Slow Lane Mathematics

by DAVID WEISS

leaders have been wondering how he slow lane players manage to hold heir own against opponents who are nore experienced, more knowledge-ble, well just *more* ...

)ne of the secrets of our success is a rinciple for analysing suit combina-ons which avoids arithmetic. Even layers who can barely count to thir-een can determine the best percen-age play using this principle. When I lescribe it to my colleagues I call it discarding equivalent alternatives'. Vhen I present the principle to my stu-lents I tell them to ignore the cases n which their play doesn't matter, hen count the rest.

Ve can see how the reasoning works n a deal from a recent match. Marcia nd Ann had a typical slow lane auc-ion, reaching a distinctly inferior jame contract after a nebulous cue-id and poor follow-up:

West		East
♠ AK	N	♠ 874
♡ QJ10975	W E	♡ 3
◇ 10	S	◇ AK9764
♣ 10865		♣ AQ9

West	North	East	South
1♡	1♠	2◇	Pass
2♡	Pass	2♠	Pass
2NT	Pass	3NT	All Pass

Vhen the queen of spades was led, Aarcia had no time to pine over the ost four heart contract. To make three o-trumps she would need to bring in he diamond suit for five tricks as well is find the club king onside. She had io control over the latter, but what vas the best way to play diamonds?

The important enemy cards are the jueen, jack and eight. The three lower cards may be designated as x's. There are two contending lines to consider:

1) Play the ace, king and nine;
2) Run the ten unless it is covered

Rather than work out percentages we cast out equivalent alternatives. Either ine works if the suit splits evenly, or f North has Q-J, Q-8, J-8 or 8-x-x-x. Neither line works if North has x-x, 3-x, Q-8-x-x, J-8-x-x or Q-J-8-x, nor if he suit divides less evenly than 4-2.

Ve must focus on the remaining cases. North may have Q-x-x-x, J-x-x-x or Q-J-x-x. The last of these is somewhat ricky as it encompasses three possi-ble holdings (one for each remaining x in South's hand). Line (1) works in he first two cases, line (2) in the third. Therefore line (2) is better, and in the ratio of three cases to two. Since all of the crucial cases include North hav-ing four diamonds, we need not con-cern ourselves with the fact that he is unlikely to have that many (because he must have five or six spades and the club king, whereas fewer cards may be specifically localised in the South hand). The equivalence principle restricts the needed computations to the barest elements.

The principle is usually good enough even on hands of considerable com-plexity. Rick, as West, had to play this heart slam against the king of diamonds lead:

West		East
♠ AK54	N	♠ 6
♡ J8653	W E	♡ AQ104
◇ A8	S	◇ J103
♣ AK		♣ Q9862

He won the diamond ace, cashed the ace and king of clubs successfully, and led the heart three. When North pro-duced the seven, Rick was at the cross-roads. He knew that the best play within the heart suit was a finesse. If that were to win, the hand would prob-ably be easy. But if it lost he would be down immediately. The other option was to win the ace and cash the club queen. If South followed, Rick could pitch his diamond and be home unless North could ruff with a heart other than the king. If South were to ruff the club queen low, declarer would still be in good shape. He could overruff, play ace and a spade, and then set up the fifth club. This would work unless South could overruff the third spade, having perhaps pitched a spade on the fourth club.

Calculating the probability of success of the second option was a mind-boggling prospect for Rick, and he was tempted simply to take his finesse. But then he recalled my emphasising that it was not necessary to attempt a precise calculation. Focussing on the heart suit, Rick con-sidered seven cases. North could have:

(1) K-9-7
(2) K-7-2
(3) K-7
(4) 9-7-2
(5) 9-7
(6) 7-2
(7) 7

The first play option, the finesse, would win in the first three cases and would lose in the last four. The more complex line would win whenever clubs were 3-3 or if case (4) existed. If South had begun with a doubleton club, only case (7) might present a problem, while if North had the doubleton club then cases (1), (5) and (6) would lead to defeat.

Rick's view, a simplified one from a probabilist's perspective, examined his fate for each of the seven poss-ibilities. For cases (1) and (2), he would succeed by finessing. For case (3), both lines succeed. For cases (4), (5), (6) and (7), he should play the ace, although success is not always guaranteed. As there are more cases in which playing the ace works, it is better to try the complex line.

In fact, clubs were 3-3, with North holding the singleton heart seven. Impressed with Rick's play, Andrew asked him how the principle would apply to the heart suit in isolation. Andrew had memorised that the finesse was the proper play and that it should win half the time. Rick did me proud with his explanation.

"In isolation," he said, "the finesse wins against cases (1), (2) and (3), while going up with the ace wins only against case (4). Neither play works against cases (5), (6) or (7), so the finesse is three times as good."

Then he smiled as he went on, "It works half the time because there are really eight cases to look at, not just the seven I considered. North could have K-9-7-2, in which case the finesse would succeed."

Andrew asked Rick if he had omitted that possibility because North wouldn't think he could afford to false-card with the seven.

"No," replied Rick, "I never pay atten-tion to their trump suit spot cards ever since Dr Weiss told us about playing them randomly. I left it out because I didn't think I could make the hand if trumps were 4-0. It was an equitable alternator."

[While the principle that Rick applied is a very useful one, readers should remember that just counting the situ-ations in which each play succeeds can be misleading as any one even break is 'a priori' slight more likely than an uneven break. Very simply in this case, if we allocate North with the ♡9-7 and South with the ♡2, then 'a priori' South is more likely to have the ♡K than North as there is one more vacant slot in South's hand than North's. In practice, this makes situa-tions (3), (5) and (7) slightly more likely than the other four so Rick's play is even better than Dr Weiss thought. Ed]