May 1999

## Offense Defended by Jake Jacobs

I am very careful about publicly contradicting my editors, but l've known Butch a long time. No matter what I have to say, he would never be so petty as to make mee loock laik a fuulitch bownhaid, would he? So, fearlessly, I will comment on the April, 1999 article Offense or Defense.


Black to Play 4-3?
Butch frames the question of how Black should play 4-3 in terms of a Manichean struggle between Offense and Defense. Then, with the aid of SnowiePro ${ }^{\text {TM }}$ evaluations, he hands the championship belt over to Defense, while noting that there are certain scores at which the Offensive play may dominate. If so, then...


How Should Black Play 4-1?
I have inverted Black's first and second rolls, as they occurred in the original problem, and had him play the slightly eccentric, but certainly reasonable 24/21, 13/9 with his opening 4-3. Based on Butch's article, the reader can hardly be faulted for choosing to make the defensive
anchor. This is wrong, and the magnitude of error is larger than if one were to make the 5 -point in the original problem. This time, Offense dominates in all categories. Some reasons for the difference? Black already has split to a better point; he is unstacking the 6-point; perhaps most important, he isn't stripping the 8 -point. But hold on...


Money Play: How Should Black Play 6-2?
What's going on here? Black has split to a better point, can unstack the 6 -point, and won't strip his 8 -point, shouldn't he make his four? Nope, the bar-point is better. Unfortunately, in all three positions subtle differences lead to significantly different choices. The money player will just have to learn these on a case by case basis. The match player is luckier.

| Black's Score |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| W |  | 0 | 1 | 2 | 3 | 4C | 4 |
| i | 0 | $20^{2}$ | $5^{2}$ | $5^{2}$ | $5^{2}$ | $20^{2}$ | X |
| $\mathrm{e}^{\prime}$ | 1 | $20^{2}$ | $20^{2}$ | $5^{2}$ | $5^{2}$ | $20^{2}$ | $20^{2}$ |
| s | 2 | $20^{2}$ | $20^{2}$ | $20^{2}$ | $5^{2}$ | $20^{2}$ | $20^{2}$ |
| c | 3 | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ |
| r | 4C | $20^{2}$ | $5{ }^{2}$ | $20^{2}$ | $5^{2}$ | X | X |
| e | 4 | X | $20^{2}$ | $20^{2}$ | $20^{2}$ | X | $20^{2}$ |

Here is a table Butch created, showing how the choice of play varies with score. The table covers the scores within a 5 -point match. By coincidence, I am currently working on a new book, which discusses in depth exactly this sort of problem. (Positions 2 and 3 are taken from my book Penetrating Match Play - 5 points with which to skewer your opponent.) Based on my work, I was confident that I knew which scores favored Black's making the 5-point, and which the anchor. I was accordingly shocked to find that my predictions did not at all match Butch's table. My first inclination was that Butch had reversed the scores. As soon as my own Snowie was free (it is usually running, at work on one project or another), I fed it enough of the situations in the table to exonerate Butch from the charge

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of mistranscription. However, in my amended indictment, I now must charge him with misuse of a neural net.

Butch arrived at his conclusions by relying solely upon Snowie's 3-ply evaluations. Snowie's abilities are formidable, but this set of results highlights the need for a follow up rollout before one, jumping to Snowie's command, finds that one has jumped right out the window. Consider, just for a moment, one score. It is post-Crawford, and Black needs 4 points. Snowie says (according to Butch's table above) that the correct play is to make the anchor. Nonsense! The position should actually look like this..


White Leads 4-1 Post-Crawford How Should Black Play 4-3?
with the cube owned by White (though the question of White's take is another matter!), when Black plays his 4-3. A JellyFish ${ }^{\text {TM }}$ rollout, with cubeless results quite similar to Snowie's evaluation, has Black winning 36.2\% plain games $+14.6 \%$ gammons after 5(2), while winning 41.5\% plain games $+10.0 \%$ gammons after 20(2). Black's total wins are greater after anchoring, by $0.7 \%$, but the difference in match wins is a different story. After each play Black wins $1 / 2$ of his plain wins (let's ignore the free drop in this discussion) + $100 \%$ of his gammon wins. The anchor wins $30.7 \%$ matches, the 5 -point wins $32.7 \%$. To put it plainer: if you follow the table's advice at this score, you are playing like a bownhaid! (Still mad, Butch?)

The location of the cube is at the root of all of the errors in Butch's table. Snowie evaluates each play as though the cube never moved. If one were to plug Snowie's cubeless estimates into a match equity table, and assume a constant cube level 1, then Snowie's plays make sense. But this is not the way humans play the game. We try to get to a position where we can turn the cube, and the TURN it! Assume that the score is needs 2 , needs 4 . Snowie recommends that Black, leading, play 5(2). Now if Black were to make the anchor, White would have a long wait before doubling. Black does not mind taking non-gammonish games. When Black leaves his back men split, upping his gammon risk, White will cube as soon as he has immediate threats. Black's 5 -point does little to stave off the cube. It doesn't win him more games (slightly fewer, as we've seen). It wins him more gammons, but at this score White is quicker to turn the cube in the face of a threatened gammon. This may seem
surprising, but the doubling point is calculated based on risk vs. gain, and since a gammon loss costs the match anyway, White has less to lose. Here is the table again, corrected to take cube handling into account.

| Black's Score |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| W |  | 0 | 1 | 2 | 3 | 4C | 4 |
| i | 0 | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ | X |
| e' | 1 | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ |
| 5 | 2 | $5^{2}$ | $5^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ | $20^{2}$ |
| c | 3 | $5^{2}$ | $5^{2}$ | 52 | $20^{2}$ | $20^{2}$ | $20^{2}$ |
| r | 4C | $20^{2}$ | $5^{2}$ | $20^{2}$ | $5{ }^{2}$ | X | X |
| e | 4 | X | $5^{2}$ | $5^{2}$ | $20^{2}$ | X | $20^{2}$ |

The scores where it is correct to make the 5-point are easy to remember. If White needs 2 or 3 points, make your own 5 -point if you are trailing. If it is Crawford, make your 5 -point if you need an even number of points. Post-Crawford, make your 5 -point if you need at least 3 points. In all other cases, anchor up.

Editor Note: This proves it; if you "butcher" something badly enough, someone will come to your rescue. Thanks Jake.


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