followed to 2); 0-4 ♥ s; Exactly 3♦s; and 0-8 ♣s. Oh well! might as well guess as usual or might as well consider the ♣ length on this boring hand. if RHO had 4 or more ♣s RHO would have opened one♣ in fact if RHO had 3 ♣s RHO would have opened one ♣ so RHO opponent must have 2 ♣s and the distribution must be 4432 - so the finesse in spades is a certainty-yikes. You decide to brag and claim stating you finessing RHO for the known Jxxx, 4♠s made!

Going back to the Law of Restricted Choice, had we had no other information the finesse was 2/1 superior.

Jeff Rubens (1964, 457) stated the principle thus: "The play of a card which may have been selected as a choice of equal plays increases the chance that the player started with a holding in which his choice was restricted." Crucially, it helps play "in situations which used to be thought of as guesswork." In many of those situations the rule derived from the principle is to *play for split honours*. After observing one equivalent card, that is, one should continue play as if two equivalents were split between the opposing players, so that there was no choice about which one to play. Whoever played the first one does not have the other one.

For example, you hold:

ATxxx   Kxxx

You play the K and RHO opponent plays an honour (Q or J). You now play up to T and LHO opponent follows. Given RHO played an honour the odds favour the finesse 6.22% to 3.39% or about 2-1 as the choice was restricted. This assumes that the play of Q or J is random. If it is a certainty the player with QJ will play the queen, then the play of J makes the finesse 100% and play of Q changes the odds to 50-50 so when you defend play them randomly.

There are many other restricted-choice combinations. And the hand above is an example:

North				
1 The hand above	2	3	4	5
♠ 7 5 4	♠ K Q 2	♠ A Q 4	♠ A 9 3	♠ A K 8 6
South				
♠ A K Q 9	♠ A 9 5 4	♠ K 9 3 2	♠ K Q 8 4	♠ Q 5 4

In each of the first 4 layouts above, after you lay down two top honours, and the jack (or ten) falls on the second round, you should finesse on the third round. In example in 5), You cash the ace-queen, and RHO plays 9 and then Jack, then play low to the 8 – losing only to J109 on your right. In 4), cash the ace-king (unblocking the 9) and then lead low to the 8—losing only to J10x on your left. In all cases, you lose to the 3-3 break, but gain any time the opposition started with J(10)xxx. The Law of Restricted Choice will be with you.

Another example of restricted choice is the so-called MONTY HALL problem which you can try at home and convince yourself the restricted choice law works. The Monty Hall problem is as follows:

Assume that a room is equipped with three doors. Behind two are goats, and behind the third is a brand-new car. You are asked to pick a door and will win whatever is behind it. Let us say you pick door 1. Before the door is opened, however, someone who knows what is behind the doors (Monty Hall) opens *one of the other* two doors, always revealing a goat, and asks you if you wish to change your selection to the other door (i.e., the door which neither you picked, nor he opened). The Monty Hall problem is deciding whether you do.

The correct answer is that you *should* switch. If you do not switch, you have the expected 1/3 chance of winning the car, since no matter whether you initially picked the correct door, Monty will show you a door with a goat. But after Monty has eliminated one of the doors for you, you obviously do not improve your chances of winning to better than 1/3 by sticking with your original choice. If you now switch doors, however, there is a 2/3 chance you will win the car (counterintuitive though it seems) as the probability the car was behind one of the two doors you did not select is 2/3.

I know there are those who doubt what seems like gobble-gook. Let me explain

There are 3 possibilities the car can be behind Door1 Door 2 or Door 3

Let say you choose Door 1 and stay with your first choice when offered to change and I also choose Door 1 but switch when offered a switch!

Possible positions of Car	Door 1	Door 2	Door 3	Position after the switch is permitted.	Door 1 You stay with your selection	I switch to remaining door
1	Car	Goat	Goat	→	Car	Goat
2	Goat	Car	Goat		Goat	Car
3	Goat	Goat	Car		Goat	Car

I win twice and you win once so I am continuing to switch in future and using the theory of the Law of Restricted Choice in bridge as well.

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