First things first

Bridge is at the same time a game of chance and a game of skill. Much depends on the deal. In duplicate bridge, because all play the same hands in one direction or the other, the overall element of chance is reduced but individual results often depend on which hand is played against which opponent.

One of the most important considerations in applying your skills to the game is to be aware of the actual likelihood of what will be where. There are known mathematical probabilities for various hand patterns, and for how the opponents' holding of a particular suit will split. Nobody can remember these every time, but every player should attempt to grasp the salient features for the important suit combinations. There is no need to have a degree in maths! Follow these simplified guidelines and try to memorise the important ones.

The time to start thinking about the odds is when you first sort your hand, before the bidding commences. Every bid made by opponents infers certain hand make-ups, and if the makeup is compared with the makeup of your own hand, which you know, you can draw certain conclusions which should be useful later.

When the dummy goes down is the time to count your tricks, and decide the best lines of play depending upon what you have, and how the opposition's cards are likely to be split How many tricks do you need? It is important to make the contract, and in duplicate pairs it is also particularly important to get the most possible tricks. This question will determine whether you need to finesse for more tricks, or to play safe. Playing safe is not just a matter of cashing your aces and kings! Sometimes it involves deliberately losing a trick, and hopefully to the right opponent, so that you can make finesses or run suits subsequently!

Have the opposition bid, and what and where? Should I finesse or play safe in a suit and if so, which way? Those are questions which can be more easily answered if you apply the odds.

The figure stuff

1. Finessing

Finessing is the leading of a card towards a broken sequence of cards to try to trap a missing card. Learners of the game of bridge are soon aware of the finesse. Sadly it is a truism that beginners rarely finesse, improvers nearly always finesse, and experts look for ways **not** to finesse. It is certainly true that over 90% of all hands contain a possible finesse position. Since the finesse is a simple win or lose play, the odds of success are 50%. It is also evident that if you only need 1 of 2 finesses to succeed, the odds shift greatly to 3:1 in your favour (likewise if you need both finesses to work, the odds are 3:1 against success)

The probable distribution of the outstanding cards is one very useful guide as to whether you should finesse or not. It cannot be an absolute guide because other factors like opponent's bidding or evidence of long suits alter these basic considerations. Table 1 gives the most probable distribution of the opponent's cards in a suit when your partnership holds a majority of the suit.

Your holding	Outstanding cards	Most likely split	Next most likely
7 cards	6 cards	4-2	3-3
8	5	3-2	4-1
9	4	3-1	2-2
10	3	2-1	3-0
11	2	1-1	2-0

Table 1

Some simple rules on when to finesse, assuming you have no other knowledge of the distribution of your opponent's cards.

Against the K
- You should finesse against a king holding up to 10 cards in the suit.
- You should not finesse against a king holding 11 cards in the suit.

Against the Q
- You should finesse against a queen holding up to 8 cards in a suit.
- With 9 cards it is close as to whether to a finesse against a queen or playing for the queen to drop. The chances of the right decision can be improved in those cases where one of the top 2 honours can be cashed first.
- With more than 9 cards you should not finesse against a queen.

An example of knowing the probable distribution to give yourself better odds:
In ~ you hold AKxxx and dummy holds Jx. The adverse distribution is likely to be 4-2. If you need 4 tricks then the best play is to lead small towards the jack, finessing against the queen.

2. Long suits and vacant spaces

It is fairly obvious that where you have a suit of 6 cards or longer, you are also likely to have a shortage in another suit. Table 2 gives the most probable distribution of the cards when you hold a long suit.

Your longest suit	The most probable suit distribution
6	6-3-2-2
7	7-3-2-1
8	8-2-2-1
9	9-2-1-1

Table 2

This table demonstrates that once 7 or more card suits are evident, the hand will almost certainly contain a singleton (and a void is not uncommon). Hands containing suits longer than 7 cards are rare, but occur most often when new packs of cards are not properly shuffled or when a 'goulash' shuffle is used.

3.Putting 'vacant spaces' into practice

The theory of vacant spaces says that a missing honour card is more likely to be with the opponent who holds the greater number of the missing cards in the suit. This is of practical importance only if you can ascertain the likely suits lengths. If one opponent's longest suit is known, and later his exact hand shape becomes known during the play, it is then possible to deduce the likely holdings for both opponents in the suit of interest.

The use for this theory is twofold. If the finesse against a queen can be taken either way then the queen is more likely to be with the opponent with most of that suit. After drawing trumps you should therefore play off side suit winners in other suits before tackling the critical suit with the queen. This enables you to refine the count and apply the theory of vacant spaces.

Where one opponent is known to hold only 1 card in that suit, you can often cash one honour before taking a marked finesse into the other hand, if the queen does not fall.
Counting the hand accurately is the basis of excellent bridge play.

4.Safety plays

A safety play is the deliberate giving up of a trick in order to ensure making a *required* number of tricks in a suit. Such plays are not uncommon to protect against bad distribution, but some knowledge of the probabilities relating to outstanding cards is necessary. In pairs competitions safety plays are far less common than in duplicate teams, Chicago drives or rubber bridge, because overtricks in pairs are so

important. Coupled with safety plays are plays where you are going to lose a trick in the suit anyway, but where you can make the maximum number of tricks by ducking in both hands, <u>before</u> cashing your honour cards.

Some examples of safety plays :
- In ~ you hold AKxxxx on dummy and xx in hand. Without a side entry you can only make 2 tricks. Play small from **hand and dummy**, and when you regain the lead you make 4 more tricks whenever the adverse cards break 3-2.
- Change the cards to AKxxx in dummy and xxx in hand, then you should lose a trick early (by ducking in both hands) and whenever the adverse cards are split 3-2, you make 4 tricks. If the cards are AQxxx in dummy, you should duck in both hands then finesse on the 2nd round to preserve entry to the long suit.
- Change dummy to AKQxxx and in a pairs tournament you would play off the AKQ and hope the suit splits 3-2. If you only need 5 tricks at rubber bridge, play as in example 1, so protecting yourself against a 4-1 break.
- A common safety play occurs in the trump suit where the contract is safe unless trumps break 4-1. On the second round of trumps just cover any card played by opposition. If the 4th player follows then trumps are no worse than 3-2, and if he does not follow, then you have saved against a 4:1 break.

Supposing ` s are AQxx and you hold Jxxx in hand, a good safety play is to cash the A (protection against a singleton K) and then finesse towards the Q. If you only need 3 tricks this is the best play. The alternative line of play, to finesse the Q on the first round, then play the A and hope the K falls is correct at duplicate pairs, but you run the risk of losing 2 tricks in the suit if the K singleton is offside.

5.Combining your chances

Whenever the deal presents an opportunity to combine setting up a 'long' card in one suit and a finesse in another suit to make the contract (where **either/or** would enable you to succeed), then the order is important. In trump contracts, after dealing with trumps, play off the long suit first. If the cards break as expected then you may not need the finesse. In no-trump contracts, if the suit breaks badly you may be left with long suit losers if the finesse fails as well, so you should normally take the finesse first, before trying for the long suit winners.

Some further very useful thoughts on bidding

A table of probabilities of holding certain shapes or high card point values is not

much use in playing, but of great value in thinking about bidding conventions. Some useful conclusions are -

1. Weak v strong no-trumps
The 12-14 no-trump points range occurs every 5 hands, whereas the 16-18 range only every 14. If you couple this with shapes restricted to 4-3-3-3, 4-4-3-2, and 5-3-3-2 then playing a weak no-trump you will have a suitable hand about every 11 hands. Opening strong no-trumps every 28 hands. The partnership (being two hands at a time) will have double these opportunities to open 1NT. Opening 1NT has a strong pre-emptive value, so this can be used as an advantage in weak no-trump more than twice as often as in strong no-trump. However, if you still want to use strong, changing the strong no-trump range to 15-17 gives a dramatic improvement on the hand frequency against 16-18, allowing an opening bid of 1NT every 21 hands, but still only ½ as often as the weak no-trump.

2. Five card majors or four card majors
Rather surprisingly, hands that contain a 5 card suit as the longest suit occur more frequently than hands with the longest suit being a 4 card suit. The approximate percentage values are 44% and 35% respectively. The probability of holding a 5 card major is therefore nearly 1 in 4. To use the major suit as trumps, or alternately as a long suit in no-trumps depends on the extent of the fit with partner and whether hand shortages are covered by partner's hand. Major suit games require trump support and preferably at least an 8-card trump fit.

   To achieve at least an 8-card fit with partner in a major, the following statistics apply: 4-4 fit 22%;   5-4 fit 17%;   5-3 fit 31%

   So there is a better chance to find an 8 card fit with a 5-card major than a 4-card major though it will be a 5-3 fit in 2/3 cases. Of course, in some hand types, a 5-3 fit is more useful than a 4-4 fit anyway. A jump rebid in a major suit at the three level normally implies a 6 card suit and the chances of a fit are: 6-2 fit 33%; 6-3 fit 28%. With a 1 in 2 chance of at least an 8 card fit, the 6 card suit should have at least 2 honour cards to jump re-bid.

   If we do not achieve a prime fit then we may have to play in either a 5-2 fit (29%) or a 4-3 fit (31%). Usually a 5-2 trump fit is the better choice because of the trump control it gives. Playing 5 card majors gives responder an easier choice in giving preference at the 2 level between opener's 5 card suit and a second suit of 4 cards.

3. Use of Stayman
When partner has opened 1NT, a response of 2| is normally the Stayman convention seeking a 4-4 fit in a major suit. We know that a 4-4 fit is only about a 1 in 5 chance (22%), so it is important that the responder has the points for at least 2NT depending on the range for opening 1NT. Having both majors before using Stayman severely restricts the use of the convention, but doubles the chances of a fit.

   You can deviate from the above considerations when you hold 5-4 in the majors. With a few points, if no fit is found, this hand can be treated as a weakness take-out in the longer major.

4. Hands with a 4-4-4-1 shape
Although such hands only constituting 3% of all deals, you have 3 suits to find a fit with partner so overall this is a 66% probability. Which suit should you open?

   Playing 5 card majors open lowest minor suit. Otherwise, for simplicity, with a red singleton open 1|, and a black singleton open 1`.

   Very weak hands with a singleton club (<1%) are sometime used over 1NT as an escape route via a Stayman 2| bid, but should be used with care because a 4-3 or 4-2 fit at the 2 level is unlikely to play better than 1NT. Over 1NT doubled, when Stayman no longer applies because you may need all the suits to'escape', then bid 2~, a compromise bid with a chance of escaping undoubled.

5. The pre-empt
The probability that you hold 2-9 points and a 7 card suit is about 1 hand in 60. Although the partnership therefore holds a 1 in 30 chance, the overall number of pre-emptive opening bids is around the 1 in 40 mark or 1 every two evening sessions, unless the dealing has been doctored!

   The commonest pre-empt hand pattern by far is 7-3-2-1. If you are declarer and the pre-empt hand is on lead, then if the pre-empt suit is not led, the lead is likely to be a singleton. If the pre-empt suit is led then that hand is likely to hold a singleton trump!

6. A singleton
Four out of five deals contain a singleton, so on average you have a singleton every 5 deals. A singleton king will occur about 6 deals per hundred.


Further reading

Most bridge books on play cite probilities of hand shapes and outstanding cards By far the best book on odds is "Bridge Odds for Practical Players" by H.Kelsey and M.Glauert There are worked examples in combining your chances, and the very basis of probabities is well explained.

" The Play of the Cards" by T Reeese and A Dormer is very good on safety plays and has a good introduction to probabilities.

What has been learnt from a study of probabilities

1. When to finesse or not

2. How the opponents' cards in key suits are likely to divide

3. The importance of safety plays

4. How you can combine chances in two suits

5. How to select a no-trump range

6. The advantage of playing 5 card majors

7. How to use Stayman properly

8. The use of 4-4-4-1 hands
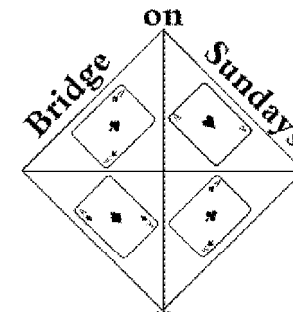
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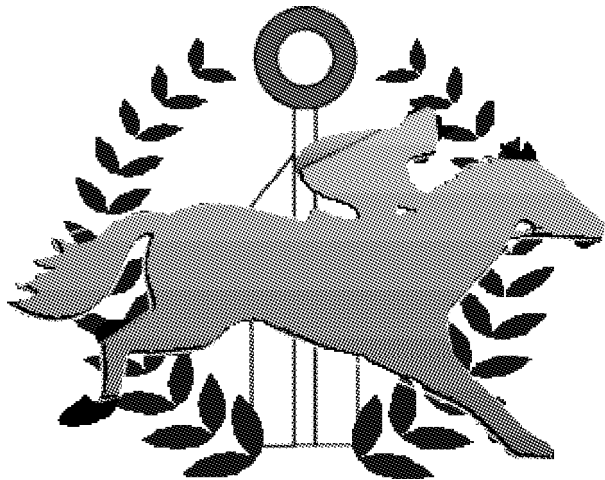
You can't expect to win everytime. There's no such thing as a racing certainty at bridge. Playing the odds is no guarantee of success. It needs to be combined with intuition!

Bridge on Sundays

The odds

Guides to Better Bridge No 14`