By the author of *Getting to Good Slams*

GETTING TO THIN GAMES

TERRY BOSSOMAIER

Honors eBooks is an imprint of Master Point Press. All contents, editing and design (excluding cover design) are the sole responsibility of the authors.

Master Point Press
111 Manor Road East
Toronto, Ontario, Canada
M4S 1R4
(647) 956-4933

info@masterpointpress.com

www.masterpointpress.com
www.bridgeblogging.com
www.teachbridge.com
www.ebooksbridge.com

ISBN: 978-1-77140-576-8

Cover Design: Olena S. Sullivan/New Mediatrix

1 2 3 4 5 6 27 26 25 24

Contents

Acknowledgements

Quite a few people helped with the presentation of the book, with many helpful suggestions on how to improve the clarity. Mick McAulife provided detailed feedback and helped greatly with in sorting out some of the more murky passages. Paul Lavings went through the entire draft, pointing out logical fallacies and archaic bidding practices. Martin Cantor did a superb job of copy editing the manuscript. He not only found all my numerous typographical infelicities but also made many useful suggestions on the bridge content itself. Nevertheless any remaining errors are entirely my own.

Thanks also to my bridge partners and teammates of my formative years in the UK bridge scene. Lastly, thanks to the late,great Hugh Kelsey, who taught us how to be better defenders, how to be better declarers and how to write in an engaging style to which I can only aspire.

Bo Haglund's DDS double-dummy solver was invaluable for the simulations and the Australian Bridge Federation website was a very useful resource. The book was prepared in LaTeX, so thanks to Donald Knuth and Leslie Lamport for this outstanding (and still free) software. The editing was done with emacs, described by a former colleague as not so much an editor, but more a way of life, thanks to Richard Stallman. Version control was done with Git, thanks to Linus Torwalds of Linux fame.

Chapter 1

Valuation and Conventions

Many tournament players will have had a match-winning game, coming in against all odds and probably unfair match-losing games made at the other table. Sometimes such games are flukes. Sometimes, though, on careful analysis it turns out that they were really good contracts despite a lack of high-card strength. As North, you pick up

♠ — ♥ —- ♦ Q8765432 ♣ AQ1084

and West opens 2♣ (very strong) on your right. This looks like a board for some fun and you punt 4NT, unusual. West turns a deep shade of red and is clearly annoyed.

♠ 10987 ♥ 6543 ♦ v— ♣ 76532

South wants to be in on the fun and makes an advance sacrifice of 7♣. As play proceeds West gets even redder, snorting like an enraged bull, and, as the contract rolls in looks as if he wll attack somebody. This is of course the Duke of Cumberland deal, brought to a huge audience in the James Bond film, Moonraker. A grand makes on only eight points in the combined hands.

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

So, this book sets out to find games which are good contracts, where the combined point count is low. Here they are called *thin* games. To count as a thin game in this book, the combined High-Card Points (HCP) must be 23 HCP or fewer[1]. As the Duke of Cumberland hand shows, high level suit contracts can make on very few points. To set a threshold for a thin game in this book the HCP required for balanced notrump contracts is used. Balanced here means no singleton or void and no suit longer than five cards. When the auction goes something like 1NT 3NT in principle the two hands are balanced and the total HCP is 25 or higher. Simulating balanced hands only, for a combined count of 25 HCP 3NT makes 57% of the time. Thus with 25 HCP bid game at pairs or teams. If the count if only 24 HCP 3NT makes only 38% of the time. This is right on the threshold for game at teams, as discussed below. Drop the count even further to 23 HCP and 3NT makes only 21% of the time. Thus we set the threshold for a thin game at 23 HCP.

1.1 Framework for Thin Games

Unlike slam bidding, thin games often involve highly competitive auctions. The opponents are usually going to have enough to bid. There are two immediate consequences of this:

- the first is that the auction may move quickly and the next chance to bid might be at a high level; thus the auction needs planning and sometimes this will mean that the most effective bid is not the informative or constructive bid appropriate to a non-competitive auction.

[1] One additional restriction is mostly to exclude discussion of games where declarer (or dummy after a transfer) has eight or more cards in a major suit, since such deals will normally go straight to game.

- the second is that the valuation of the hand changes dynamically as the auction progresses. No point count, loser count, or any other sort of static count, takes this important dynamic into account. Yet the idea is old, and there is an oft-quoted classic example from early pioneer, Skid Simon, discussed in Augie Boehm's insightful book, referred to below. North holding

  ♠ xxx ♥ Kx ♦ xxxx ♣ xxxx

  gets pressured by South to choose a suit at the five-level with EW bidding the minors vigorously, North having chosen 5♠, South raises to 6♠. Simon argues that North is now worth a raise to seven. Such a situation is called a *Skid Choice* herein.

The Duke of Cumberland deal illustrates how deals can be constructed to meet the most unusual demands. Any discussion of a convention or bidding system will have numerous examples of how well it works. There may not be so many examples of when it fails. So, this book takes a different tack. All the deals are drawn from actual tournaments. Unlike most books which cluster deals according to topic, this one just runs from the first board to the last, picking out key ideas along the way (the full set is given at the end of the book). The motivation for this approach is to enable the reader to get a feel for what is useful and what is interesting but relatively rare. For example Bridge Base Online's highest level play section has lots of compound squeezes. Yet even the humble double squeeze is quite rare at the table with best defense.

Since all the deals are drawn from actual events including *every* deal that meets the 23 HCP or fewer criterion for a thin game, the reader can feel that the sort of problems are representative[2] rather than contrived to fit this or that theory.

Some of the games which made on the day turn out to be appalling contracts. These no-hopers don't feature in the statistics[3] Some deals in the 30–40% range make the cut where there are some interesing features, usually to do with valuation.

The discussion of hand valuation begins with the general principles and then considers some of the numbers behind what to bid and when to sacrifice. The last section of this chapter discusses simulation, the relatively new methodology in bridge for evaluating contracts and bids.

The author is an ardent admirer of Hugh Kelsey's ground breaking books, and this book follows his basic plan. Each deal is presented as a problem, sometimes a series of problems, with the full deal shown at the end of the discussion.

[2]Statistically that's a bit of a stretch. The total boards in the events come to fewer than a thousand.

[3]This is arguable, in that there will be some excellent contracts which go off because of bad breaks, mostly ignored herein.

1.2 Points and Losers

A lot of the secret to bidding successful thin games lies in hand valuation. The book contains numerous examples not only where traditional valuation methods fail, but also where oppostion bidding, or the lack thereof, can revise a hand's value up or down. This variability makes creating yet another valuation method somewhat moot. Thus the book uses two core valuation systems: the raw traditional (Milton Work) point count (High-Card Points, HCP) (Section 1.2.1); and the Losing Trick Count (LTC) (Section 1.2.2). The great thing these have going for them, which is maybe why they have fought off all challengers from the early days of bridge, is their simplicity. You don't want to waste mental energy doing complicated calculations when there are dynamic factors to consider. But there is a handful of modifiers, useful for tough decisions: visualisation (Section 1.2.4); Quick Tricks (Section 1.2.3); controls (Section 1.2.5); cover cards (Section 1.2.6); the Law of Total Tricks (Section 1.2.7), which often works beyond partscores; and finally advanced valuation (Section 1.2.8), which introduces the dynamic elements of location and context. The important point is that there is no one size fits all answer and difficult decisions require checking different methods until one has enough experience to make an accurate, intuitive judgement.

1.2.1 Point Count

The Milton Work Count, now known just as point count or high-card points (HCP), has become ubiquitous. It's simple, counting ace as 4, king as 3, queen as 2 and knave as 1. It's not at all bad for notrump and serves as a basis for defining many conventions. Thus Weak Twos are frequently stated on convention cards as 6–10 HCP. Aces are somewhat more important than the point count rates them, queens are sometimes overrated and examples where this needs to be taken into account appear later.

The author has never liked points for distribution, because their value depends strongly on partner's hand. Thus a singleton is very valuable against three or more small cards, since partner's honor cards will fit better. But a singleton opposite KQx is often a nuisance. On the contrary tens are sometimes given half a point and they definitely increase the strength of a hand. Rather than explicitly count points for them, experts tend to use tens and suit solidity as a justification for a postive move in a borderline situation.

As this book went to press, Jan Eric Larsson's innovative and fascinating book, *Good, Better Best* appeared[4]. He uses Artificial Intelligence agents to play one evaluation, bidding system or convention against another in simulated deals. He finds that the best augmentation for point count for notrump is a combination of: *body*, counting 1 HCP for two tens or a ten and two nines; *joint honors* adding 1 HCP for two suits each with two honors and a second point for more than two such suits; *short honors*,

[4] Jan-Eric Larrson (2021) Good, Better, Best. Masterpoint Press

subtracting a point for stiff K, Q or J, and doubleton KQ or QJ; and *length* adding 1 HCP for every card over five in a suit.

1.2.2 The Losing Trick Count

The LTC counts one-loser for each missing ace, king or queen. The poor knave is left out. Thus there are 12 losers in a hand and 24 losers in two hands. The level to which the two hands can go, *if a fit has been found* is 18 minus the total number of losers (or use 24 to get the actual number of tricks).

It has problems, though, and there have been lots of suggestions as to how to fix it. Ron Klinger in his excellent book *The Modern Losing Trick Count*, to counts the queen with two small as $2\frac{1}{2}$ losers, but QJx or Q10x as just two losers. It doesn't matter where the queen is, be it trumps or elsewhere.

The LTC also undervalues aces and has other limitations. Thus AJ10 is worth much more than Axx. It is even worth more than AQx. Given sufficient entries AJ10 has a 75% chance of making two tricks, yet it counts as two-losers in LTC. AQx counts as one-loser in both, yet it has only a 50% chance of two tricks. The LTC has other notable weaknesses. Two small doubletons count the same as a singleton and trebleton, whereas the singleton is often more valuable and also acts as a control. KQ and AQ are fuzzy.

Rather than add lots of corrections for this and that, Klinger suggests adding little upgrade factors for additional features: holding a knave in combination with higher honors; queen doubleton; extra trumps; and so on. These upgrades are used to help with borderline decisions but do not have a definite value.

The LTC is rough but is very useful for players early in their bridge career. It will spot games and slams, to which point counts will not get close. Take this icy *11 point* game

♠ A K xxxx	♠ 10 xxxx
♥ - - -	♥ xxxx
♦ xxx	♦ A xxx
♣ xxxx	♣ - - -

It's seven losers opposite seven, a total of fourteen, predicting 4♠ as the contract. On just 11 HCP! No common formula for distributional points would get remotely close to the 25 needed for game. For simplicity whenever the losers in a hand are mentioned this is a LTC value unless the text make it clear that a more general meaning is assumed.

1.2.3 Quick Tricks

When considering high level decisions, such as when to save or when to take a penalty or dealing with preempts, top honors are really important. Thus the old Quick Trick (QT) scale can be quite helpful: *Kx is* $\frac{1}{2}$ *Quick Trick; A, KQ,are 1; AQ is* $1\frac{1}{2}$ *; AK and KQJ are 2; AKQ and KQJ10 are 3.*

Thus two hands can have the same HCP, with quite different Quick Trick values. Take the the sort of rubbish the author all too often seems to get,

♠ QJxxx ♥ xxx ♦ Qx ♣ Qxx

which has zero Quick Tricks, whereas

♠ AKxxx ♥ xx ♦ xxx ♣ xxx

has two. Quick Tricks are very similar to controls. They come in useful where the tricks are going to come from a long suit in a Type6+ (Section 1.3.1), where additional tricks need to be set up before the opponents have established their winners. They can also be useful in thinking about defensive tricks.

1.2.4 Visualisation

A third method, which dates back to one of the early pioneers, if not *the pioneer*, Ely Culbertson, more recently given a new lease of life by Jeff Rubens: visualisation. Getting to Good Slams[5] argued that counting tricks was important. This is harder to do with games, because there are usually more options as to how the play will develop. Visualisation of sorts serves in its place. The visualisation idea is a heuristic, not based on any sort of statistics. Essentially, to make a decision whether to go further or not, try to determine if a minimum hand opposite with exactly the right cards, will make game or slam a laydown, i.e. no finesses or favorable breaks.

The 11 HCP game above more or less fits, if West opens a weak 2♠. West is just about minimum. Yet if East visualises the best hand West could have, like the one he actually has, 4♠ would be laydown.

1.2.5 Controls

Controls are another way of fine-tuning the value of a hand, especially at a high level: honor controls as aces and kings; and distributional controls as singletons and voids. They are essential for slams, which is why there are so many control conventions, such as Blackwood and Gerber. They are also important at the five-level, either in minor-suit games, or when the opponents have pushed the bidding beyond a four-level major game.

Ron Klinger then gives a table for the nunber of controls expected for a given count. It derives from the simple formula

[5] Terry Bossomaier (2018) Getting to Good Slams, Masterpoint Press

HCP to Controls: divide by 3 ignoring any remainder up to 17 HCP = 5 controls. 18 HCP is also 5 then up to 27 HCP subtract 1 then divide by 3. Thus 21 HCP is 6 controls not 7.

As an aid to memory, the basis for this formula is easy to grasp. It basically counts kings, worth 3 HCP. At least three points (king) are needed for one control. Five points would be one control after taking the remainder, and it is possible to fit one king into five. But an ace is two controls with only four points. The thing to realise is that this is an empirical formula based on all possible ways of distributing a given number of points across the different honor cards. There are just four aces but lots of ways of combining the other honors to get four points. So the formula effectively just counts kings (3 HCP) with a glitch at 18.

To bring the scale into line with losers and Quick Tricks, in this book divide by two. Thus an ace is one control and a king, just half. Thus 12–14 HCP would be two controls. 18 HCP would be $2\frac{1}{2}$ controls and 20 HCP would be three. A five-level contract needs at least three controls (i.e. two aces and two kings minimum) or equivalent distribution. The average number of controls in 23 HCP (maximum thin game) is $3\frac{1}{2}$ controls.

1.2.6 Cover Cards

Another useful idea from George Rosencrantz, discussed by Ron Klinker in *Modern Losing Trick Count*[6], is that of *cover cards*. Essentially this is a count of the number of cards which eliminate gaps, losers in the general sense, in partner's hand. It needs some flexibility. If partner has shown a singleton, the KQx is not useful cover, where the ace obviously is. A queen is not usually a cover in a side suit, but it comes into its own in the trump suit. Cover cards are useful, for example, in judging how high to raise, if at all, when partner opens with a preempt. The Skid Simon example above illustrates how the idea works. The ♥K, the king of partner's suit, is obviously an important cover card for North's massive major two-suiter.

Similar to controls, Ron Klinger gives a table for estimating cover cards from HCP.

HCP to Cover Cards: subtract 1 and divide by 3 ignoring the remainder

This is effectively counting kings, again, but there some features similar to Quick Tricks. Thus 10 HCP would be 3 cover cards. (In his table 0–6 HCP is given as 0–1 cover cards, rather than split this point range.

[6]Ron Klinger (2011) Modern Losing Trick Count. Sydney Modern Bridge Publications, Northbridge

There is a bit of an oddity here. The formula is almost exactly the same but for one point to the controls formula. But there the ace counts as two. Sometimes this distinction might be important, where aces are of primary concern.

The estimation of cover cards in practice is a bit vague. The HCP requirements are only an estimate of whether a hand is better or worse in cover cards than might be expected from the HCP: *A,K, Q in the long suit (eg after a preempt) count as 1 cover card; Kx is* $\frac{1}{2}$*; KQx is 1; AQx is 2 etc.* However, these estimates will change dynamically in the bidding, e.g. the queen of a long suit is less important if it is clear that the combined holding is ten or more cards.

Returning to our 11 HCP game, East would need about five to six cover cards to raise to game opposite a weak two. At first glance he has just one ♦A. But there is a 6-5 spade fit, and thus there could be cover for four club losers, bringing the total cover cards to around four to five in a benevolent world.

1.2.7 Law of Total Tricks for Thin Games

In the thin game zone, whether to double or save is not so clear, given that the points are equally divided and the opponents have a good fit. Not vulnerable, if they go one off, failing to double costs 50, or 2 IMPs. If they go two off, it costs 6 IMPs. If the supposed save makes, it costs 200, or 5 IMPs. Similar arguments hold for whether to be content with a partscore or press on to a thin game.

The statistics are hard work, especially since there is often a lot of uncertainty as to how far off the save will go. To reduce the work put the odds to one side and look instead at the *Law of Total Tricks*. This is mainly used for partscores, but it is fairly accurate for thin games too.

The idea is to count the number of cards of our own longest (presumably trump) suit and add the number in the opponents' chosen suit. This estimates the total tricks. The sum of the makeable contracts, the total tricks, is equal to the total trumps. So if NS have a ten-card heart fit and EW have an eight-card spade fit, then then the Total Trump count is 18. So if NS can make 4♥ (ten tricks) then 4♠ will go two off (eight tricks). To see how this might work for thin games, the total trumps and the actual tricks made were calculated for the deals in the first chapter. The average error was about 0.15 tricks over about 50 deals, and it is biased on the negative side, i.e. the total tricks estimator is mostly on the low side.

Now let's consider how this works for sacrifices and assume the Total Tricks come to 19. First suppose the opponents (EW) have saved at the five-level (eg five of a minor against a major game by NS). If five of the major makes (11 tricks) then the minor save will make eight tricks, three off. Obviously going on only makes sense vulnerable against not.

When the opposition have not bid, or the lengths of their suits are not clear, there is a simple rule of thumb. The minimum length they *have* to have is the most likely. So if

NS have a ten-card fit, EW have 23 cards in the other suits. Thus they have to have at least two eight-card fits.

1.2.8 Advanced Valuation

The issue with more and more complicated methods of judging the value of a deal in isolation is that they take mental energy away from the real task of the current deal. All methods should be dynamic, the valuation changing as the bidding progresses. The value of a king decreases if the suit is bid by the opponent on the left. The reverse is true for the right hand oppoonent, providing there are enough entries to take a finesse. Augie Boehm's excellent book, *Expert Hand Evaluation*[7] tackles this issue head on. His two principles, *location and context*, underlie many of the key ideas of the present book. This book adds a third, *visualising the play*.

Location is the principle of adjusting valuation according to where honors are located, both in one's own and in the opposition hands as revealed by their bidding. Context is adjusting a hand's value according to what has already happened, even a miserable hand. If without anything other than passes from you, partner forces a Skid Choice at the five-level, he has clearly got a very, very good hand. He will be grateful for the merest crumbs. If you have an ace, wow!

It is also useful to think about how the play will go, since sometimes there are warning signs. Three common situations are entry problems, forcing attacks and defense ruffs. When there is a long side suit to set up, the entries need to be robust. If an opening lead can take out the only entry, then the side suit, unless it is solid, is worthless. A singleton or void is an excellent control, but an attack in that suit can take out trumps too early or even cause the loss of trump control. The way to evaluate such difficulties is to visualise the likely play of the hand. All sorts of factors come into play. So, if the opponents have bid and supported a suit, a forcing attack in that suit may be pretty likely. In a TypeLL (Section 1.3.2) game the long side suit may be vulnerable to ruffs. All other things being equal four outstanding cards break 3–1 50% of the time. Singletons are usually a good lead, but a sharp defender with xxx in a strongly bid side suit, might place her partner with a singleton or void.

There is a further compication in deciding what a raise of a suit contract represents. Consider a flat 4333 with four hearts after partner opens 1♥. With an ace and a couple of jacks, a simple raise would be automatic for most pairs. But that would be eleven losers, not the nine usually designated as a raise to two. Most pairs will raise to three with eight-losers. But what about a flat hand with three aces. That's nine losers, but nobody would simply raise to two. Endless possibilities pop up. Thus to decide whether West should press on after East has raised her opening bid of 1♥ to 3♥, say, the analysis assumes that East has 10–12 HCP *or* 8 losers, or, sometimes, just works with points

[7] Augie Boehm (2017) Expert Hand Evaluation. HNB Publishing, Palenville, NY

alone.

There is a long history in Artificial Intelligence (AI) for playing games using *Monte Carlo* simulation. As the name might suggest this uses random numbers to generate lots of possible deals and then decide what would be the best strategy on average. Anthias and Bird applied this idea to opening leads[8,9] and this book uses a similar approach discussed in more detail below (Section 1.6). In a sense this is like a form of very accurate visualisation. A computer bridge program could evaluate every decision this way, but most human players could not. In game artificial intelligence, simulation has had a long history. Monte Carlo Tree search was a core technique for games such as Go, before the advent of the Deep Learning approach to AI, which led to AlphaGo and its progeny.

Some of the deals generated by simulation will contain hands where the opposition would bid. However, considering possble auctions for each such deal would take us way off course: the whole book might comprise just one initial deal! However, for thin games, the points will be fairly evenly divided, since by definition, the opponents have at least 17 (since a game is 23 HCP or fewer). Thus around half the time they will open or double. Just as in the play of the hand, the information that this provides influences the chance of a contract succeeding. Thus if East opens 1♥ and South is looking at a strong 18 HCP hand, she has a good chance of finesses succeeding. But if East and South have almost all the points between them, this may no longer hold, since North may have no entries for finesses.

There are now numerous options. The approach taken here is minimalist. If East opens a weak two, multi or some other precisely defined distribution or point range, such as 6-10 HCP and a six-card suit. So if she opens 1♠, the assumption would be five spades and a minimum of 11 HCP. These bids would likely happen on the actual deal occurring at the table, even if the distribution is unlikely — it's more common for the points to be split evenly and the distribution to be fairly flat.

Given the opponents are very likely to bid, judging what they will bid is very difficult given the plethora of styles and conventions of defensive bidding. The following chapters take a sort of middle ground, assuming aggressive bidding by the opponents, using whatever gadgets will work well on a particular deal. For the side with the thin game will use fairly simple methods from Standard American Yellow Card (SAYC) or 2/1 (Bridge World 2017). Sometimes there will be thin games on both sides, each needing to be considered.

When there is a tight decision, possible partner and opposition hands are simulated to look at the different outcomes. So on any given deal there might be quite a few percentages flying around. Thus to avoid confusion, the chance of success on the actual deal is always shown in bold font. Simulation based on hypothetical dummies, to find

[8] David Bird and Taf Anthias (2011) Winning Notrump Leads. Masterpoint Press

[9] David Bird and Taf Anthias (2012) Winning Suit Contract Leads. Masterpoint Press

the best bid, is shown in normal font.

All the deals are from actual play and are selected because a thin game made, or was odds-on to make. Sometimes it will transpire that it was a lucky distribution and its chance of success was well below that required. This begs the question as to potential thin games which would have failed at the table, but were nevertheless good contracts. To look for all such cases would be a lot of work, given that any partscore might be a potential game. In a one-day event, not included here, the Orange Valentine Teams 2018, there were thirteen thin games. Of these two were dreadful. From this small sample of 48 boards, all likely candidates for a game, where only a partscore had made on the day, were found. There were three, with a 6%, 36% and 78% chance of success. Thus the actual percentage of thin games lies somewhere between the good ones and the actual number which made at the table.

Whether or not to bid a game depends both on the chance of making it and an estimate of what the room, or the other table will do. At match points the contract doesn't really matter. If the chance of making it is 50% then on average the same number of match points come in regardless of whether you bid it or not. At aggregate or IMP scoring, the contract does of course matter (as does the vulnerability).

Hands with seven-card or longer suits will often end up in thin games. Examples appear later. The problem with such hands is that it can be easy to be misled by suit length. Imagine this holding, Deal 75,

♠ AQJ10975 ♥ A6 ♦ 52 ♣ 84

After opening 1♠, you hear a raise to 2♠. Is this worth 3 or 4♠? With 6 losers and a good chance of eight tricks all by itself, this looks like 4♠. Or does it? If partner has a ragged 6 or 7 HCP, where are the two extra tricks likely to come from. Unless the opponents bid wildly, it seems unlikely that there could be a ruff in dummy. Looked at another way, assuming after the raise that the trumps are solid, you need two cover cards, which, if partner has 6 HCP means two kings or a king and queen-jack together opposite the heart ace, and the kings have to be both onside. Thus there isn't going to be enough cover. Even if partner has ♥KQ, there will be ten tricks, but four losers in the minor suits. One off. In this case the LTC is correct and a raise to just three is enough. 4♠ has just a 16% chance. Ron Klinger's book on LTC nevertheless advocates additional of methods, including cover cards and controls, in preemptive auctions.

1.2.9 Notes on Nomenclature

A common shorthand amongst tournament players is to refer to not vulnerable as Green and vulnerable as Red, when talking about a hand or pair of hands. Referring to a deal the following terms are used: Green (not vulnerable against vulnerable); White (neither side vulnerable); Amber (both sides vulnerable); and Red (vulnerable againt not).

Many thin games rely on unbalanced distribution. Here the definition adopted of a balanced hand is no singleton or void and no suit longer than five cards, i.e. 4333, 4432, 5332, 5422.

The difficulty ratings on a scale of 1–5 are a subjective estimate of the likelihood of reaching the optimum contract. The reader could use them as a score. which would make the total 344.

In general tournament play Standard American and Bridge World are the most common systems. The most readily available definition of Standard is SAYC (Yellow Card) hence that abbreviation is used herein. Two level game forcing is a characteristic of Bridge World 2017 as well as 2/1, referred to here just as 2/1.

1.3 Some Thin Game Templates

When the usual hand valuation metrics are not very accurate, it is useful to have some template hands in mind, to raise the flag when there might be a thin game. There are three common types: *Type6+*, where there is a near solid six-card or longer suit; *TypeLL*, where there are two good suits; and *TypeCR*, where there is a powerful cross-ruff. On a few hands there is a good thin game, which doesn't fit the first three. It makes through a combination of numerous options. The fourth tempate *TypeS*. Such hands usually have a lot of *stuffing*, tens and nines in longish suits, or semi-solid suits such as AQJ109, and/or values concentrated in Quick Tricks, especially aces. This category is less well-defined than the others. For a 23 HCP thin game, the average number of HCP from aces would be 9.2, in other words about two. Thus any TypeS hand with three or four aces gets an additional A, *TypeSA*. Sometimes a hand may also have lots of kings or quick tricks but not all four aces. Any such hand with more than the average number of controls, $3\frac{1}{2}$ (Section 1.2.5) also gets a Q along with the S, *TypeSQ*. The fifth and final category is *TypeP,* where the game sneaks through because of location, where everything is in the right place. The bidding might indicate that this is the case, such as when an opponent opens 1NT.

1.3.1 Type6+: The Long Suit

Type6+ is one of the commonest types. Most thin games in notrump are of this type. Suppose North holds

North: ♠ xx ♥ xx ♦ AKx ♣ AQxxxx

opposite

South: ♠ Axx ♥ J109x ♦ xxx ♣ Kxx

At just 21 HCP this is a very good 3NT, which fails only if the clubs are 4–0, in other words a 90% game. Many pairs will find 3NT on these deals. But flip the black suits and 3NT still makes, whereas 4♠ would be very hard work.

Key Idea 1: *The Type6+ thin game template has a near solid six-card or longer suit with enough Quick Tricks and controls.*

1.3.2 TypeLL: Two Long Suits

This template appeared in the slam book[10], where most of the tricks come from two long suits, one of which might be trump, such as

North: ♠ AKxxx ♥ xxx ♦ QJx ♣ xx

opposite

South: ♠ Qxxx ♥ x ♦ AKxxx ♣ xxx

This 19 HCP game needs spades to break no worse than 3-1, 90% or 2-2 if the clubs are 6-2 and there is the risk of an overruff, overall almost 50%. There is an example at the very beginning of the book, Deal 2, where the LTC has 8 losers opposite $7\frac{1}{2}$ losers, predicting between 2 and 3♠, but 4♥ is 72%. For thin games the suits need to be good. In the slam zone usually at least 5,5 is needed. In the game zone there are quite a few situations where 5,4 is enough, along with an outside trick. Sometimes it's a double fit such as 4–4 and 5–3.

Key Idea 2: *The TypeLL template has two almost solid suits totalling at least nine cards.*

Because a thin game has a limited number of HCP, the solidity of the suits has to be tempered with the need for controls outside. The neatest thin games have primarily distributional controls with points in the long suits.

1.3.3 TypeCR: The Cross-ruff Thin Game

Another pattern in the slam book was the croos-ruff. This is our thinnest game so far.

North: ♠ AKxxx ♥ — ♦ xxxx ♣ xxxx

opposite

South: ♠ xxxxx ♥ xxxx ♦ x ♣ AKx

just 14 HCP, and seven opposite eight losers, a total of 15 losers, predicting 3♠.

[10] Bossomaier 2018

Key Idea 3: *The TypeCR cross-ruff template has a 5–5 trump fit or better, with complementary shortages in side suits.*

If that seems contrived, imagine North holds

North: ♠ Jxxxx ♥ KJxx ♦ xxx ♣ x

South opens a spade. How far should North raise? With 5 HCP it's only just worth a bid. It's got 9 losers, which would allow a raise to 2♠. Suppose South has

♠ AKxxx ♥ Qx ♦ x ♣ Jxxxx

Some would consider this not worth an opening 1♠ bid. Yet four spades basically needs spades 2–1, a 78% chance, and romps home on a cross-ruff. It's a combined 15 HCP. The LTC gives 9+7=16 losers, thus 2♠, again way off.

Visualisation suggests game might be on, since the South hand is the minimum possible from North's point of view which would make 4♠ cold and thus worth a forward move. The Law of Total Tricks, discussed in Section 1.2.7 has 19 cards in our spades and the opponents' diamond suit. So if 4♠ is one off, then 4♦ ought to make ten tricks, meaning that this would be a good result, except possibly one off doubled vulnerable at pairs. If 4♠ is two off, 5♦ should be on, making it a good save in all but unfavorable vulnerability. Thus LoTT would say bid 4♠ in all cases except red against green, and then maybe at teams but perhaps not at pairs.

1.3.4 TypeSQ: Stuffing and Aces

This is to some extent the category which hands fall into when they have no six-card or longer suit. Thin 3NT contracts sometimes, but rarely, make where there are lots of tens and nines and probably lots of controls. Aces are sometimes essential, yet at other times can be a disadvantage. When there is a long suit to run, first-round controls outside can be essential. But when the hands are balanced, aces may not provide enough tricks (**Key Idea 27**).

Key Idea 4: *The TypeS template has lots of stuffing but no suit longer than 5 cards. TypeSQ has in addition four or more controls (ie $\frac{1}{2}$ more than expected on 23 HCP, while TypeSA has three or four aces.*

Suit contracts do much better with aces rather than equivalent aceless points, although sometimes in notrump too many aces can be a take up too larger share of a limited point count **Key Idea 27**.

1.3.5 TypeP: Location, Location, Location

Deal 64 is a TypeP, but not many hands are uniquely so, where almost all the honor cards are in one hand, in this case easily recognised from a strong notrump opening. So even though the hands are short on points, the finesses may work, the suits may break well and so on. Position covers a variety of possibilities then, with no clear definition. The following chapters have examples, not only where the chance of success is increased, but also cases where it is best to stay out of a game even though the values appear to be there.

Key Idea 5: *When the strength is concentrated in one opposing hand, or the opponents have shown strong distribution, the odds of game may improve against the odds looking at just two hands.*

Positional factors may be inferred even if the opponents do not bid. Since the points are evenly divided for thin games, total silence suggests: their points are evenly split; there are no long suits or two-suiters; or, somewhat disturbing, they might have been deterred from bidding by long and maybe strong holdings in one of your side's suits. There are also several examples where a deal belongs to one of the other types, but its chance of success depends on position, where, just looking at the side with the thin game, the chance of success would be below 40% . Such deals get the additional label /P. A TypeSQ hand where the position of the opponents' cards as revealed by the bidding, increases the chance of success, would be labeled as TypeSQ/P

Most hands in the book fit into one of these patterns, but a few do not, labeled as just U.

1.4 The Odds Needed for Game

At pairs a top or bottom can occur on a partscore, or just from an extra overtrick. The real value of getting to thin games is at IMPs scoring, which is thus our primary focus. Thus at pairs for any contract the break-even point is 50% for any contract, although strategical factors often come into play. If a thin game has a 60% chance but is very hard to find, so that nobody else is in it, there will be a 60% chance for a top in any given event and a 40% chance of a bottom. But in, say, a qualifying round, it might be better to play with the room and avoid a bottom.

At IMPs the story is more complicated and depends on the vulnerability. The simplest case to consider is when there is no opposition bidding and the comparison is between bidding the game or settling in a partscore. Starting with not vulnerable, a major-suit game made exactly gets 420. If you fail to bid it, and the opponents bid it at the other table the swing is $420 - 170 = 250$, or 6 IMPs. If it goes one off, undoubled, and the opponents don't bid it the swing is $50 + 140 = 190$, also 5 IMPs, about the same. If it goes two off, the swing (undoubled) is $100 + 110 = 260$, 6 IMPs. Thus the odds needed to bid game are about 50%. It's not much different for 3NT, or five of a minor, since the difference is mostly game bonus minus the part-score bonus.

Vulnerable, jumping straight ahead, the gain from bidding and making will be $620 - -170 = 450$, 10 IMPs. Going one off loses 100, while they make 140 at the other table, a swing of $100 + 140 = 240$, 6 IMPs. If it goes two off undoubled, the swing is $200+110+310$, 7 IMPs. This makes the probability needed for success about $\frac{7}{17} \approx 40\%$, the figure used throughout the book.

Thus for anything 40 or 50% or over a plausible sequence is sought. On a few occasions this proves extremely difficult, where the precise fit is very hard to identify from the bidding. Between 40 and 50% is a sort of grey zone, where it's good to be in game vulnerable at teams, but maybe not otherwise.

At pairs any game contract with a 50% chance will show a profit on average. Suppose you bid a thin game which about 20% of the field also bid. In a field of 101 pairs 21 bid it (including you). If it makes you get 20+160=180 matchpoints. If it fails you get just 20. So on average you would get 180*0.5+20*0.5 = 100 which is average.

1.5 Conventions

Today's tournament players often have a plethora of conventions on their cards and now there are often numerous conventions for a single scenario. Players will have their own favorite conventions, whereas their opponents, or even their teammates may play something entirely different. Partly this is because it's quite difficult to build any statistical evidence for what is best. That will be subject of another book or even a series of books. This book is about principles and tries to stay as simple and uncommitted as possible.

Nevertheless there are some areas where a convention of some sort is the norm rather than the exception. Take 1NT. Since a lot of the bridge playing world has adopted a strong notrump, double is not so useful as it is against weaker variants, nor is it as common. There is a myriad of defenses to 1NT. Popular approaches, such as DONT (Disturbing Opponents' Notrump) designed by Marty Bergen, are aimed at getting good results on partscore boards. However, this is a book about games and it does not want to prejudice the chance of finding thin games such as Deal 64. So, how valid is the common assumption that games after a strong one trump opening by the other side are rare? To check this out, 5000 random deals with a 15–17 HCP 1NT opening were simulated. About 10% featured a successful game the other way. Thus this book retains a penalty/informatory double, in other words around 17+ for a flat hand, but as low as 15 HCP with some decent distribution. Looking at what contracts these games comprise, a surprising 80% turn out to be actually in notrump (that's the other way remember). (**Key Idea 5** points out that when the opposing points are concentrated in one hand, contracts may make the other way on lower values). Almost half the games are in a major, but around 10% are in a minor (there is some overlap, where sometimes a game will make in both a suit and notrump etc). Thus biasing suit overcalls towards the majors makes sense from the game as well as the partscore perspective.

Jan Eric Larsson[11] finds that of a range of conventions, DONT is the best. Part of its success lies in disrupting the opposition, but our concern in this book is finding good thin games. He finds the simple Landy almost as good, and, since it allows us to keep the penalty double, is the convention adoptex here.

- Double is for penalties
- 2♣ shows a major two-suiter
- 2♦, 2♥, 2♠ are natural with at least five cards
- 2NT shows the minors
- 3♣ at least six clubs

Further details are left to as and when the appropriate deals crop up.

Another notrump issue is 2♠ over a 1NT opening. SAYC treats 2♠ as a weakness takeout to three of a minor. Obviously there will be hands where this works perfectly. Yet many pairs use some form of minor-suit Stayman, reckoning on the chance of a minor-suit game or slam being worth the exchange. Since, again, the focus of this book is on games, a 2♠ bid has at least invitational values. Thus opener may super-accept in some circumstances as in Deal 79.

As noted above, thin games occur frequently in contested auctions. Inevitably there are a lot of variations possible on any given deal. To constrain the discussion it tends to follow a reasonable, but not necessarily unique opposition seqeuence. Preempts are not wild and usually stick within the Rule of 2 and 3 (two off vulnerable and 3 off not vulnerable). Opposition raises simply use the LTC, although in some situations more aggressive action may be likely. At the table it may not be possible to get accurate information and there are greater uncertaities and risk than in uncontested auctions.

The range of possible doubles and the requirements for them is very wide and not much would be served by spelling out in great detail a particular set of agreements. Roy Hughes[12] suggests

- when pass is forcing, double is for penalties, although he dubs this twentieth century
- responsive up to 4♦, typically fairly flat

[11] Larsson 2021

[12] Roy Hughes (2012) The Contested Auction, Master Point Press.

- *Equal Level Conversion* does not show additional strength

Otherwise our treatment of doubles is a bit ad hoc.

1.5.1 Raising Weak Twos and Muiderberg

These openings, which are very popular in tournament use, appear throughout the book. In the absence of opposition bidding, responder may have the values to raise to game. Weak twos, usually a 6 card major and around 6–10 HCP. are very common, but many tournament players have replaced them with Multi 2♦. That leaves the major two free for a two-suiter, usually five in the bid major and a four-card minor, sometimes a four-card major. There are various names around for such bids. Here they are referred to as Muiderberg, a village in Holland where the inventors (although there were probably earlier versions) resided. To recap, a Muiderberg 2♥ or 2♠, shows five of the bid major and four of a minor (sometimes four of the other major (Lucas)) and 6–10 HCP.

Although the Multi 2D is very common, it rarely crops up here. It complicates the auction and the principles in any given deal are demonstrated from the simple Weak Two. But a little largesse is taken to pick a Weak Two or Muiderberg whenever the hand fits, whereas one can only play Muiderberg in conjunction with Multi.

Simulating Weak Two hands reveals that almost exactly 50% of them have eight losers, which would require 6 losers to raise to game in the major suit, ideally with three or more trumps. 30% have fewer than eight losers, thus an invitation should be made with seven losers. About 20% have more than eight losers, so whether or not game makes will depend strongly on the actual hand. One might opt to not open Weak Twos with more than eight losers, particularly when vulnerable.

Muiderberg is stronger with 50% having 7 losers and 34% with fewer, 16% with more. Thus raise to game with 7 losers and invite with 8 losers.

So just how useful is Muiderberg? A simulation of 1000 deals with a Muiderberg opening in the range 6–10 HCP with no loser restriction suggests very useful. Deals where two of a major or three of a minor or more made, were discarded, since the opener would/could have escaped disaster. As expected about half fell into this category.

Of the remainder, where a negative score resulted, the swing per board was calculated, *when doubling the opening side is the best strategy for the opponents.* This is extremely harsh. It ignores all the preemptive effect of the bid and assumes that the opponents never make a mistake in choosing to defend or bid their own partscore, game or slam.

One way to look at this is through the likely undertricks, which the opener might incur. Generating 5000 random deals to look at the relative success news is not good for Muiderberg. Two off is usually a decent save and three off is not disastrous not vulnerable. But four or more is too much unless the opponents have a slam. So, Weak Two and Mini Notrump have 89 and 71 cases where they get slaughtered. Muiderberg has over double the number at 197. Nevertheless this is below the typical number of slams. So, assuming that the opponents always take the correct decision and get to a makeable game or slam after the Muiderberg opening, then the IMPs lost through opening as opposed to staying silent can be calculated. Over 5000 deals (that's 5000 deals with a Muiderberg opening, a lot more were actually dealt) the swing per board is: Green -0.45; White -0.60; Amber -1.25; Red -1.61. To put that in perspective, that's less than an overtrick per board at Green and about two overtricks at Red. At teams most players do not worry much about overtricks, and will favor a safety play costing an overtrick. In practice against all but the very best players, there is a real gain in the preemptive effect, and, as wex shall see in a several deals, such as Deal 19, (**Key Idea 19**), a gain in constructive bidding too.

1.6 Simulation

The valuation which forms the core of this book is simulation. What we do here, similar to Bird and Anthias' studies of opening leads[13], is to generate a large number and look at the number of games made. Mostly we do this without considering any prior bidding, in other words to ask if a game is a good proposition or not, based just on declarer and dummy For each deal we generate 5000 opposition hands to calculate the percentage chance of success. These estimates are always shown in bold.

Even with 5000 deals, though, there will be errors. Very long suits occur infrequently and the results on the few occasions they occur may be unrepresentative. Hence we round all estimates to the nearest percent. So, when we say a contract is 100% this is in the context of the number of repetitions. Sometimes there will be possible distributions, in which the contract would fail.

Without exhaustive analysis of the statistics, we estimate that the estimates are within about 1%, hence we round all figures to the nearest 1%. As a check, two deals picked at random were simulated for 30,000 repetitions. The errors (technically the standard deviations) were 0.70 and 0.95%.

Once we've generated these deals, we have to know what the outcome will be. To do this we use the Double-dummy Solver from Bo Haglund[14]. This excellent software underpins many bridge programs. It is ruthless though in finding optimal lines. It never gets a finesse wrong, or fails to drop a stiff king offside. Thus in some situations its estimate of the best contract might be slightly optimistic compared to what would happen in real-life practical play. Against this, it never fails to find the right lead or the best defense.

We use simulation in two ways. The first is simply to determine how good a contract is, first by looking at just dummy and declarer. These estimates are shown in red and are

[13] Bird and Anthias, 2011,2012

[14] http://privat.bahnhof.se/wb758135/ *Accessed:* 07 Jul 2024

always over 5000 deals. Sometimes it is important to account for opposition bidding, such as a preempt. If one opponent has shown a seven-card or longer suit it often increases the chance of bad breaks and so on. Since there are numerous uncertainties in what the opponents might have, these estimates are less accurate and are shown in blue.

Some deals though merit further exploration, and we look at what the chance of making something is given the information already obtained from the bidding by simulating possible dummies. The distribution patterns of simulated dummies, and sometimes opposition hands, are given in a special form such as

♠ **[]**xx ♥ **[xxx]** ♦ **[xxxxxx]** ♣ **[xx]**xx HCP: 9-11

Each card is denoted by an x as has been the case in bridge books over the years, yet here an x can denote an honor card. Each suit has a minimum number of cards, which might be zero. These anchor cards are shown in bold and enclosed in square brackets. The other cards in normal black font are optional. So in this example, there may be no spades at all, or up to a maximum of two. Hearts and diamonds are easier: they are exactly three and six cards respectively. The deal has between two and four clubs (thus if there is one spade, there would be three clubs). At the end of the hand comes the assigned point range and sometimes the loser count. So the simulation could generate a hand which was 0364, 2362, 1363 but never 1264.

Then, when we experiment with different expected distributions, we use 1000 deals, since there are uncertainties anyway in what is implied by the bids at the table. Where a decision is really borderline, we look at possible variations in the strength of the hands, and, sometimes go for more repetitions where this seems warranted.

One further simulation used on some deals aims to determine the risk of intervening when opponents' preemptive action has made the level uncomfortably high. Deal 12 is an example where North has to come in, vulnerable, on

♠ 42 ♥ A98654 ♦ 10 ♣ AK87

when the bidding has already reached 3♠. There is always extra risk with big gains and losses after preemptive bids. So what we do is to imagine the intervention, in this case 4♥ doubled and to evaluate the IMP swing against the contract over which the intervention occurs, in this case 3♠. In this case the average swing is just -0.6 IMPs. In other words we assume our teammates (or the room) make the same bid but double for penalties if this will lead to the best score. This can be slightly optimistic, in that the best pairs would reject the penalty if a contract their way was worth more. But they are also under level pressure and may take the easy money. On this particular board, 3♠ was already too high. If they were to go on to 4♠ over 4♥, reluctant to be outbid, they would lose 1100. It can also be slightly pessimistic. Here it assumes the contract is 4♥, but looked at from North's point of view, 5♣ has an 11% chance. To include all these possible variations would make heavy reading, thus we generally look at one plausible option.

One final simulation we run is when there is a tight save/press on decision. Here we evaluate the IMP swing over a thousand random opponent deals, where we calcuate the exact swing. There is an element of caution needed in interpreting the results. The deals are generated using rough estimates of what the opponents are thought to have and the uncertainty of exactly what partner has when deciding whether or not to push on. So on some of these deals the opponents might not sacrifice. Sometimes, though they might get a game or even a slam, which they might not otherwise have bid.

1.7 In Practice

Bridge players spend lots of time refining their bidding and play conventions to squeeze the last little bit of conventional advantage. Thus one could ask if pursuing thin games is worth the effort. A quick check shows that it is. The Gold Coast Congress is the largest bridge event in the Australian calendar. In the Teams Championship there are several categories of event. Looking at the Restricted category, for which this book could be really useful, in two successive years, there were 16 and 20 makeable thin games, which over half the field missed (74 and 86 teams). Over 168 boards (12 rounds of 14 boards) that's about 11% of the total. There are likely to be fewer cases where a game is missed in the Open event, where the standard is the highest and includes top players from overseas. In the same two years, there were 14 and 15 thin games missed by half the fields of 138 and 148 teams, 9% of the 168 boards, a little bit less but well within the margin for error. These results are far from an adequate number of deals to be statistically robust but they are indicative of potential lucrative swings.

1.8 Additional Sources

We've already alluded to Ron Klinger and Augie Boehm's outstanding books. Two other books which are well worth reading for competitive auctions are Roy Hughes' book[15], *The Contested Auction* and a golden oldie, still with a lot of common sense, Eric Crowhurst's Acol in Competition[16], which transcends its Acol roots.

So, with preliminaries out of the way, let's look at some deals.

[15] Hughes (2012)

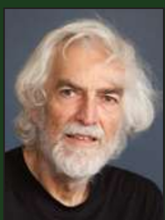
[16] Eric Crowhurs (1980) Acol in Competition, Pelham Books

INTERMEDIATE

GET IN THE GAME

Getting to Good Slams, by the same author (2018), is an in-depth discussion of how to improve your slam bidding. Using examples from tournament play, the author identified hard-to-bid, but good, slams. He focused on the factors that make slam possible, often with far fewer than the traditional number of points, and on how to evaluate your hand during the bidding to become aware that these factors are present.

This new book turns the spotlight on an even more useful area — how to get to good game contracts without just guessing, again often with fewer than the officially-sanctioned number of HCP in the partnership. At IMPs, this is a crucial area where matches are often won and lost.



TERRY BOSSOMAIER (New South Wales) was a keen and successful tournament bridge player in his student years in the UK. He put bridge on hold when he went to Australia — to learn to surf (never happened) and to sail (sort of happened), but instead became professor of computer science and complex systems.

AN HONORS BOOK FROM
MASTER POINT PRESS