Never a Dull Deal: Faith, Hope and Probability in Bridge

Robert F. MacKinnon

Author of *Bridge, Probability and Information*

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Dedicated to the memory of my dear, gentle wife, Junko, who understood the basic principles of bridge, but who never wanted to play the game, except for that one time.

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FOREWORD

This book is about making choices. It is largely composed of material from blogs that have appeared over the years as afterthoughts to the ideas set down in my previous book, *Bridge, Probability and Information* (2010). The hope is that this second effort contains something new, amusing and useful for the reader when resting away from the table. I have the suspicion that like many senior citizens I have made the false assumption that what is worth saying once is worth repeating several times. There is this advantage: if the reader should nod off at some point, he need not flick back to see if he missed something important. He may have, but he can just read on and probably he will find the essentials repeated later on for his convenience. We begin with a glimpse into the environment in which we play our games.

A Brief Bridge Sermon

Here in Victoria, British Columbia, every week men and women of many faiths and races gather together in a church hall to play bridge in the spirit of fair and friendly competition under a policy of intolerance to rude and demeaning behavior.

As we gather to embark upon our game of bridge, we strive to keep foremost in our thoughts these three fundamentals:

- Faith, that our bidding system can get us to the right contracts;
- Hope, that our partner is going to have one of his better days;
- Probability, that the cards will sit where we want them to sit.

And the greatest of these is Probability for it provides us with our best advantage during the play and our best excuse when we are called to account during the post mortem. Probability knows not seasons. A player who hath Arithmetic but hath not Probability steers by the moon without benefit of the stars.

As for Charity — we look neither to give nor to receive undeservedly, although the law dictates we humbly and gratefully accept all gifts unwittingly given. Blessed is he who is parsimonious by nature, for a man may hold great cards, but he who giveth away tricks will not profit thereby. He is like unto a caravan bereft of camels, cast into the wilderness without teammates, without partners, without masterpoints.

Today's Lesson — Evolution

My friends, evolution advances in mysterious ways, and not always to the end one would wish. Recall the nineteenth century missionaries who sailed to Hawaii and inadvertently promoted the expansion of the American textile industry by persuading the natives to wear clothes even though the weather did not require them and the natives hadn't the wherewithal to pay for them. The unforeseen consequences of their invasion are apparent to this day: the multicolored Aloha shirt celebrating the overabundance of nature and the multilingual Hula dance where the hands tell a story and the hips deliver the message.

In the beginning days of bridge, each partner naively bid what he or she had going up the ladder until they reached the right contract at the right level. There they rested. This was not always easily accomplished, but at least declarer could blame only himself if he couldn't manage taking the number of tricks he himself had committed to. Naturally, bidding was on the cautious side. Over-tricks were taken as a sign of good declarer play or of poor bidding. Let's look at an example hand and how bidding has changed.

First, in the early days just after WWII, when Tim, after surviving time sweating in the jungles, returned to the bridge table with his old chum, Sid, who was introducing him to duplicate.

Tim	**Sid**
♠ A Q 6 4 2	♠ 10 5
♥ 9	♥ A K Q J 8 4
♦ A 7 5 4	♦ K J 3 2
♣ K Q 9	♣ 3

1♠	2♥
3♦	4♦
4NT	5♥
5NT	pass

Their bidding was entirely natural. A club was led to the ♣A and a spade returned to North's ♠K. Exactly eleven tricks were taken. No problem.

Tim: Pinpoint bidding, pal. We beat every one of those suckers who stopped in 4NT.

Sid: Well… actually, Tim, anyone who makes eleven tricks in 3NT, 4NT or 5NT scores the same. So under the new scoring it's a tie for top.

Tim: You're kidding! You're telling me there is no advantage any more to reaching the right contract? Man, that really cheapens the game.

Sid: I know, I know, but it was done to appeal to the masses. Maybe in a few years when everybody gets to be a Life Master they'll toughen up the scoring rules.

Tim stayed in the army and got to participate in the Korean War, spending two years as a PoW. One of his Red Cross care packages was lined with a stained New York Times containing a bridge column devoted to the Blackwood Convention. Anxious to demonstrate his newfound toy, as soon as he returned home, Tim invited Sid, who now owned his own appliance repair shop, to another game of duplicate, during which a very similar hand arose. This time upon discovering Sid had an ace and two kings, Tim bid slam — because he found he couldn't stop in 5NT.

Tim	Sid
♠ A Q 6 4 2	♠ 10 5
♥ 9	♥ A K Q J 8 4
♦ A 7 5 4	♦ K J 3 2
♣ K Q 9	♣ 3

1♠	2♥
3♦	4♦
4NT	5♥
5NT	6♥
6NT	pass

A club was led to the ace and a low spade returned. Tim won the ♠A, ran the hearts pitching four spades and a diamond, returned to hand with the ♦A and eventually took the winning diamond finesse for twelve tricks and a top.

Tim: Phew! If they'd led a heart I might have taken the wrong finesse. This Blackwood is a good idea, getting us to 6NT ahead of everyone in 6♦.

Sid: Errr.. well no one will be in 6♦. Blackwood is supposed to keep you out of bad slams, not get you into them. How many points did you have? I had 14.

Tim: Points? What are points?

The years sped by and before they realized what was happening, Tim and Sid were greybeard Life Masters playing a 2/1 system that was designed to keep the bidding safely below 4NT. That required making bids that were forcing but not leading in any particular direction. The minor suits had become largely vestigial.

Tim		Sid
♠ A Q 6 4 2		♠ 10 5
♥ 9		♥ A K Q J 8 4
♦ A 7 5 4		♦ K J 3 2
♣ K Q 9		♣ 3

1♠	2♥
2NT	3NT
pass	

Tim: Tied for top, old chum — many will be in 4♥. Nice bid.
Sid: You know what they say, better to pass than to keep bidding the same suit.

The first lesson of evolution is this: as time goes by, entropy increases. This means that fewer bids must cover more ground, thus losing definition. The trend follows the second law of thermodynamics, which also predicts a further increase in the number of chaotic preempts and meaningless overcalls. So, although we must accept the laws of nature as scientific facts, that doesn't mean we approve of them. Here endeth the lesson.

After the Lesson

Here is a deal from a recent game wherein the novices earned a top against us with enterprising bidding. Was I guilty?

Dealer East Neither vul.	♠ Q 6 4 2 ♥ A K 8 ♦ 9 5 3 ♣ 5 4 3	
♠ A 8 7 ♥ J 3 2 ♦ J 7 6 4 ♣ A Q 7	N W E S	♠ K J 10 9 5 3 ♥ 10 4 ♦ K 10 ♣ 9 6 2
	♠ — ♥ Q 9 7 6 5 ♦ A Q 8 2 ♣ K J 10 8	

Bob	Janice	John	Ajit
		2♠	3♥
3♠	4♥	all pass	

I was on lead against a pair who had played together for just a handful of games while Ajit's wife was out of town. Ajit, a retired chemist, had been taking lessons from an expert, so felt no reservations about entering the auction at the three-level on a bad suit. After a rather risky raise of partner's weak two I felt no temptation to sacrifice holding defensive values in four suits in a nine-loser hand. My opening lead was a trump.

After my passive lead, I somehow ended up on lead at Trick 12 holding the ♦7 under Ajit's ♦8, his tenth trick, giving us a clear bottom.

'You should have led a spade,' said John, 'after which repeated spade leads would have run declarer out of trumps.'

'You should have held the ♦8,' I replied. As with many a hasty analysis after a bad result, neither of us was correct. The double dummy solution after a spade lead is for declarer to resist the urge of entering dummy in trumps in order to finesse in clubs. He needs the ♦K onside, so he should work on clubs immediately, leading the ♣10 from his hand, planning to follow this up with a play of the ♣J once he sees the count from his RHO. (The more advantageous of the two most likely distributions of sides is ♠ 3-6 ♥ 3-2 ♦ 4-2 ♣ 3-3.) John was right in one respect — would Ajit have found the endplay after a spade lead? No one knows for sure, but that lead does nothing to disrupt declarer's timing.

INTRODUCTION

'Many a tear has to fall, but it's all in the game'
— Carl Sigman (1909 - 2000)

Most play bridge for the fun it provides, and the most fun comes from the quick thrill of a lucky play. That's a dangerous approach in the long run, so don't say I didn't warn you, but, hey, missed opportunities are just as bad, even though you don't feel them as acutely at the table. To pursue immediate pleasure or to avoid future pain? As with many dilemmas of a philosophical nature, it's your choice, no matter what Epicurus (341-270 BC) may have claimed. There is a third way: play with equanimity, free from anxiety, and always go with the percentages.

Parents set down rules for their kids: 'Brush your teeth after meals', 'Go to bed at nine', etc. Parents don't say to a four year old, 'Do what you think best' (although the trend appears to be in that direction). Kids respect the rules, they don't know any better, and to be fair, the world might be a better place if everyone was home in bed at nine o'clock, but as time goes by kids learn from experience to make exceptions. A distraught mother may admonish a daughter not to scream in public, but if the daughter grows up to be an opera singer, the rule goes by the board. When the prima donna is playing Tosca about to jump off the Papal parapet, her mother may urge, 'Scream as loud as you can, dear, the audience will love it.' Whether it's the opera house or the supermarket makes all the difference.

So it is when beginners are taught bridge. They are not told directly to do what they think best; rather they are taught rules, rules which will stand them in good stead in most situations, but rules that should be broken as the circumstances dictate. Beginner's rules are for beginners. Take the finesse, for example. Students are shown how declarer can create an extra trick by taking a finesse and are given numerous examples how this works. They are taught, 'Take your finesses and don't fist-pump when the desperate ones succeed.' Students are not told how to avoid a finesse by employing a strip-and-endplay, because that is a topic for the master class, and it may be hard to spot the possibility in any case. It's easier for the average player to keep on finessing. Only advanced players can follow the golden rule: choose the path most likely to lead to success.

In order to judge whether a given bid or play is likely to be successful, you need a working knowledge of the probabilities of the success of various options. At matchpoints especially you should not make a play that is against the odds. In many cases it is better to play for a plus rather than hope that a finesse will work when you feel it won't. How can you expect to win by playing against the odds? Before you can think in these terms, you have to learn how to estimate the odds at the time of decision, which may be when the dummy first appears, or near the end when more knowledge has been gathered.

The knowledge you seek is to what extent the current deal departs from normality. You have to gauge the state of affairs and decide what is most probable. Sometimes there is a rule that covers the situation and sometimes you may decide instinctively guided by previous experience on other hands of a similar nature, but often you have the clues available to make a decision based on the current probabilities. How to do this is the key problem.

Maximize the Gain or Minimize the Loss?

Don't mess with Mr. In-Between
— Johnny Mercer (1909-1976)

The Golden Rule at matchpoints is: always take the action that is most likely to succeed, using the *a posteriori* odds applicable at the time of decision. There are two fundamental approaches to decision-making that need to be considered: minimize the loss if you guess wrong, or maximize the gain if you guess right. It is not difficult to treat the problem theoretically where there are just two alternatives available. So we might think of the bidding outcomes as a game or a partscore, or a slam and a game, or a grand slam and a small slam, or we may apply the theory to a choice of card plays as well.

Differences due to system are the most obvious source of differences between the majority of players and the minority. These are most strongly felt in the bidding of slams. In a mixed field many players are content to end up in 3NT rather than in a minor suit slam simply because the field will not be confident enough in their methods to attempt the higher scoring contract. This approach feeds upon itself, as even superior players will play down to the field. Slams are becoming rare, whereas previously slam bidding was considered to be the keystone to good bidding practices. Now, failing to bid a cold slam may result in only a small loss as the vast majority will be stuck in the same boat. On the following hand I am ashamed to relate that I fell into the trap of bidding down to the level of the field.

Bob		John
♠ A Q 5		♠ K 10 8 7 6
♥ 10		♥ K 8 4 3 2
♦ A J 10		♦ 3
♣ A Q 10 8 5 2		♣ K 4

1♣*	1♠
2♦	3♣
3♦	3♠
4♣	4♠
pass	

The initial response to the Precision 1♣ showed a game-forcing hand with five or more spades. Using a series of asking bids I was able to discover that partner held at least five spades to the king, three high-card controls, and second-round control of the clubs. By bidding 5♣ I could find out whether the club control was a singleton or the ♣K. If John held a singleton club I would stop in 5♠ with work to be done — the field rated to be in game with 17 HCP opposite 9 HCP. If he held the ♣K, I would bid 6♠ with good chances of making five spade tricks, six club tricks and the ♦A. Playing to minimize my loss if I were wrong, I stopped abruptly in game when it would have been better (although not optimal) to go directly to 6♠ over 4♣ because the odds were greatly in favor of finding the ♣K opposite. Out of a field of eleven pairs, ten stopped in game so ostensibly I was not punished for my bad bidding. Nonetheless it was a mistake to defy the Golden Rule by rejecting an action that was more likely to be right than wrong.

Let's consider the scores you would receive by pushing on to slam regardless of what the field is doing. Assume eleven tables with eight pairs in game, two in slam. Here are the splits in matchpoints resulting from the decision on whether to bid slam or stay in game.

Bid slam and it makes	9	Bid game and slam makes	4
Bid slam and it doesn't make	1	Bid game and slam doesn't make	6

With 10 matchpoints available there is greater variability when you go against the majority and bid the slam. There is less variability when choosing to bid with the majority, even if they are wrong. Say PM represents the probability that the slam makes, M represents the number bidding slam and N, the number resting in game. The expected score for bidding slam is (M+N) x PM/2 and the expected score for bidding game is (M+N) x (1-PM)/2. If PM>0.5, the expected score for bidding slam will be greater than that for not bidding it, regardless of how the field has split. This is the basis of the Golden Rule.

A probability of 0.5 represents a state of maximum uncertainty. It follows that if one has some reason to suspect slam will make one should bid it. Trust your instincts, especially when they are right. Clearly, I was wrong not to bid 6♠. I might excuse myself by saying that near the end of a successful run I was happy to minimize my potential loss knowing I would have lots of company in game. In the long run this thinking is bad. How would my partner have felt if we had come in second overall by a couple of matchpoints? Not good.

A Matchpoint Anti-Finesse

Very often the decision reduces to fishing for a queen. Many feel they must take all the tricks available in a common contract, so will finesse at every opportunity. Play may degrade into a frenzy of finessing, declarers being unwilling to forego the extra trick obtained when the finesse happens to succeed. They are playing to maximize the number of tricks taken, and if the finesse fails it won't cost that much with most declarers playing in the same manner. However, the Golden Rule tells us one shouldn't take a finesse that is more likely to fail than not. The following hand recently played at the local club represents a situation where declarer does best by taking an anti-finesse.

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

West overcalled the opening bid of 1♥ with a call of 1NT, not everyone's choice. Partner evoked Stayman then left him in 2NT. The opening lead was the ♥10 and questions were raised at the table as to why East didn't raise to 3NT. However, it appears his caution was justified as eight tricks looked to be the limit as the cards lay. South took his ♥A and continued a low heart to the ♥K, LHO following with the ♥9. At this point South had three heart tricks to take if and when he got in again.

Sometimes when the dummy first appears declarer realizes he is in a minority and is pretty sure that this is either a very good contract or a very bad one. In the above situation he cannot be sure what the field will be doing, so his major focus should be to play the hand safely while trying to arrange for an overtrick.

One of the main advantages for declarer is that upon seeing the dummy he immediately knows the division of sides. When the division of sides is 7-7-6-6 it often pays declarer to go passive and give up the obvious losers early rather than trying to create an additional winner by force. Sometimes pressure can be applied in this manner. The active approach is to overtake the ♠Q in dummy in order to take the club finesse. If it wins, continuing clubs will create nine tricks provided the RHO holds ♣Qx(x). If the finesse loses, there is still an excellent chance for taking eight tricks, via two spades, one heart, one diamond and four clubs.

The question to ask is whether or not the club finesse is likely to succeed. By overtaking with the ♠A the number of spade tricks is reduced from three to two, so declarer has to make an extra trick in clubs to make up for the loss. What are the chances the finesse will succeed? For his first-seat opening bid South needs the ♦K and at least one minor-suit queen. With 15 HCP he might have opened 1NT. North has 11 vacant places to South's 7, so the chances of South holding the ♣Q are less than 50%. That indicates declarer should avoid the club finesse.

What is the alternative plan? Declarer can cash the ♠KQ and play the ♣J hoping that North must take the ♣Q. If so, declarer has nine tricks easily. North must duck the ♣J if he holds four to the queen in order to destroy the communication with dummy and hold declarer to eight tricks. But some might win at the first opportunity and exit 'safely'. That is an edge that can be exploited. On the other hand, if South has the ♣Q, declarer is held to eight tricks immediately. It would be a cause for general merriment at the table if South held a singleton ♣Q, but nonetheless eight tricks would still be taken with declarer's communications still intact.

What was the situation at the table? Not surprisingly, North's shape was one of the two most likely candidates, 4=2=3=4, and he held the ♣Q as expected in that situation. This is exactly what declarer might have anticipated at Trick 2 by considering the most likely distributions. By not taking a losing finesse West might still have scored nine tricks on the extra chance of a defensive miscue. It is hard to guess in general how many matchpoints the overtrick would be worth, but we do have the results for this occasion.

The fourteen tables in play produced eight different contracts and nine different scores. Only three pairs played in 2NT, two making 120, one making 150. Making nine tricks in 2NT instead of eight would have added 5 matchpoints to the score, raising the percentage from 42% to 80%. That shows one needn't bid a close game to be successful at matchpoints, even if you would have made it if you had bid it. Two pairs were in 3NT, but both declarers failed, as they should have done, for a shared bottom; the highest East-West scores were attained by defending against a vulnerable 2♥ doubled.

Mr. In-Between

When you come to a fork in the road, take it.
— Yogi Berra (1925-2015)

There are those who oppose full application of the Golden Rule. They advocate being conservative in the bidding. Their idea is that by going along with the field they avoid getting a bad board through unforeseen circumstances. They prefer to proceed according to the judgment of the field rather than the lie of the cards which, being randomly dealt, are fickle. Change a six-spot to a five and you may be in big trouble without knowing it.

Conservatives argue that in a mixed field there are players who will present you with matchpoints through their misplays. So, for example, if you bid game and make twelve tricks, that might be an above average score because some have misplayed slam or ended up in the wrong contract. Of course the slam may have been cold, but maybe it wasn't. That is their thinking. However, you are not competing against these bad players for first place, you are competing against players who are at least as good as you are, in which case you need to play a sharp game and not pass up opportunities for a top score. Beware of missing opportunities. Who said that? Franz Liszt, the great lover turned Franciscan. (Reformed sinners are wise but they tend to lose their charm.)

If you are facing a bad pair you may bid boldly, as Rixi Markus suggested, anticipating a bad defense that might increase the chances of success. As in the end you are competing against the good players who hold your cards at the other tables, you can't afford to play for averages against a bad pair. Nonetheless, if the cards tell you that making slam is against the odds, you shouldn't bid it, in part because a bad defense to game may give you a good score through undeserved overtricks. That is, you may win on the play rather than on the bidding. On the other hand, bidding a good slam other good players may miss is a way to gain an advantage over them, an opportunity that shouldn't be missed just because of what the bad players may be doing. That is not safety.

A Girl Named Florida

What's in a name?
— William Shakespeare (1564-1616)

It is puzzling that so many players stick with the *a priori* odds rather than use the *a posteriori* odds that apply after information has been made available through the bidding and the play. In essence they are ignoring Bayes' Theorem. This was evident in a recent exchange of correspondence on bridgewinners.com, initiated on October 18, 2016 by Mike Wolf, concerning a possible application of Restricted Choice to discards in a potential squeeze position. One correspondent referred to a possible split in a key suit as Kxxx opposite Jx. The typographical convenience of using x's is inappropriate, because at the time of decision all the spot cards had been played. The question raised was this: is the jack to be considered a spot card that could have been played at random any time without damage? Although *a priori* all the spot cards and the jack were randomly dealt, it is better in theory to give the spot cards names (a, b, c, d) as a reminder that once the cards are given an identity during the play it is possible the odds have changed. It is reasonable to assume the jack would not be played at an early stage even though it would not be costly on a double dummy basis, so the conditions are not the same as when the cards were dealt. It is not correct to apply the *a priori* odds at a later stage, because the more extreme splits have been eliminated. The implications of this, which are relevant to the application of Restricted Choice, are discussed in a book that is not about bridge.

Talk sense to a fool and he calls you foolish
— Euripides (480-406 BC)

In 2008, Leonard Mlodinow published *The Drunkard's Walk*, a popular treatment on the mysteries of probability applied to real-life problems. No sooner had I finished reading it, than I received a call from a very nice lady who had decided to take up bridge upon retiring from a job in which she had dealt constantly with statistical data. Prompted by her love of numbers, she was drawn to my book. I congratulated her on her choices and wished her years of happy entertainment without mentioning the frustrations that go along with the game. However, she had called not to praise my book, but to correct it. She was familiar with the Monty Hall Problem, and was convinced that my treatment was wrong. I apologized for my inadequate explanation of the solution, but happily could refer her to *The Drunkard's Walk,* for a fuller treatment of the problem and its resolution, and thus for an independent confirmation of the validity of my approach. I hope she followed my advice, recovered my book from the trash bin, and corrected her long-held views.

The Monty Hall Problem is one often used by bridge writers to illustrate the application of conditional probability to card play, in particular, through the Principle of Restricted Choice. Later in this book, you will find many pages devoted to discussing variations of it. However, Mlodinow has provided us with another illustrative example that demonstrates directly the difficulty many encounter with the concept of probability linked to a state of partial knowledge. He calls it 'The Girl Named Florida Problem.'

Suppose that a couple have produced two naturally conceived children. What are the chances that they are both girls, assuming that at the time of conception a boy is as likely to result as a girl? The event is mathematically equivalent to tossing a coin, and the correct answer is 1 in 4. Next we ask, if one child is known to be a girl what are the chances the other is also a girl? Without going into the details, just accept for now that the chances of there being two girls is 1 in 3.

Next we ask, what are the chances of the couple having two girls given that one of their children is a girl called Florida? There are those who would argue that whether the girl was named Florida or Jane or Sarah should make no difference to the chances that their other child is a boy. Although the name Florida is unusual, there is no causal effect at work. However, it turns out that the naming of one child adds information and changes the probability for a second girl from 1 in 3 to 1 in 2.

The key point of the problem is that the number of children is specified beforehand, just as the number of cards in a suit is limited. You will encounter Miss Florida again later in this book, at which time I'll try to explain her problem in detail, and relate the story to the Principle of Restricted Choice.

Chapter 1

THE SHIFTING SANDS OF PROBABILITY

As I take one step and then another, I wonder what my chances are.
— Hayes Carll (b. 1976)

During elections we hear repeatedly about the results of opinion polls and are at the same time constantly warned about their unreliability. It is scary to think how often the chance of a disaster is within the margin of error, even in real life. The statistics change with time, but they generally prove to be an accurate gauge of how things are going to turn out in the end. Well, the same applies to bridge probabilities — they may change during the play of the cards, but they are usually a good guide to what will happen, barring the occasional nasty surprise.

In the world of bridge we have probabilities fed to us by the writers and commentators. I had always accepted these percentages at face values, but once I had the time to look more deeply into the whole concept of probability, I discovered the assumptions that lie hidden behind the figures and that are all too often ignored in the discussion, something that results in misleading conclusions. The idea that 'probabilities never change' was one of the first assertions that fell by the wayside, as of course this is contrary to common sense. The correct way of thinking is, 'probabilities change according to what information becomes available.' If they didn't, we'd be living in a strange world where ignorance would surely be bliss. The main theme of this first section of the book is that probabilities change with circumstances.

Some people are reluctant to admit that bridge is a game of guesses, but that is what it is, because it is played in an atmosphere of uncertainty. That's why on occasion weaker players can beat experts — sometimes the 'wrong' action turns out to be the winning one on a particular deal. In the long run, of course, it is a different matter. However, 'guess' is not a dirty word. Our lives are governed by chance. Probability is a way of organizing our guesses and assigning them proportions. Of course, at the end of the deal when all the cards have been revealed, we may realize that there were clues along the way that should have pointed us in the right direction. The skill of an expert is that he adapts his approach according to what has been revealed as the bidding and play proceed.

There are very successful players who haven't mastered Probability Theory, although they certainly apply it in a practical way based on experience. Multiple world champion Sabine Auken in her great memoir, *I Love This Game*, has described how her curiosity was piqued by probability only at a later stage of her career. The question arises, if that is so then why should we ordinary players be interested? If one is to use probability successfully then it is necessary to understand how hidden assumptions come into play so as not to be distracted unduly by the numbers lifted from textbooks. Probability should be a way of expressing common sense in numbers. Of course, once one has mastered the basics, there are many applications to be found away from the bridge table too.

One foundation of analysis is the table of probabilities of suit distributions to be found in *The Official Encyclopedia of Bridge* and elsewhere. Expert players are expected to know these backwards and forwards. If they don't play according to these numbers, they are often criticized by the pundits, but maybe the expert has his reasons. Well, I am nothing if not critical, and in many situations there can be arguments both ways. Let's begin by looking at how the experts played an eight-card suit missing the ace and jack when the bridge championship of the world was at stake in 2008.

Five Missing the Ace-Jack

The final of the women's 2008 World Bridge Games Championship was won by England over China by the slim margin of 1 IMP over 96 boards. The purist might say that the difference was a vital overtrick, implying that missing an overtrick can be a critical play even in such a long match. Well, yes, but the slender difference could also be more than made up by avoiding many of the simple errors one observes in the bidding and play. In that regard England was the steadier team throughout and deserved their win, although they almost blew it in the last 16-board segment. To me the lesson was this: bid aggressively, avoid major errors in the play of the hand and cooperate with your partner, and your team will be hard to beat. There are too many much larger factors that affect the results to be worried about overtricks.

One of the sources of percentages in play are those related to how a declarer should play combinations of cards in a given suit. An abundant source of this type of information is *The Dictionary of Suit Play Combinations*, a great reference book written by J. M. Roudinesco. If that is not enough, there is the computer program, *Suit Play*, created and made available on the Internet by Jeroen Warmerdam of the Netherlands. Let's look at the recommended play in eight-card suit combinations where the ace and jack are missing. If the Chinese women had got one of these correct they would have gained enough IMPs to win their final match handily. By examining the deals in detail, we can get a deeper understanding of how probability analysis should be applied under changing circumstances.

Going with the Odds

The first combination we shall ponder is:

Q 10

K 9 7 6 5 2

The textbook line is to play low to the queen and, regardless of whether that wins or loses, to run the ten on the next round. The chances of this providing four tricks is about 96%, while about 46% of the time five tricks will result. These figures are derived from considering the suit combinations in isolation from the full deal. As this is based on the prior expectations of how the cards were dealt, the approach yields a valid approximation when very little is known about the defenders' hands. If they have passed throughout, you may assume that the suits are likely to split more evenly than would be expected *a priori*, but that may not greatly affect the calculation of the odds. Here is the full deal from the final where the Chinese declarer went against the odds and lost 6 IMPs as a result.

	North	
	♠ A 9 4 ♥ Q 10 ♦ 8 6 2 ♣ Q J 9 7 4	
West ♠ 10 8 3 2 ♥ 8 3 ♦ A 9 7 5 ♣ K 3 2	N W E S	**East** ♠ Q 7 6 5 ♥ A J 4 ♦ 4 3 ♣ A 10 8 6
	♠ K J ♥ K 9 7 6 5 2 ♦ K Q J 10 ♣ 5	

Brock	Wang	Smith	Sun
		pass	1♥
pass	1NT*	pass	2♦
pass	2♥	pass	3♥
all pass			

Sun held a good hand in the context of a Precision opening bid, only five losers, so she raised herself to the three-level where others holding the hand were content to stay in 2♥. The lack of aces is a defect not overcome by the distribution, and perhaps the diamond suit is overly rich with honor cards while the heart suit is rather sparse in that regard. In the Open final, where Italy faced England, neither South was allowed to play in 2♥ as West balanced and East-West played in a contract of 2♠, going down. At the other table in the women's final, England's Nevena Senior played undisturbed in 2♥ making an overtrick. So Sun did the right thing in theory as her 3♥ contract appears to be solid and prevents the opposition from playing their optimum contract of 2♠.

The opening lead was an innocuous ♠2 won by the ♠K when Nicola Smith played her ♠Q. The play in the trump suit was now front-and-center, and if Sun had gone with the percentages, China would have won the championship. A point well made by Linda Lee in her blog of October 19, 2008 was that there was some urgency in the trump play as the lack of controls for the declaring side made it a race to the finish line, with declarer hoping to prevent the opponents establishing their setting trick before she made sure of her own nine.

Sun didn't feel the urgency even though the defenders held minor-suit aces that provided them with transportation. This wouldn't have mattered if Sun had played the trump suit optimally according to the *a priori* odds — that is, low to the ♥Q, planning to run the ♥10 next. The ♠A was still there as a safe entry to dummy to allow this sequence. Unfortunately for China, Sun chose to play a heart to the ♥10, losing to the ♥J. Nicola Smith had defended well throughout the final and here she was quick to take the opportunity of obtaining a ruff in diamonds. She switched to the ♦4 and Sally Brock took her ace and returned a diamond immediately just in case that ♦4 was a singleton. Not so, but it didn't matter; on winning the ♥A, Smith underled her ♣A and got the ruff that set the contract and brought 6 IMPs England's way, a critical swing late in the match.

When two high honors are missing, it is a great temptation to finesse against the lower honor first. The motivation is that this guards against one defender holding AJx in front of the queen. Another reason for adopting this approach would be that declarer places the ace behind the Q10, in which case the odds usually favor the honors being split. We shall examine this argument in the next segment.

Placing an Ace

The next deal was played early in the final matches of the Open, Women's and Bronze Medal series. It involved declarer play in a suit with the following construction:

♣ K 9 7 6 5

♣ Q 10 3

The textbook play for four tricks with the suit taken in isolation is to lead low to the ♣Q and, whatever happens on that trick, to pass the ♣10 next. That assumes declarer has no information on how the cards in clubs may be distributed. The probability of making four tricks is 54%, but the bidding may change the *a priori* odds. Let's look at the whole deal and how it was played in the Open Series where Italy faced England.

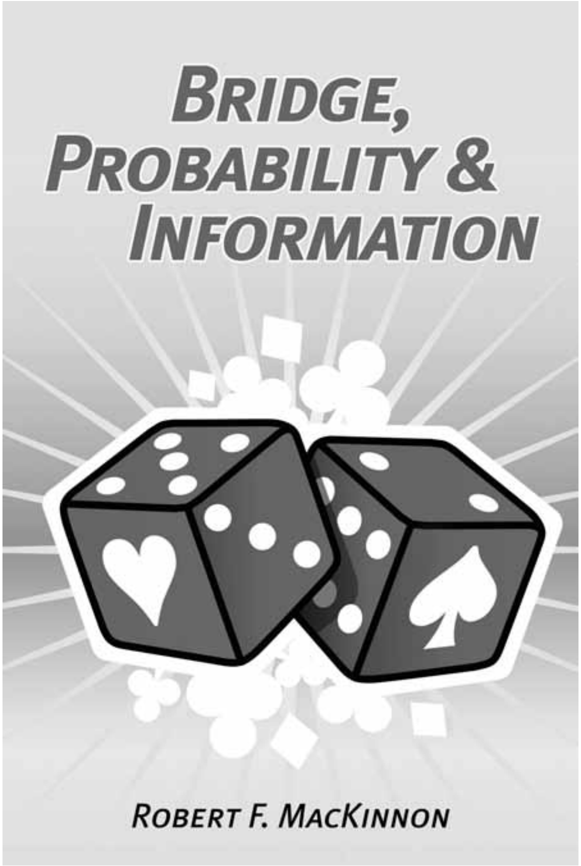
Dealer East North-South vul.	♠ A 6 5 ♥ K ♦ K 5 3 2 ♣ K 9 7 6 5	
♠ 9 4 ♥ Q J 8 7 5 3 ♦ 8 7 ♣ A 8 4	N W E S	♠ K Q J 7 3 ♥ 10 6 4 ♦ Q 9 6 ♣ J 2
	♠ 10 8 2 ♥ A 9 2 ♦ A J 10 4 ♣ Q 10 3	

Townsend	**Lauria**	**Gold**	**Versace**
		pass	1♦
1♥	2♣	dbl	3♣
pass	3♦	pass	3♥
dbl	5♣	all pass	

Gold led the ♠K and Lauria held up. Gold switched to the ♥4, which Lauria won to run the ♣9 around to Townsend's ♣A. The heart return did no damage, as a losing spade could be discarded on the ♥A. Obviously, Lauria's play in the club suit was predicated by the bidding and East's opening lead from a high honor sequence, which placed the ♣A in the West hand. He assumed East held the ♣J. He could also have taken the necessary finesse in diamonds at Trick 3 and led the ♣3 from dummy, guarding against a doubleton ♣AJ in the West hand.

In his book, *Playing with the Bridge Legends*, Barnet Shenkin makes the point that when amateur analysts (like myself) criticize experts, they are usually wrong — even with the help of Deep Finesse. I am willing to concede the point. Who am I to question the great Lauria? Nonetheless, no player is perfect and we amateurs mustn't give up on trying to understand the mental processes of the experts. How else are we to improve?

More from Robert F. MacKinnon



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ROBERT F. MacKINNON (Victoria, Canada) is the author of *Samurai Bridge, Richelieu Plays Bridge*, and *Bridge, Probability and Information.*

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