

ODDS ASSESSMENTS

FINESSE OR PLAY FOR THE DROP?

WHAT ARE THE ODDS?

32 articles on odds in bridge

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Likely Distribution

Our shared entry point to probabilities in bridge is typically tables of missing cards:

Missing 5 cards

3-2 = 68%

4-1 = 28%

Missing 6 cards

4-2 = 48%

3-3 = 36%

Missing 7 cards

4-3 = 62%

5-2 = 31%

Missing 8 cards

5-3 = 47%

4-4 = 33%

The table has been drastically reduced here, but in practice it can be a perfectly good starting point for using the general distribution probabilities. My experience is that what you most often need is the odds for the location of one important card, not the general distribution probabilities. But perhaps I am influenced by the fact that I find the situation with the location of a single card the most interesting.

In practice, you can focus on some of the percentages above: The 48% and 36% for 4-2 and 3-3 respectively are the most important; for five and seven cards it is sixty-something percent for the most even distribution, and with eight cards the completely even one, 4-4, is only 33%.

Some percentages are missing, as well as those for two, three, and four cards.

♠ A 7 4
♥ 7 6 3
♦ 5 2
♣ A Q 9 7 3

S / None

♠ K 8 5
♥ A J
♦ A Q J 4 3
♣ 10 8 2

West	North	East	South
Pass	3NT	Pass	1NT
Pass			Pass

Lead: ♥4

The lead goes to East's queen, and you win the first or second round with the ♥A, but in any case you must assume that the opponents can take four heart tricks if they get in, and you have only 5 top tricks. One of the minor suits needs to produce 5 tricks. The chances are not good.

In clubs you can take a double finesse; both honors must be onside, 25%. You can go to dummy with the two black aces and finesse twice in diamonds. The king must be onside and the suit 3-3 against you. That is only half of the 36% for 3-3, so only 18%.

So you take the double finesse in clubs, and it works with this opposing layout:

♠ Q 9 3		♠ J 10 6 2
♥ K 10 8 5 4	S / None	♥ Q 9 2
♦ 9 6		♦ K 10 8 7
♣ K J 5		♣ 6 4

In the next deal you have reached 6♥ and must decide how to handle the spade suit:

♠ A Q 7 6
♥ J 10 5 2
♦ 10
♣ A 7 6 5

S / N-S

♠ 5
♥ A K Q 9 4 3
♦ A 9 7
♣ 9 8 4

West	North	East	South
			1♥
Pass	4♦ 1)	Pass	4NT 2)
Pass	5♥ 3)	Pass	6♥
Pass	Pass	Pass	

- 1) Splinter
- 2) RKCB 3014
- 3) 2 aces without the trump queen

Lead: ♣Q

You win with the ace and cash the ♥J, on which both opponents follow suit. There are 6 trump tricks in hand, 3 aces, and 2 diamond ruffs in dummy. 11 tricks, so the contract depends on whether you can produce an extra trick in spades. The spade finesse against the king gives a 50% chance. What about instead ruffing spades and getting the king to fall?

If the spades are 4-4, you will not get the king to fall. The probability of an uneven spade break is $100\% - 33\% = 67\%$. But then the king falls only if it is with the short spades, and that happens in less than half the cases, so you are far below the 50% for a finesse.

You finesse and make your 6♥- contract:

♠ K 10 8 3 2		♠ J 9 4
♥ 8		♥ 7 6
♦ J 8 4 3	S / N-S	♦ K Q 6 5 2
♣ Q J 10		♣ K 3 2

But what if there is one more spade and one fewer club in dummy?

♠ A Q 7 6 3
 ♥ J 10 5 2
 ♦ 10
 ♣ A 7 6

S / N-S

♠ 5
 ♥ A K Q 9 4 3
 ♦ A 9 7
 ♣ 9 8 4

If the spades are 4-3, you can drop the king by ruffing, and that is a 62% chance. In addition, there is the chance that the king may be on the short hand if the spades are more unevenly divided. Now the spade finesse is an obvious loser in the contest for the best line of play.

♠ 5
 ♥ A 8 6 5 3
 ♦ K 7 3
 ♣ 7 4 3 2

S / All

♠ A K 9 3 2
 ♥ K 2
 ♦ A 9 4
 ♣ A K 5

West	North	East	South
			2NT
Pass	3♦ *	Pass	3♥
Pass	3NT	Pass	Pass
Pass			

Lead: ♣Q * Transfer

You have 8 top tricks and must establish a length trick in spades or in hearts. In spades, the suit must be 4-3 against you, which is a 68% chance. What about the hearts?

If hearts are 3-3 against you, you can establish two length tricks, while you can establish only one with the suit 4-2 against you. 48% + 36% is more than 68%, so

Wait a moment. If hearts are 4-2 against you, you have no entry to enjoy the fifth heart, so the hearts must be 3-3, which is only a 36% chance.

You go ahead with the spades and produce the ninth trick with this opposing layout:

♠ J 7 6		♠ Q 10 8 4
♥ J 9		♥ Q 10 7 4
♦ Q 10 8 2	S / All	♦ J 6 5
♣ Q J 10 8		♣ 9 6

A Little Calculation

We begin with a review of the probability table for missing cards:

Missing 5 cards

3-2 = 68%

4-1 = 28%

Missing 6 cards

4-2 = 48%

3-3 = 36%

Missing 7 cards

4-3 = 62%

5-2 = 31%

Missing 8 cards

5-3 = 47%

4-4 = 33%

In the first deal, we bring out the finer measuring tape:

♠ A 10 5 3 2

♥ 9 6

♦ A 5 4 3

♣ 9 5

S / N-S

♠ K Q

♥ A 8

♦ Q J 10 2

♣ A K 7 6 3

West	North	East	South
			1♣
Pass	1♠	Pass	2♦
Pass	2♥ *	Pass	3NT
Pass	Pass	Pass	

* Fourth suit; game-forcing

Lead: ♥J.

You win the lead with the ace and cash the king and queen of spades. Both opponents follow, but the jack does not appear. Do you finesse in diamonds, or do you hope for the spades to be 3-3?

The 36% for 3-3 still holds, but the 48% must be reduced because the jack has not appeared. That means the 4-2 distributions with the jack doubleton should not be counted, and they make up 1/3 of the cases, so the risk of 4-2 comes down to 32%. 36% versus 32% corresponds to about 53% for dropping ♠J. You should not finesse in diamonds. The opponents' cards were:

♠ 9 7 6		♠ J 8 4
♥ K J 10 3 2	S / N-S	♥ Q 7 5 4
♦ 9 6		♦ K 8 7
♣ Q 8 2		♣ J 10 4

When the percentages are this close, more important factors come into play, such as whether the opponents are honest players who give count signals!

We all know that a finesse is about 50%, and a double finesse about 75%:

♠ A Q 10 4
♥ 8 5
♦ Q 7 5
♣ A Q 5 2

S / E-W

♠ 6 3 2
♥ A 9 2
♦ A K J 6 4
♣ 4 3

West	North	East	South
			1♦
Pass	1♠	Pass	1NT
Pass	3NT	Pass	Pass
Pass			

Lead: ♥4.

You have 8 top tricks and duck hearts until the third round. Then you finesse in spades to the ♠10 and ♠J with East, who plays his fourth heart to West's king.

West now plays a diamond, which you win in hand to play a spade, on which West follows with a small card. Do you finesse?

Many players are not aware that the spade finesse is now only a 50% chance. From the start, the possibilities for the distribution of the spade honors were these:

West	East
K J	-
J	K
K	J
-	K J

The double finesse succeeds in three cases out of four, a 75% chance. But after the first finesse, something unfortunate has happened: the ten was covered by the jack, not by the king. Now only the last two cases remain, and the second spade finesse is 50%.

The club finesse is also a 50% chance. You can combine the chances best by going up with ♠A, in the hope of dropping ♠K with East, and if necessary taking the club finesse. East-West had these cards:

♠ 9 8 7 5		♠ K J
♥ K 10 6 4	S / E-W	♥ Q J 7 3
♦ 10 9		♦ 8 3 2
♣ J 9 7		♣ K 10 8 6

Combining chances

If you have to choose between two suits, choose the one with the greater probability, but sometimes you can arrange things so that you get both chances:

♠ K Q 10 3
♥ A J 5
♦ 6 5 4
♣ 8 7 6

S / All

♠ A J 9 5
♥ K 4 3
♦ A K 3 2
♣ 9 2

West	North	East	South
			1NT
Pass	2♣	Pass	2♠
Pass	4♠	Pass	Pass
Pass			

The defenders start with three rounds of clubs. You trump the third round and draw trump in three rounds. You have 9 tricks: 5 in spades, including a club ruff, plus ace-king twice in the red suits. You can get the tenth trick by means of a successful heart finesse (50%) or by finding the diamonds 3-3 against you (36%).

It is a bad idea to start with the better chance, the heart finesse, because if the finesse loses, you go down, since the defenders must also get a diamond trick.

You can start by ducking a diamond. When you get in again, you find out how the diamonds are split. If they are 3-3, the contract is home. If not, you can fall back on the heart finesse.

The percentage chance is not really that interesting, because you know that you have combined the possibilities optimally. But it is the chance of 3-3 plus half of the rest:

$$36\% + 64\% \cdot 0,5 = 68\%$$

What is the best chance in the next deal?

♠ Q 10 3
 ♥ A 8 4
 ♦ 9 6
 ♣ A 7 6 4 2

E / None

♠ A J
 ♥ K 7 5 2
 ♦ A K 8 5
 ♣ K 8 5

West	North	East	South
		Pass	1♦
Pass	2♣	Pass	3NT
Pass	Pass	Pass	

Lead: Small spade.

You win the first trick with ♠J and have eight top tricks. The chance of 3-2 in clubs is 68%, while it is 36% for 3-3 in hearts. Do you start by ducking a club once?

If you start by ducking a club, you are playing solely for the 68%. Not so bad, but it is better to start with two high clubs. If the suit is 3-2 against you, you give the opponents their third club and end up with an overtrick. But if the clubs do not split nicely, you can now give up a heart trick, after which you also get the chance that hearts are 3-3. In addition to the 68% for clubs 3-2, you get a portion (0.36) of the remaining 32% as well (where the hearts are 3-3):
 $68\% + 32\% \cdot 0.36 = 80\%$

Here is a classic when it comes to combining chances as well as possible:

♠ Q 3
 ♥ J 9 4
 ♦ K 5 3 2
 ♣ A J 10 4

S / E-W

♠ A K 7
 ♥ 7 5 2
 ♦ A J 10 4
 ♣ K 7 2

West	North	East	South
			1NT
Pass	3NT	Pass	Pass
Pass			

Lead: ♠J.

You take the lead with the queen in dummy and count up 7 top tricks. Both two successful finesses against the queen in diamonds and in clubs will provide two more tricks.

In that situation you should start by cashing the top cards in one suit and then, if necessary, finesse in the other. You should cash the top cards in the suit that gives the greatest chance that the queen will fall, and that is diamonds, because here there are 5 cards out, while there are 6 cards out in clubs.

If ♦Q falls, you take your 9 tricks in the form of 3 spade tricks, 4 diamond tricks, and 2 club tricks. Maybe ♣Q will also fall for two more tricks!

If ♦Q does not appear, you take ♣K and finesse in clubs. If the finesse succeeds, you take ♠A and ♠K and finesse again in clubs.

Too much calculation

What about this situation?

K 10 3 2

A Q 4

I quote a writer in a bridge magazine:

Do you have a handle on how best to play AQx opposite KTxx? You start with AQ and then play a small card toward KT. Everyone follows small, and the question now is whether to finesse or cash. In other words, the question is whether it is more likely that the opponent on the right (RHO) was originally dealt xx or Jxx.

A very simple line of thought establishes odds of 11 to 10, or 52% to 48%, in favor of cashing. But one can, with quite a bit of trouble, explain it on the basis of the general probabilities:

The opponents have 6 cards in all in the suit. They are 4-2 in 48% of the cases and 3-3 in 36% of the cases. It is therefore relatively easy to calculate that RHO has Jxx in 18% of the cases. RHO has a doubleton in 24% of the cases.

There are 15 possible combinations, of which 5 include the jack (J9, J8, J7, J6, J5). Those five cases should not be included in the calculation, since the suit can then be played without problems. 10 of 15 doubletons with RHO = 16% (2/3 of 24%). Thus it is best to cash after the jack.

If you got lost along the way, that does not matter, because naturally we should look at the simple line of thought that gives odds of 11 to 10.

Dealing and Vacant Spaces

In many countries there are stories about people from a particular region who keep doing foolish things. In Denmark, there have long been many stories of that kind about the inhabitants of Mols, molboerne. Here is my Molbo story about how the cards were dealt when Niels, Svend, Erik and William played whist.

Molbo dealing

Two more Molboes were needed to deal the cards for the next board while the four were playing. One sat and dealt the cards one by one, while the other sat with a bingo bag containing tiles and drew lots to decide who should get the card. The bingo bag did not have the numbers 1 to 75 or 1 to 90, but there were 13 tiles with “N”, 13 with “S”, 13 with “E”, and 13 with “W”. The player, N, S, E, or W, whose tile was drawn from the bingo bag got the current card, and the tile was set aside and did not go back into the bag until the next deal.

Cumbersome - but correct

The Molbo deal is, of course, a cumbersome procedure, but a statistical analysis shows that the method gives a completely correct random distribution of the 52 cards to four players. In a computer, the cumbersome part is not a problem, so it is definitely a usable method for dealing in bridge programs.

When a card is to be dealt to N, S, E, or W, the number of tiles in the bingo bag corresponds to the number of missing cards in that particular hand. Thus the odds for the location of the card correspond to the number of “vacant spaces” in the hand, and in many situations at the bridge table one can determine the odds that way.

Finesse or cash from the top?

	♣ K 10 3 2	
♣ 9 7 5		♣ 8 6
	♣ A Q 4	

You start with ♣AQ and play ♣4 up toward ♣KT in dummy, while the opponents have contributed the cards shown. Who has ♣J?

We can imagine that the 12 clubs shown were dealt as the first 12 cards, after which ♣J went to West or East. There are 10 vacant spaces with West against 11 with East, so the odds are 11 to 10 for the jack with East, $11/21 = 52.4\%$ to cash from the top.

But doesn't that conflict with the 48% and 36% for 4-2 and 3-3 distributions, respectively? No, because the 48% and 36% refer to all distributions, and here we are comparing one specific 3-3 distribution with one specific 4-2 distribution, and then the 3-3 distribution is more likely.

♠ A J 10 7 5
 ♠ 4 3 ♠ 2
 ♠ K 9 8 6

After ♠K from hand, a diamond is played up toward dummy. The odds are 12 to 11 (52%) for the queen with East.

And that does not conflict with the percentages for the distribution of 4 outstanding cards:

2-2: 41% 3-1: 50% 4-0: (9)/(10)%

Zia played with the odds

		♠ K 6 3	
		♥ A K J 3	
		♦ A 3	
		♣ K J 5 2	
♠ 10 9 8 7 5		N / E-W	♠ Q 4
♥ 7 6 4			♥ Q 9
♦ K Q J 2			♦ 9 7 6 5
♣ 3			♣ A 9 8 7 6
		♠ A J 2	
		♥ 10 8 5 2	
		♦ 10 8 4	
		♣ Q 10 4	
West	North	East	South
	Boye		Zia
	1♣	Pass	1♥
Pass	3♥	Pass	4♥
Pass	Pass	Pass	

The deal is from the Copenhagen Bridge Invitational 2013, and West led his singleton club to the ace and got a club ruff. A spade from West went to the queen and ace, after which South played a heart to the ace, went back to hand on ♠J and finessed in trump to East's queen.

When assessing the odds, you get almost correct odds by counting only occupied spaces for a side suit whose distribution is completely known. When deciding on the location of ♥Q, West is marked with ♥764 and ♣3, while East is marked with ♥9 and ♣A9876, and in hearts only the queen is missing. West has 9 vacant spaces for ♥Q, while East has only 7, so the odds favor finessing for the queen with West.

The opponents' bidding places a suit

♠ J 8 4
♥ A 9 8 4 3
♦ 5 2
♣ Q 9 5

E / N-S

♠ A 6
♥ Q J 10 6 5 2
♦ A 8 4
♣ K 3

West	North	East	South
		4♦	4♥
Pass	Pass	Pass	

You would normally place East with an eight-card suit, but when West leads ♦7, you are completely sure that the suit is 1-7. You take ♦A and send ♥Q on its way, with West following with ♥7. What do you do?

There are 11 vacant spaces for ♥K with West against only 6 with East. So there are huge odds for the finesse.

Without knowledge of the diamond distribution, we are in a familiar situation where the odds are 13 to 12 for ♥K with East (13 against 12 vacant spaces with East and West, respectively). That gives a 52% chance to cash the suit from the top.

Who played with the odds?

We follow the two declarers in a 6♠ contract in a team match:

♠ K 10 9 7
♥ A Q 4
♦ 4 3
♣ A 8 7 2

W / E-W

♠ A J 8 6 5
♥ K J 3
♦ A 9 2
♣ K 4

At both tables West opened 3♦, after which the auction in different ways ended in 6♠ with ♦K led. It is obvious that East should be finessed for ♠Q, and a diamond must be ruffed in dummy, but after taking the opening lead with ♦A, the declarers got started in different ways without considering another line of play.

In the open room, declarer started by drawing trump with a finesse for the queen with East, intending to ruff a diamond afterward: He played a spade to the king and finessed the queen out of East, but the operation did not succeed, since West was void in trump:

		♠ K 10 9 7	
		♥ A Q 4	
		♦ 4 3	
		♣ A 8 7 2	
♠ -			♠ Q 4 3 2
♥ 9 8 5			♥ 10 7 6 2
♦ K Q J 10 7 6 5	W / E-W		♦ 8
♣ J 6 5			♣ Q 10 9 3
		♠ A J 8 6 5	
		♥ K J 3	
		♦ A 9 2	
		♣ K 4	

East declined to cover with ♠Q, after which declarer could not get a diamond ruffed in dummy without East being able to overruff. Down one.

In the closed room, declarer bet on ruffing a diamond with ♠K and then finessing for the queen with East. She played ♦2 to West and took the heart return with the jack in hand in order to ruff a diamond in dummy with the trump king. She could then finesse East for ♠Q for 12 tricks and a made contract.

Afterward we can try to assess who played with the odds by looking at when one line wins while the other goes down. Start by drawing trump, or start by ruffing a diamond?

We saw that it is best to start by ruffing a diamond when West is void in trump. Conversely, it is best to start by drawing trump if West has singleton ♠Q, since you then go down if you ruff a diamond high and subsequently lose the spade finesse to the queen with West. Is the spade distribution void opposite Q432 or Q opposite 432 more likely?

It is actually not so difficult to decide, since the difference is whether ♠Q has gone to West or to East:

♠ (Q?)		♠ (Q?) 4 3 2
♥ ?		♥ ?
♦ K Q J 10 7 6 5	W / E-W	♦ 8
♣ ?		♣ ?

There are 6 spaces for ♠Q with West against 9 with East. Thus the odds are 9 to 6, or 3 to 2, for a void with West compared with the queen singleton with West.

You may object that we do not know whether 432 in spades is with East. No, but if the purpose is to compare these two specific spade distributions, we can set it up that way.

There is an extra risk connected with starting by ruffing a diamond. West may be void in hearts or clubs. Then East can ruff West's diamond trick and give him a ruff in the void suit. But this risk still does not change the fact that declarer in the closed room played with the odds.

Important deal on the way to victory

		♠ 3	
		♥ K 8 7	
		♦ A 10 2	
		♣ K Q 10 7 5 4	
♠ K		E / None	♠ A Q J 9 8 5 4 2
♥ 5 3 2			♥ J 9
♦ Q J 9 6 5 3			♦ 4
♣ 9 8 3			♣ J 6
		♠ 10 7 6	
		♥ A Q 10 6 4	
		♦ K 8 7	
		♣ A 2	
West	North	East	South
	Auken		Welland
		4♠	Pass
Pass	Dbl	Pass	6♥
Pass	Pass	Pass	

In this year's Vanderbilt tournament, Roy Welland reached 6♥ after the auction shown. After the lead of ♠K, which held the trick, West shifted to a minor, and Welland got in to his hand. He cashed ♥A, which drew ♥9 from East. He continued with a small heart toward dummy, and the question was whether he should take the finesse with the 8. Are the hearts J532 9 or 532 J9?

West has 9 vacant spaces for ♥J against only 4 with East, but nevertheless Welland went up with ♥K and made his contract. He knew that East could also have played the 9 from J9x, but the reason was probably especially another one.

One must always be aware that what we are calculating is the initial odds, without taking into account what has happened. And with singleton ♥9, East would probably have overtaken ♠K and played more spades to force declarer to ruff in dummy. Then declarer probably does not catch a possible trump jack with West.

Insignificant Cards and Odds = Length

“Vacant spaces” is a frequently used concept for calculating the odds in handling a suit. To arrive at the number of vacant spaces, we must first find out how many spaces are occupied in the defenders’ hands.

♠ J T 7
♥ K 5 4 3
♦ A 8
♣ K 8 4 3

S / N-S

♠ Q 6 4
♥ A J 10 2
♦ K Q 5 4
♣ A 2

West	North	East	South
2♠ 1)	2NT 2)	Pass	1♥
Pass	4♥	Pass	3♦ 3)
Pass			Pass

- 1) Weak with a good 6-card suit
- 2) Heart support and 10+ points
- 3) 15-17 points

West starts with ♠AK. East follows twice and then gets a spade ruff. So much for West’s supposed 6-card suit, but you now have complete control of the spade distribution (5-2). You can remember that the next time you are not sure about the distribution in a suit, you must allow for the possibility that an opponent does not have exactly what he promised.

East switches to a diamond to dummy’s ace, after which you cash ♥K and play a small heart up toward AJT. All four small hearts have now appeared, with West having shown 1 and East 3. Finesse or play from the top?

West has 6 spaces occupied by 5 spades and 1 heart, while East has only 5 occupied by 2 spades and 3 hearts. The number of vacant spaces says that the odds are 8 to 7 (53.33%) for ♥Q to be with East, so you finesse.

But both defenders have also played a diamond, so if we fill one space in each hand with a diamond, the odds become 7 to 6 (53.85%). Which result is correct?

East had to play something when he was on lead (a diamond or a club), and normally West would have to follow suit. The tiny bit of information this gives is that West is not void in the minors, so you should stick with the first odds, where you do not count a diamond as an occupied space.

If, at the desk, you include the fact that West is not void in the minors, you get 53.34% instead of 53.33%.

But what if, in another deal, with 7 diamonds out, the defenders have each played 3 diamonds? Then there is a larger change in the odds than above. Now you can calculate the odds assuming the diamonds are 4-3 one way and the other way, and then you know that the correct probability lies somewhere in between (with only 1 diamond out, you can in fact count 3 diamonds in each hand!).

It is a similar situation if you are unsure whether an opponent has a 5-card or a 6-card suit. By counting vacant spaces for each case, you can calculate the odds, and then the probability lies somewhere in between. Often you will know whether you should give more weight to one result or the other.

Who has ♣K?

♠ K Q J
♥ K 9 8 6 2
♦ A 10 7
♣ Q 7

S / E-W

♠ A 7 4
♥ A Q 10 4 3
♦ K 5 2
♣ A 3

After South opens 1♥, South ends in 6♥ with ♦Q led by West.

Declarer takes the lead with the king so that later he can finesse against ♦J if the lead was from QJ. Next he draws trump in two rounds, with West having 2 and East 1. Now comes a small diamond up toward AT in dummy, and West discards a spade! Then declarer continues with ♦A and three rounds of spades, with both defenders following. The position is this:

	♠ -	
	♥ K 9 8	
	♦ 10	
	♣ Q 7	
♠ -	S / E-W	♠ -
♥ -		♥ -
♦ -		♦ J 9 8
♣ y y y y y y		♣ y y y
	♠ -	
	♥ 10 4 3	
	♦ 5	
	♣ A 3	

If East has ♠K, he must be put in with ♦J to lead away from ♠K or into a diamond double void. If West has ♠K, you must cash ♠A and put West in with ♠K to lead into a club double void.

It is probably “obvious” to most players that the odds favor ♠K with West, but let us still look at it from the deal, where the 9 clubs to E-W are dealt last with ♠K as the first of them: There are 6 spaces with West against only 3 with East. The odds for the location of the king correspond to the lengths, odds of 6 to 3 (67%) for the king with West.

Eight ever

You have landed in a poor 6♠, but you get a good chance because of the lead:

♠ K 6 5 2
♥ Q 4 3
♦ A Q 7
♣ A Q 8

S / None

♠ A J 4 3
♥ A 10
♦ K J 9 6
♣ K 7 2

West	North	East	South
			1NT
Pass	2♣	Pass	2♠
Pass	4NT	Pass	5♥
Pass	6♠	Pass	Pass
Pass			

Lead: ♥2

What is your plan of play?

Without a heart lead, you are completely dependent on bringing in trump without a loser. If West has led from a heart honor and you can guess which one, you have no heart loser. Then you can afford to give up a trump trick.

You judge that it must be more likely that West has led from the king rather than the jack, so you put up the queen, but unfortunately East wins with the king. You win with ♥A, play a small spade to the king, and continue with a small spade from dummy. The queen has not appeared, but the defenders have followed each time.

You probably know that the odds favor a finesse, but let us look a little more closely at this suit handling. With the queen fourth in front or the queen third behind, you have no chance, so it comes down to these two possibilities:

West	East
♠ x x	♠ Q x x
♠ Q x	♠ x x x

The odds are 3 to 2 that the queen sits with the three cards rather than the two, so you finesse and play for the first distribution.

Odds of 3 to 2 correspond to 60%-40%, but that does not mean you have a 60% chance of making the contract, because the 60% is conditional on your being lucky enough to have a 3-2 distribution with 3 cards in East.

Two-way finesse

You are South in 7NT with 38 HCP combined between the two hands, but the contract is not clear-cut:

♠ A Q J
♥ A J 3
♦ K J 8 7
♣ Q J 4

S / N-S

♠ K 6 4
♥ K Q 4
♦ A 10 9 6
♣ A K 5

Lead: ♠10

What is your plan of play?

North supported your 1♦ to 2♦ (inverted minor).

This looks like an exercise in card reading, where you should start by taking your tricks outside the diamond suit, so that is what you do. East does not follow to the third round of spades and clubs, while West does not follow to the second round of hearts.

Unfortunately, you cannot count up to a singleton diamond in one of the defenders' hands:

♠ 10 9 8 7 5		♠ 3 2
♥ 6		♥ 10 9 8 7 5 2
♦ ??	S / N-S	♦ ???
♣ 10 8 7 6 3		♣ 9 2

If one of the opponents had a singleton diamond, you could cash a high diamond and finesse against the queen with the player who had four diamonds, but the information that the diamonds are 2-3 is better than nothing. The odds are 3 to 2 (60%) for the queen to be with East, so you should finesse against the queen with East.

Odds Reduction

With this suit combination, there is normally no doubt about how it should be played for three tricks:

♦ A J 4

♦ K 9 3

Naturally, you should finesse the jack against the queen with West.

Bidding reduces the odds

But what if the play has developed in such a way that it is a question of which of these two hands West has (with two small diamonds it makes no difference)?

Case A

♠ A K 9 3

♥ K 7 4

♦ Q 2

♣ 8 6 5 4

Case B

♠ A K 9 3

♥ K 7 4

♦ 10 2

♣ 8 6 5 4

Everything involving probabilities and odds is based on all approx. 635 billion possible original hands being equally likely, so it is fifty-fifty whether West was originally dealt one hand or the other.

But as the play progresses, the players do things that mean the odds for some hands must be reduced relative to others.

If West is dealer and started by passing, hand B still carries full weight, but with hand A there is some probability (greater or smaller) that the actual player would open. Therefore the odds for hand A must be reduced, and you should play ♦3 to the ace followed by the jack.

The principle for assessing the probability in a given situation is therefore: the odds that the player was dealt the holding in question AND has done what he has done.

The lead reduces the odds

♠ A Q 7
♥ A Q 5
♦ K Q 3 2
♣ A J 4

S / N-S

♠ K J 5
♥ K J 6
♦ A J 6 4
♣ K 10 2

West	North	East	South
Pass	7NT	Pass	1NT
Pass			Pass

Lead: spades, hearts, or diamonds

Declarer takes all the tricks outside clubs and counts and counts the opponents' cards to find out how the clubs are divided.

If the deal had been taken from a textbook, you would end up with clubs 6-1, so there would be a sure finesse, but we are not that lucky.

But it turns out that West has 3 clubs and East 4. Thus the initial odds for West's club holding are:

	♣ Q x x	♣ x x x
Odds	3	4

What has West done that can affect the odds?

He has (unfortunately) not led a club. With ♣Qxx he never leads a club, so odds of 3 are preserved. But with ♣xxx he chooses to lead a club in $\frac{1}{4}$ of the cases, so odds of 4 must be reduced by $\frac{1}{4}$ to 3.

It is odds of 3 against 3 as to where ♣Q is, so only a 50% chance of success in 7NT with a total of 38 HCP!

The considerations above therefore tell us that if you can't determine the division of the club suit, you should place the queen with the opening leader. Perhaps he had a good reason not to lead a club!

Restricted choice

♠ K Q 2
♥ K 8 4 3
♦ K 8 7 5
♣ A 3

E / None

♠ A 7 3
♥ A 9
♦ A 10 9 4 3
♣ 7 6 5

West	North	East	South
		Pass	1♦
Pass	1♥	Pass	1NT
Pass	3NT	Pass	Pass
Pass			

Lead: ♣K

You take the second round of clubs with the ace and cash ♦K, on which East follows with the 2 and West with the jack. You play a small diamond from dummy, and the 6 appears from East. Finesse or play from the top?

It concerns these two distributions:

Case A ♦ Q J ♦ 6 2

Case B ♦ J ♦ Q 6 2

The question is whether the queen is with the jack (12 spaces) with West, or with the 6 and 2 (11 spaces) with East. Initially the odds are 12 to 11 for QJ with West.

In both cases East has no choice about what he can play, but in Case A West has the choice between playing the queen and the jack. Therefore the odds for that layout must be halved (more or less), giving odds of 11 to 6 (65%) for the finesse.

So you should play on the basis that West did not have freedom of choice between the two equal honors, the queen and the jack, but played the jack because he had no choice. His choice was therefore restricted.

In situations involving restricted choice, there are usually significant percentage differences, not tiny margins such as 52% against 48%. Here you end with 11 tricks against this layout:

♠ 10 8 6		♠ J 9 5 4
♥ Q 7 6 2		♥ J 10 5
♦ J	N / E-W	♦ Q 6 2
♣ K Q 10 8 4		♣ J 9 3

The fear of 4-1 against

Freedom of choice or no freedom of choice between queen and jack is the typical situation for the principle of restricted choice, but you may also have to look at freedom of choice between small cards:

♠ J 8 7 5
♥ A 7 2
♦ K Q 5
♣ 8 6 4

S / All

♠ A Q 9 6
♥ K Q 4
♦ A J 6
♣ A J 3

West	North	East	South
			2NT
Pass	3♣	Pass	3♠
Pass	4♠	Pass	Pass
Pass			

West leads ♣2, which goes to queen and ace. You go to dummy in a red suit and play ♠5 to ♠3, ♠Q, and ♠K. West continues with a heart or a diamond.

Do not regret that you did not reach 3NT, which makes easily. Instead, consider how you best handle a 4-1 trump break.

It is a matter of comparing these two layouts, which initially, all else being equal, are equally likely:

Case A	♠ K 10 4 2	♠ 3
Case B	♠ K	♠ 10 4 3 2

But there are not the same number of choices for the cards played with the two distributions. West always wins with the king, but in A East always plays the 3, while in B he chooses between the 2, 3, and 4. There are odds of 3 to 1 for the first distribution, so you first cash ♠A, not ♠J, intending if necessary to finesse against ♠10 with West.

Against the vast majority of opponents, you can reason the same way with this combination:

	♥ K Q 8 5	
♥ 6		♥ A 10 7 4
	♥ J 9 3 2	

You play a heart to the king, which is won with the ace. When you regain the lead, you assume that East has four hearts and play a heart to the queen.

But what if East is a real top player? Then he will duck with the ace, after which you play a small heart to the jack in the belief that the ace is with West.

If East then wins with the ace, with a 4-1 distribution it must be because it was singleton. But in that case, with the distribution shown above, East can well afford to win with the ace, because you will think it is singleton, and so on and so on. The reasoning goes in circles, and where does it end?

Choices in both hands

In the next deal you have a thin trump suit and must manage with two losers:

♠ A 10 6
♥ Q 6 5 2
♦ A Q 5
♣ Q 4 3

S / N-S

♠ K 7 4
♥ J 7 4 3
♦ K 8 6
♣ A K J

West	North	East	South
			1NT
Pass	2♣	Pass	2♥
Pass	4♥	Pass	Pass
Pass			

You let West's lead of ♦J run to the king and play trump up toward dummy: ♥3, ♥8, ♥Q, and ♥K. East plays a club to ♣Q, and you play a small trump from dummy. ♥10 comes from East. Do you play a small card, or do you go up with ♥J?

The actual distributions that allow you to get away with two losers are these initially equally likely distributions:

	West	East
Case A	♥ 9 8	♥ A K 10
Case B	♥ A 8	♥ K 10 9

In A there are 2 choices for West and 2 choices for East, so the odds must be divided by 4. The odds for B must only be halved, because only East has 2 choices.

In other words, there are odds of 2 to 1 for distribution B, so you play a small heart from hand. (In fact, the odds are slightly better, since someone might choose to go up with the ace in East when trump is played from dummy).

Restricted choice in the lead

The article's first deal was actually an example of restricted choice in the lead, but here is a deal that more closely resembles the others.

♠ A Q J 3
♥ K 10 9 3
♦ 8 4 3
♣ K J

S / N-S

♠ 6 4
♥ 5 2
♦ A K Q 9 7 6 5
♣ 8 5

Lead: ♥A.

South opened with a gambling 3NT, and it was passed out. West began, according to the textbook, by cashing an ace. After taking ♥A, West shifted to a small club. Which honor do you play from dummy?

Declarer went up with ♣K, but that was not so good, because West had ♣Q and East ♣A.

I was East and was pleased that declarer did not apply the principle of restricted choice:

With both aces, West could just as well have chosen to start with ♣A, so declarer should assume that West had a restricted choice, that he only has the one ace, which he led.

Not Restricted Choice

You have K97 in your hand in spades opposite AT85 in dummy. When you cash the king, ♠Q (or ♠J) appears on your right. Finesse or play from the top?

According to the principle of restricted choice, the odds are that East had no choice with a singleton ♠Q, rather than the choice between the queen and the jack from QJ doubleton. The odds for QJ doubleton must be halved, since East could have chosen to play the jack instead of the queen, while there are “normal” odds for the singleton queen.

Yes, that is usually how it is, but sometimes the odds still favor the defender having had the choice between the queen and the jack.

♠ 6 2
♥ A K 10 3
♦ Q 8 3 2
♣ A K 8

W / E-W

♠ A 9
♥ 9 6 5 4 2
♦ K 7 5
♣ Q 5 2

West	North	East	South
2♠ *	Dbl	3♠	4♥
Pass	Pass	Pass	

*Weak two opening

Lead: ♠K

You win the lead with the ace and play a heart to the king, on which ♥Q appears from East! Should you go back to your hand and finesse for the jack, or should you simply continue with ♥A?

Because of West's 6 spades and East's only 3, there is a tendency for East to have length in hearts, so perhaps the time has come to abandon restricted choice and bet on QJ with East? But let us calculate it. Based on vacant spaces for ♥J, we get these odds:

West	East	Odds
♥ J 8 7	♥ Q	5
♥ 8 7	♥ Q J	9

There are strong odds for the 2-2 distribution, but the latter must be halved, because with it East has the choice between queen and jack, so the odds are 5 to 4½, or 10 to 9, (53%) for finessing. It has not quite tipped over yet!

But what if West opens 3♠ and shows a 7-card suit? Then there is 1 fewer space with West and one more with East, giving odds of 4 to 10. After halving, the odds are 5 to 4 (56%) for not playing according to the principle of restricted choice, so now we play from the top.

An honest hesitation

Here is a deal where I was declarer in a pairs tournament:

		♠ J 9 6	
		♥ Q 10 8 7 5	
		♦ 5	
		♣ A 10 8 7	
♠ A Q 7 5 3			♠ 10 4 2
♥ A 4			♥ J 9 6 2
♦ 10 8 3 2	S / None		♦ Q 7 6 4
♣ Q J			♣ 5 2
		♠ K 8	
		♥ K 3	
		♦ A K J 9	
		♣ K 9 6 4 3	
West	North	East	South
1♠	Dbl	Pass	1♦
Pass	Pass	Pass	1NT *

*15-17 HCP

Lead: ♠5

The lead went to the nine, ten and king, after which I played a small club to the jack and ace. A club from dummy brought the other small club from East. Play from the top or finesse?

Let us calculate it. West's 5 spades give West 7 spaces for ♣Q, while East's 3 spades give East 8 spaces for the queen. That gives odds of 8 to 3½, or 70%, for finessing.

Even so, I went up with the king! When I played the small club from my hand, there was a marked pause by West before she decided to play the jack.

After the deal, partner remarked with a smile whether I did not know the principle of restricted choice. It would have been an unpleasant situation if ♣J had been singleton.

Odds for doubleton QJ

		♠ Q J 8	
		♥ 10 9 6 2	
		♦ A 7 3	
		♣ K 9 7	
♠ 7 6		S / E-W	♠ 10 9 5 4 3 2
♥ ?			♥ ?
♦ K Q J 10 9			♦ 5
♣ Q			♣ 6 4 3 2
		♠ A K	
		♥ A 4 3	
		♦ 8 6 4 2	
		♣ A 10 8 5	

West	North	East	South
			1NT
Pass	2♣	Pass	2♦
Pass	3NT	Pass	Pass
Pass			

Lead: ♦K

The distribution of diamonds and spades is fixed as shown above, and when comparing ♣QJ and ♣Q with West, we place the clubs with East and West as shown and look at the vacant spaces for ♣J. The initial odds are 5 to 2 for doubleton QJ with West, and by halving for the possibility that West could play either the queen or the jack, the odds become 2½ to 2 for QJ doubleton. So here you should assume that West has both honors, and play the suit from the top.

		♠ A Q 10 4	
		♥ K 8 3	
		♦ 10 6 5	
		♣ A 7 6	
♠ 9 7 6		S / None	♠ 8 5 3 2
♥ Q J			♥ 6 5 4 2
♦ A J 7 3			♦ K 9 2
♣ K 10 8 5			♣ J 9
		♠ K J	
		♥ A 10 9 7	
		♦ Q 8 4	
		♣ Q 4 3 2	

West	North	East	South
			1♣
Pass	1♠	Pass	1NT
Pass	3NT	Pass	pas
Pass			

Lead: ♦3

East-West start by taking four diamond tricks, after which West exits with a spade. After four spade tricks, declarer cashes ♥K, to which West follows with ♥J. Finesse or play from the top?

The distribution of the spade and diamond suits is known, and to compare the two decisive heart layouts, we give West ♥J and East ♥6542. The initial odds are 5 to 2 for ♥QJ with West, so after halving the 5, we again get odds of 2½ to 2 for playing from the top.

Advanced not restricted choice

	♠ 5	
	♥ Q J	
	♦ J 8 7 6 5 4	
	♣ 10 7 4 3	
♠ K 10 9 4	S / None	♠ A Q
♥ A K 9 8 2		♥ 10 6 5 4
♦ 10		♦ A K Q 3
♣ A K 8		♣ Q 9 5
	♠ J 8 7 6 3 2	
	♥ 7 3	
	♦ 9 2	
	♣ J 6 2	

The deal is from the Cavendish a couple of years ago, and in 7♥ or 7NT you get the queen or the jack from North when you draw ♥A. The principle of restricted choice then says that you should finesse in hearts.

The Pole Jacek Pszczola, better known as “Pepsi,” was in 7NT and could afford to postpone the choice by taking the tricks in the other suits first. He discovered that South had 6 spades, 2 diamonds, at least 3 clubs and therefore at most 2 hearts! So he played from the top and made his grand slam.

Tor Helness reached 7♥ and received a small heart lead! On dummy’s ace, the queen appeared from North. As Geir Helgemo pointed out, however, the principle of restricted choice does not hold here after a trump lead. The principle is based on North, with QJ, freely choosing to discard one of them. But here North must always play the queen, because if he plays the jack, he reveals that he has QJ, since South would not dream of leading from Qxx in trump against a grand slam.

Initially, QJ with North is slightly more likely than a singleton Q, but in reality it boils down to whether a world-class player in South (in this case the Dutchman Ton Bakkeren) is more inclined to lead a trump from J92 or from 92. Tor Helness finessed in trump and went down in his grand slam.

Suit Handling

Today even a beginner knows how a number of suit combinations should be handled in order to play with the odds. The example below from the early days of bridge may therefore be surprising, but there is no getting around the fact that probability calculation is a difficult subject.

K-x held by the opponents

♥ A Q J x x x

♥ x x x x x

You play from hand toward AQJ, and West follows with a small card. Finesse or cash?

There are 12 vacant spaces for the ♥K with West against 13 with East, so the odds are 13 to 12 (52%) for cashing.

Beginners should know that with this combination the odds favor cashing, but one can get into trouble with an explanation like this one from a beginner's bridge book:

*With eleven cards and the king out, it is right to **cash**. 2-0 is admittedly somewhat more common than 1-1, but if you play a small card from South and West follows, you must not count 2-0 with a void with West. The probability changes.*

The conclusion that you should cash is correct enough, but the starting point is wrong. 2-0 is not more common than 1-1; this is the one case with an even number out where the even split is most likely:

1-1: 52% 2-0: 48%

When West then follows with a small card, you must not count 2-0 with a void with West - but you must also not count 1-1 with the king singleton with West! Thus one case from each of the splits is excluded, and there is still a 52% chance of 1-1 and therefore of cashing.

K-6-2 held by the opponents

♥ A 8 7

♥ Q J 10 9 5 4 3

You play the queen from hand in South, and a small card, for example the 2, is played by West. Finesse or cash?

The decisive distributions are:

		Initial odds	After odds reduction
K 6 2	-	11	5.5
K 2	6	13	13
6 2	K	13	6.5

The difference between the first and the second distribution is whether the 6 has gone to West, 11 spaces, or to East, 13 spaces. Thus the probability of the first is 11/13 of the second, so the last two 2-1 distributions are very conveniently set at odds of 13. In the first and last distributions, West has the choice between the 6 and the 2, so the odds are reduced by half.

The probability of finessing rather than cashing is $(5.5+13)/(5.5+13+6.5) = 74\%$. Thus Ely Culbertson's considerations below are rather peculiar.

Ely Culbertson

If you are not a senior player, the name may not mean much to you. He was born in Romania in 1891, with a Russian mother and an American father. He studied at universities in France and Switzerland, and he had an extraordinary talent for languages: He spoke fluent Russian, English, French, German, Czech, and Spanish and could read five other languages.

In 1921 he moved to the USA and at first made his living from his winnings at auction bridge and poker.

In the 1930s he was the undisputed figure in contract bridge. He skillfully promoted the game and arranged challenge matches between his own team and other top teams in the USA and England, and his good sense of PR ensured that the matches received massive coverage in newspapers and on radio.

Ely's sense of the odds

Culbertson founded the magazine *The Bridge World*, where in an article in 1930 he discusses this deal from a pairs tournament:

		♠ A 8 7	
		♥ A Q 10 9 8 7	
		♦ K	
		♣ A 10 5	
♠ K 2			♠ 6
♥ 4 3			♥ J 5
♦ Q J 8 7 4	E / None		♦ A 10 6 5 3 2
♣ 9 7 6 2			♣ Q J 4 3
		♠ Q J 10 9 5 4 3	
		♥ K 6 2	
		♦ 9	
		♣ K 8	
West	North	East	South
Theodore	Mrs. Ely	Mrs. P.	Ely
Lightner	Culbertson	Hal Sims	Culbertson
		Pass	1♠
Pass	3♥	Pass	3♠
Pass	6♠	Pass	Pass
Pass			

Culbertson points out that South's hand called for a pass. However, he wanted to launch a surprise attack on Lightner in the hope of bluffing him. Moreover, since he had not held opening-bid values, passing the forcing 3♥ bid might cost them a game. He therefore bid 3♠.

The entire deal hinged on whether to take the spade finesse. Culbertson believed that, with ten trumps, the mathematical odds for the finesse were so slight that they could effectively be disregarded.

According to Culbertson, a more important consideration was the singleton king of diamonds. Through some mysterious process at work in the shuffle, it is an established fact that a singleton honor is often—far too often—accompanied by a singleton honor in another hand. He therefore initially decided against the finesse. Then he noticed a slight, partly suppressed yawn on Teddy’s lips.

Since Teddy was plainly wide awake, Culbertson interpreted the yawn as a physical release of nervous energy—the tell of a man holding the king.

Rather than rely on the “law of symmetry,” Culbertson attached greater significance to a faint twitch at the corner of Lightner’s mouth. He successfully finessed against the king and earned a top score on the board.

Seen from today, in 2014

Today we usually do not play with hand-dealt cards - they are dealt in advance by a computer. So we do not need to worry about any law of symmetry that would make a singleton king in one suit make a singleton king in another suit likely.

The odds for finessing, which in itself was supposedly a factor that could be disregarded, are as shown 18.5 to 6.5, or 74%. Our knowledge of odds in bridge has been built up little by little since then.

It is striking that Culbertson needed a slight twitch at the corner of his left-hand opponent’s mouth in order to play with the odds. Today it would take a strong twitch at the corner of the right-hand opponent’s mouth to play against the odds and go up with the ace.

K-J-4 held by the opponents

♥ A Q 6 3

♥ 10 9 8 7 5 2

The chance of avoiding a loser here is not good when West contributes the 4, as the 10 is played from South. The possible distributions are:

			Odds	Percent
a)	K J 4	-	11	22%
b)	K 4	J	13	26%
c)	J 4	K	13	26%
d)	4	K J	13	26%

There should be no odds reduction, since we can assume that West always plays the 4. With:

- a) you should take a double finesse
- b) you should finesse with the queen
- c) you should go up with the ace
- d) you cannot avoid a loser

It is best to finesse with the queen or to go up with the ace, but you do not get above a 26% chance of avoiding a loser.

In the next deal, you can afford to lose a trump trick if you avoid losing a trick in a side suit.

A textbook deal in elimination and endplay

In the bulletin from a major team tournament, one could read about this neat declarer play by one of the players on the winning team:

♠ A Q 6 3
♥ A 4 2
♦ A 7 3 2
♣ A 9

E / N-S

♠ 10 9 8 7 5 2
♥ K 5
♦ K J 8
♣ K J

West	North	East	South
		Pass	Pass
Pass	1♦	Pass	1♠
Pass	4♠	Pass	4NT 1)
Pass	5♣ 2)	Pass	6♠
Pass	Pass	Pass	

1) RKCB 1430 2) 1 or 4 aces

Declarer took the heart lead with the king and played a trump to the queen, which held; East discarded a heart. But that was not a problem, because declarer cashed the trump ace, eliminated hearts and clubs, and put West in with the ♠K. West had to lead into a double void or up to the diamond tenace.

Did declarer choose the best plan?

I played the same way, but in 4♠, where we ended up even though I had opened 1♠ as South! Afterward I realized that instead one could go up with the ace in trump, with the possibility of also endplaying East with the ♠K if the king does not drop:

After a spade to the ace, you can cash ♥A and ruff a heart, followed by ♣A and ♣K and a trump from hand.

If $\diamond Q$ is onside, we always win, so let us look at cashing (C) versus finessing with the queen (F), if $\diamond Q$ is with West.

a) K J 4 - 22%
F wins, while C does not win.

b) K 4 J 26%
Both F and C win.

c) J 4 K 26%
C wins, while F does not win.

d) 4 K J 26%
F does not win, while C wins if East has T9 in diamonds.

It is clear that going up with the ace in trump is a better plan. And the plan becomes even better if we ourselves ha

Before and After Restricted Choice

The principle of restricted choice is not so easy to understand, and even though it was put forward about 60 years ago, it is not widely known or accepted.

In the 1958 book “The Expert Game,” Terence Reese formulates restricted choice as a unified principle. The idea of restricted choice was introduced by Alan Truscott in Contract Bridge Journal in 1953 or 1954.

Since then, the principle has been explained many times with examples in books, magazines, and bridge columns in newspapers. But I have often found that the ideas have not taken hold among very many ordinary club players.

At a drop-in bridge in the neighboring town

In a field of quite ordinary club players, this deal came up:

	♠ 5 3	
	♥ A K 10 7 6	
	♦ 10 9 4	
	♣ K 10 9	
♠ A J 9 7 6	N / All	♠ K Q 8 4 2
♥ 9 5 4		♥ Q J 3 2
♦ J		♦ Q 7 6
♣ 8 6 5 3		♣ 7
	♠ 10	
	♥ 8	
	♦ A K 8 5 3 2	
	♣ A Q J 4 2	

South was in a diamond contract, and the play typically began with the defense taking a spade trick, after which declarer ruffs the spade continuation and cashes a high diamond, to which West contributes the ♦J. Next comes the question of whether to continue with the other high diamond or go to dummy to finesse.

There are huge odds in favor of finessing, since you must assume that West did not have the choice between the ♦J and the ♦Q, but that his “choice” was restricted to playing the ♦J.

The theoretical explanation

When you see the ♦J with West, you must choose between these two distributions with the stated initial odds:

♦ J	♦ Q 7 6	Odds 11
♦ Q J	♦ 7 6	Odds 12

The difference between the two distributions is the location of the queen, with 12 vacant spaces in West's hand against 11 in East's.

But the odds for the latter must be halved, because West has the choice between playing the jack and the queen. Thus the odds are 11 to 6 (65%) in favor of finessing.

The untrue but practical explanation

As South takes the high diamond, smoke seeps out from the kitchen next to the playing room, and he can only make out that West plays an honor, but it is difficult to see whether it is the queen or the jack. Thus the distribution is one of the following:

♦ J	♦ Q 7 6
♦ Q	♦ J 7 6
♦ Q J	♦ 7 6

In two out of three cases it is right to go to dummy to finesse, so it must be something like a 67% chance.

Only a few knew about restricted choice

A diamond contract was played at 16 tables, and at only 5 of them did declarer take 12 tricks. And that may not have been because of restricted choice, but because declarer got to discard the spade loser on hearts.

In the A section, declarer took only 11 tricks at 3 of 4 tables. At my table it was also 11 tricks, but at least his partner knew about restricted choice, because he asked declarer to go home and do his homework.

A deal from the Danish 1st division

		♠ K J 8 4 3		
		♥ A 8 7 4		
		♦ 10 4		
		♣ J 7		
	♠ Q 9 6			♠ 10 5 2
	♥ Q J			♥ 6 5
	♦ A K 6 5 3	S / None		♦ J 9 8
	♣ A K 6			♣ 10 9 8 5 4
		♠ A 7		
		♥ K 10 9 3 2		
		♦ Q 7 2		
		♣ Q 3 2		
West	North	East	South	
			1♥	
Dbl	3♦	Pass	3♥	
Pass	Pass	Pass		

This was the auction with Morten Andersen in South. 3♦ is invitational with four-card heart support. After an auction along the lines shown, South became declarer in 3♥ at 9 of 12 tables. And at 8 of the 9 tables, declarer knew his craft, as after taking the ♥A with an honor from West, he then finessed against the other honor with West. Down one.

At Morten's table, West cashed four top tricks in the minors and played a diamond to his queen. Morten now held back the ♥A and instead continued with the two top spade tricks followed by a spade ruff. After the ♥A and a small heart from dummy, it was now a question of these hands with West:

♠ Q 9 6	♠ Q 9 6
♥ Q J	♥ Q/J
♦ A K 6 5 3	♦ A K 6 5 3
♣ A K x	♣ A K x x

A count shows that there are 6 of the first type against 30 of the second, so a situation with huge odds for restricted choice!

Even so, Morten played for the drop and made his contract. He knows restricted choice perfectly well, but when West passed over Morten's 3♥, it was completely without any kind of pause or thought. Morten was convinced that with the second hand West would at least have given it a little thought before passing, so he had to have the first. Morten applied restricted choice to West's whole hand in combination with West's tempo in the auction.

A deal from before the formulation of restricted choice

		♠ K Q 9 2	
		♥ A K 10	
		♦ K 7 5 2	
		♣ A 6	
♠ J 4 3			♠ 6
♥ 8 6			♥ Q J 7 4 2
♦ J 6 4 3	S / N-S		♦ 10 8
♣ K J 7 5			♣ Q 10 9 4 3
		♠ A 10 8 7 5	
		♥ 9 5 3	
		♦ A Q 9	
		♣ 8 2	
West	North	East	South
Pass	4NT	Pass	1♠
Pass	5NT	Pass	5♥
Pass	6♠	Pass	6♣
Pass			Pass

Lead: ♠3

The former editor of The Bridge World, Alphonse Moyse, was, according to Fred L. Karpin's "Winning Play in Tournament and Duplicate Bridge," rather proud of his role in this deal, which occurred in the Vanderbilt Cup Championship in 1949. He was South with Mrs. Kay Rhodes as his partner, while Harry Fishbein and Lee Hazen sat East and West, respectively.

Hazen (West) led a low trump, which Alphonse Moyse won with the eight, and drew two more rounds of trumps. He then tried the double finesse in hearts by leading a low heart from his hand and playing dummy's ten. Fishbein won the ten with the jack and returned a heart, after which Moyse cashed dummy's ace and king and discovered that Hazen could not follow suit.

Moyse played a low diamond to his ace and noted Fishbein's eight. When he next cashed the $\diamond Q$, he had something to think about when the $\diamond 10$ fell on his right!

Moyse found this distinctly uncomfortable, because he was now faced with a guess he did not like. He would have preferred not to see a card fall that way, because if Fishbein had followed with an insignificant spot card, there would have been only one possible line of play to make the contract: the outstanding diamonds would have to break 3-3.

The curious thing is that today we would very much prefer to face this guess. The principle of restricted choice says that the odds strongly favor East's holding 10-8 rather than J-10-8!

He drew one more round of trumps, discarding dummy's $\clubsuit 6$, but neither defender would let go of a diamond. He continued with the $\diamond 9$, and when Hazen followed with the six, he thought for a long time.

Moyse points out that Fishbein would have played the $\diamond 10$ on the second round from J-10-8 just as quickly as from 10-8 doubleton.

It is curious that Moyse does not mention that, holding J-10-8, Fishbein could instead have played the jack. Now we are getting warm: once you consider that with J-10-8 he could have played the jack instead, the odds must favor his holding 10-8 rather than J-10-8!

For Moyse, it was a mathematical fact that a 4-2 break in the suit was more likely than a 3-3 break. A 4-2 break, taken over all possible layouts, is more likely than a 3-3 break. But the relevant comparison is between one specific 4-2 layout and one specific 3-3 layout. Normally, a particular 3-3 layout is more likely than a particular 4-2 layout, but here the information about the major-suit distributions makes the two equally likely.

But the factor that finally persuaded him to let the nine ride was Hazen's trump lead at trick one. Hazen held three spades headed by the jack and two worthless hearts. If he had also held three worthless diamonds, he would have tried an aggressive opening lead rather than the passive trump lead. His only reason for choosing a trump had to be that he had defensive values in two suits, not merely in clubs. Such subtle considerations can carry considerable weight in an expert's opening lead against a slam. (Afterward, Hazen admitted that he had indeed been influenced by his possible stoppers in both minor suits.)

Moyse was not familiar with restricted choice as applied within a single suit, but in effect he applied restricted choice to the opening lead! My impression is that most experts today would lead a club whether the hand contained $\diamond J643$ or $\diamond 643$. But when a trump is led, which hand becomes more likely? The safest course is to stick with restricted choice in diamonds!

The Principle of Choice

You have probably not heard of that principle, but of the principle of restricted choice. But the expression restricted choice is really poor. It has, however, existed for so many years and become so firmly established that we probably cannot change it.

The principle of choice is about reducing the initial odds for a suit or a hand based on the choices that have been made - that is, the opposite designation from the principle of restricted choice.

There are two distinctly different methods for calculating odds: the one at the desk, where you look at the relevant distributions without considering what comes from the opponents, and the one at the bridge table, where you emphasize what has been played and look at the currently possible distributions.

We can first look at this suit, where we must avoid losers:

♥ A Q 8 6 5 4

♥ 9 7 3 2

A small heart is played from hand up toward dummy, and West follows suit, but not with the king. Finesse or cash the ace?

At the desk

The relevant distributions are:

♥ K J

♥ K 10

♥ J 10

♥ 10

♥ J

♥ K

In two cases out of three you should finesse, so the odds are 2 to 1 for finessing rather than cashing.

At the bridge table

Now you are sitting at the bridge table and see West play the ten. Thus only these distributions are relevant:

♥ K 10

♥ J 10

♥ J

♥ K

In one case you should finesse, and in the other the suit should be cashed - in other words fifty-fifty. No, because when you look at the cards actually played, you must take account of whether, with a given distribution, there were choices for the card played, and if so reduce the odds in accordance with those choices.

If we here say the starting odds are 2 to 2, we must halve the odds for the last one, since West has the choice between playing the jack and playing the ten, so it again becomes odds of 2 to 1 for finessing.

Restricted choice?

This question was asked in a post on a bridge discussion page:

♠ J 7 6 5 4 3

♠ K 2

You have this trump suit, where you may lose 2 tricks, but not 3.

A small spade from dummy goes to the 9, king, and ace. You win the return in hand, play ♠2 and get the 8 from West. Do you play the jack or a small card from dummy?

It is a question of:

♠ A Q 8 ♠ 10 9
or
♠ A 10 8 ♠ Q 9

The two distributions are equally likely from the start, but the odds must be reduced based on the choices available for the cards played. The first must be halved because East has the choice between the ten and the 9, and the second must be halved because West has the choice between the ten and the 8. So still fifty-fifty. But with the first, West can choose to go up with the queen when the 2 is played from hand, so the odds for the first must be reduced further. Therefore the odds favor not going up with the jack.

The curious thing is that with the first distribution there is no question of restricted choice, but of choice available to both East and West.

Classic odds error

In discussing a deal in Dansk Bridge, the author commits the classic odds error of not reducing the odds when looking at the cards actually played.

		♠ A 9 5 2		
		♥ A K Q		
		♦ K J 3		
		♣ A 7 4		
♠ K Q		S / E-W	♠ 7	
♥ J 9 5 2			♥ 10 8 7 4	
♦ 4			♦ Q 10 8 7 5 2	
♣ K Q J 9 5 2			♣ 10 8	
		♠ J 10 8 6 4 3		
		♥ 6 3		
		♦ A 9 6		
		♣ 6 3		
West	North	East	South	
			2♦ 1)	
Pass	2NT 2)	Pass	3♠ 3)	
Pass	4NT 4)	Pass	5♦	
Pass	6♠	Pass	Pass	
Pass				

- 1) Multi, 6-card major suit, 5-10 points
- 2) Asking bid
- 3) Minimum with spades
- 4) Roman Key Card Blackwood

Lead: ♣K

Declarer won the lead with ♣A, cashed three hearts with a club discard, trumped a club, played a spade to the ace, and trumped the last club. Then he played trump, but West got in and played a diamond, and since East had both the queen and the ten, South had to go one down.

Declarer's considerations

Looking at the diamond suit in isolation, the queen must be onside, but if you can get East to play the suit, or one of the opponents to play into a double void, the queen's position is irrelevant. In addition, ♦9 plays a significant role.

If the diamond suit is attacked from West, declarer can first play low from dummy. That gives three tricks in the suit if West has the ten, but if East has it, the finesse against ♦Q is still preserved. Those are fine odds

Declarer saw that West had 6 clubs and at least 3 hearts, so if he is the one who gets in on the second round of spades, he has at most 2 diamonds in his hand. And among West's possible doubleton combinations, only $\diamond Tx$ makes a difference if declarer cashes $\diamond A$ before playing the second spade. On the other hand, South wins in all the cases where West has a small singleton diamond (plus, of course, queen or ten singleton, which makes no difference).

$\diamond A$ before spade? What are the odds?

It is a question of one of these distributions with West-East:

$\spadesuit$ K Q		$\spadesuit$ 7
$\heartsuit$ z/y x x x		$\heartsuit$ y/z x x x
$\diamond$ e.g. 4	S / E-W	$\diamond$ Q 10 8 7 5 2
$\clubsuit$ K Q J 9 5 2		$\clubsuit$ 10 8
or		
$\spadesuit$ K Q		$\spadesuit$ 7
$\heartsuit$ x x x		$\heartsuit$ y z x x x
$\diamond$ 10 4	S / E-W	$\diamond$ Q 8 7 5 2
$\clubsuit$ K Q J 9 5 2		$\clubsuit$ 10 8

where the x's are the hearts shown from East and West, and y and z are the two hearts still out.

There are 2 variants for the upper distribution against only 1 variant for the lower distribution. The writer stated that the chance of $\diamond x$ with West is exactly twice as great as the chance of $\diamond Tx$.

He was made aware that his 2 to 1 odds did not hold, but the deal was nevertheless published in Dansk Bridge with the statement that the chance was exactly twice as great.

The correct odds

Both odds of 2 for the first and odds of 1 for the last must be reduced according to the principle of choice, since there are several discard options in hearts.

In the first case, both East and West have 4 possibilities for which 3 hearts they discard, so odds of 2 must be reduced to $1/4$ twice. That becomes $2/16 = 1/8$.

In the second case, West has a restricted choice, while East with 5 cards in hearts has 10 possibilities (try counting them if you do not know the formula $5 \times 4/2$). Thus the odds become $1/8$ against $1/10$, corresponding to odds of 5 to 4.

It still looks as though one should bet on a small singleton diamond with West rather than Tx and therefore start by cashing $\diamond A$. But what about West's choices in the bidding?

Is West not more inclined to come in with $3\clubsuit$ with the first hand than with the second? If so, surely it does not take much for odds of 5 to fall below odds of 4?

An odds paradox

Let us say that you are sitting with 9 cards in a suit, for example

♥ 10 9 8 7

♥ A K Q J 6

There are four cards out, and most probably know the odds, as they are normally rounded:

4-0: 10% 3-1: 50% 2-2: 40%

If we cash one round in the suit and both follow suit, we also know that 4-0 is not relevant, so now the odds are 50 against 40 or 5 to 4 for 3-1 compared with 2-2. The odds are not precise, since the figures are rounded. If we use precise odds, it is 11 to 9 or 55% against 45%. But why this trivial information?

Well, perhaps you will be confronted with the following argument: There are now two cards out, and we all know the percentages for the location of two cards, namely 1-1: 52% and 2-0: 48%, so the odds advantage goes the other way.

At the time, this paradox made me realize that one must always be alert to the principle of (restricted) choice. If West plays the 2 and East the 5, we have one of the following distributions:

The 2-2 distribution	♥ 3 2	♥ 5 4	or	♥ 4 2	♥ 5 3
The 3-1 distribution	♥ 4 3 2	♥ 5	or	♥ 2	♥ 5 4 3

Initially, the odds for the upper even distribution are slightly greater, namely 12 to 11, but the odds must be reduced according to the number of possible plays.

In the first case, both have 2 choices, so odds of 12 must be reduced to 1/4, that is, 3.

In the second case, one player has no choice, while the other has 3 choices, so odds of 11 must be reduced to 11/3.

Odds of 11/3 against 3 correspond to 11 to 9, and everything falls into place.

Counting

As declarer, it is natural to count the defenders' hands with respect to honors and/or distribution. In that way you can sometimes get a fairly reliable assessment of the likely location of one or two outstanding honors.

During the auction, the opponents define their high-card points within certain ranges. If an opponent has opened 1NT, we know that the range is, for example, 15-17 or 12-14. If he started with pass, it is probably 0-11, and if he has passed partner's opening 1 of a suit, it is 0-5.

If we can then count one hand's high-card points to close to the upper limit, we can sometimes place an honor with partner with certainty. Other times it is necessary to include an assessment of what a defender would have led with or without a particular honor.

When counting distribution, it is typical to assess the odds from the number of vacant spaces for an honor, but you should also keep in mind the number of high-card points that have been shown.

Who has the trump queen?

♠ K 10 3
♥ 7 2
♦ A Q J 4 3
♣ 9 7 5

E / N-S

♠ A J 9 8 7 6
♥ J 3
♦ K 8
♣ A 10 6

West	North	East	South
		Pass	1♠
Pass	2♦	Pass	2♠
Pass	3♠	Pass	4♠
Pass	Pass	Pass	

West leads ♥10, which East takes with the queen, and he then cashes ♥A. When East continues with a small club, you go up with the ace; West contributes ♣J. Where is ♠Q?

East is marked with AKQ in hearts, 9 HCP in all. Therefore, after the original pass, he cannot have ♣K. West is therefore marked with K-J in clubs. If he also had ♣Q, he would have a true sequence and would undoubtedly have led a club instead of a heart. Therefore East has ♣Q.

With 11 points counted in East's hand, there is no room for any more honor cards with him. ♠Q must therefore be with West, and you take the trump finesse through him (preferably without cashing ♠A first, in order to cater to a 4-0 break).

With the actual distribution, you end up with an overtrick:

	♠ K 10 3	
	♥ 7 2	
	♦ A Q J 4 3	
	♣ 9 7 5	
♠ Q 5 4	E / N-S	♠ 2
♥ 10 9 8 6 5		♥ A K Q 4
♦ 6 5 2		♦ 10 9 7
♣ K J		♣ Q 8 4 3 2
	♠ A J 9 8 7 6	
	♥ J 3	
	♦ K 8	
	♣ A 10 6	

The opponents overcall

♠ Q 10 8
♥ J 10 8
♦ 10 8 2
♣ K 5 4 2
E / N-S
♠ A J 2
♥ K 5
♦ A Q 5
♣ Q J 7 6 3

West	North	East	South
		Pass	1♣
1♥	2♣	2♥	2NT
Pass	3NT	Pass	Pass
Pass			

The ♥6 lead from West goes to the jack, queen, and king, after which you play ♣Q to East's ace. It later turns out that clubs were 2-2 against you. East plays a heart to West's ace, and West continues hearts to the 10 in dummy. Where are the spade and diamond kings?

West probably has both kings for his overcall. If East had held ♥Q, a king, ♣A, and a doubleton club, it is possible that he would have made an invitational bid instead of supporting to 2♥. How do you play?

You cash your club tricks to this position:

♠ Q 10 8
♥ -
♦ 10 8
♣ -

E / N-S

♠ A J
♥ -
♦ A Q 5
♣ -

You have watched whether West has discarded hearts. If West is left with two hearts, one of the kings falls when you cash your two aces. If West has discarded a heart, you cash ♠A and play ♠J, after which West must give you a spade trick in dummy or lead up to your diamond tenace.

Here is the full distribution:

	♠ Q 10 8	
	♥ J 10 8	
	♦ 10 8 2	
	♣ K 5 4 2	
♠ K 7 4	E / N-S	♠ 9 6 5 3
♥ A 9 7 6 4		♥ Q 3 2
♦ K 4 3		♦ J 9 7 6
♣ 10 8		♣ A 9
	♠ A J 2	
	♥ K 5	
	♦ A Q 5	
	♣ Q J 7 6 3	

Note that East gave you the contract at trick 1. You must have a heart stopper with the king or ace for your notrump bid, and if it is the king, it is important not to put the queen on the jack from dummy.

A matchpoint deal

♠ K J 10 3
 ♥ K 10
 ♦ J 7 3
 ♣ A K J 5

S / All

♠ A 4 2
 ♥ 6 4
 ♦ A Q 6 4
 ♣ Q 9 7 4

West	North	East	South
			1NT
Pass	2♣	Pass	2♦
Pass	3NT	Pass	Pass
Pass			

West led the fourth-best ♥2. Declarer put up the king from dummy, and it held. With the hearts divided 4-5, the odds favor ♠Q with West. The best treatment of the spade suit is also to finesse for the queen with West, since you can pick up Qxxx with West for four tricks, but not with East.

To get more precise odds, however, declarer continued by cashing two high clubs, and when East failed to follow to the second round of clubs, there were 5 vacant spaces for ♠Q with West against 7 with East. Declarer therefore placed ♠Q with East and played a spade to the king and finessed for the queen with East. That produced four spade tricks with this distribution:

	♠ K J 10 3 ♥ K 10 ♦ J 7 3 ♣ A K J 5	
♠ 9 6 5 ♥ A J 7 2 ♦ K 5 ♣ 10 8 6 2	S / All	♠ Q 8 7 ♥ Q 9 8 5 3 ♦ 10 9 8 2 ♣ 3
	♠ A 4 2 ♥ 6 4 ♦ A Q 6 4 ♣ Q 9 7 4	

With the known distribution of the four suits (3-4-3-4 in West and 3-5-4-1 in East), the odds are 4 to 2 for $\diamond K$ with East, or 67% that the diamond finesse will succeed.

But at this stage of the play you have essential information about what the defenders have discarded after you have taken four spade tricks and four club tricks.

If both have kept two diamonds, it is risk-free to finesse in diamonds. If East has only one diamond left, of course you should not finesse. The challenge arises if West has blanked $\diamond K$ and East is left with more than one diamond.

What if it is a team match? There are 8 top tricks (2+1+1+4), and based on the heart and club distribution (6 cards with East and 8 with West), the odds are 7 to 5 for $\diamond K$ with East. Thus you can combine the chances by first cashing $\spadesuit A$ and $\spadesuit K$ and then finessing in diamonds if $\spadesuit Q$ does not fall. That improves the chance of making the contract.

Count, and judge

You have now become declarer in this slam:

$\spadesuit$ 7 3
 $\heartsuit$ A K
 $\diamond$ A 6 4 3 2
 $\clubsuit$ K 10 4 2

E / N-S

$\spadesuit$ A J 4
 $\heartsuit$ Q J 10 2
 $\diamond$ K 10 5
 $\clubsuit$ A Q 3

West	North	East	South
		2 $\spadesuit$	2NT
Pass	4NT	Pass	6NT
Pass	Pass	Pass	

Lead: $\spadesuit 9$.

You start well by getting control of the spade suit by ducking East's $\spadesuit Q$ at trick 1, taking the next trick with $\spadesuit J$, and drawing $\spadesuit A$. West had $\spadesuit 95$, while East's holding for the weak 2 opening was $\spadesuit KQT862$.

Now imagine that you (unwisely) cash $\clubsuit AQ$ and play $\clubsuit 3$ up toward dummy's KT, with West having followed with 9-7-6 and East with 8-5. Finesse or play for the drop?

There are more vacant spaces for $\clubsuit J$ with West (8 versus 5), so the odds favor finessing. But before you decide on the club suit treatment, you should take your heart tricks so that you know how that suit is divided.

After three rounds of spades, you therefore play a heart to the ace and cash ♥K. Then you go home with ♣A and cash the queen and jack of hearts. West turns out to have 96543 in hearts, while East discards two spades. When you now cash ♣Q and play ♣3 up toward dummy, there are 3 vacant spaces for ♣J with each defender, so it is a fifty-fifty choice.

But it is still too early to decide on the club suit, because perhaps QJ will fall in diamonds. You therefore first cash ♦A and ♦K. That does not work, but East contributes Q-8, and West 9-7. How do you handle the clubs?

When you now play clubs, there are only two distributions to choose from:

♠ 9 5		♠ K Q 10 8 6 2
♥ 9 6 5 4 3		♥ 8 7
♦ J 9 7	E / N-S	♦ Q 8
♣ 9 7 6		♣ J 8 5

or

♠ 9 5		♠ K Q 10 8 6 2
♥ 9 6 5 4 3		♥ 8 7
♦ 9 7	E / N-S	♦ Q J 8
♣ J 9 7 6		♣ 8 5

Initially, the two distributions are equally likely, but has anything happened that makes one more likely than the other? The actual East would open 2♠ whether he had one hand or the other.

Yes, with the latter, East could have played ♦J instead of ♦Q. Therefore the odds are 2 to 1 to play for the first distribution and play clubs from the top. A classic restricted choice situation with QJ out.

If instead it is West who has contributed the queen or jack, you should place him with a doubleton diamond and finesse with the 10.

Restricted Choice

When you are in a situation where you have to choose whether an opponent had a choice for his play or not, there are usually huge odds in favor of playing on the basis that the opponent had no choice. In other words, huge odds for playing for restricted choice.

You should not always be satisfied with a high probability by playing for restricted choice. Sometimes you should try to improve the odds.

Start with the right honor

♠ A 8 2
♥ K 9 5 2
♦ A 5
♣ K 8 6 5

S / E-W

♠ K Q 6
♥ A 6
♦ 8 7 4
♣ A 10 9 7 4

West	North	East	South
			1♣
Pass	1♥	Pass	1NT
Pass	3NT	Pass	Pass
Pass			

Lead: ♦K

You duck the ace, and East signals with ♦2. West continues with a small diamond, on which East follows with ♦9. This start suggests that the diamonds are divided KQT63 with West and J92 with East. You need to get going on clubs, and if they are divided Qx with one player and Jx with the other, there are no problems.

If you start with ♣A and East follows with the queen or jack, you can play for restricted choice with East. If you start with ♣K and West follows with the queen or jack, you can play for restricted choice with West. The question is who is more likely to have a singleton honor in clubs.

With the diamond length in West's hand, we try to allow for a singleton honor with West. We therefore start with a small club to the king. West follows with the jack, East with the 2, and we continue with a small club from dummy. East contributes the 3, and you figure the choice is between these minor-suit layouts:

West
 ♦ K Q 10 6 3
 ♣ Q J / J

East
 ♦ J 9 2
 ♣ 3 2 / Q 3 2

There are 8 vacant spaces for ♣Q with East against 7 with West, and the odds for the queen with West must be halved because of the choice between queen and jack, so the odds are 8 to 3½, 70%, for playing for restricted choice and finessing for the queen with East.

It works out well, since the opponents' cards were divided as follows:

♠ 10 7 5		♠ J 9 4 3
♥ Q 10 7 4		♥ J 8 3
♦ K Q 10 6 3	S / E-W	♦ J 9 2
♣ J		♣ Q 3 2

Finesse or cash the top cards?

♠ K 10 9 2
 ♥ 3 2
 ♦ K Q J 10 9
 ♣ 3 2

S / N-S

♠ A 8 7 6 5
 ♥ A K 7 5
 ♦ A 7
 ♣ A 5

West	North	East	South
			1♠
Pass	3♠	Pass	6♠
Pass	Pass	Pass	

Lead: ♣K

You win with ♣A and continue with a small spade to the king and a small spade from dummy. West has followed with the queen, while the 4 and 3 have come from East. Do you finesse?

It is a restricted-choice situation. The finesse is about a 63% chance, but that is not good enough.

If you go up with the ace and West contributes the jack, you are home with an overtrick. And if West does not follow suit, it is overwhelmingly likely that you can throw the club loser on the third diamond. It only goes wrong if East has a singleton diamond.

Can the odds be improved?

♠ A 7
♥ J 3
♦ K 10 3
♣ A 10 9 7 5 3

S / None

♠ K J 6
♥ A 9
♦ A 9 8 6 5 2
♣ 8 4

After the start 1♦ - 2♣ - 2♦, North-South bid up to 5♦ and received the fourth-highest ♥2 lead from West.

Declarer tried the jack, but East covered with an honor, and the ace won the first trick. South played a diamond to the king and another diamond from dummy. West contributed the jack, and East the 7 and 4. Following the principle of restricted choice, declarer finessed for the queen with East, but West won with the queen and cashed a heart trick. It was not possible to avoid a club loser, and the contract was down one.

Afterward South began to wonder whether he should have gone up with the ace. If West does not follow suit, he can cash ♠A, finesse for ♠Q with East, and throw a heart from dummy on ♠K. Let us do a little calculation.

With 4 hearts and ♦J with West, there are 8 vacant spaces for ♦Q with West. Correspondingly, there are 6 vacant spaces with East (he is marked with 5 hearts and 2 diamonds). After halving the 8, the odds are 6 to 4 for finessing. The finesse for the queen is a 60% chance.

If you go up with the ace, you get the 40% where West has QJ in diamonds, and of the 60% you get the part where ♠Q is with East. A closer calculation makes the winning chance creep up to 63%.

Suit combination

Here is a classic:

	♦ K 7 6 2	
♦ B 9 8		♦ E 10
	♦ D 5 4 3	

You judge who is most likely to have Ax in the suit, here East, and play a small card through Ax. The queen takes the first trick, after which you play small from both hands, and the ace falls.

Declarer used the same principle here:

	♠ Q J 5 4	
	♥ A	
	♦ Q 7 6 4 3	
	♣ A Q 3	
♠ 10	N / None	♠ 9 2
♥ Q 9 6 5 4		♥ 10 8 7 3 2
♦ A 8		♦ K 10 9
♣ J 7 6 4 2		♣ K 10 5
	♠ A K 8 7 6 3	
	♥ K J	
	♦ J 5 2	
	♣ 9 8	

Declarer in South got the ♣2 lead against 4♠. The first trick went to dummy's queen and East's king. He continued with a club to dummy's ace. South drew two rounds of trump and ended in his hand. Then he played a small diamond to the queen and king. East now played a heart to the ace. When declarer next played a diamond from dummy, East contributed the 10, and South had to choose between these two layouts of the opponents' diamonds:

West	East
♦ A 8	♦ K 10 9
♦ 9 8	♦ A K 10

With the first layout, East has the choice between the 10 and the 9 on the second round, while both have a choice at the first trick with the second layout. In addition, East might also choose to go up with the ace if he holds AKT. There are huge odds for the first layout, and declarer indeed played a small card from his hand and was very proud. He has no reason to be. Can you see how he should have played?

He must go up with ♣A at trick 1. Then he draws trump, throws a club on ♥K, and exits in clubs. The opponent who gets in with ♣K must give a favor by playing either a diamond or into a double void.

A declarer-play problem

Try this problem from “Test Your Bridge Play” by Edwin B. Kantar:

♠ A Q 3 2
♥ -
♦ 8 6 5 3 2
♣ 8 6 3 2

S / All

♠ K 10
♥ A K Q
♦ A Q 4
♣ A K 10 9 7

Contract: 6♣ Lead: ♥10

You throw a diamond from dummy and take the first trick in your hand. At trick 2 you cash ♣A, and West contributes the queen. A typical restricted-choice situation. How do you play?

Cash one more high heart, throwing another diamond from dummy. Then you trump the third heart and play a small club to finesse with the 10. If it works, it is a question of overtricks. If West wins the 10 with the jack, he is endplayed, and you always avoid a diamond loser.

Vacant Spaces and Plausible Choices

When we determine the initial odds for two distributions that differ from each other by the location of a single card, we can look at how many vacant spaces there are for the card in the two hands.

Next, for each distribution, we must assess the choices available in playing cards with those distributions and reduce the odds accordingly.

A deal from the Rottneros Nordic Cup '97 gave rise to major discussions in the Danish bridge magazine. The debate concerned both how to count the number of vacant spaces and which choices should be taken into account.

Denmark vs. Norway

Deal 2 (rotated)

♠ Q 10 9 2
♥ K 10 2
♦ Q J 7
♣ Q 5 3

W / N-S

♠ -
♥ Q J 7
♦ K 5 4 3
♣ A K 10 9 6 4

West	North	East	South
Cilleborg	Saur	Hansen	Sælensminde
4♠	Pass	Pass	5♣
Pass	Pass	Dbl	Pass
Pass	Pass		

West leads the ♠A, which you trump. If East has all four outstanding trumps, you must make sure that a diamond can be trumped in dummy and that you can finesse against the ♣J with East. You therefore start by playing a small trump to dummy's queen. West follows with the 7, and East with the 2.

How do you continue?

The actual distribution:

	♠ Q 10 9 2	
	♥ K 10 2	
	♦ Q J 7	
	♣ Q 5 3	
♠ A K J 7 6 5 4 3	W / N-S	♠ 8
♥ 8 6 5 4		♥ A 9 3
♦ -		♦ A 10 9 8 6 2
♣ 7		♣ J 8 2
	♠ -	
	♥ Q J 7	
	♦ K 5 4 3	
	♣ A K 10 9 6 4	

Sælensminde now switched to diamonds, and since West had only the one trump, he could calmly drive out the ♦A and trump a diamond in dummy to make the contract. The Danish declarer at the other table, Ole Kirk Hansen, played one more round of trump, and then he could no longer make it, since East, in with the ♦A, could play trump and remove dummy's last club. He lost 2 diamond tricks and 1 heart trick for a doubled one-down and 14 IMPs to Norway. Who played with the odds?

We begin by placing West with an 8-card spade suit for the 4♠ bid and East with the two red aces for the double:

♠ A K J 7 6 5 4 3		♠ 8
♥ ...	W / N-S	♥ A...
♦ ...		♦ A...
♣		♣
	Initial odds	Reduced odds
7	J 8 2	8
8 7	J 2	4
J 7	8 2	4

The last two club distributions differ from the first by the location of a single card respectively (the 8 and the jack). There are 4 spaces for the card with West against 8 with East, giving the initial odds shown. If we assume that neither defender will play the jack unless forced to, we can then in each case reduce the odds corresponding to the choice between two small clubs. So it is fifty-fifty whether to place West with a singleton or a doubleton in clubs.

With the actual vulnerability, however, West might perfectly well have made a preemptive opening with a 7-card spade suit, and then it looks like this:

7-card suit	doubleton		
...	A...		
...	A...		
		Initial odds	Reduced odds
7	J 8 2	7	3,5
8 7	J 2	5	2,5
J 7	8 2	5	2,5

Now the odds are clearly in favor of playing for a doubleton club with West.

The first objections to the analysis

There were no objections to the assumption that the defenders will play the jack only if they are forced to. If West from J7 plays the jack, declarer will otherwise presumably place West with a singleton and continue with diamonds.

If the diamonds are 3-3 against you, it does not matter if you play one more club, where West turns out to have a singleton club. That shifts the odds further toward playing one more round of clubs.

The most important objection, however, was that allowance should be made for the fact that West, with a singleton in hearts or diamonds, leads the singleton instead of leading the ♠A. Is a heart or diamond lead really likely?

Even with the actual distribution (where there is a void in one red suit), the contract can be beaten by leading one red suit and getting a trumping trick in the other. But both opponents chose the “safe” spade lead. My assessment is that a lead in one of the red suits is not very likely. But it is undoubtedly more likely to lead a singleton if West has an 8-card spade suit than if he has only a 7-card suit. Thus my assessment is that with an 8-card spade suit with West, one should settle for cashing one round of clubs, while with a 7-card spade suit with West, one should cash two rounds of clubs. I wonder whether Silla can remember what considerations he made?

A Danish top player, Karsten Pedersen, had this “obvious” point: *If one finds it decisive whether West has 7 or 8 spades, one can simply find out by trumping a spade!*

Should the ♥A and ♦A be counted when counting East’s vacant spaces?

Another top player, Villy Dam, had this objection to the calculation of the odds: *I have also spoken with several division players, and they agree with me that the known cards, the heart ace and diamond ace, should not be counted when counting the vacant spaces in East’s hand. The spaces should be occupied only by the suits where the distribution is known, not by individual known cards.*

Editor Ib Lundby opened the debate: *There are apparently some threads that need to be untangled. Kelsey/Glauert’s “Bridge Odds” agrees with Villy Dam and Co. (or is it the other way around?) ... Let us hear whether others who understand this kind of thing have anything to say.*

If you want to be certain of your calculations, you have to go to basic probability theory. It is based on counting how many hands West and East can hold. When you follow the fundamental principle of probability theory and count possible hands for East and West, assuming that West has 8 spades and East the two red aces, there is no getting around the fact that 8 spaces are occupied in West's hand by the spades and 3 spaces in East's hand by 1 spade and the 2 red aces.

A count requires knowledge of something called binomial coefficients. They are, however, not usable in practice, so it is important to find some more easily understood principles that follow from the basic counting principle. It turns out that the odds that a particular card is with East or West, respectively, follow the number of vacant spaces. Thus the odds are 10 to 5 (or 2 to 1) that the ♣J is with East. The same applies to the ♥6, ♦9, etc.

When counting vacant spaces, one must take account of the fact that 2 spaces are occupied by the two red aces. Two bridge-playing mathematics students put it this way: *We choose to place the two red aces in East, since this must be obvious.*

A common source for these principles is Kelsey/Glauert's "Bridge Odds." One reader wrote: *On pages 80-81 of their brilliant book, Kelsey and Glauert give a number of examples that convincingly show that their definition of vacant spaces leads to results that are in accordance with well-known a priori probabilities. If one changes the definition, one must therefore expect results that conflict with well-known probabilities.*

As appears above, the definition of vacant spaces is acceptable only if it is in accordance with the fundamental counting principle of probability theory. Kelsey and Glauert: When the distribution in one or more suits is completely known, the probability that one of the opponents has a particular card in one of the other suits is proportional to the number of vacant spaces remaining in his hand.

As appears from our example, one can therefore certainly run into situations where one must also count individual cards in other suits (the red aces). Thus Kelsey and Glauert's wording is not adequate. Naturally they know better. But like other "probability educators," they are afraid that the reader will make a very common mistake. Namely, one must not count individual small cards that a defender has happened to discard.

Finally, an artificial example, which can nevertheless illustrate the principles above:

♥ A J 9 7

♥ K 10 8 6

You have to find out where the queen is most likely to be, and let us imagine that you (against all rules) are allowed to be told which defender has the 2. East shows the 2.

Which of the following views is now correct?

- 1) A small 2 cannot make any difference, so it is fifty-fifty regarding the location of the queen.
- 2) With at least 1 card in the suit with East, the odds favor length with East, and the queen is most likely to be together with East's length.
- 3) West has 13 vacant spaces for the queen against only 12 with East, so the odds are 13 to 12 that West has the queen.

The last is the correct answer. The 2 is admittedly a small card, but it has not been shown as a random card among several possible cards. The situation corresponds exactly to the deal above, where the red aces occupied 2 spaces. Here, 1 of East's spaces is occupied by the 2, and all other cards have odds of 13 to 12 to be with West.

In connection with 2), it can be pointed out that there is in fact a 67% chance that East is longer in the suit. Even so, it is most likely that the queen is with West.

Restricted Choice

It is important to be alert to restricted-choice situations, because then it is usually not a matter of a 51% or 52% chance, but something more like 60% or 67%.

The standard situation is the one where you are missing the queen and jack and one of these honors appears on the first round. If, for example, it is the jack that appears, is it from J or from QJ?

As a rule, the odds for J and QJ are almost equally large at the start. But with a singleton jack you have no choice, while with QJ you could have chosen to play the queen instead. Therefore the odds for QJ must be halved. That means the odds are 2 to 1 - a 67% chance - that there has been no choice when the jack is played.

It is important to be alert to restricted-choice situations that are not the standard situation. In some situations the odds are even better than 2 to 1.

Almost the standard situation

♠ 7 4
♥ A 8 3
♦ 9 7 4 2
♣ 8 7 6 5

E / N-S

♠ K 10 6 5 3 2
♥ K 6 5
♦ A K
♣ A K

West	North	East	South
		Pass	2♣
Pass	2♦	Pass	2♠
Pass	2NT	Pass	3♠
Pass	4♠	Pass	Pass
Pass			

You get the ♥Q lead from West and take the opening lead in hand to play a small trump. The plan is that when you are in dummy with the ♥A, you will play a trump up toward the king in hand.

When you play a small trump, West wins the trick with the jack, and East follows with the 8. West plays a heart to dummy's ace, and you play a trump. East contributes the 9. Should you win with the king (right with QJ in West) or play the 10 (right with AJ in West)?

	♠ 7 4	
	♥ A 8 3	
	♦ 9 7 4 2	
	♣ 8 7 6 5	
♠ A J	E / N-S	♠ Q 9 8
♥ Q J 9 4		♥ 10 7 2
♦ J 8 6 5		♦ Q 10 3
♣ 9 4 2		♣ Q J 10 3
	♠ K 10 6 5 3 2	
	♥ K 6 5	
	♦ A K	
	♣ A K	

Based on the principle of restricted choice (West had no choice between two equal honors), you should play for the actual layout and play the 10.

Better odds

♠ Q 7 6
♥ A 7 4
♦ K J 8 2
♣ J 9 2

N / None

♠ A K 8 3
♥ 8 2
♦ A 6 5 3
♣ A 6 5

West	North	East	South
	Pass	Pass	1NT
Pass	3NT	Pass	Pass
Pass			

The lead of the ♥Q holds the trick, and the heart continuation goes to East's king, who plays a heart to dummy's ace. You cash the ♦A and try a diamond to the jack, but East wins with the queen and plays a club. You go up with the ace and can count 1 heart trick, 3 diamond tricks, and 1 club trick. That means you need 4 spade tricks.

You cash two diamond tricks (East had 3 diamonds), followed by ♠A, ♠Q, and a spade from dummy. West has followed with T9 in spades, and East with 542. Finesse or cash from the top?

It is a question of

♠ 10 9 ♠ J 5 4 2 or ♠ J 10 9 ♠ 5 4 2

With the first layout there is restricted choice in the play for both players, but with the second layout there are 3 possible choices for which two cards West plays. Therefore the odds for the second layout must be reduced to 1/3. Odds of 3 to 1 for finessing are a 75% chance:

	♠ Q 7 6	
	♥ A 7 4	
	♦ K J 8 2	
	♣ J 9 2	
♠ 10 9	N / None	♠ J 5 4 2
♥ Q J 10 5 3		♥ K 9 6
♦ 10 7		♦ Q 9 4
♣ K 10 4 3		♣ Q 8 7
	♠ A K 8 3	
	♥ 8 2	
	♦ A 6 5 3	
	♣ A 6 5	

Huge odds

♠ 3
♥ Q J 5 4
♦ A K Q 6
♣ A K 5 2
N / N-S
♠ Q J 8 7 6 5 4
♥ 9
♦ 5 4 2
♣ Q 8

West	North	East	South
	1♣	Pass	1♠
Pass	2♦	Pass	2♠
Pass	2NT	Pass	4♠
Pass	Pass	Pass	

Lead: ♥2

The first trick goes to dummy's queen and East's ace, and East switches to a club, which you take in dummy to play a spade toward your hand. East follows with the 10, and your queen is won by West's king.

Another club goes to the queen, and you have to play a spade from J87654. The ♠J to pick up the 9, or a small spade in the hope that the ace falls?

It comes down to these layouts:

♠ K 9 2 ♠ A 10 or ♠ A K 2 ♠ 10 9

There is restricted choice with the first one, while both players have a choice between two cards with the last one. The odds for the last layout must therefore be reduced by half twice, so the odds are 4 to 1 (80%) for playing a small spade in the hope that the ace will fall:

		♠ 3	
		♥ Q J 5 4	
		♦ A K Q 6	
		♣ A K 5 2	
♠ K 9 2	N / N-S		♠ A 10
♥ K 8 6 2			♥ A 10 7 3
♦ J 8 7			♦ 10 9 3
♣ 10 6 3			♣ J 9 7 4
		♠ Q J 8 7 6 5 4	
		♥ 9	
		♦ 5 4 2	
		♣ Q 8	

The chance that the ace will fall is actually better than 80%, because East could easily have played the ten from T92, in which case West has AK.

Restricted choice in two Suits

♠ 10 6 3
♥ A J
♦ 10 7 6 2
♣ A 10 7 4

S / N-S

♠ K Q 4
♥ 9 8 3
♦ A K 5 3
♣ Q J 6

West	North	East	South
			1♦
Pass	3♦	Pass	3NT
Pass	Pass	Pass	

Lead: ♥K

South reached a tough 3NT, and he regretted not passing 3♦. But with a 4-4 break in hearts, the ♠A with East, and the ♣K onside for a finesse, the chances improved considerably.

He won the ♥K with the ace and played a spade to the king. It held the trick, and West seemed to signal an odd number of spades (three). Then he cashed the ♦A, and the ♣Q was covered by the king and ace. On a new spade from dummy, East went up with the ace and played a heart. The defenders took 3 heart tricks, with East on lead, and he continued with the ♠J to South's queen.

South cashed the ♣J, and East followed with the 9 (on the first round of clubs he had followed with the 2). The principle of restricted choice now says that the odds favor 92 in clubs with East rather than 982, so the finesse should be taken with dummy's ♣7.

Before declarer decided what to do, he cashed the ♦K, and the jack appeared from West. According to the principle of restricted choice, the odds favor Jx in diamonds with West rather than QJx. Both things point to the actual layout, where the club finesse should be taken:

	♠ 10 6 3	
	♥ A J	
	♦ 10 7 6 2	
	♣ A 10 7 4	
♠ 8 7 5	S / N-S	♠ A J 9 2
♥ K Q 10 2		♥ 7 6 5 4
♦ J 8		♦ Q 9 4
♣ K 8 5 3		♣ 9 2
	♠ K Q 4	
	♥ 9 8 3	
	♦ A K 5 3	
	♣ Q J 6	

What if, instead, it is East who follows with the ♦Q or ♦J to the king?

Then the odds would favor a diamond doubleton with East rather than QJx. Since East, with 5 minor-suit cards, cannot have a doubleton in both minors, it becomes a guess whether you should finesse or cash from the top in clubs. In the long run, however, it is better to cash from the top, because if you guess wrong, you go only one down by cashing from the top, while you go two down by finessing.

Odds Gone Astray

When, starting from the initial odds, you have to adjust the odds based on what the opponents have done, there is a risk that you may not be aware of what an opponent would choose to do with different cards.

You have to assess the specific opponent. Is he a good or a bad player? Is he a player who thinks he can fool you with his choice of card played? And what odds does that leave you with?

From the local club

Declarer in this deal knew that West was the kind of player who would always try to fool him:

♠ J 5
♥ K 8 5 2
♦ Q 8 7 3
♣ 7 6 5

S / All

♠ 10 9 2
♥ A 10 7 4 3
♦ A J
♣ A K Q

West	North	East	South
			1♥
1♠	2♥	2♠	4♥
Pass	Pass	Pass	

The ♠K lead held the trick and was followed by a spade to East's ace and a spade trumped in dummy. Declarer cashed the trump king and continued with a small trump. East had contributed the 6 and 9, and West the queen!

South knew the principle of restricted choice perfectly well, but he also knew that West would always play the queen from QJ. So he went up with the ace and made the contract with this layout:

	♠ J 5	
	♥ K 8 5 2	
	♦ Q 8 7 3	
	♣ 7 6 5	
♠ K Q 8 4 3	S / All	♠ A 7 6
♥ Q J		♥ 9 6
♦ K 10 6		♦ 9 5 4 2
♣ 10 8 2		♣ J 9 4 3
	♠ 10 9 2	
	♥ A 10 7 4 3	
	♦ A J	
	♣ A K Q	

But even though West always plays the queen from QJ, it is against the odds. West is known to have 5 spades and the ♥Q, while East is known to have 3 spades and 2 hearts, so based on vacant spaces the odds are 8 to 7 for the layout

♥Q ♥ J 9 6 rather than ♥ Q J ♥ 9 6

It is hard to argue against success.

“Restricted choice”

Without interference from the opponents, South has reached 6♠ on these cards:

♠ K 9 8 3
♥ A 7
♦ K 9 6 3
♣ A Q 8
S / E-W
♠ A J 7 6 4
♥ Q 10 9 3 2
♦ A
♣ J 2

West leads a small diamond, which goes to the ace. South plays a spade to the king, the 10 comes on from West, and a small spade from dummy. East has contributed the ♠3 and ♠5. There is something about a suit being more likely to break 3-1 than 2-2, and there is also something about restricted choice, so declarer finesses with the jack - to West's queen!

Here we are comparing a *specific* 2-2 layout:

♠ Q 10 ♠ 5 3

with a *specific* 3-1 layout:

♠ 10 ♠ Q 5 3

So the specific 2-2 layout is slightly more likely than the specific 3-1 layout.

This is not a restricted choice situation. The defenders have not had choices among the three cards they have played, and it is important to note that the principle of restricted choice assumes that there have been choices from equivalent cards.

But the most important point is probably that you have a strong need for the trumps to be 2-2, because afterward you must play the hearts for only one loser, and then it may be useful to have two trumps left in dummy to trump with.

Not restricted choice

		♠ Q 8	
		♥ Q J 8 5 2	
		♦ 10 3	
		♣ Q 9 4 2	
♠ K J 10			♠ 9 7 6 4
♥ 9 7 6			♥ 10 4 3
♦ J 8 4	N / N-S		♦ K Q 9 6
♣ K 8 6 5			♣ J 10
		♠ A 5 3 2	
		♥ A K	
		♦ A 7 5 2	
		♣ A 7 3	
West	North	East	South
	Pass	Pass	1♦
Pass	1♥	Pass	2NT
Pass	3NT	Pass	Pass
Pass			

West led the fourth-highest ♣5, which was an invitational lead (promising an honor), and the first trick went to the 2, 10, and ace. Declarer judged that, according to the principle of restricted choice, the odds favored finding KT with East rather than JT. After unblocking AK in hearts, he therefore played a club to the 9 - and went down. With JT, however, East has no choice, since the jack (the other honor) would reveal that partner had led from the king. Thus K865 opposite JT and J865 opposite KT are, at the outset, equally likely. A lead in notrump is usually less attractive from the jack than from the king, so you should probably use the queen and make the contract.

Bluff and double bluff

♠ J 9 8 7 6
 ♥ 9 8
 ♦ 6
 ♣ A K 10 7 2

S / N-S

♠ K 4
 ♥ Q J 10 7 6 5
 ♦ A J 7
 ♣ Q 4

West	North	East	South
			1♥
Pass	1♠	Pass	2♥
Pass	3♥	Pass	4♥
Pass	Pass	Pass	

Lead: ♦K.

You take the opening lead with the ace and trump a diamond in dummy. Next you get back to hand with the ♣Q and trump another diamond. The ♣J has not appeared yet, and it does not appear when you cash a high club from dummy either. Do you continue with a high club, discarding a spade, or do you play a spade up toward the king?

In a book I read that the chance that the suit is 3-3 is now a little over 50%, so you should continue with clubs rather than play a spade up toward the king. However, that depends a great deal on what the opponents will play with different layouts.

If they are peaceful opponents who only play the jack if they have to, it looks like this:

3-3 layout: 36% J x x x opposite xx: 2/3 af 48% = 32%

Odds of 36 to 32 correspond to 53%, so that fits quite well.

A good player with Jxx will presumably play the jack to make you go wrong, but then you now know that the suit is not 3-3 against you! Therefore you should play a spade up toward the king. But what if the jack has appeared on the second round of the suit?

Then it must be from Jxx (36%) or from Jx (16%), and then there are huge odds in favor of continuing with clubs instead of playing a spade up toward the king. But if the opponent also knows that you know, does he still play small from Jxx?

The deal looked like this:

	♠ J 9 8 7 6	
	♥ 9 8	
	♦ 6	
	♣ A K 10 7 2	
♠ Q 5 3 2	S / N-S	♠ A 10
♥ A 4 3 2		♥ K
♦ K Q 10		♦ 9 8 5 4 3 2
♣ 5 3		♣ J 9 8 6
	♠ K 4	
	♥ Q J 10 7 6 5	
	♦ A J 7	
	♣ Q 4	

From The Official Encyclopedia of Bridge

Under restricted choice we find this deal:

♠ A 4 3 2
♥ A K 4 3 2
♦ J 10
♣ J 2
N / None
♠ K Q J 10 9 8
♥ 6 5
♦ K Q
♣ A Q 10

West	North	East	South
	1♥	Pass	4NT
Pass	5♥	Pass	6♠
Pass	Pass	Pass	

We assume that West leads a minor, and follow the application of restricted choice:

Against South's 6♠, West leads the ♦7 and East wins with the ace. East shifts to a low club. Should South finesse?

There are two plays open to declarer. First, he can duck the club lead, hoping that East has the king. Second, he can rise with the ace, draw trump, and try to ruff out the heart suit. This play depends on a 3-3 hearts split.

The chance of an even split in hearts is about 36%. The club finesse appears to offer a 50% chance and therefore seems the better play.

However, South must consider West's choice of opening leads. If East holds the ♣K, West started with a collection of small cards in each minor suit. If this was the case, he would have led club about half the time. Since West did not lead a club, there is some presumption that his club-diamond holdings were not equivalent.

If we assume West would lead a club half the time with equal minor suit holdings, the club finesse is only a 33% chance, and should therefore be rejected in favor of the attempt to split the hearts 3-3.

With percentages so close to each other, 36% and 33%, this is a doubtful assessment of West's choice of opening lead.

I am convinced that very many good players with the king in clubs would attack that suit. The odds must be that West does not have the ♣K.

Vacant Spaces in one Suit

At the bridge table, you can sometimes calculate precise odds, while at other times you have to supplement them with a little judgment. But there are also cases where you have to make an overall assessment based on the experience you have built up.

Vacant spaces

You can use vacant spaces to determine the odds for the location of a single card, but you can also use vacant spaces to determine the odds for two distributions of a suit that differ only in the location of a single card, for example

♠ 4 3 2 ♠ Q 6 5 or ♠ Q 4 3 2 ♠ 6 5

The location of 432 and 65 is the same, so the question is whether, in the deal, the queen went to West, where there are 10 vacant spaces, or to East, where there are 11 vacant spaces. The odds are 11 to 10 for the first distribution. A specific 3-3 distribution is more likely than a specific 4-2 distribution.

If we count the number of 3-3 and 4-2 distributions, we get 20 and 15 respectively, so the odds are:

3-3	4-2	2-4
220 / 22	150 / 15	150 / 15

Because of the symmetry, 2-4 is the same as 4-2. It is approximately 3:2:2.

From the 1997 European Championship

♠ K 9 3 2
♥ -
♦ K J 8 7 3
♣ A K 7 4

S / None

♠ A J 6 5
♥ A K
♦ 10 5 2
♣ 8 5 3 2

You open 1♣ in South, and West jumps in with a weak 2♥, after which you reach 4♠ with a singleton diamond lead from West. East cashes ♦Q and ♦A and gives West a ruff in the suit. West switches to hearts, and you play a spade to the king and a small spade from dummy. East follows suit, and only ♠Q of the trumps has not appeared. Do you finesse or cash the top spade?

If we place West with a six-card heart suit, he is known to have 6 hearts, 1 diamond, and 2 trumps, so there are 4 spaces for ♠Q with him. Similarly, East is marked with 5 hearts, 4 diamonds, and 2 trumps, so he has only 2 spaces for ♠Q. Odds of 4 to 2 for cashing the top spade.

If instead we place West with a seven-card heart suit, we correspondingly get odds of 3 to 3, fifty-fifty, for finessing versus cashing the top spade.

From my local club

♠ A 8 3 2
♥ K 4
♦ Q J 10 4
♣ J 9 8

W / E-W

♠ Q J 9 7 6
♥ 10 7 6 3
♦ -
♣ A K 5 2

Lead: ♣7

After opening 1♠ in fourth seat, you have reached 4♠ with a club lead from West. The first trick goes to the 8, queen, and ace. When you study the opponents' lead agreements, you discover that West has led from T7x or, more likely, from T7xx.

You now play ♠Q, which is covered by the king and taken with the ace. When you play another spade to the jack (a better line of play would have been to wait with further trump play), it turns out that West is left with the 10.

If West has ♥A, you can play a heart up toward K4. West is welcome to go up with the ace and cash ♠10, because you make your contract with 4 tricks in each of the black suits (via a club finesse with the 9), ♥K, and a heart ruff.

But with 4 clubs and 3 spades with West, there are 6 spaces for ♥A with West against 10 spaces with East. If West has only 3 clubs, the odds are 9 to 7 for the ace with East. In any case, ♥A is probably with East. How do you play?

If you want to play with the odds, you should now finesse for ♣10 with West, cash ♣J, ruff yourself home in diamonds, and cash ♣K, discarding dummy's small heart, so ♥K is left bare there. When you next play a heart, East wins with the ace. That way West does not get to cash ♠10, and you can ruff two hearts in dummy.

I simply played a heart to the king, and East took it with the ace ☹, but East played a club ☺, and I managed to discard dummy's small heart on ♣K.

From a promotion match

♠ K 6 3
 ♥ Q 9 4
 ♦ A 10 5 2
 ♣ A 9 2

S / None

♠ A Q 8 7 5
 ♥ A K 10 3
 ♦ K 9
 ♣ K 5

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

Lead: ♣Q

After taking the lead in hand, you begin the trump handling with a spade to the king, and the 10 comes on from West. You continue with a small spade from dummy, and East, who followed with ♠4 the first time, now contributes the 2. Do you finesse, or do you cash the top spade?

It is a matter of these four spade distributions

West	East	odds
♠10	♠J 9 4 2	8
♠ J 10	♠ 9 4 2	6
♠ 10 9	♠ J 4 2	6
♠ J 10 9	♠ 4 2	< 6

If we place West with a six-card club suit, we can start by comparing the first two distributions, where the difference is whether ♠J has come together with 6 clubs and ♠10 with West or together with ♠942 and 2 clubs with East. Based on the number of vacant spaces, we get odds of 8 to 6 for the first distribution.

Correspondingly, the odds for the next one become 6, and the last one gets odds of less than 6, since one more card has to be moved to the hand with fewer vacant spaces. Because of West's choices of discards, the odds for the two in the middle must be halved, while the odds for the last one must be divided by 3.

Thus the odds for the first distribution become 8 against <8 (3 + 3 + <2), so with a six-card club suit with West there is a little over a 50% chance that the spade finesse is right. If West has a seven-card club suit, the odds for the first distribution become even greater.

The actual declarer did indeed finesse in spades and made his contract. In a discussion of the deal, his trump handling was described as inspired, but it was also with the odds.

From the Danish 1st division

♠ -
♥ A K 9 6
♦ Q 10 6 5
♣ A K J 6 4

West / All

♠ A 9 5 2
♥ Q 8 7 4 2
♦ A K 8
♣ 9

West
Pass

North
1♣

East
2♠

South

After this start, South reaches 7♥ with a small spade lead from West. We can start by placing East with a six-card suit and West with a three-card suit in spades. The high trumps in dummy mean that you have to think in terms of a reverse dummy, where the small trumps in hand are to be used for ruffing. The lead is allowed to run to the jack with East and the ace in hand, but the question is what should be discarded from dummy - a club or a diamond?

If the trumps are 2-2 against you, there are easily 13 tricks regardless of whether you discard a diamond or a club, because you can take 3 ruffs in hand, either 3 in clubs or 2 in clubs and 1 in diamonds. So it is relevant to look at the trumps being 3-1 with West-East.

If you discard a diamond, you have to handle the clubs with two ruffs. That must be a huge chance. But if you discard a club, you may be able to handle the clubs with one ruff followed by one ruff in diamonds. If the clubs should require two ruffs, there are good chances of getting 4 diamond tricks without ruffing. Once you know the club distribution, you will probably know whether the diamonds are 3-3, or whether you have to finesse for the jack with West. We discard a club from dummy.

That was at any rate what both declarers did on BBO, and when they drew the trump queen, East did not follow suit. With 3 spades and 4 hearts with West, the question was whether West's distribution in diamonds and clubs was 4-2, 3-3, or 2-4. There are 7 clubs out and only 6 diamonds, so it must be more likely that West has 4 clubs than 4 diamonds. But is 3-3 or 2-4 most likely? The situation was this:

	♠ -	
	♥ A K 9	
	♦ Q 10 6 5	
	♣ A K J 6	
♠ K 7		♠ Q 10 8 4
♥ J 10 5		♥ -
♦ 7 3 2	W / All	♦ J 9 4
♣ 7 5 2		♣ Q 10 8 3
	♠ 9 5 2	
	♥ 8 7 4 2	
	♦ A K 8	
	♣ 9	

The two declarers on BBO clearly judged that West probably had 2 diamonds and 4 clubs, because one cashed ♣A, ruffed a club, cashed ♣K, and ruffed ♣J, with West overruffing. The other finessed for ♣Q.

Although the situation is not the same as in our opening example with the same suit divided 3-3 or 2-4, there are similar odds here. In fact, the odds are 4 to 3 for 3-3 in the minors with West. You should therefore play for the actual club distribution and play this way: Club to the king and a club ruff. Then a trump to West's 10 and dummy's king, followed by another club ruff. Then you take a new trump finesse and draw the last trump, followed by ♣A and 4 diamond tricks. A neat reverse dummy with a marked double finesse in trumps.

It is natural to focus on West's hand when West is the one who can overruff, but it is easier to judge correctly by looking at East's hand. East has 7 cards in the minors, and since there are more clubs than diamonds with E-W, East probably has four clubs rather than four diamonds, so West has 3-3 in the minors.

A particularly important point is also that if West has 4 clubs and a small doubleton in diamonds, the contract now cannot be made. The declarer who discarded a diamond at trick one had an easy route to all the tricks. The clubs could be established with two ruffs, while West's trumps could be picked up.

The Double Rule

You have not heard of this rule. That is not so strange, because the rule is being introduced in this article. If you have to play a suit where you are missing the jack fifth, you should normally not finesse for the jack, but under special circumstances it is with the odds to finesse. The Double Rule deals with that situation.

Let us look at a suit combination:

	♠ A K 10 8	
♠ J 5 3 2		♠ 4
	♠ Q 9 7 6	

With no other information, you simply cash the three high spades in some order. But if East has shown greater length than West in one of the other suits, you allow for the fact that West may have length in our suit. Therefore you start with a high spade from dummy followed by a spade to the queen in hand, after which you know that you should finesse for the jack with West.

In this way you can sometimes discover that you should finesse through Jxxx, but that was not possible in the following deal.

From the Vanderbilt

In the semifinal of the Vanderbilt in 2013, one of the deals looked like this (rotated):

	♠ 3	
	♥ K 8 7	
	♦ A 10 2	
	♣ K Q 10 7 5 4	
♠ K		♠ A Q J 9 8 5 4 2
♥ 5 3 2		♥ J 9
♦ Q J 9 6 5 3	E / None	♦ 4
♣ 9 8 3		♣ J 6
	♠ 10 7 6	
	♥ A Q 10 6 4	
	♦ K 8 7	
	♣ A 2	

East opens 4♠, and at one table in each of the matches it was passed out. At the two other tables North entered the bidding. 6♥ at one table could not be defeated (with a 4-1 trump split, the opponents could have started with two rounds of spades), but how should declarer handle the trumps in 6♣ at the other table? After ♣A the question is whether to finesse for the jack with West.

At the computer

For the vast, vast majority of players, it is not relevant in this situation to sit at the bridge table and calculate the odds for finessing and for playing from the top. It would be nice to have a simple rule that says whether the odds favor one or the other.

More than 20 years ago I often sat at my desk calculating odds in different situations. But then I decided instead to make a computer program that could quickly calculate the odds. Today you can go to some websites and have the odds calculated, but I have grown used to my old DOS program, which I have then used to make the table below.

The situation is that you can take a top honor in the suit, but then you must decide whether to finesse for the jack with the opponent who has fewer cards in another suit. Here the other suit is split 1-8, and by ruffing a spade first it is easy enough to establish that it is not split 2-7.

The calculations gave results that can be used to set up this table:

Number of cards	Finesse	Cash	Other cards	Other Cards
7	0-7	1-6	13-6	12-7
8	1-7	2-6	12-6	11-7
9	1-8	2-7	12-5	11-6
10	2-8	3-7	11-5	10-6
11	3-8	4-7	10-5	9-6
12	3-9	4-8	10-4	9-5
13	4-9	5-8	9-4	8-5

The 2nd and 3rd columns show the boundary between whether it is with the odds to finesse or to cash. The trick now is to use the numbers to formulate a simple rule for when you should finesse for the jack. If fewer than 7 cards have been shown in the other suit, it is not relevant to finesse for the jack; you should cash as usual.

The distribution of our suit among the opponents is, of course, related to how many vacant spaces there are with each of them outside their suit, so in the last two columns I have given the number of other cards (outside their suit). Can a simple rule be derived from the last two columns?

In the column with other cards corresponding to finessing, West always has at least twice as many other cards as East, and that is not the case in the last column, where you should not finesse.

Thus we can formulate “The Double Rule”:

*It is with the odds to finesse if the opponent with few cards in their suit **has at least twice as many other cards as partner**; otherwise not.*

The Vanderbilt deal

With the spade suit split 1-8 between West and East, the distribution is 12-5 for the number of cards in the other suits. The Double Rule says that it is with the odds to finesse, and that is what declarer did - and went down.

If the spades had been split 2-7, the distribution of the number of cards in the other suits would have been 11- 6, and then it is not with the odds to finesse; you should cash.

A deal from the magazine Bridge Plus

♠ Q 5 4 3 2
♥ K 7
♦ A
♣ A K Q J 10

S / All

♠ A K 10
♥ A 6
♦ K 6 5 4 3 2
♣ 6 3

You get a club lead against 7NT, and East does not follow suit. You cash ♠A, where both follow with a small card. Should you go to dummy with ♦A and finesse for ♠J with East?

There are only 6 clubs out, and you need at least 7 before finessing for the jack comes into consideration, so you should cash in spades (there may also be a possibility of a squeeze against East in spades and diamonds). The author of the article claims, however, that it is best to finesse in spades.

Finessing for 10xxx?

♠ K 4 3
♥ 5 4 3
♦ A K 8
♣ Q 8 6 4

N / E-W

♠ A Q J 9 8
♥ 9 6
♦ Q J 10 6
♣ A 3

West	North	East	South
	1♣	2♥	2♠
Pass	3♠	Pass	4♠
Pass	Pass	Pass	

Lead: ♥K

West leads ♥K from king doubleton, and East overtakes to play two more high hearts, which you trump high. After a trump honor from hand, to which both follow with a small spade, you must decide whether you want to play for the ten fourth with West. Do you finesse, or do you cash?

After you have ruffed with one of the high trumps, the ten now takes over the jack's role, and we can use The Double Rule: With the hearts 2-6, the other cards are split 11-7, so since 11 is not twice as much as 7, you should cash. If the hearts had been split 1-7, 12-6 in the other suits would mean that it is with the odds to finesse.

A borderline case

♥ K 10 4

♥ A Q 5 3 2

As South you know that another suit is split 1-7, so the distribution of other cards is 12-6. The Double Rule therefore recommends finessing with the ten after first cashing a top honor from hand.

But what if the suit is split this way?

♥ K 10

♥ A Q 5 4 3 2

Now you cannot cash a high heart before you have to decide whether to finesse or cash, so you miss the chance of a singleton jack with East. It turns out that now you should not finesse, but play the suit from the top. I will look at that in the next issue of Bridge i Norge.

Articles

I know of two articles on the subject, the original by Philip Martin in The Bridge World, January 1985, and a later article in Dansk Bridge by Arne Brøndsted. Philip Martin looks only at the case where you can cash one high card before deciding whether to finesse or cash, while Arne Brøndsted treats both cases.

They both formulate rules, but not as clear and simple as The Double Rule here. Philip Martin was inspired by a deal where the distribution of two suits among the opponents was known, and his Majority Rule is discussed in The Official Encyclopedia of Bridge.

In the next issue of Bridge i Norge I also look at the situation with a known distribution in two suits, and it is probably not surprising that The Double Rule still holds.

The Double Rule Continued

When you have to handle a suit where Jxxxx is out with the opponents, there is normally no doubt that you should not finesse for the jack. But if one opponent has shown great length in another suit, it may become relevant to finesse for the jack through partner.

The Double Rule applied to two examples

You hold

♠ A K 10 4 3 2

♠ Q 5

or

♠ A 10 2

♠ K Q 5 4 3

and start by taking the queen in your hand, with both opponents following with a small card. West does the same when you next play a small card from your hand. Finesse or cash the top cards?

We assume that you know this about the diamond suit:

- A) West-East have 8 cards in the suit, distributed 1-7.
- B) West-East have 11 cards in the suit, distributed 3-8.

There must be at least 7 cards in the suit (and there are), and then “The Double Rule” says:

*There are odds for finessing if the opponent with few cards in their suit **has at least twice** as many other cards as partner; otherwise not.*

The opponents’ non-diamonds are distributed as follows:

- A) 12-6
- B) 10-5

Since West in both cases has twice as many non-diamonds as East, The Double Rule says that there are odds for finessing with ♠10.

You have to finesse immediately

Let us say that the distributions are instead:

♠ A K Q 10 4 3 2

♠ 5

or

♠ A 10

♠ K Q 5 4 3 2

Now you cannot cash a high spade before deciding whether to finesse or cash the top cards. If you finesse, you miss the chance of the jack singleton with East. We have to calculate it to decide whether you should finesse or cash the top cards.

At the computer

The calculations give the following overview of the boundary between finessing and cashing the top cards when you have to finesse immediately:

NUMBER OF CARDS	FINESSE	CASHING	OTHER CARDS	OTHER CARDS
8	0-8	1-7	13-5	12-6
9	1-8	2-7	12-5	11-6
10	2-8 *	3-7	11-5	10-6
11	2-9	3-8	11-4	10-5
12	3-9	4-8	10-4	9-5
13	4-9	5-8	9-4	8-5

At * it is fifty-fifty, so you would typically consider other factors in deciding what to choose.

Finessing is not relevant when the opponents' suit has fewer than 8 cards. For there to be odds for finessing, West must now have more than twice as many cards in the other suits. So if you are deciding whether to *finesse immediately*, the formulation becomes:

The Double Rule

*There are odds for finessing if the opponent with few cards in their suit **has more than twice** as many other cards as partner.*

In the two cases above, West had exactly twice as many non-diamonds as East, so in those cases you should not finesse immediately, but cash the top cards.

Known distribution in two suits

If the opponents' distribution is known in two suits, we can naturally use the rules above if the opponents have no more than 13 cards in the two suits. But an overview is needed when there are more than 13 cards out.

If you can cash one high card before possibly finessing, it looks like this

NUMBER OF CARDS	FINESSE	CASHING	OTHER CARDS	OTHER CARDS
14	5-9	6-8	8-4	7-5
15	5-10	6-9	8-3	7-4
16	6-10	7-9	7-3	6-4
17	7-10	8-9	6-3	5-4
18	7-11	8-10	6-2	5-3
19	8-11	9-10	5-2	4-3

The double rule carries over directly:

The Double Rule

*There are odds for finessing if the opponent with few cards in their suits **has at least twice** as many other cards as partner; otherwise not.*

If you have to finesse immediately, the table looks like this:

NUMBER OF CARDS	FINESSE	CASHING	OTHER CARDS	OTHER CARDS
14	4-10	5-9	9-3	8-4
15	5-10	6-9	8-3	7-4
16	6-10	7-9	7-3	6-4
17	6-11	7-10	7-2	6-3
18	7-11	8-10	6-2	5-3
19	8-11	9-10	5-2	4-3

The double rule carries over directly:

The Double Rule

*There are odds for finessing if the opponent with few cards in their suits **has more than twice** as many other cards as partner.*

An example

♠ A K J 8 3 2
♥ 6
♦ 10 7 6
♣ 9 7 2

S / None

♠ 7 4
♥ A K Q 10 8 4 3
♦ J 5 3
♣ A

West	North	East	South
			1♥
2NT 1)	3♠ 2)	4♣	4♥
Pass	Pass	Pass	

- 1) 5-5 in the minors
- 2) Not forcing

West starts with the three high diamonds, on which East discards a club on the third round. Then West plays ♣Q to your ace. Should you draw trumps from the top or go to dummy in spades and finesse for the jack with East?

The minor-suit cards with the opponents are distributed with 10 with West and 6 with East. Thus East has 7 major-suit cards against 3 with West. East has more than twice as many cards outside the minor suits, so you should finesse.

That works well with this distribution of the opponents' cards:

♠ 10 6		♠ Q 9 5
♥ 9		♥ J 7 5 2
♦ A K Q 8 4	S / None	♦ 9 2
♣ Q J 10 6 5		♣ K 8 4 3

The original example

♠ Q 10 9 5
 ♥ A 7 6
 ♦ 9 6 5 3
 ♣ 10 4

S / All

♠ A 6 4 2
 ♥ K Q 10 9 8
 ♦ -
 ♣ A K 8 5

West	North Lowenthal	East	South Martin
			1♠ 1)
Pass	2♠ 2)	3♦	4♦
Pass	4♥	Pass	5♦
Pass	5♠	Pass	6♠
Pass	Pass	Pass	

- 1) Canapé
- 2) Promises 4-card support

The deal is from the Reisinger Board-a-Match many years ago, and Martin, as declarer, had to decide whether to finesse for the jack of hearts with West.

West led a third-highest ♦2 to East's ten, and it was trumped by South. After a long pause came a spade to dummy's 9 and East's king. East continued with a diamond, trumped with the ♠A in hand, followed by a spade to the jack, queen, and small card. On the third round of spades East followed, while declarer discarded a club from hand and West his last diamond.

Now you are placed in declarer's chair, from which you cash ♥K. On the first round of hearts both opponents contribute a small heart. Then you play ♥10 from hand, and West follows with another small card. Do you finesse or cash the top cards?

In spades and diamonds, West is known to have 5 cards and East 9 cards. Outside these suits, the number of cards with West and East is 8 and 4 respectively. West therefore has twice as many cards in the other suits as East, and according to The Double Rule there are odds for finessing.

Articles on the subject

I know of two articles on the subject. Philip Martin followed up with an article in The Bridge World, January 1985. Based on calculations like those in the tables above (though not for cases where you have to finesse immediately), he formulates his Majority Rule, which is discussed in The Official Encyclopedia of Bridge.

In an article in Dansk Bridge, Arne Brøndsted deals with both of these situations, both when you can cash a high card first and when you have to finesse immediately. He set out rules for when the odds favor finessing versus cashing the top cards in the suit. But none of these rules is as simple and easy to apply as The Double Rule.

Opponent Assessment

There are some situations where, as a defender, you must make sure to play a “false” card, so that declarer is not obviously forced to do the right thing, but instead has a choice. We will look at some examples of so-called obligatory falsecards.

Experienced players are familiar with several situations where it is necessary to play a particular card in order to put declarer to the test. But it is probably less common to have a firm grasp of whether, as declarer, you should allow for a possible falsecard, and here it is a matter of assessing the specific opponent.

Play a known card 1

	♣ A J 3	
♣ Q 10 7		♣ 8 6 5
	♣ K 9 4 2	

Declarer starts with a successful club finesse with the jack, after which he cashes the ♣A. Now it is important for the defense that West plays the queen, because otherwise it is obvious for declarer to continue with the 3 to the king. When the queen appears from West, declarer must decide whether to finesse against the ten with East.

From declarer’s point of view, it is a question of these two layouts:

♣ D T 7	♣ 8 6 5	odds: 11
♣ D 7	♣ T 8 6 5	odds: 10

A specific 3-3 split is slightly more likely than a specific 4-2 split, but not by much.

With a poor opponent in West, you should without question finesse against the ten. With a better player in West, you should consider whether the queen is a “false card.” But the opponent must be so good that, in more than 10/11 (90.9%) of the cases, he plays the queen from Q107, for you to judge the queen to be a falsecard and cash the suit from the top. On the other hand, for many players it is pure routine to follow suit with a card that has already been shown.

Play a known card 2

	♠ A J 9 6 5	
♠ 10 8 7		♠ K Q
	♠ 4 3 2	

Declarer must play the suit for only one loser and starts by playing a small spade to the 7, 9, and queen. When declarer later plays a small card up toward AJ, it is important that West plays the ten (the card he has already been marked with), not the 8, because if he plays the 8, declarer knows that his only chance is to go up with the ace to drop the singleton king.

From declarer’s point of view, it looks like this:

♠ 10 8 7	♠ K Q
♠ K 10 7	♠ Q 8

With the last layout, there are (normally) no choices for either defender. But with the first position, even with an alert West, there are two possible plays by him, 7-T or 8-T, and two possibilities with East, king or queen. The odds for the first layout must be reduced to a quarter, and declarer should naturally finesse with the jack on the second round of the suit. With the obligatory falsecard of the ♠10, West prevents declarer from being able to read the layout, so he finesses with the jack as planned.

I myself have, with the last layout, had success by going up with the king the first time, after which declarer thought it was from KQ, and that the ten was with East.

A declarer-play problem

♠	A 9 7
♥	A Q 8 7 5
♦	Q 8 3
♣	8 5

S / All

♠	K 6 2
♥	J 6 4
♦	A 6 5
♣	A K 7 4

West	North	East	South
			1NT
Pass	2♦ *	Pass	2♥
Pass	3NT	Pass	4♥
Pass	Pass	Pass	

*Transfer to hearts

West leads the ♦J. You try the queen from dummy, but East covers with the king, and you take the ace. Then you play ♥4 to the 3, queen, and 9. Do you continue with the ace, or go back to your hand and send the ♥J on its way?

It is a question of these two layouts:

♥ K 3 2	♥ 10 9
♥ K 3	♥ 10 9 2

The odds for the first must be reduced to a quarter, because West has the choice between 3 and 2, and East has the choice between ten and 9. But what about the second layout?

If one lazily plays the 2, declarer has no other route to success than continuing with the ace. It is an obligatory falsecard to play the ♥10 or ♥9.

Against a not especially strong defender in East, you should without question play for the first layout and go back to your hand to play the jack.

If East is a strong player who always makes sure to play the ten or 9, the odds for the last layout should only be reduced by half, and then the odds are 2 to 1 for the last layout, and you should calmly continue with the ace from dummy.

Even a strong player can naturally forget to falsecard, but he will without question remember it in more than half the cases, so continuing with the ace from dummy is clearly with the odds.

I myself once had the opportunity in this situation to play one of the high cards from T9x. Declarer continued without much thought with the ace, so I found no occasion to thank him for the confidence.

The editor's corresponding suit combination

Boye drew my attention to this suit combination:

♣ K Q 9 8 7 6 4

♣ 5

You begin with a club to the king, and the jack (or the ten) appears in East. Against good opposition, it must be right to continue with a small club, hoping to find Ax in front (two variations instead of one).

This suit combination corresponds exactly to the previous example. Here the obligatory falsecard is from JT_x instead of from T9_x.

A good defender will without question find the falsecard in more than half the cases, and then declarer must assume that it is a falsecard and continue with a small card from dummy.

I had probably assumed that this was common knowledge among the very best players, but Boye provides a couple of examples showing that this is probably not the case.

From Copenhagen Bridge Invitational 2015

Board 13

	♠ Q 10 5	
	♥ Q 6 4 3 2	
	♦ 10 4	
	♣ J 10 6	
♠ K 6 4	N / All	♠ A J 3
♥ K J		♥ A 9 8 7
♦ 5		♦ Q J 8 6 3
♣ K Q 9 8 7 5 4		♣ 2
	♠ 9 8 7 2	
	♥ 10 5	
	♦ A K 9 7 2	
	♣ A 3	

West	North	East	South
Versace	Auken	Tokay	Welland
	Pass	1♦	Pass
2♣	Pass	2♦	Pass
3♣	Pass	3NT	Pass
Pass	Pass		

South's lead of the ♠8 went to the queen and ace. Tokay followed up with a club to the king, and Sabine played the jack. Tokay now continued with the queen!

I do not think Sabine has any reason to be offended by Tokay's assessment of her as a defender. Instead, she can be pleased that he did not have control of this suit combination, so the contract went down.

Several players tried the king and queen, and at least one player forgot to play the ten or jack under the king.

From the 2001 World Championship Final

On this deal, Sælensminde had the suit handling under control, but the person who wrote about the deal in the World Championship book apparently didn't mean that:

Deal 71

	♠ 8 4	
	♥ A Q 9 7	
	♦ J 10	
	♣ K 10 8 7 5	
♠ 10 7 3		♠ A K J
♥ -		♥ K 10 8 5 4 2
♦ K Q 9 8 7 6 4	S / All	♦ 3
♣ A 9 3		♣ Q J 6
	♠ Q 9 6 5 2	
	♥ J 6 3	
	♦ A 5 2	
	♣ 4 2	

West	North	East	South
Brogeland	Larsen	Sælensminde	Meltzer
			Pass
1♦	Pass	1♥	Pass
2♦	Pass	3♣	Pass
3♦	Pass	3NT	Pass
Pass	Pass		

Brogeland opened with 1 diamond, and Sælensminde drove the contract to game while concealing his heart length. The lead of the spade 5 went to the eight and jack, and the diamond 3 went to the five, king, and jack.

Sælensminde had to decide whether the jack was a false play from jack-ten-two or a random choice from jack-ten doubleton.

In the World Championship book, there are some discussions on suit lengths, restricted choice, and not restricted choice, concluding that the diamond queen is a more popular play than a small card. This is partly because, even with the most generous mindset, players tend to resolve these situations by relying on human frailty. Although even experienced players know they should play an honor from J-10-x, the simple fact is that almost everyone forgets to do so occasionally—**that's the kicker**.

The description of the deal contains a number of concrete elements in an analysis of what is with the odds. It is however not a question of whether almost everyone forgets to do it now and then, but whether Larsen will forget it in more than half the cases – **that's the kicker**. Naturally he will not.

Sælensminde played with the odds when he continued with a small diamond, but it led to three undertricks and 10 IMPs to the USA (130 in 3♦ at the other table). The board swung a full 21 IMPs, since Ax in diamonds with South would have produced +630 and 11 IMPs to Norway (in fact exactly the same margin by which the USA won the final!).

A Deep Finesse

If you have 8 cards in a suit where JT9xx are out, there is normally no possibility of taking a finesse. But sometimes the possibility is there, and there may be odds for taking the finesse.

With this suit combination:

♥ A K 8 7 6

♥ Q 5 2

you start by cashing the queen, on which the jack, ten, or nine comes from East. You continue with a small card toward dummy, and West has contributed the ♥3 and ♥4. Normally you go up with the ace or king, but if East had a singleton, you can avoid a loser in the suit by finessing.

If East has shown length in another suit, however, it may become right to finesse.

A newspaper deal

In this deal, H.C. Nielsen took a deep finesse:

	♠ J 9 8	
	♥ K 5	
	♦ J 10 6	
	♣ A K 8 7 6	
♠ 5	S / None	♠ Q 10 7 6 3 2
♥ A Q 8 7		♥ J 6
♦ K 9 8 3		♦ A 5 4 2
♣ 10 9 4 3		♣ J
	♠ A K 4	
	♥ 10 9 4 3 2	
	♦ Q 7	
	♣ Q 5 2	

West	North	East	South
Pass	1♣	2♠	Pass
Pass	3♣	Pass	Dbl
Pass	Pass	Pass	3NT

West led the ♠5 to the ♠8, ♠10, and ♠K. South cashed the ♣Q, and East followed with the ♣J. It could easily have been from JT doubleton, but West was marked with a singleton spade after East's 2♠ bid and had to have some length in the other suits. H.C. Nielsen continued with clubs to finesse with the ♣7!

It held the trick, and South played a diamond to the queen and king, won the heart shift with the king, and let the ♠J ride. The result was 3 spade tricks, 1 heart trick, and 5 club tricks - and 10 IMPs, since they had gone one down at the other table.

An odds analysis

The article does not mention the possibilities of J9 and JT9 with East. We can undoubtedly disregard J9, because since East does not know whether South has the ten, he will not think of playing the jack from J9. But even though it is unlikely that East has JT9, it must be taken into account.

The three possibilities are:

Holding	Initial odds	Reduced odds
J	9	9
J 10	6	3
J 10 9	3	1

It is actually not so difficult to determine the initial odds by comparing the distributions. The difference between the first two is whether the ten has come together with the jack and 6 spades with East, or together with 1 spade and 943 with West. Based on the principle of vacant spaces, the odds are 9 to 6 for the first.

The difference between the last two is whether the nine has come together with JT and 6 spades with East, or together with 43 and 1 spade with West. Based on the principle of vacant spaces, the odds are 10 to 5 for the first. When odds of 6 remain for JT, the initial odds become 3, that is, half as much, for JT9.

With the first distribution, East has no choice in what to play, but with the last two there are 2 and 3 choices respectively, so the initial odds must be divided by 2 and 3 respectively. Thus the odds are 9 to 4 for finessing; the finesse is a 69% chance.

Other odds when the ten or nine is played

When East has choices about what to play with JT or T9, but not with J9, there is no symmetry in the odds. We can set up the following odds table corresponding to the three possible plays:

Cards	Odds	J	10	9
9	9	-	-	9
10	9	-	9	-
10 9	6	-	3	3
J 9	6	-	-	6
J	9	9	-	-
J 10	6	3	3	-
J 10 9	3	1	1	1
Finesse		69,2%	56,3%	47,4%

The odds are distributed equally according to the number of choices. The odds for finessing are respectively 9 to 4, 9 to 7, and 9 to 10.

If East chooses randomly when discarding from equal cards, there are odds for finessing if East plays the jack or the ten, while you should cash the top cards in the suit if East follows with the nine. But should East play equal cards randomly?

No information in the choice of play

If East has T9 or JT, he is interested in getting declarer to take a losing finesse, and he does that best by playing the higher of the two. The lesson on defense is therefore that you do not choose fifty-fifty, but always play the highest. If this is the case, the table looks like this:

Cards	Odds	J	10	9
9	9	-	-	9
10	9	-	9	-
10 9	6	-	6	0
J 9	6	0	-	6
J	9	9	-	-
J 10	6	6	0	-
J 10 9	3	1	1	1
Finesse		56,3%	56,3%	56,3%

With this defensive method, the odds after all three plays are 9 to 7, the same as before when the ten was played.

I have asked some good players what they would play in this situation from JT and T9, and all answered that they would play one of them at random. If they continue doing that, a good player will work out that he should cash the top cards in the suit if the nine appears.

We agree that in the future we will always play the highest and, as declarer, judge whether East knows what he is doing.

Assessing the opponent

If there are 6 or 7 cards with one opponent, this table gives an overview of the probability of finessing - if the opponent chooses a random card from JT, T9, and JT9:

Difference	Distribution	J	10	9
6	0-6	72%	59%	50%
6	1-7	74%	61%	52%
5	1-6	69%	56%	47%
5	2-7	71%	58%	49%
4	2-6	66%	53%	44%
4	3-7	68%	55%	46%
3	3-6	62%	49%	41%
3	4-7	63%	50%	42%
2	4-6	58%	45%	37%
2	5-7	58%	45%	37%

With a difference of 6 we finesse. With a difference of 5 or 4 we cash the top cards when the nine appears. With a difference of 3 or 2 we cash the top cards when the ten or nine appears. If the opponent is someone who always plays the highest card with JT and T9, all three columns in the table become like the one under 10. With a difference of 6, 5, or 4 we finesse, and with a difference of 3 or 2 we cash the top cards.

One of the opponents has an 8-card suit

Now the table looks like this:

Difference	Distribution	J	10	9
5	3-8	74%	61%	52%
4	4-8	70%	57%	48%
3	5-8	65%	52%	43%

You should normally finesse, and it is probably only worth considering cashing the top cards when the nine appears and the distribution is 5-8.

Various Odds Examples

In the series of odds articles, a number of principles and rules for assessing odds have been covered. I have collected some examples of deals where the principles and rules can be applied.

Knowing the odds is important in IMP scoring when it is a matter of taking the necessary number of tricks. But it is probably more often useful in match points, where you regularly have enough tricks to make the contract, but go hunting for as many tricks as possible.

In some of the deals below, the contract is secure, but then it is a matter of getting overtricks, because it is matchpoints.

Finesse right away?

	♠ -	
	♥ 9 7 3	
	♦ A K J 6 2	
	♣ K Q 5 4 3	
♠ A J 10 9 7 4 3	E / None	♠ K Q 2
♥ Q		♥ 5 4 2
♦ 4 3		♦ Q 9 7 5
♣ J 8 6		♣ 10 9 7
	♠ 8 6 5	
	♥ A K J 10 8 6	
	♦ 10 8	
	♣ A 2	

West	North	East	South
		Pass	1♥
3♠	Dbl	4♠	Dbl
Pass	5♠	Pass	7♥
Pass	Pass	Pass	

Lead: ♠A

Declarer trumped the lead in dummy and cashed ♥A, and the grand slam was home. The deal was discussed in a bridge column in a newspaper, where the writer wrote:

It looks natural to cash the heart ace. If the queen does not fall, you finesse on the second round, since East, because of West's spade length, is favored to have heart length. But the question is: Should you really cash the top honor once to guard against the singleton queen? Should you not rather finesse right away to guard against queen-fourth with East? (That is not entirely unlikely with spade length with West.) A difficult choice.

Are the odds for finessing right away?

The difference between the two lines of play is whether the heart distribution is

♥ Q ♥ 5 4 2 or ♥ - ♥ Q 5 4 2

Is the queen more likely to be with 7 spades in West, or with 3 spades and ♥542 in East?

There are 7 vacant spaces for the queen in East compared with only 6 in West, so the odds favor finessing right away.

Odds of 7 to 6 for finessing right away sounds like an important difference, but there are many distributions where it makes no difference whether you do one thing or the other. The total percentages are 62.50% versus 60.85%.

A deal from a drop in matchpoint tournament

♠ K 10 4
♥ J 10 7 3
♦ J 10 9
♣ A K 2

N / N-S

♠ A J 9 6 2
♥ A 6
♦ A 5 4
♣ J 5 4

West	North	East	South
	1NT	Pass	3♠
Pass	4♠	Pass	Pass
Pass			

West's lead of a fourth-highest ♦2 goes to the 9, queen, and ace. You go to dummy with ♠K, after which ♠T holds the trick, as West has no more trumps.

What do you do now?

You have 10 tricks home, but hope to create an extra trick in hearts with the queen and king split between the opponents. With length in spades, East is probably shortest in hearts, so you send ♥J from dummy. This works well on this distribution:

	♠ K 10 4	
	♥ J 10 7 3	
	♦ J 10 9	
	♣ A K 2	
♠ 7		♠ Q 8 5 3
♥ Q 9 8 4		♥ K 5 2
♦ K 7 6 2	N / N-S	♦ Q 8 3
♣ 10 7 6 3		♣ Q 9 8
	♠ A J 9 6 2	
	♥ A 6	
	♦ A 5 4	
	♣ J 5 4	

If East covers with the king, you can establish ♥10 (when the queen is with West). When East does not cover, you let ♥J run to West's queen. Later you can cash ♥A and trump a heart, so that East's king falls.

It is not easy to see, but if East covers ♠10 with the queen, you get home to your hand and can no longer establish a heart trick.

Two entries to dummy

♠ 10 7 2
♥ A J 4
♦ Q 5
♣ 10 6 5 3 2

N / N-S

♠ A K Q J 5 3
♥ 8 5 3
♦ A 8
♣ A K

You have reached a hard 6♠ as South and get ♥2 (fourth-highest) led from West. You hopefully play small from dummy, but East takes the trick with the 9 and continues with the queen to dummy's ace.

You play a club to the ace and also cash ♣K, which brings the queen and jack from West. Dummy's ten is now good, but East has a club guard.

You need two entries to dummy, one to trump the clubs good and one to get over there to cash the clubs. You cash ♠A, bringing ♠4, ♠2, and ♠9. When you next play a small spade, West follows with the 6. Finesse or cash the top honor?

It is a normal(?) restricted choice situation, where you should assume that East had no choice when he played the 9 (not chosen from 98), so you finesse with the 7, which holds the trick. Then you trump a club high and go to dummy with ♠10 to cash the good clubs, discarding a diamond and a heart.

How good is East?

♠ A Q 8
 ♥ K Q 2
 ♦ A J 8 5
 ♣ Q J 5

E / N-S

♠ K J 3
 ♥ A J 4
 ♦ Q 7 6 4
 ♣ A K 7

West	North	East	South
		Pass	1♦
Pass	2♣	Pass	3NT
Pass	7NT	Pass	Pass
Pass			

It is a terribly bad contract, even though you have a total of 37 high-card points; there is mirror distribution, and a king is missing.

Declarer took the heart lead in hand and finessed in diamonds with the jack. Small from West and the 9 from East. What would you do now? Do you go back to hand and play ♦Q to finesse the king out of West, while the 10 falls from East?

With an ordinary player in East, that is without doubt what you should do. But a truly skilled player in East, holding T9x, will realize that if he plays small, you have no choice but to continue with the ace to make the king fall from West.

It is therefore a situation with a mandatory bluff; by playing the 10 or 9 from T9x in East, you get the possibility of going back to your hand and sending the queen out.

There are two distributions with T9x against only one with T9. You judge East to be a good player, but is he so good that, in more than half the cases with T9x, he will remember to play the 10 or 9?

Restricted choice?

♠ Q 8 4
 ♥ K 7 5 2
 ♦ K 3
 ♣ 9 5 4 3

S / E-W

♠ A K 6
 ♥ A 10 6 4 3
 ♦ A 5 4 2
 ♣ 8

West	North	East	South
			1♥
Pass	2♥	Pass	3♣
Pass	4♥	Pass	Pass
Pass			

After a short-suit trial bid in clubs, you reach 4♥ and get ♣K led from West, where East signals an even number of clubs with the 2.

West continues with ♣Q, East contributes a small card, and you trump. Then you play a heart to the king, where West follows with the queen and East with the 8. When you play a heart from dummy, East follows with the 9. Finesse or cash the top honor?

With the clubs distributed 4-4, we can, from vacant spaces, assess that the initial odds for QJ versus singleton Q are 8 to 7, but because of the choice from QJ, the 8 must be halved, so the odds are 7 to 4 for J98 rather than 98 with East. But it is still not best to finesse!

The goal is to take 12 tricks, and then the best chance is to cash the top hearts. If you cash the top honors and the jack falls, the 12 tricks are secure, because there are two trumps left in dummy to trump diamonds with. If you take a successful trump finesse (East has J98), you have to start trumping two diamonds in dummy, and East will overtrump unless he has the length in diamonds.

With 5 cards in hearts and clubs with West versus 7 with East, there is less than a 50% chance that East has the length in diamonds (it is all the way down at 29.6%). When we look at the chance of ending with 12 tricks, odds of 4 are preserved, while odds of 7 must at least be halved, so the odds favor cashing the top honor.

Finesse with 9xxxx out?

This deal is from David Bird's "Clever Play in the Trump Suit":

♠ J 10 4 2
♥ A K 8 6
♦ A K 9
♣ 9 3

S / N-S

♠ A K Q 8
♥ 4 3
♦ 6 5
♣ A K 10 7 4

West	North	East	South
			1♣
2♥	Dbf	Pass	4♠
Pass	4NT	Pass	5♣
Pass	5♦	Pass	6♣
Pass	7♠	Pass	pas
Pass			

West bid a weak 2 in hearts, and South has shown AKQ in spades and AK in clubs.

Lead: ♥Q

Declarer took the lead in dummy, followed by ♣A and ♣K. Then he trumped a club high in dummy, and that was sensible, because East now had no more clubs. A small spade went to the ace, both opponents following, and declarer established the fifth club with a high ruff. When the last spade was played from dummy, East played a small spade. Should you finesse against the 9?

Since the jack and ten are gone, the situation corresponds to one where Jxxxx is out and you must decide whether to finesse against the jack. We can use "The Double Rule," where, from the known number of cards in hearts and clubs, we must look at how many cards West and East respectively have in the other suits, spades and diamonds.

A count tells us that West has 3 cards in the other suits, while East has 10. The question is whether East has at least twice as many, because then you should finesse. The odds favor finessing against the 9 with East.

Some Mandatory Bluffs

In some situations a defender must make sure to play a higher card than necessary, because otherwise declarer can only do the right thing. It is simply a matter of giving declarer the chance to play for a losing line. On the other hand, declarer must be aware that it may be a bluff.

Even for top players, it can be necessary to build up a store of suit combinations where it is necessary to make a bluff play in order to give declarer a losing alternative. Even with knowledge of a situation where bluffing is mandatory, one can “forget” to play the card that puts declarer to the test.

There are two fairly well-known situations where even top players do not always remember to bluff. We look at them here (again), but otherwise the purpose is to present some situations that are not so well known even to top players.

Probably the best known

	♠ A Q 8 7 5	
♠ K x		♠ 10 9 x
♠ K 3 2		♠ 10 9
	♠ J 6 4	

Declarer must play the suit without losers and starts by taking a finesse with the queen. If East, with the first layout, plays small, declarer has to continue with the ace. If East instead plays the ten or the nine, declarer has a choice. He can instead play for East to have T9 doubleton in the suit. In that case he goes back to hand and plays the jack.

When the ten or nine appears from East, the question is whether the layout is the last one, or whether East has bluffed with the first. There are two layouts of the first kind against one of the other. To judge whether the odds favor one layout or the other, the question is whether this particular East, in more than half the cases with the first layout, would make the bluff play of the ten or nine. If East is judged to be that good, you should simply continue with the ace; otherwise you should go back to hand and play the jack.

Do you know this one with ♥109xx with East?

		♠ K Q 8	
		♥ K Q J 8	
		♦ K 7 6	
		♣ K J 10	
♠ 10 9 4		S / All	♠ 7 6 3 2
♥ A 4 3			♥ 10 9 5 2
♦ J 8 3			♦ Q 10 2
♣ 9 6 5 3			♣ 8 7
		♠ A J 5	
		♥ 7 6	
		♦ A 9 5 4	
		♣ A Q 4 2	
West	North	East	South
Pass	2♣	Pass	1NT
Pass	6NT	Pass	2♦
Pass			Pass

A spade or a club is led, and declarer plays up toward dummy's hearts twice. The second time it is important for East to play the ten or the nine, since otherwise declarer has to continue with the eight and make the ace fall. That is the only winning line.

With the ten or nine from East, declarer can instead play for T9x and continue with a high heart. Thus we see once again the importance of, as a defender, giving declarer the chance to play for the wrong line.

When declarer has to judge whether this is a bluff, he must compare these layouts:

♥ A x x	♥ 10 9 x x
♥ A x x x	♥ 10 9 x

There are 6 layouts of the first kind against 4 of the last, so the question is whether this particular East will find the bluff play in more than 2/3 of the cases.

Another well-known mandatory bluff

	♣ K D 9 8 7 6 4	
♣ A x		♣ J 10 x
♣ A 3 2		♣ J 10
	♣ 5	

Declarer plays small to the king, where East contributes the jack or ten. Should he continue with a small card or with the queen?

Again the initial odds are 2 to 1 for the first layouts, where East has JT_x. So the question is whether this particular East, in more than half the cases with JT_x, makes sure to come up with the mandatory bluff play.

Above we have shown some mandatory bluff plays with J/10 and 10/9, but there are also some situations with the nine or eight. The question is whether they are harder to make. On the one hand they are not as well known, but on the other hand perhaps it is easier to “waste” a nine or eight.

It is probably a bluff

♠ 8 5
♥ 8 5 4
♦ Q J 10 7
♣ A Q 7 3

S / None

♠ A K 6
♥ A 10 3 2
♦ 6 5
♣ K J 10 9

West	North	East	South
			1NT
Pass	3NT	Pass	Pass
Pass			

West leads a fourth-best ♠2, which goes via East’s jack to your king. You play a small diamond to small, the queen, and the king. East continues the spade attack, and you win with the ace.

When you then play a diamond to the jack, which holds the trick, West follows with a small card, while the nine appears from East! Should you now continue with ♦10 or ♦7?

It is a question of these layouts:

♦ A x x

♦ K 9 8 x

and

♦ A 4 3 2

♦ K 9 8

There are 3 layouts of the first kind, so the question is whether this particular East bluffs by playing the nine or eight with K98x in at least one-third of the cases.

Perhaps you should focus more on West than on East, because perhaps West signals length quite automatically. In that case you know whether to play for one layout or the other.

It is probably not a bluff

♠ K 5
 ♥ A J 7 6 5 3 2
 ♦ K 8
 ♣ Q 9

W / None

♠ A J 4
 ♥ 10
 ♦ Q J 4 2
 ♣ K J 6 3

West	North	East	South
1NT 1)	2♦ 2)	Pass	2♥
Pass	3♥	Pass	4♥
Pass	Pass	Pass	

- 1) 12-14 HCP
- 2) One major suit

West leads ♠3, which is clearly third-best. It goes to the queen in East and the ace in hand. You then play ♥10 via the queen in West to the ace in dummy, and the eight appears from East.

If it is an honest card from 98, you should now continue with the jack, but if it is a bluff play from 984, you should continue with a small trump. West clearly has both the king and queen of trumps as well as the two minor-suit aces. What do you do?

It is a question of two specific trump layouts, namely

♥ K Q ♥ 9 8 4
 and
 ♥ K Q 4 ♥ 9 8

These are two almost equally likely layouts, though the last is a little more likely than the first because of West's 1NT opening. In addition, East with 984 may not find the mandatory bluff, so the odds favor the last layout, and you should continue with the jack from dummy.

A lucky 3NT

♠ 8 5
 ♥ 8 5 4
 ♦ K J 7 2
 ♣ A Q 7 3

S / All

♠ A K
 ♥ A 10 3 2
 ♦ 10 4 3
 ♣ K J 10 9

West	North	East	South
Pass	3NT	Pass	1NT
Pass			Pass

West leads ♠2, which goes via the jack to your king. In practice you have to find West with both the queen and ace of diamonds (possibly the queen doubleton, ed.), so you play a small diamond to the jack, and it holds the trick. East follows with the eight or nine. So far it looks promising.

But it is matchpoints, so you are not satisfied with 9 tricks. You would like to try for an overtrick and play yourself back to hand in clubs. Do you continue with ♦10 or a small diamond?

Regardless of whether the diamonds are divided

♦ A Q x	♦ 9 8 x
or	
♦ A Q 6 5	♦ 9 8

you should play the ten. Thus this is not a normal situation with a mandatory bluff.

A completely different situation

You hold AKJ8xx opposite a void and must play the suit for just one loser. You cash the ace and king and see these cards from West and East:

♥ x x	♥ x 10/9
-------	----------

Do you continue with a small card or the jack?
 If the queen is with West, it is a question of these layouts:

♥ Q x x

♥ Q x x x

♥ 10 9 x x

♥ 10 9 x

6 layouts

4 layouts

Has East bluffed with the ten or nine?

But the queen can of course be with East:

♥ 9 x x x

♥ 10 x x x

♥ Q 10 x

♥ Q 9 x

4 layouts

4 layouts

The odds are hugely in favor of continuing with a small card to make the queen fall.

Intrafinesses

The liqueur company Bols held an annual competition in the period 1974-76 and again from 1987 to 1994 among many of the world's top players to write a short article with an important tip for the rest of us bridge players. Among the many good tips, Gabriel Chagas' article on the intrafinesse is the one that has fascinated me the most.

Chagas' article includes, among others, this example

	♠ Q 9 2	
	♥ 6 5 4	
	♦ A Q 3	
	♣ K 8 4 3	
♠ 10 6	E / All	♠ K J 7
♥ 10 9 8 2		♥ A K Q J
♦ 5 4		♦ 10 9 7 6
♣ 10 9 7 5 2		♣ Q J
	♠ A 8 5 4 3	
	♥ 7 3	
	♦ K J 8 2	
	♣ A 6	

South gets the ♥10 lead against his 4♠ contract. East takes two heart tricks, and South trumps the third round of hearts. The trumps must be played for only one loser, and the normal play is to play up to the queen, hoping that the king is with West.

Here, however, East had opened 1NT, so you know that the king is with East. As declarer, you therefore begin with a spade to the 9, and East wins with the jack. Later you can play the ♠Q from dummy to drop West's 10, while at the same time finessing East's king.

The question is whether the spades are divided

♠ 10 6	♠ K J 7
or	
♠ 10 7 6	♠ K J

With the latter layout you should instead take the ♠A, but the odds favor the first layout, since with the latter layout West has a choice between playing the 7 and the 6, so the initial odds for that layout must be halved. On the other hand, we must assume that it is unlikely that West plays the 10 from T6.

In practice, however, choosing between the two layouts is not a problem, because before deciding, you trump a club and discover that East has a doubleton club. So he does not also have a doubleton spade.

Does it help West to put up the 10?

I have read in an article about this intrafinesse that it does not help West to put up the 10. It is covered with the queen, and the king wins the trick. When you get in next time, you play the 9 and finesse East's jack when he contributes the 7. But in practice, do you finesse for the jack?

East does not have KJ76, because then he would cover with the jack, so it is a question of these two layouts:

♠ 10 6	♠ K J 7
♠ J 10	♠ K 7 6

The initial odds for the latter layout must be reduced to one quarter, since both defenders have a choice of play between two cards. But if we maintain that it is unlikely that West plays the 10 from 10 6, the odds for the first layout must be reduced to nearly 0. Up with the ace! It depends on your assessment of the opponent.

After reading Chagas' article, many of us have had a heartfelt wish to make an intrafinesse.

A deal from Patton International Monaco 2011

		♠ K Q 9 5	
		♥ Q 8 3	
		♦ Q 9 4 2	
		♣ 9 5	
♠ J 8 7 6 4 3			♠ -
♥ 10 6	N / None		♥ K J 2
♦ A K 10			♦ 8 6 5
♣ K 8			♣ J 10 7 6 4 3 2
		♠ A 10 2	
		♥ A 9 7 5 4	
		♦ J 7 3	
		♣ A Q	
West	North	East	South
Helgemo	Ward Platt	Helness	Cabanes
	Pass	Pass	1NT
2♠	3NT	Pass	Pass
Pass			

The ♠4 lead was taken with the ace in hand. It is hard to assess the odds, but surely the odds favor the usual play of a small heart to the queen?

Perhaps it was a wish to make an intrafinesse that made South play this way: A small heart to dummy's 8 and East's jack. A club from East went to the queen and king, after which West's ♠3 was taken with dummy's 9. The ♥Q from dummy completed the intrafinesse for the 9th trick.

A proud intrafinesser

♠ A 9 5
 ♥ A Q 4
 ♦ K 10 4
 ♣ 8 4 3 2

W / N-S

♠ Q 8 3
 ♥ K J 2
 ♦ A Q 5
 ♣ A 7 6 5

West	North	East	South
2♠ *	Pass	Pass	2NT
Pass	3NT	Pass	Pass
Pass			

*5 spades and 4+ in a minor, below an opening hand

Declarer ducked the ♣K lead from West, after the 10 had been played from East. West continued with the ♣Q, East discarded a diamond, and South won with the ace. A heart was played to dummy, followed by the ♠5 to the 4, 8, and 9. West cashed two club tricks and played a heart to the king in South's hand.

Then South sent the ♠Q on its way, and it smothered East's jack while at the same time finessing West's king. A neat intrafinesse for 9 tricks and a made contract.

We do not have the heart to point out to declarer that he should instead have taken the 6 red-suit tricks and put West in with a club. West is endplayed into leading away from the king of spades.

The intrafinesse does not work if East has a small doubleton spade, but West may well have KJT in spades when he is endplayed.

Many think of these suit combinations as the intrafinesse, not one among many. The following definition from a bridge encyclopedia covers these, but there are many more:

An intrafinesse is a finesse through one defender against a lower honor, which on a later trick you scoop up (drop/smother), while at the same time finessing the other defender for a higher honor.

The first finesse, however, does not have to be against an honor:

Helgemo's intrafinesse

			♠ 9 7 3 ♥ 9 7 6 2 ♦ K 10 8 6 ♣ 9 2	
♠ 8 4 ♥ K Q J 8 4 ♦ 5 ♣ K 10 7 5 3	W / All		♠ Q J 10 5 ♥ A 10 5 3 ♦ 3 ♣ Q J 6 4	
			♠ A K 6 2 ♥ - ♦ A Q J 9 7 4 2 ♣ A 8	
West	Kaplan	East	Helgemo	
2♥	Pass	4♥	6♦	
Pass	Pass	Pass		

Helgemo trumped the heart lead, drew one round of trump, and played the ♠2 to finesse with dummy's 7. Now he can later go to dummy and play the ♠9, which drops West's 8 and begins a double finesse (!) through East, ending with the ♠3 to East's 5 and the 6 in hand!

In practice Helgemo was not allowed to carry out the elegant intrafinesse, since East tested him by returning the ♠5. But Geir coolly played the ♠6 from hand and took the trick with dummy's 9.

An "obvious" intrafinesse

			♠ A 8 5 2 ♥ Q 7 ♦ K Q J ♣ K 8 6 5	
♠ K Q 7 4 ♥ A K 10 ♦ 8 7 ♣ Q 10 7 2	W / N-S		♠ 10 6 ♥ J 6 5 3 ♦ 9 6 5 2 ♣ 9 4 3	
			♠ J 9 3 ♥ 9 8 4 2 ♦ A 10 4 3 ♣ A J	
West	North	East	South	
1NT 1)	Dbl	2♦ 2)	3NT	
Pass	Pass	Pass		

- 1) 12-14 2) escape with 4-4 in the red suits

West starts by cashing the ace, king, and ten of hearts and switches to a diamond, taken in dummy. A small spade goes to the 9, finessing, and is won by West's queen. Later the ♠J is sent out, dropping East's 10 while at the same time finessing West's king.

If East puts up the 10 and West wins the jack with the king, you as declarer have a problem: Is the spade suit divided K764 QT?

With J9 doubleton in dummy, the intrafinesse is also easy to spot:

	♠ J 9	
♠ 10 2		♠ K Q 3
	♠ A 8 7 6 5 4	

You start with a small spade to finesse with the 9. Later you play the jack and finesse out the other honor from East, while the 10 is smothered with West. Here, too, there are interesting variations if the 10 is played by West on the first round.

A trump coup

	♠ J 9	
	♥ A 9 4 3	
	♦ A K 3	
	♣ A K 6 3	
♠ 10	N / None	♠ K Q 3 2
♥ K Q 10 6 5 2		♥ 8 7
♦ 10 7		♦ Q J 8 5 4
♣ 10 9 8 7		♣ Q J
	♠ A 8 7 6 5 4	
	♥ J	
	♦ 9 6 2	
	♣ 5 4 2	

West	North	East	South
	1♣	Pass	1♠
Pass	2NT	Pass	4♠
Pass	Pass	Pass	

The ♥K lead was won with dummy's ace, and declarer trumped a heart to get back to hand and try an intrafinesse in trumps. The small spade went to the 10, jack, and queen, and East played the ♣Q to dummy's ace.

Declarer found KT with West unlikely, so he played the ♠9 and finessed in trumps. The ♠9 held the trick, but West showed out, and a trump coup was needed to catch Kx of spades with East.

Now declarer carelessly trumped another heart, and since East thereby got to discard his second club, the contract had to go down. Declarer should cash the high cards in the minors before trumping a heart. Then he can exit in diamonds or clubs and wait for two tricks with A8 in trumps.

Many regard an intrafinesse as something very unusual. We have looked only at intrafinesses where you later scoop up (smother) a card in the short hand, while at the same time finessing the other defender. But there are many situations where the finesse comes on a later trick. We will look at that in the next issue of BRIDGE I NORGE.

Intrafinesses continued

Many people regard an intrafinesse as something unusual, where the right circumstances are rarely present. But there are many variants of the intrafinesse, and quite often there are odds for taking an intrafinesse. Perhaps it is not very often that the intrafinesse makes the contract, but in matchpoint pairs it can provide an important overtrick.

In the previous issue of BRIDGE I NORGE, we looked at intrafinesses where, after finessing through the short hand, you drop the important card while also finessing through the long hand.

There is, however, an important group of cases where you first drop the important card and later finesse through the long hand. And in a number of situations the odds favor doing so.

From a top match in a women's team event

		♠ A 9 2	
		♥ 5	
		♦ K Q J 7	
		♣ A J 7 4 3	
♠ Q 5		N / E-W	♠ J 10 7 4
♥ J 8 7 3 2			♥ K Q 10
♦ 9 8 6			♦ 10 5 3
♣ 10 8 6			♣ K Q 5
		♠ K 8 6 3	
		♥ A 9 6 4	
		♦ A 4 2	
		♣ 9 2	
West	North	East	South
	1♣	Pass	1♥
Pass	2♦	Pass	2NT
Pass	3NT	Pass	Pass
Pass			

Lead: ♥2

Declarer won with the ♥A on the third round and played a spade to the 9 and 10. Then came a small diamond to dummy and the ♠A, which dropped West's queen. The ♠2 from dummy drew the 7 from East. Finesse or cash from the top?

Is the layout as above, or QJ5 against T74? Because of West's heart length, the actual layout is most likely, but more importantly, with QJ5 West would of course play one of the honors. You must finesse! If West here thinks of playing the queen on the first round of spades, declarer really has a problem.

A BBO deal

♠ A 8 5 2
♥ Q 10 3
♦ 8 5 4
♣ J 8 3

S / None

♠ K 9 3
♥ A K J 7 6
♦ A K 7
♣ 9 5

West	North	East	South
			1♥
Pass	2♥	Pass	4♥
Pass	Pass	Pass	

Lead: ♦J

There appear to be 2 club losers and 1 loser in each of the suits spades and diamonds. The plan must be to discard a diamond loser on a good fourth spade from dummy. Declarer drew trump and ducked a spade with the idea that the spade suit was divided 3-3. Spades 4-2, however, is more likely than 3-3, and the contract did indeed go down with this layout:

	♠ A 8 5 2	
	♥ Q 10 3	
	♦ 8 5 4	
	♣ J 8 3	
♠ Q 10 7 4		♠ J 6
♥ 8 5		♥ 9 4 2
♦ J 10 6	S / None	♦ Q 9 3 2
♣ A Q 7 2		♣ K 10 6 4
	♠ K 9 3	
	♥ A K J 7 6	
	♦ A K 7	
	♣ 9 5	

If you have an eye for intrafinesses, you do not simply duck a spade. Instead you draw trump so that you end in dummy, and play a small spade to the ♠9 and ♠10. West continues with a diamond and forces out declarer's second high diamond. Now the ♠K drops East's jack, and a small spade toward dummy gets West to contribute the 7. Finesse or cash from the top? Is the layout more likely to be T74 against QJ6 than the actual one?

With the last layout, East clearly has a choice between the queen and jack on the second round of the suit, just as he could have chosen to play one of them on the first round. West does not have as obvious a choice between the queen and the 10 with the actual layout. Therefore the odds favor finessing to make the contract. An inspired queen from West on the first round of spades would undoubtedly make declarer go wrong.

Two examples of intrafinesses

Anders Wirgren made a 3NT thanks to two tricks with this diamond suit:

	♦ K 7 4 3	
♦ A J 9 5		♦ 10 6
	♦ Q 8 2	

Small diamond to the 8 and 9. The queen then forced out West's ace, and the 10 came from East. On the third round of diamonds from hand, West played the 5. Do you back the actual layout or A95 against JT6?

As above, the odds favor the actual layout. But Wirgren did not need any great odds calculations, because West had opened 1♦!

Another top player has produced this layout:

	♦ A 8 3	
♦ K 5		♦ J 10 7 2
	♦ Q 9 6 4	

A small card to finesse with the 8, and the jack or 10 from East. Then the king falls under the ace, and East is finessed through with the 9.

An intrafinesse on defense

The following deal is from a matchpoint pairs event at a club:

		♠ Q 2		
		♥ A Q 5		
		♦ A J 6 2		
		♣ A J 6 2		
♠ K 8 7 6		S / E-W		♠ A 9 3
♥ J 4 3 2				♥ 9 8 7
♦ 10 5 4 3				♦ 8 7
♣ 5				♣ K 9 8 4 3
		♠ J 10 5 4		
		♥ K 10 6		
		♦ K Q 9		
		♣ Q 10 7		
West	North	East	South	
			1NT	
Pass	3NT	Pass	Pass	
Pass				

Lead: ♠6

If you do not play a small 12-14 no-trump, you reach 3NT by North, and there are no problems taking 10 tricks. If you play a small no-trump, you upgrade South's hand, become declarer in 3NT, and get the lead of a small spade. That happened at several tables.

All except one defender in East went up with the ♠A at trick one, and declarer took 10 tricks. It does not seem so difficult as the East defender to be content with winning the 2 with the 9. A neat intrafinesse, limiting declarer to 9 tricks and giving yourself a top. It does not help declarer to play the queen from dummy, because then East wins with the ace and plays the 9, covered by South but ducked by West, and the defense has the connection to 3 spade tricks.

Intrafinesse and trump coup

♠ Q 7
 ♥ J 4 3
 ♦ A Q J 10
 ♣ K Q 7 6

W / All

♠ K 8 4 3 2
 ♥ 9 7
 ♦ K 5 4
 ♣ A 5 4

West	North	East	South
2♥	Pass	Pass	2♠
Pass	3♥	Pass	3♠
Pass	Pass	Pass	

Lead: ♥A

West starts with the three high hearts, and you trump the third, as East discards a club. You play a small spade to the 7, won with the 9 by East, who plays a club to your ace. A small spade then goes to the jack, queen, and ace with East, who plays a club to dummy's king.

Do you go home on the ♦K and cash the trump king?

No, the odds must favor East being left with Tx in spades, and then a trump coup is needed. It will work with this layout:

	♠ Q 7 ♥ J 4 3 ♦ A Q J 10 ♣ K Q 7 6	
♠ J 5 ♥ A K Q 6 5 2 ♦ 6 2 ♣ 10 9 3	W / All	♠ A 10 9 6 ♥ 10 8 ♦ 9 8 7 3 ♣ J 8 2
	♠ K 8 4 3 2 ♥ 9 7 ♦ K 5 4 ♣ A 5 4	

You cash four rounds of diamonds and discard a club on the fourth diamond. When you then play a club from dummy, you take the last two tricks to make the contract with K8 behind T6.

Side-Suit Restrictions

When the opponents' distribution in one or two suits is completely known, there are some vacant spaces left for cards in the other suits. We assume that the odds for the location of a particular card correspond to the number of vacant spaces. Often that gives the right, or roughly the right, odds, but there are some striking situations where that is far from the case.

Initial odds are determined from the number of distributions, where all distributions are equally likely. Thus

♠ A J 10 3
♥ K Q 5
♦ A 8 2
♣ Q 8 4

is exactly as likely (unlikely) as the hand with all 13 spades. “*Well, I think I’ve actually had that hand.*” You probably have not, but perhaps one with different small cards of that type:

♠ A J 10 x
♥ K Q x
♦ A x x
♣ Q x x

If you count how many hands there are of that type, you find that there are 50,176. Thus the initial odds are 50,176 to 1 for the lower one. But as usual, you have to adjust the initial odds based on what has been bid and played. If there has been a 1NT opening, the actual probability of the hand with 13 spades is 0, while there is still a positive probability for the last type.

Odds = number of vacant spaces

If the distribution of major-suit cards between West-East is fixed at 6-9 and one of them holds ♣Q, you can count the number of distributions with ♣Q with West and the number of distributions with the queen with East. That gives 210 and 120, respectively, so the odds for the queen with West are 210 to 120.

If we reduce by 30, we get odds of 7 to 4 for ♣Q with West, and that corresponds exactly to the number of vacant spaces. Naturally, this is not something tied specifically to the numbers 6 and 9; the mathematical formulas for the number of distributions always show that the numbers of distributions are in the same ratio as the number of vacant spaces.

Side-suit restrictions

After a weak 2♠ from West, you as South must play 6♣ with these cards:

♠ A 9 2
♥ Q 10 6
♦ A 9 7
♣ K J 9 6

W / N-S

♠ 8 5
♥ A K 9
♦ K Q 8
♣ A 10 8 7 5

You win the ♠K lead with the ace and find out that the spade suit is distributed

♠ K Q J 7 6 4

♠ 10 3

What are the odds for ♣Q with East? Based on vacant spaces, we get odds of 11 to 7, 61%. These odds are based on all the distributions of the non-spades being possible. But let us look at the situation where West is a conservative bidder: With the 2♠ opening, he has exactly 6 spades, no void, and no 4-card heart suit. You can calculate it, and it turns out that these side-suit restrictions end up reducing the probability of ♣Q with East to 54%. So there are still odds for ♣Q with East, but there are situations where it is most likely that a particular card is with the defender who has fewer vacant spaces!

Zia in The Guardian

Try playing 1NT with these cards:

♠ A 6 2
♥ 8 7
♦ 9 8 4 3
♣ K 8 4 3

S / All

♠ 9 8 5
♥ A K 3 2
♦ Q 5
♣ A J 10 9

As South you have opened 1NT, and everyone passes. West leads ♠3, and you can assume that it is fourth highest from his longest suit (or one of his longest suits). You had better guess the location of ♣Q correctly, because if you lose to it, you go down.

What do you do?

The spade suit is distributed 4-3 with the opponents, so based on vacant spaces there are odds of 10 to 9 for the queen with East. No, there are odds for the queen with West, because there are strong side-suit restrictions.

By counting the number of distributions, I get the following odds:

	Initial odds	Reduced	x 6
4-3-3-3	10	10	60
4-4-2-3/4-2-4-3	6+6	6	36
4-4-3-2/4-3-4-2	10+10	10	60
4-2-3-4/4-3-2-4	3+3	3	18
4-4-4-1	5	5/3	10
4-4-1-4/4-1-4-4	1+1	2/3	4

When there is a choice between two or three 4-card suits, the odds are reduced to one-half and one-third. Thus there are odds that West is longest in clubs:

4 clubs	22	11,7%
3 clubs	96	51,1%
2 clubs	60	31,9%
1 club	10	5,3%

A closer calculation of the probability of ♣Q with West gives 53.8%, and therefore, when you start with the ace and can drop a singleton queen with East, you get up to a 56.2% chance by taking the finesse through West.

Suit handling

On a debate website, www.netbridge.dk, there was a question about how to handle the diamond suit in this deal:

♠ K 9 8
♥ K 8 4
♦ Q 9 6 3
♣ Q J 6

S / None

♠ A 7 3
♥ A 3 2
♦ J 7 5 2
♣ A K 10

West	North	East	South
Pass	3NT	Pass	1NT
Pass			pas

Lead: ♥9

You are playing against truly good opponents. Leads are 1st, 3rd, and 5th highest, so the leader has either 9x or QT9(x)(x) in hearts. East follows with ♥6, which looks like an encouraging signal, so you duck, even though you are fully aware that a spade shift now will often defeat the contract. West, however, continues with ♥5 to the jack and ace. So West has very likely started with QT95. How do you now handle the diamond suit as well as possible?

Normally you would finesse West for ♦10, but have the vacant spaces (9 in West and 10 in East) changed this?

West has probably led from his longest suit or from one of his equal-longest suits. It probably will not surprise the reader that there are then odds for ♦10 with West, despite East having more vacant spaces.

Therefore you should play a diamond to the jack and then finesse West for ♦10.

With a count like the one in the previous example, using a random choice between 4-card suits, I get the probability of the ten with West as 53.8%. The actual auction probably makes it likely that the leader, with several 4-card suits, would choose a lead in a major rather than in a minor. Then the probability of ♦10 with West is a little higher, namely 54.4%.

But surely you cannot rule out West having 5 clubs, since the choice of leading from QT9x in hearts rather than from xxxxx in clubs clearly points toward hearts?

No, and therefore the location of ♦10 is about fifty-fifty.

From Philip Martin's article in Bridge Today

In 1989 Philip Martin wrote an article about the importance of side-suit restrictions in connection with a lead from the longest or an equal-longest suit. As far as I know, it is the first article on the subject.

He looks at this deal:

♠ A 5
♥ 8 7 5
♦ J 5 3
♣ K J 7 4 2

S / All

♠ K 7 2
♥ A 6 4 2
♦ A 7
♣ A 10 5 3

West	North	East	South
Pass	3NT	Pass	1NT
Pass			Pass

Spade lead, where the cards played show 5-3 with West-East.

The vacant spaces 8-10 do not give correct odds for the location of ♣Q. The calculation shows that the odds correspond to the spade suit being distributed 4.5-3.5. There are still odds for ♣Q with East, so we play a club to the king and a small club from dummy, with the opponents having followed with the three small clubs. Finesse or cash the top cards?

Now you are up to 4.5+1 known cards with West and 3.5+2 with East, so it is fifty-fifty.

Spade lead, where the cards played show 4-4 with West-East:

Even though there are the same number of vacant spaces with West and East, there are odds for ♣Q with West, and it looks like this:

Finesse West	Cash	Finesse East
65%	61%	48%

Heart lead with the hearts distributed 4-2:

The number of vacant spaces does not give the right answer at all, since it looks like this:

Finesse West	Cash	Finesse East
67%	60%	46

Counting the Number of Distributions

A perfect deal ensures that all possible distributions are equally likely. When you need to determine initial odds (a priori odds) for some distributions, you can therefore count the number of distributions; then the odds are determined by the number of distributions.

That can be a troublesome task, and for most people an overwhelming one, and usually there is also an easier method.

A hand with 30 high-card points

You are dealer and pick up this hand:

♠ A K
♥ A Q J 2
♦ A K Q J
♣ K Q J

You may not believe it, but it is just as likely (unlikely) as the last hand you picked up. You start by opening with an artificial 2♣, and according to your agreements your partner now shows number of high-card points, 3 HCP.

It must be either ♠QJ or ♥K. If it is ♠QJ, it is best to settle for 3NT, while you want to be in 6NT if it is ♥K.

You do not have bidding methods to find out whether it is one or the other, so you are interested in knowing whether there are odds for one or the other.

It is a question of these two hand types:

♠ Q J
♠♥♦♣ x x x x x x x x x x

♥ K
♠♥♦♣ x x x x x x x x x x

There are 35 small cards (x's) distributed among the three other players, so the question is whether there are more ways to have 11 or 12 out of the 35. Mathematicians have a formula for calculating the precise numbers.

For 1, 2, 3, etc. up to 17 (half), there are more and more possibilities, so there are most hands of the last type. The formula says that there are twice as many of the last type. You bid 6NT, bright-eyed and confident.

A deal from a major anniversary tournament

		♠ K 10 3 ♥ A Q 6 5 ♦ K 2 ♣ K J 7 2	
♠ J 7 5 4 ♥ K 10 9 4 2 ♦ 9 8 4 ♣ 6	E / N-S		♠ Q ♥ 7 ♦ Q J 10 7 6 5 3 ♣ A 8 5 3
		♠ A 9 8 6 2 ♥ J 8 3 ♦ A ♣ Q 10 9 4	
West	North	East	South
5♦	5♠	3♦	3♠
Pass		Pass	Pass

West leads his singleton club to the ace, gets a club ruff, and plays a diamond to South's ace. Declarer cashes the trump ace, and the queen falls from East. For a declarer with some knowledge of restricted choice, there was no problem next finessing out the jack with West to make the contract.

♥K must be with West, and with 7-4 in the minors with East, it is a question of these major-suit distributions:

♠ Q ♥ x ♠ Q J ♥ -

It is 5 distributions against 1, and since the odds for the second distribution must be halved because of the choice between queen and jack, the odds are 5 to ½, or 10 to 1, for finessing. But with 4 clubs alongside the diamond suit, it is quite possible that East has 6-4 in the minors. Then it is a question of these major-suit distributions:

♠ Q ♥ x x ♠ Q J ♥ x

Here there are 10 of the first type against 5 of the last, so after halving, the odds are 10 to 2½, or 4 to 1, for finessing.

A correct deal

A perfect shuffle of the deck means that a random one of the 52 cards is on top, a random one of the remaining 51 cards is next, and so on. When the cards are dealt from a perfectly shuffled deck, all possible distributions become equally likely. Such a correct deal can be done with computer-dealt cards, hardly with hand-dealt ones.

However, one can theoretically see that the following deal is also correct: The four players start with 13 vacant spaces for cards. Now you take some card or other and draw lots for which of the 52 spaces it should be placed in. The four hands have logical odds of 13:13:13:13 to receive the card. Next you take another card and draw lots for which of the now 51 vacant spaces it should be placed in. The odds have now changed to 12:13:13:13, since the player who received the first card has only 12 vacant spaces.

You continue in this way until all the cards have been distributed. The odds each time correspond to the number of vacant spaces. Regardless of the order of the cards dealt, all distributions become equally likely. Instead of determining odds by counting the number of distributions, you can often determine odds by imagining that the cards were dealt by this method.

Continue with the trump king or a small trump?

		♠ 10 9 3	
		♥ 8 7 3	
		♦ 7 5 4 2	
		♣ J 6 5	
♠ Q J 5			♠ 8 7 6 4 2
♥ A Q (6)	W / None		♥ J (6)
♦ K Q 10 8 3			♦ A 6
♣ x x (x)			♣ x x x x (x)
		♠ A K	
		♥ K 10 9 5 4 2	
		♦ J 9	
		♣ A K Q	
West	North	East	South
1NT *	Pass	2♠	3♥
Pass	Pass	Pass	

*14-16 HCP

West leads ♦K, which East overtakes with the ace and returns the suit to West's queen. West continues with ♦10, and East discards a spade, showing an odd number in the suit. You ruff as declarer in South. When you cash a high spade from hand, West contributes the 5, and you have complete control of the distribution of the cards in spades and diamonds.

West must have AQ in trump (to get to 14 points), and if he also has the jack, you cannot do anything. The key question is which opponent has ♥6. If East has a singleton jack, you should continue with the trump king, but that is not so good if East has J6, because then West gives his partner a diamond ruff with the jack.

We can imagine a deal that began by assigning the shown cards to N, S, E, and W. Next ♥6 must be dealt to West or East, where there are 3 vacant spaces with West and 5 with East. Thus the odds are 5 to 3 for J6 with East, so you continue with a small trump.

The two cases correspond to whether West has xxx or xx in clubs. If you count the number of possibilities for these, you get 35 and 21, which of course correspond to odds of 5 to 3.

An endplay

	♠ A 9 5 2	
	♥ A K Q	
	♦ K J 3	
	♣ A 7 4	
♠ K Q	S / None	♠ 7
♥ x x x (x)		♥ x x x x (x)
♦ (10) 4		♦ Q (10) 8 7 5 2
♣ K Q J 9 5 2		♣ 10 8
	♠ J 10 8 6 4 3	
	♥ 6 3	
	♦ A 9 6	
	♣ 6 3	

West	North	East	South
			2♠
Pass	2NT	Pass	3♠
Pass	4♣	Pass	4♦
Pass	4♥	Pass	4♠
Pass	4NT	Pass	5♦
Pass	6♠	Pass	Pass
Pass			

You get the ♣K lead, which you take with the ace, after which you cash the three high hearts, discarding a club from hand. Next you ruff a club, go to dummy on the trump ace, and ruff another club. You now want to endplay one of the opponents by putting him in with the other high trump.

If East gets in, you are always home. If West gets in, the key question is whether West has ♦x or ♦Tx in diamonds. If West has ♦x, you should cash ♦A first, while you should not take the ace if West has Tx. What is most likely?

When the shown cards in the deal have been placed and ♦T is to be dealt to West or East, there are 4 vacant spaces with West against 5 with East. Thus the odds are 5 to 4 for a singleton with West. But those are initial odds! Notice that West did not overcall 3♣.

With a singleton diamond, West would be more inclined to overcall than with a doubleton diamond, so the odds of 5 must be reduced by more than the odds of 4. My assessment is that doubleton diamond with West is most likely.

A Mesterrække deal

Many, many years ago, the best team competition division in Denmark was called Mesterrækken, and in 1980 Ib Lundby presented this deal in the daily newspaper BT under the title “A Mesterrække Problem”:

		♠ K 7 4 3		
		♥ 7 6 5 4		
		♦ A 8 5		
		♣ A K		
♠ 9				♠ J 10 8 2
♥ -				♥ Q J 3
♦ K Q J 10 7 6 4 3 2	W / None			♦ -
♣ 8 5 3				♣ Q 10 9 7 4 2
		♠ A Q 6 5		
		♥ A K 10 9 8 2		
		♦ 9		
		♣ J 6		
West	North	East	South	
5♦	Dbl	Pass	6♥	
Pass	Pass	Pass		

At none of the tables did declarer manage to make the 6♥ contract. The first important decision is not to take the opening ♦K lead with the ace. You can wait with ♦A and discard a spade on it later. West typically continues with a club to dummy, after which declarer plays a trump and gets ♥3 from East. Should you finesse?

Back then I counted and counted distributions and found out that the odds favor finessing. Ib Lundby made this comment: *This sort of thing is not solved at the table, but it is thought-provoking all the same.*

If you use the vacant spaces method, many people can probably manage it at the table now! In the deal, ♥Q must be placed after West has received the 9 diamonds and East ♥3. There are 4 spaces with West against 12 with East, so the probability of the queen with East is 12/16.

If ♥Q is placed with East, there is then an 11/15 probability that ♥J is also with East.

The probability of both the queen and the jack being with East is therefore 12/16 x 11/15. Can you calculate in your head that this is greater than ½? It gives 11/20, or 55%. You have to calculate it in your head, because it is not permitted to sit there and do it with pencil and paper!

The figure is not entirely precise, because you can infer a little from what West plays after winning ♦K. But you must not read anything special into a club from West, apart from the fact that he is not void in clubs, and that is not so surprising.

Special Odds Situations

Sometimes you have to look deeper into the situation to find the right odds. Here we look at some cases that I have found interesting.

On the odds step by step

		♠ Q 7 5	
		♥ J 6 4	
		♦ K 8 6 3	
		♣ A 7 4	
♠ 10 2		W / All	♠ A 9 6 4 3
♥ 9			♥ Q 10 7
♦ 4 2			♦ J 10 9 5
♣ K J 10 8 6 5 3 2			♣ 9
		♠ K J 8	
		♥ A K 8 5 3 2	
		♦ A Q 7	
		♣ Q	
West	North	East	South
5♣	Pass	Pass	5♥
Pass	6♥	Pass	Pass
Pass			

Lead: ♣J

Declarer took the lead with the ace in dummy and assessed: With the clubs divided 8-1, there were huge odds for the trump queen to be with East, and the trumps were more likely divided 1-3 than 2-2. He therefore started by catching the queen with East: ♥J to queen, king and nine (restricted choice). Next he went to dummy on ♦K and played a small trump to finesse with the 8, making the contract. But was that right overall on the odds?

The alternative is to cash the ace and king of trumps, and we can start by looking at the odds for the actual distribution compared with a particular 2-2 distribution:

♥ 9	♥ Q 10 7
♥ Q 9	♥ 10 7

The difference is the location of the queen. Is it together with ♥9 and 8 clubs with West, or together with T7 and 1 club with East? The number of vacant spaces gives odds of 10 to 4, or 5 to 2, for the first distribution.

For some distributions it makes no difference whether we finesse or cash the top trumps, for example

♥ 7	♥ Q 10 9	and	♥ 9 7	♥ Q 10
-----	----------	-----	-------	--------

so we can look at the odds for the distributions where it does make a difference.

Finesse		Odds
♥ 9	♥ Q 10 7	5
♥ 10	♥ Q 9 7	5
Cash		Odds
♥ Q	♥ 10 9 7	5
♥ Q 10	♥ 9 7	2
♥ Q 9	♥ 10 7	2
♥ Q 7	♥ 10 9	2
♥ 10 9	♥ Q 7	2
♥ 10 9 7	♥ Q	(6/11)

Overall, the odds favor cashing the top trumps, not finessing twice.

Restricted choice?

♠ 6 3 2
♥ Q 10 9 6
♦ 8 7 6 4
♣ 9 8

W / All

♠ K 10 9 5 4
♥ J
♦ K Q J
♣ K Q J 2

West	North	East	South
1NT 1)	Pass	Pass	2♠ 2)
Pass	Pass	Dbl	Pass
Pass	Pass		

- 1) 13-15 HCP
- 2) 5 spades and 4+ in a minor

West starts with ♥A and switches to ♦A and another diamond to you in South. You play the trump ten to East's queen (the 7 from West), and East gives his partner in West a diamond ruff with ♣8. West plays a small club to East's ace, and East continues with a diamond. Do you trump with the king (East had restricted choice with AQ), or do you trump with a small card (East chose the queen from QJ)?

West has only 11 HCP if he does not have the trump ace, so you must assume that East chose to play the queen from QJ. He should not have done that, because by doing so he has revealed that West has the ace. But what if the jack had appeared from East instead of the queen?

The two possibilities with East, AJ and QJ, are equally likely from the start. With AJ he has restricted choice, while with QJ there is, after all, some chance that he makes a mistake and plays the queen. Therefore the odds favor trumping with the king and playing spades for -200 instead of -500.

Who has the last card in the suit?

♣ A K Q 3

♣ 5 4

You cash the three high clubs, and both opponents follow to all three rounds. One card remains out, and at first glance it does not look as though you can say anything about who has that card. But the player who played the 2 probably has the last card! The suit is divided 4-3 against you, and the odds are 4 to 3 that the 2 is in the four-card holding. Conversely, the odds are therefore 4 to 3 that the defender with the 2 has four cards in the suit and holds the last card in the suit.

We can also see this by counting the number of distributions, using m to denote the middle cards from 6 to J:

♣ m m 2

♣ m m m m

There are 15 distributions ($6 \times 5 / 2$), and with mm2 you have to play the 2.

♣ m m m

♣ m m m 2

There are 20 distributions ($6 \times 5 \times 4 / 6$), and with mmm2 you have to play the 2, since otherwise the 3 becomes good. The odds are 20 to 15, or 4 to 3, that the defender who played the 2 has the last card in the suit.

The same defender plays the 2 and 3

♣ A K Q 4

♣ 6 5

As before, we assume that both defenders follow to 3 rounds of clubs, but now that the same defender plays both of the two small cards. The two possibilities are:

♣ m 3 2

♣ m m m m

5 possibilities

♣ m m m

♣ m m 3 2

10 possibilities ($5 \times 4 / 2$).

The odds are 2 to 1 that the defender who played the 2 and the 3 has the last card in the suit

Articles

The first situation is discussed in the Bols Tip “The High Card Will Be with the Length” by Max Rebattu, and both situations are discussed in the article “X Truly Marks a Spot, II” by Anders Wirgren in The Bridge World.

Finesse or cash top cards?

♠ 7 3
♥ A K
♦ A 8 7 4 3
♣ K 10 4 2

E / N-S

♠ A J 4
♥ Q J 10 2
♦ K 6 5
♣ A Q 3

West	North	East	South
		2♠	2NT
pas	6NT	pas	pas
pas			

West leads ♠8 to East’s queen, and East switches to hearts, with ♠Q being allowed to hold the trick. Declarer also takes dummy’s other high heart and finesses in spades with the jack. Next ♠A and two heart tricks are cashed. It turns out that the spades were 2-6 and the hearts 5-2.

You now cash the ace and king of diamonds, with both defenders following, West with the 2. You cash the ace and queen of clubs and continue with ♣3 toward KT in dummy. All five small clubs have appeared. Do you finesse or cash the top club?

In the diamond suit, the principle is as above. The odds are 3 to 2 that West has three cards in diamonds and therefore the distribution 2-5-3-3. The odds favor cashing the top club.

If instead East contributes the 2 in diamonds, the odds favor the distribution 2-5-2-4 with West, and the odds favor finessing for ♣J with West.

Classic Examples of Odds Reduction

Theorié Mathématique du Bridge by Borel and Chéron was originally published in 1940 and followed up by a 2nd edition in 1954. The book was translated into English by Alec Traub and published in 1974 as **The Mathematical Theory of Bridge**. At the end of 2017, Master Point Press published the English translation in a revised and corrected edition by Giles Laurén.

The 2nd edition included a new section on practical applications of Bayes' formula. It is "simply" a matter of correcting a priori probabilities according to certain choices that have been made. What is interesting, however, is the extent to which the analyses follow the line of thinking involving odds and reduction of odds. Terence Reese succeeded in making the principle generally accessible to bridge players as restricted choice.

The standard example

Dummy
♥ K 9 3 2

South
♥ A 10 6 5 4

Hearts are trump, and South must avoid losing a trump trick. He chooses to start with the ♥A, on which West follows with a small card and East with the ♥Q or ♥J.

Finesse with the 9 or go up with the king after the second small heart from West?

They set up the following table:

<i>West has</i>	<i>East has</i>	<i>N.P.</i>	<i>Case</i>
<i>Q 8 7</i>	<i>J</i>	<i>11</i>	<i>1</i>
<i>J 8 7</i>	<i>Q</i>	<i>11</i>	<i>2</i>
<i>8 7</i>	<i>Q J</i>	<i>12</i>	<i>3</i>

Column N.P. gives the numbers proportional to the probabilities applicable to this particular problem, calculated à priori and therefore without taking account of the auction or of the cards already played.

"Numbers proportional to the probabilities" are in fact what we call odds.

How can these numbers be used?

At the moment the question arises, South knows about two ♥ in West's hand, leaving him with 11 unknown cards. He knows about one ♥ in East's hand, so there are 12 unknown cards there. These 23 cards include the ♥ honor that South needs to locate, the queen or the jack, and since each player obviously has a probability of holding it that is proportional to the number of these unknown cards, West has 11 chances and East 12 chances of holding it.

Here the principle of vacant spaces is explained, when we have to compare odds for two distributions that differ by the location of a single card. To the mathematician Borel, the principle is clearly entirely obvious.

If the jack appears and East is a player who will always play the jack from QJ, there are 12 cases with QJ against 11 cases with the singleton jack, and South should go up with the king. Conversely, it is absolutely certain that the queen is singleton if that type of player follows with the queen!

If it is a player who, with QJ, will always play the queen (to fool you), the opposite applies. But those two types probably do not exist, and in any case it is presumably impossible to judge.

The authors work through the calculations and end up concluding that a good player with QJ should follow with one of the honors at random. The odds for QJ should therefore be halved to 6, so whether it is the jack or the queen that appears from East, the odds are 11 to 6 in favor of finessing.

Since it is impossible to judge whether a weak opponent is of one type or the other, you should also always finesse in that case.

Looking at the table above overall, you can also see that the finesse succeeds in 11+11 cases against 12 cases where it fails.

Could it be right to cash the top cards?

♥ A K 5 4

♥ 10 9 8 3 2

The situation is as before, but now the authors consider the situation where East follows with an honor under the king, but where there are fewer unknown cards with West and East than above. We can imagine that the distribution of another suit is known and occupies some spaces.

When the 10 is played from hand on the next round of hearts and West follows with a small card, the table looks like this:

West has	East has	N.P.=odds
Q 8 7	J	X
J 8 7	Q	X
8 7	Q J	Y

In the book the authors do not use X and Y, but some other designations.

Overall, the odds for finessing are 2X against Y. This is equivalent to halving the odds for QJ and saying X against Y/2.

If Y is greater than 2X, *which happens very rarely*, South should decline the finesse and play the ace. This occurs when many cards in another suit are placed with West, for example when he has made a preemptive bid. A rule for not playing for restricted choice before that concept had been introduced!

Mandatory bluff

♥ A J 8 6 2

♥ Q 4 3

With hearts as trump, South must avoid having a loser here. He plays the ♥4 to the 5, jack, and 10. Then he returns to hand to play hearts again. Should he play the queen or the 3?

The interesting cases are:

West	East
♥ K 7 5	♥ 10 9
♥ K 5	♥ 10 9 7

A priori they have the same probability, but not a posteriori

In the two cases, East will play the 9 half the time and the 10 half the time. He will never play the 7 in the second case. Therefore it is not East who gives information, but West.

If East, with the second distribution, plays the 7, declarer's only chance is to continue with the ace, so East must play the 10 or the 9 to give declarer the chance to go wrong. This is a situation involving a mandatory bluff. The authors assume that East will play one of the two high cards with 100% certainty!

Many of us know that it can be far below 100% - even for players at a high level.

In the second case, West will always play the 5 on the 4, while in the first case he will play the 5 only half the time, and the 7 the other half.

The conclusion is that a posteriori the second case is twice as likely as the first. Therefore South should play a small ♥ and not the queen on the second round.

Who should be finessed?

West leads the ♣Q against 6♠ by South:

♠ A 5 4 3 2
♥ 4 3 2
♦ A 10 9
♣ K 2

S / All

♠ K Q 8 7 6
♥ A K 5
♦ K 3 2
♣ A 3

After four rounds of spades, elimination of the last club, and ♥AK, declarer puts one of the opponents on lead by playing a small club:

♠ 2
 ♥ -
 ♦ A 10 9
 ♣ -

S / All

♠ 6
 ♥ -
 ♦ K 3 2
 ♣ -

The opponent who is on lead has to play diamonds, because if he plays to a double void, declarer ruffs in one hand and discards a diamond from the other. If the defender plays a small diamond, South has to let it run and finesse through the leader. So he leads the queen or the jack. What now?

If the opponent has ♦QJ (whether doubleton or not), he will always play one of them, half the time the ♦J and half the time the ♦Q; that is what a good player does.

Thus the odds for QJ must be halved in relation to Q/J, and you should win with the high card immediately after the leader and finesse through his partner. Today many would express this by saying that the leader had a restricted choice.

If the same player has the two ♦ honors, his partner should make sure to take the heart trick at trick nine. By doing so, he is able to play a ♦, and South has no way to avoid losing.

Should the diamonds be safety-played?

♠ 6 5
 ♥ K J 5
 ♦ K 9 5 3
 ♣ J 10 7 4

S / All

♠ A K
 ♥ A 10 6
 ♦ A J 4 2
 ♣ A K Q 5

South is in 6NT and gets a club lead. The diamonds can be safety-played for 3 tricks by starting with the ace and playing up toward K9. But with 3 tricks in diamonds, a heart trick is needed in addition to the ♥A and ♥K. Do you safety-play the diamonds?

You should first finesse in hearts and find out whether 4 or 3 tricks are needed in diamonds. If 4 tricks are needed, you start the diamonds by playing the $\diamond 3$ from dummy with the intention of finessing with the jack (the best chance for 4 tricks)!

Do you finesse for the $\heartsuit Q$ with East or with West? You decide that by first cashing 4 club tricks. The player who is shortest in clubs has the most vacant spaces for the $\heartsuit Q$, so you finesse for the $\heartsuit Q$ with the opponent who is shortest in clubs.

Impressive analyses

There is no doubt that the analyses involving vacant spaces and odds reduction have impressed me the most. Especially when I think about how many years ago the book first appeared. But there are many other fine analyses, so here is the analysis of the handling of the diamond suit above:

Let us now assume that South needs four tricks in $\diamond$. His best play is to play the 3 with the intention of finessing, and not to play the king first. Nothing is lost by either line of play if East has Qx or Qxx . But while playing the king will lose a trick and the slam if East has singleton queen (2.8%), playing the 3 will not lose a trick and will secure the slam! The ace catches the queen, and then the jack is played to guard against a possible subtle sacrifice by East with doubleton QT .

Note: The quotes have been translated from Danish to English.

Some Suit Combinations

Some suit combinations are well known, but perhaps in the situation they need to be handled differently. Other combinations are not so well known, and then you have to assess them more closely.

This suit combination is one of the very well known ones:

♥ 8 7	♥ A J 9 6 3 2	♥ Q 4
	♥ K 10 5	

After the king (to guard against a heart void with East), a card is played up toward dummy, and the question is whether to finesse or cash the top card.

There are 11 vacant spaces for the queen with West versus 12 with East. That gives odds of 12 to 11 for cashing the ace. But with only 52.2% for cashing the top cards, it does not take much for it to be better to finesse.

From the Champions Tournament in Deauville

♠ A J 9 6 3 2
♥ 9 3
♦ A Q 9
♣ 6 4

S / All

♠ K 10 5
♥ A K 10 8
♦ K 5
♣ A Q J 2

West	North	East	South
Garozzo	Jaïs	Forquet	Trézel
			2NT
Pass	3♠	Pass	4♠
Pass	4NT	Pass	5♥ 1)
Pass	5NT	Pass	6♠ 2)
Pass	7NT	Pass	Pass
Pass			

1) 2 aces 2) 3 kings

Lead: ♥4

Forquet played the queen to the first trick, but Trézel had no doubt that he also had the jack. There would be 3 heart tricks with a finesse against the jack. The contract would be home with 6 spade tricks, 3 heart tricks, 3 diamond tricks, and 1 club trick.

Trézel cashed the top spades, but went one down with this layout against him:

♠ Q 8 7		♠ 4
♥ 7 6 4		♥ Q J 5 2
♦ J 7 6 4	S / All	♦ 10 8 3 2
♣ 9 7 3		♣ K 10 8 5

Afterward Trézel was annoyed, because Garozzo certainly did not have doubleton 87 in spades, so he should have finessed for the queen with West. What lies behind this reasoning?

Against 7NT West tries to find a lead that does not give declarer anything on the lead. With 87 in spades, West would normally have assumed that the opponents' spades were solid, and then the safe lead would have been in spades rather than in one of the other suits.

If, in a trump contract, you are missing the queen, you can often place it with the opening leader when a trump has not been led.

Good nose

That was the headline for this deal in a newspaper bridge column:

	♠ A Q 6 5	
	♥ A Q 4	
	♦ J 10 7 3 2	
	♣ Q	
♠ 7 3		♠ 9 8 4 2
♥ 10 6 5		♥ K J
♦ Q 9 4	N / All	♦ K 8 6 5
♣ 10 8 7 6 2		♣ J 9 5
	♠ K J 10	
	♥ 9 8 7 3 2	
	♦ A	
	♣ A K 4 3	

West	North	East	South
	1♦	Pass	1♥
Pass	1♠	Pass	2♣
Pass	3♥	Pass	4NT
Pass	5♠ *	Pass	6♥
Pass	Pass	Pass	

*2 aces and the trump queen Lead: ♠7

The contract depended on solving the trump suit for only one loser, and the deal was decisive in the final of a team tournament.

South won in hand and let ♥9 run in the hope of JT_x in hearts with West. East won with the jack and played a spade. Another heart from hand brought a small heart from West. The suit had to be 3-2 against him, so the question was whether East now had ♥10 or ♥K left. Ole Raulund, as South, chose to play for the latter and went up with ♥A! Afterward West was very dissatisfied that declarer did not finesse with the queen, but he should probably be dissatisfied that he himself failed to play the ten. It is a question of odds reduction with

and

♥ 10 6 5	♥ K J
♥ K 6 5	♥ J 10

The latter must be halved because of the choice between jack and ten, but the actual West was judged to play the ten from the first holding in under 50% of cases.

If West plays the ten, it is a question of

or

♥ 10 6 5	♥ K J
♥ K 10 5	♥ J 6

Then you should finesse with the queen, because then there is no reduction with the latter, but to some extent with the first.

Declarer-play problem

In a book of bridge problems I came across this problem:

♠ 3 2
♥ J 2
♦ A K J 4
♣ A Q 7 6 5

S / None

♠ A 5 4
♥ A K Q 3
♦ 6 5 3 2
♣ 10 4

West	North	East	South
			1♦
Pass	2♣	Pass	2NT
Pass	3NT	Pass	Pass
Pass			

Lead: ♠9

You duck until the third round of spades, and you can place West with ♠987 and East with ♠KQJT6 with great certainty. So East is the dangerous hand.

The solution is given as the “usual” one: First you cash the top diamonds, and if the queen does not fall, you finesse in clubs. Can you see another possibility if ♦Q does not fall? If East has a singleton diamond, you can simply play a diamond up toward the jack, but both follow to two rounds of diamonds. After four rounds of hearts you are in hand and have placed these cards:

♠ 9 8 7		♠ K Q J 10 6
♥ 10 6 5 4	S / None	♥ 9 8 7
♦ 10 9		♦ 8 7
♣ ?		♣ ?

If West holds ♦Q, you can simply play a diamond, and the ninth trick is home. Based on vacant spaces with West and East, the odds are 4 to 3 for ♦Q with West, but they are the same odds for ♣K with West.

Even so, I would recommend playing a diamond. If East had ♠KQJT6 ♥987 ♦Q87 ♣Kx, he has probably discarded a spade on the fourth round of hearts, and then he is forced to play up to the club tenace in dummy.

How do you handle the spade suit?

♠ A 8 5 2
♥ Q 7
♦ K Q J
♣ K 8 6 5

W / N-S

♠ J 9 3
♥ 9 8 4 2
♦ A 10 4 3
♣ A J

West	North	East	South
1NT 1)	Dbl	2♦ 2)	3NT
Pass	Pass	Pass	

- 1) 13-15.
- 2) Escape with 4-4 in the red suits.

West takes the ace, king, and ten of hearts and switches to a diamond. How do you play the spades for 3 tricks?

	♠ A 8 5 2	
	♥ Q 7	
	♦ K Q J	
	♣ K 8 6 5	
♠ K Q 7 4	W / N-S	♠ 10 6
♥ A K 10		♥ J 6 5 3
♦ 8 7		♦ 9 6 5 2
♣ Q 10 7 2		♣ 9 4 3
	♠ J 9 3	
	♥ 9 8 4 2	
	♦ A 10 4 3	
	♣ A J	

West must hold both the king and queen of spades. You play a small spade from dummy to the 9 and West's king. Then you play ♠J from hand to the queen, ace, and ten! Later you can finesse against ♠7 with West for 9 tricks. A neat so-called intrafinesse.

Next, Ace or King?

You must make sure to take 3 tricks with this suit combination:

♠ A 10 9 8

♠ K 7 6 5

You play a small card to finesse with the ten, where West plays the 3 and East wins with the jack. East is in a restricted-choice situation, so the odds are that he does not have the queen. A calculation shows that there is a 67.8% chance of the queen being with West.

Do you cash the king or the ace when you get in again?

The queen is probably with West, but it makes no difference who has the queen if the suit is 3-2.

The important choice is between these 4-1 layouts:

♠ Q 4 3 2

♠ J

♠ 3

♠ Q J 4 2

The latter must be reduced by half because of East's two choices, but the first must be reduced to 1/3 because of West's three choices.

You should cash the ace to allow for the latter and most likely layout.

Restricted Choice

The principle is hard enough to understand in its basic form: When a defender follows suit with one of two equal honors, you should assume that he had no choice.

It becomes even harder to grasp when there is an element involving odds reduction, where the initial odds must be reduced by the choices made in the bidding, the opening lead, and the play of the cards.

That the basic form itself is hard enough to understand is shown by the following deal.

From the European Mixed Pairs Championship in 2003

	♠ J	
	♥ Q 10 9	
	♦ 9 8 7 3 2	
	♣ Q J 8 2	
♠ K 10 7 2	S / None	♠ A 8 6 5 4
♥ K J 6 4		♥ 7 3 2
♦ A 10		♦ K J 6
♣ A K 6		♣ 10 5
	♠ Q 9 3	
	♥ A 8 5	
	♦ Q 5 4	
	♣ 9 7 4 3	

East is in 4♠ without any N-S overcalls. When declarer cashes ♠A, North follows with the jack. If you then finesse for the queen with South, you easily take 11 tricks. It may therefore be surprising (at this level) that half the field took only 10 tricks in 4♠.

Terence Reese names it “The Principle of Restricted Choice” in the book “The Expert Game” from 1958. He writes that Alan Truscott drew attention to the principle in a magazine article in the early 1950s.

Alan Truscott in Contract Bridge Journal, April and July 1954

♠ A x		♠ K 10 x x x x x
♥ A 9 x x		♥ K Q x
♦ A K x x x	S / None	♦ x
♣ J x		♣ A x

East-West end in 6♥ by West instead of 6♠ by East.

During the play, the ten fell from North on the second round of trump, and now it looks like a guess who has the jack. But Joel Tarlo finessed and had a good reason to do so. If North had started with J10x, he would have had a choice of cards on the second round and could well have bluffed by playing the jack. This greatly increases the chance that South has the missing honor. This line of thought, where you take account of whether the opponents had a choice of plays, appears in many disguises.

♠ 10 8 x		♠ A K 9 x x x
♥ A Q 10 9 x x	S / None	♥ K x
♦ A		♦ K 10 x
♣ A K Q		♣ x x

You are West and are playing seven no trump, and you get a club lead. You try the hearts, but unfortunately North has ♥Jxxx. You cash ♠A, on which the queen falls from South. Should you now play for the jack to fall, or finesse for the jack? It is correct to finesse, because with ♠QJ doubleton, South could just as well have played the jack. When an honor falls and gives you an extra chance to finesse, take the finesse.

The final conclusion is too sweeping, but it holds here. Even though South is short in hearts and the odds for QJ with South must be halved, there are still odds for the finesse. In addition, North with xx in spades might have led a spade, while that is unlikely with Jxx in spades. In connection with the birth of the principle, one cannot demand that the initial odds be examined closely.

An example from The Expert Game

Reese is careful to look at the initial odds and reduce the odds based on the cards played. After looking at the standard example with 9 cards in declarer's two hands, he goes on to look at this example, where the queen falls from East under the king:

♠ A 10 8 6 4

♠ K 9 5

The probabilities are not so easy to assess when South has one fewer card in his two hands. The problem is that we have to compare one specific 3-2 break with one specific 4-1 break:

♠ 7 3 2	♠ Q J
♠ J 7 3 2	♠ Q

But by looking at vacant spaces it is easy enough: Is the jack with West, who has 10 vacant spaces, or with East, who has 12 vacant spaces? The initial odds are 12 to 10 for the first, but after halving, the odds are 10 to 6 in favor of finessing.

Opponent assessment

At the local club I encountered this layout:

	♥ A K 8 6 5	
♥ J		♥ 10 7 4 2
	♥ Q 9 3	

I took the ace and played a small card from dummy. West had followed with the jack, and East with the 4 and the 2. Finesse or play from the top? I was aware that there were three possible layouts:

		Initial odds	Reduced odds
J	10 7 4 2	10	10/3
J 10	7 4 2	12	2
J 10 7	3 2	12	6 eller 0

The odds for the first must be divided by 3, because East has 3 possible choices for the two cards played, while the second must also be divided by 2, because West has two possible cards to play.

A truly good player as West with the last layout will play one of the two high cards, so the odds must be divided by 2. A non-expert with the last layout will almost always play the 7.

The actual West was a player for whom the odds were close to 0 for the last layout, so there were large odds in favor of finessing. On the other hand, it was the third evening with a large field of 52 pairs and many weak players, so very few would take 5 tricks in the suit. I ended up playing with the field and going up with the queen, resulting in a 2nd place instead of a 1st place.

It is worth emphasizing that West with JT7 must play one of the two high cards to give South the chance to finesse. An obligatory bluff, which you should not fall for if West is a good player.

Restricted choice from start to finish

On the interesting discussion site Bridge Winners, one could follow a discussion of this deal:

♠ A K
♥ x x x
♦ x x x
♣ A 10 x x x

S / None

♠ Q
♥ A K Q J
♦ A K Q J
♣ K 9 x x

You are in 7NT, nonvulnerable against vulnerable, and get a spade lead.

You take the lead in dummy, cash ♣A, and play a small club toward your hand. East has contributed the two small clubs, and West played the queen or jack to the first club trick. This is a classic restricted-choice situation: The odds in favor of finessing are a little under 2 to 1 (about 64.7%).

Now the question is what the situation is at the end if declarer instead starts by cashing tricks and waits until the end to cash ♣A and play a small club, and you cannot infer anything about the spade layout, since the defenders know that they can discard whichever spades they like.

You take both high spades and cash the hearts and diamonds, both of which are 3-3 against you. The defenders have both played four spades, and the three-card ending is:

♣ A 10 x

♣ K 9 x

The two remaining spades with the defenders can be labeled ♠Y and ♠Z, and there are now these four possible card layouts for E-W:

♠ Y Z	♣ Q	♣ J x x
♠ Y Z	♣ J	♣ Q x x
♠ Y	♣ Q J	♠ Z ♣ x x
♠ Z	♣ Q J	♠ Y ♣ x x

In 2 of 4 cases you must finesse, and in 2 of 4 cases you must play from the top. *Fifty-fifty!* ? One of the debaters became so enthusiastic that he wrote:

It is interesting (at least to me) that restricted-choice implications become weaker as you get further through the play. Maybe I will write an article about it later, since I do not think these results are available in the bridge literature.

The comments are followed up by another debater: *I look forward to your article.*

Does it hold?

Together with the opponents' played cards, the four layouts above make up four specific layouts of 13 cards, which are equally likely. We can set the initial odds at 75 ☺:

	Initial odds
♠ Y Z ♣ Q	75
♠ Y Z ♣ J	75
♠ Y ♣ Q J	75
♠ Z ♣ Q J	75

But we must remember to make an odds reduction corresponding to the defenders having made some choices as to which spades they discarded.

In the first two cases, West has chosen to keep exactly ♠Y and ♠Z, and there are 15 possible ways for him to have kept 2 of his 6 spades. Odds of 75 must be reduced to $75/15 = 5$.

In the last two cases, there are 5 possible choices for which spade West has kept, and also 5 possible choices for which spade East has kept. Odds of 75 must be divided by 5 twice and reduced to $75/25 = 3$.

The odds are 5 to 3 (62.5%) in favor of finessing. As one of the debaters writes, the principle of restricted choice still holds at the end. The information gained gives only a small adjustment of the odds. The fifty-fifty does not hold!

Note: The quotes have been translated from Danish to English.

Assessing the Odds from the Opening Lead

There are some standard situations where most people immediately interpret the lead. But there are also some situations where you have to look deeper in order to judge correctly.

If the opening leader has shown many honor points and does not lead an ace or king, where those cards are held by the opponents, it is very likely that the two honors are divided between the opponents. If a preemptive opener does not lead the suit, it is very likely that the lead is a singleton. If the opening leader has supported partner in a suit and does not lead the suit, it is very likely that the lead is a singleton.

Who can have Jxxx against you?

♠ 10 6 5
♥ J 7 2
♦ A Q 10 2
♣ K Q 9

S / N-S

♠ A 8 4 3
♥ A 8
♦ K 9 6 5
♣ A 5 4

West	North	East	South
			1NT
Pass	3NT	Pass	Pass
Pass			

Lead: ♠2

The first trick went to East's queen, and East played the 7 to the 8 and jack. West continued with the king to the ace, where East showed out. The spades were 4-2 against you. You assume that you have to allow for Jxxx with East in diamonds, but first you cash the three high clubs, and it turns out that West has a doubleton. You start diamonds with a high card from dummy, but what do you do next?

West probably does not have a singleton diamond, because then he would have 4-6-1-2 shape and would probably have led a heart. Therefore you allow for Jxxx in diamonds with West, and it works well, because the E-W cards were distributed as follows:

♠ K J 9 2		♠ Q 7
♥ K 10 6		♥ Q 9 5 4 3
♦ J 7 4 3	S / N-S	♦ 8
♣ 10 6		♣ J 8 7 3 2

Here the spade distribution is certain, and it was on the basis of that sure knowledge that you made your further assessment.

From «Expert Bridge Simplified»

It is an excellent odds book by Jeff Rubens. Here is an example from the book:

♠ 10 9 7
♥ 7 4 3
♦ A Q 10 5
♣ Q J 4

S / E-W

♠ 8 6 4
♥ A Q 8 5
♦ K 7 3
♣ A K 9

West	North	East	South
			1NT
Pass	3NT	Pass	Pass
Pass			

West leads the heart two to the king and ace. You play a diamond to dummy's queen; then the club queen; then two more clubs, on which West discards two small spades; and then the diamond king and heart queen: six, four, ten. When you continue with a diamond, West plays the last small diamond. This is the moment of decision.

Since the opponents lead fourth-highest, you assume that West had Jxx2 in hearts. But Jeff Rubens points out that the further reasoning is not based on certain knowledge of the heart distribution.

If we place West with Jxx2 in hearts, we can assess further as follows: If West started with only 3 diamonds, he has 5 spades. Would he have led from a weak 4-card suit in hearts rather than from a strong 5-card suit in spades? Probably not, so you finesse with the 10 in diamonds.

King or jack?

♠ K 10 6 3
 ♥ A Q 8 6
 ♦ K J
 ♣ 7 6 4

S / All

♠ J 5
 ♥ 7 5
 ♦ 10 8
 ♣ A K Q 9 8 5 2

You have opened with a gambling 3NT, which you are allowed to play. West cashes ♠A and continues with a small diamond. What do you play from dummy?

It is standard to start by cashing an ace on lead against such a 3NT. If West has both aces, he could instead have chosen to cash ♦A. So from a restricted choice consideration, you should play the jack.

King or ten?

♠ K 10
 ♥ K 10
 ♦ J 7 3 2
 ♣ K 8 6 5 3

S / All

♠ J 7 3
 ♥ J 6 5
 ♦ A K
 ♣ A Q J 10 2

West	North	East	South
			1♣
Pass	3♣	Pass	5♣
Pass	Pass	Pass	

Lead: ♠2

You play the 10 on the lead, and East wins with the ace and plays a diamond. You draw the outstanding trumps in two rounds and play a small heart up toward dummy's KT, where West follows with a small card. Should you play the king or the 10?

The key is whether West has only the ace or only the queen in hearts. We can use a restricted choice assessment of the opening leader. If he has the ace, he would not underlead an ace in hearts, while with the queen he would have had the choice between leading from the queen in spades and the queen in hearts - when he chooses an active lead. We assume that his choice has been restricted, and play the king.

A deal from the Danish 1st division

		♠ 10 3	
		♥ A 8	
		♦ A K J	
		♣ K J 9 7 3 2	
♠ J 8 7 6 2			♠ A Q 5 4
♥ Q 5			♥ K 10 7 3 2
♦ 8 7 6 5 3	N / E-W		♦ Q 10 4
♣ 10			♣ 4
		♠ K 9	
		♥ J 9 6 4	
		♦ 9 2	
		♣ A Q 8 6 5	

North-South play a special system in which South has opened 1♥, after which North has asked about South's strength and distribution. After flirting with slam thoughts, South settles in 5♣. West knows South's distribution and strength before his lead, so it can only be a diamond or a spade lead.

West leads ♦3, which promises an odd number; on the other hand, there is neither an encouraging nor a discouraging element in the lead. Declarer goes up with the king and draws trump. Then it is time either to finesse in diamonds or to play up toward ♠K.

Declarer decided to finesse in diamonds rather than play up toward ♠K based on the following restricted choice argument: If West holds ♠A, he is forced to lead a diamond. Therefore declarer judged that it was most likely that West was forced to lead a diamond. So he finessed in diamonds, but the distribution was against the odds.

Extra points

		♠ A Q	
		♥ A K J 10 9	
		♦ Q 6 2	
		♣ K 7 4	
♠ 6 5		S / All	♠ 8 7 4 2
♥ 8 7 6			♥ Q 3 2
♦ 10 9 8 3			♦ 7 5 4
♣ Q 8 6 2			♣ 9 5 3
		♠ K J 10 9 3	
		♥ 5 4	
		♦ A K J	
		♣ A J 10	

West	North	East	South
			1♠
Pass	2♥	Pass	3NT
Pass	7NT	Pass	Pass
Pass			

Lead: ♦10

This is an instructional deal where the theme is combining chances. There are more cards in hearts than in clubs altogether, so the point is to cash the top hearts and, if necessary, finesse in clubs. There are only 12 top tricks, so an extra trick must be established.

With the distribution shown, ♥Q does not fall, so clubs must be finessed, but first a lot of sure tricks must be cashed, because the club finesse can be taken either way, so it is important to get information about the distribution.

After the first 10 tricks, the defenders have discarded, so the position is this:

	♣ K 7 4	
♣ Q 8 6		♣ 9 5 3
	♣ A J 10	

If you have kept close track of the discards, you know that each defender has three clubs left, but you can also establish that West started with 4 clubs against only 3 with East. The initial odds are 4 to 3 for the queen with West, and you finesse for the queen with West.

But the odds for the queen with West are even greater. West has chosen not to lead a North-South suit, and naturally he does not lead from the queen in clubs if he has it. Without ♣Q, West has the choice between a club and a diamond lead, but with ♣Q his choice of lead is restricted to a diamond lead.

The principle of restricted choice gives enormous odds for ♣Q with West.

About Vacant Spaces

When you need to assess the odds for the location of a particular card, the principle of the number of vacant spaces is important. But it can be difficult to determine how many vacant spaces are in question. And some of the considerations here really are for odds nerds. So you have been warned!

One heart left with each opponent

♠ 8 5 4
♥ K 9
♦ K J 5 4
♣ K Q 8 2

S / N-S

♠ K Q 2
♥ A J 6
♦ Q 10 9 3
♣ A 7 4

West	North	East	South
			1NT
Pass	3NT	Pass	Pass
Pass			

Lead: ♠J

East takes the lead with the ace and plays a spade back to your king. It is easy enough to make the contract, but since this is matchpoints, you are interested in as many overtricks as possible.

You drive out ♦A and get another spade to the queen. Then you cash the three high clubs and discover that West is left with the jack. After three rounds of diamonds, ♥K, and a small heart from dummy and East, the position is this:

	♣ 8	
♥ ?		♥ ?
♣ B		
	♥ A J	

Is East's or West's heart the queen?

If you say fifty-fifty, you are giving weight to the random small hearts that the opponents have discarded, and saying there is 1 vacant space in each hand for the queen. That is not correct. You have to look at how many hearts the queen could have been in from the start. A count shows these original distributions:

	♠ 8 5 4	
	♥ K 9	
	♦ K J 5 4	
	♣ K Q 8 2	
♠ J 10 9 6 3	S / N-S	♠ A 7
♥ ? x x		♥ ? x x x x
♦ A		♦ 8 7 6 2
♣ J 9 6 3		♣ 10 5
	♠ K Q 2	
	♥ A J 6	
	♦ Q 10 9 3	
	♣ A 7 4	

There are 5 spaces for ♥Q with East against 3 spaces with West, so the odds are 5 to 3 for finessing in hearts.

Something fishy

	♠ A K x	
	♥ K J x x x	
	♦ K 10 x x	
	♣ x	
♠ x x	S / All	♠ x x x x x x
♥ x x x		♥ -
♦ (x x x)		♦ (Q x)
♣ x x x (x x)		♣ x x x x x
	♠ Q x	
	♥ A Q x x x	
	♦ A J x x	
	♣ A x	

The deal is from an article about vacant spaces, and South has reached 6♥ in an uncontested auction. West leads a club to South's ace, and declarer draws 3 rounds of trump, on which East discards 3 clubs. The critical suit is diamonds, and now there are 10 vacant spaces for the queen with West and 13 with East, since no weight should be attached to the clubs that have been played. Odds of 13 to 10 for ♦Q with East.

But declarer investigates, since there is no reason to play diamonds yet. He ruffs a club, with both following suit, and cashes the three high spades, on which West discards a club on the third round of spades. 8 cards have been shown with West and 11 with East, after which the writer uses the remaining spaces to give odds for the location of ♦Q. That now gives odds for ♦Q with West.

The odds of 5 to 2 cannot be exact, however, because the club distribution is not completely known, so East may have 1 or 2 more clubs. East, however, is a highly competent player who himself understands the principle of vacant spaces. Can you see that there is something fishy about East's discards?

East can see that the location of $\diamond Q$ is quite decisive, and that declarer will discover the spade distribution. If he did not want declarer to get information about the number of diamonds and clubs in his hand, he could have discarded spades instead of clubs. He deliberately wanted to help declarer be able to establish that West is longer in diamonds.

This is an important example of the need to distinguish between forced and voluntary information from the opponents.

How many spaces are occupied?

$\spadesuit$ J 10 7
 $\heartsuit$ K 5 4 3
 $\diamond$ A 8
 $\clubsuit$ K 8 4 3

S / N-S

$\spadesuit$ Q 6 4
 $\heartsuit$ A J 10 2
 $\diamond$ K Q 5 4
 $\clubsuit$ A 2

West	North	East	South
			1 $\heartsuit$
2 $\spadesuit$ 1)	2NT 2)	Pass	3 $\diamond$ 3)
Pass	4 $\heartsuit$	Pass	Pass
Pass			

- 1) Weak with a good 6-card suit
- 2) Heart support and 10+ points
- 3) 15-17 points

Lead: $\spadesuit A$

West starts with $\spadesuit A$ and $\spadesuit K$. East follows twice and then gets a spade ruff. West had only a 5-card suit, so that may remind you that an opponent does not always have exactly what he has promised. There are now 5 spades placed with West and 2 with East.

East plays a diamond to dummy's ace, after which you cash $\heartsuit K$ and play a small heart up toward AJT. All three small hearts have now appeared, with West having shown 1 and East 3. Finesse or play from the top? West has 6 spaces occupied by 5 spades and 1 heart, while East has only 5 occupied by 2 spades and 3 hearts.

The number of vacant spaces says that the odds are 8 to 7 (53.33%) for ♥Q to be with East, so you finesse.

But both opponents have also played a diamond, so if we occupy one space in each hand with a diamond, the odds become 7 to 6 (53.85%). But East had to play something when he was on lead (diamond or club), and normally West would have to follow suit. The tiny bit of information provided by the fact that West is not void in the minors gives, after a careful calculation, 53.34% instead of 53.33%.

In such odds assessments, we do not let the two played cards count, and it is common not to count played cards as occupied spaces until the distribution of the suit has been fully established. But as the opponents follow suit more and more times in a suit, we get closer and closer to the odds obtained by counting the played cards as occupied spaces.

From Bridge Winners

This deal was presented as a problem in how many spaces are occupied:

♠ 3 2
 ♥ A 4 3 2
 ♦ A 4 3 2
 ♣ K 3 2

 S / None

 ♠ K Q J 9 8 7 6
 ♥ 5
 ♦ 6 5
 ♣ A 5 4

West	North	East	South
			1♠
4♥	Dbl	Pass	4♠
Pass	Pass	Pass	

Lead: ♥K

It is established that we are not to consider whether this is the best declarer play, and that we should not attach significance to the first two cards from the opponents. The question is the location of ♠10.

Declarer ducks the lead, and East discards in a minor. West continues with a diamond to dummy's ace, and East follows. Based on vacant spaces, the odds are 13 to 5 for ♠10 with East.

When a spade is now played from dummy, East follows with a small one if he has a small one, and he does. How many spaces does this small spade occupy in the odds calculation for the location of ♠10?

A rather advanced calculation shows that the odds are now 12.6 to 5 for ♠10 with East, so the small spade occupies 0.4 spaces. The question was also whether one could argue for the 0.4 without the big calculations, but no one could.

A calculation for the especially interested/knowledgeable

Here follows a calculation in line with the methods that have been used in this series of articles.

What are the odds that East also has the other small spade? There are 12 spaces with East against 5 with West, but if East has both small spades, he has a choice between following with one or the other, so the 12 must be halved. Thus the odds are 6 to 5 for both small spades to be with East.

If both small spades are with East, the odds are 11 to 5 that ♠10 is there, while the odds are 12 to 4 if the two small spades are divided.

Odds for ♠10 with East: $6 \times 11/16 + 5 \times 12/16 = 126/16$ ($\times 16 = 126$)

Odds for ♠10 with West: $6 \times 5/16 + 5 \times 4/16 = 50/16$ ($\times 16 = 50$)

Odds of 126 to 50 gives, by division by 10, odds of 12.6 to 5. Voila!

Exactly one left

♠ J 7 4 2
♥ A Q J
♦ A J 6
♣ A Q 7

S / N-S

♠ A K Q 6 3
♥ K 10 8
♦ K 5
♣ 9 6 3

The contract is 6♠, and West makes a safe spade lead, after which you draw trump, with West having 3 and East 1, and no hearts appear. Then you cash ♥K and two more hearts, with both following suit.

Now you know that West had 3 spades and 3 hearts and therefore 7 spaces for other cards.

Similarly, East has 9 spaces for other cards. Are the odds 7 to 9 that West has ♦Q/♣K?

There is exactly one heart left out, and Jeff Rubens has explained that one may count the played hearts when tallying occupied spaces. So the odds are 7 to 9 that West has ♦Q/♣K.

How do you continue?

Instead of taking a finesse in both diamonds and clubs, it is a good idea to try to endplay East with ♦Q by cashing the two high diamonds and putting East in with ♦Q, discarding a club from hand. This works well with this distribution of the opponents' cards:

♠ 10 9 8		♠ 5
♥ 7 5 2		♥ 9 6 4 3
♦ 9 7 3	S / N-S	♦ Q 10 8 4 2
♣ 10 5 4 2		♣ K J 8

Would you like to try to check Jeff Rubens's calculation?

You can start by counting the number of distributions with the last heart with West and East, respectively, and then it turns out that the odds are 7 to 9 that it is with West.

If you then look at the odds for ♦Q with West when he has 4 hearts, and when he has 3, you end up with the odds being 7 to 9 for ♦Q with West.

The answer for ♣K is naturally the same.

Another Double Rule

If you have to play a suit where Jxxxx is out, you normally should not finesse for the jack, but under special circumstances the odds favor finessing. A simple rule tells you when the odds favor finessing rather than cashing the top honors. If Jxxxxx is out, the same simple rule applies.

Odds for finessing

		♠ 3	
		♥ K 8 7	
		♦ A 10 2	
		♣ K Q 10 7 5 4	
♠ K		E / None	♠ A Q J 9 8 5 4 2
♥ 5 3 2			♥ J 9
♦ Q J 9 6 5			♦ 4 3
♣ J 9 8 3			♣ 6
		♠ 10 7 6	
		♥ A Q 10 6 4	
		♦ K 8 7	
		♣ A 2	

East opens 4♠, and North overcalls 5♣, after which South raises to 6♣. East takes ♠A and continues with the queen to a trump with North. Declarer takes ♣A and plays ♣2. Finesse or cash?

Declarer can use The Double Rule:

The odds favor finessing if the opponent with the few cards in their suit has at least twice as many other cards as partner; otherwise not.

With the spade suit divided 1-8 between West-East, the distribution is 12-5 for the number of cards in the other suits. The Double Rule says that the odds favor finessing. If the spades are divided 2-7, the distribution of the number of cards in the other suits is 11-6, and then the odds do not favor finessing; you should cash the top honors.

Five tricks are needed, where you start with the ace and play a small card:

Beforehand, you know the distribution of one of their suits, where East has the length in the suit. Finesse or cash?

A	F	C/=	OTHER CARDS	OTHER CARDS
7	0-7	1-6	13-6	12-7
8	1-7	2-6	12-6	11-7
9	1-8	2-7	12-5	11-6
10	2-8	3-7	11-5	10-6
11	3-8	4-7	10-5	9-6
12	3-9	4-8	10-4	9-5
13	4-9	5-8	9-4	8-5

The distribution of our suit among the opponents has to do with how many vacant spaces there are with each of them outside their suit, so in the last two columns I have given the number of other cards (outside their suit). Can a simple rule be derived from the last two columns?

The odds favor finessing if the opponent with the few cards in their suit has at least twice as many other cards as partner; otherwise not.

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An example

		♠ K 7	
		♥ A 2	
		♦ Q 7 3 2	
		♣ Q 6 5 3 2	
♠ A Q 10 8 6 4 3 2		W / N-S	♠ 9 5
♥ 7 6			♥ J 9 8 5
♦ 9			♦ J 10 8 6
♣ 10 7			♣ J 9 8
		♠ J	
		♥ K Q 10 4 3	
		♦ A K 5 4	
		♣ A K 4	
West	North	East	South
4♠	Pass	Pass	Dbl
Pass	5♣	Pass	5♥
Pass	6♥	Pass	Pass
Pass			

West takes ♠A and continues with a spade to the king in dummy, where declarer throws a diamond. After ♥A, the small heart is played to?

There are 11 other cards with East against 5 with West, more than twice as many. According to The Double Rule, the odds favor finessing.

What if you have started cashing the top honors and have taken the ace followed by a small card to the king? Perhaps you come to think that the trumps are probably not sitting 3-3 against you, but with Jxxx with East. Maybe you can still manage to finesse the jack, in the form of a trump coup. That works fine if East's minors are distributed 4-3, not 5-2.

You cash the ace and king of clubs and go to dummy to the queen and ruff a club. Then you take a high diamond and go to dummy with the queen to play a good club. East is caught and can do nothing.

It is better to go for the trump coup rather than continue cashing the top honors, and prettier too!

The distribution of two of the opponents' suits is fixed

The table above still holds, but now we have to go higher with the number of cards in the suits. It is not necessary to make difficult calculations, because the formula mentioned gives directly:

A	F	C/=	OTHER CARDS	OTHER CARDS
14	5-9	6-8	8-4	7-5
15	5-10	6-9	8-3	7-4
16	6-10	7-9	7-3	6-4
17	7-10	8-9	6-3	5-4
18	7-11	8-10	6-2	5-3
19	8-11	9-10	5-2	4-3
20	9-11	10-10	4-2	3-3

The formulated double rule holds.

You must finesse immediately

With Jxxxx out, you can run into this suit:

♦ K 10

♦ A Q 5 4 3 2

Now you cannot finesse after first taking a high card to see whether the jack falls. Therefore a small change in the wording of The Double Rule was necessary. Instead of *at least twice as many*, it must be *more than twice as many*.

However, this is not crucial with Jxxxxx out:

A K Q 10 x x

x

If the issue is to get all the tricks in the suit, it does not help to have a singleton jack in one of the hands. Thus the wording of The Double Rule holds.

From Bridge Winners

David Burch presents this example:

		♠ A	
		♥ A K Q 10 7 5	
		♦ 9 5 4	
		♣ 9 5 2	
♠ 5 3		E / N-S	♠ Q J 10 9 4 2
♥ 9 8 4 2			♥ J 3
♦ Q 6 3			♦ K J 8
♣ K Q 10 8			♣ J 6
		♠ K 8 7 6	
		♥ 6	
		♦ A 10 7 2	
		♣ A 7 4 3	
West	North	East	South
		2♠	Pass
Pass	3♥	Pass	3NT
Pass	Pass	Pass	

West leads ♠5, which is taken with the ace in dummy. We simplify the play to a question of whether declarer should cash the hearts from the top or go home in a minor and finesse for the jack with West.

With the spades 2-6, West has 11 other cards against 7 with East. Not twice as many, so the hearts should be cashed from the top.

If East has opened 2♠ on a five-card suit, it becomes even more important to cash the top honors rather than finesse.