Openings

Middle Games

Prime vs. Prime

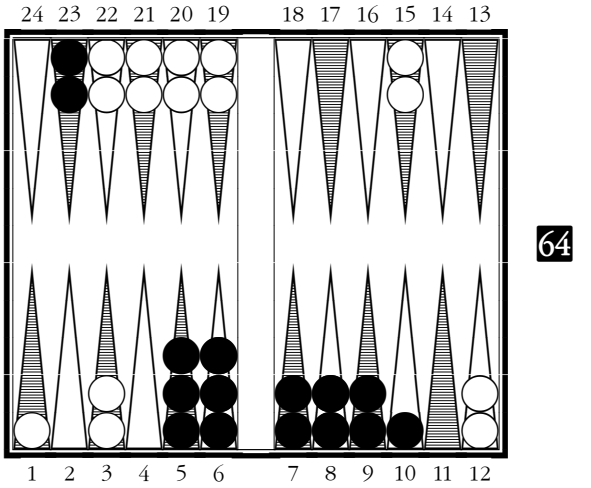
Priming and timing
Tactics
Cube decisions

Bearing In

Backgames

End Contact

150



137

64

Black to play 62.

Paradoxes and Probabilities #112

Such an interesting position. Beginners jump at the six-prime and happily lift their dice. Intermediates sit and ponder. Experts break the anchor and save the blot with no hesitation, feeling secure with a solid five-prime and no immediate worries from crashing. This is Cooke's recommendation.

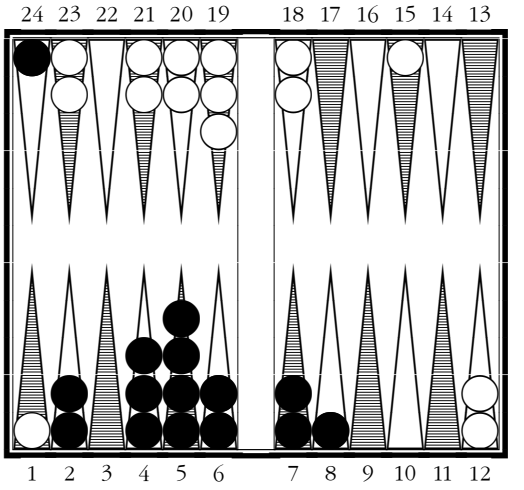
The bots, however, make the six-prime and laugh at all other plays. What do they see that the experts don't?

1. Six-primes are very strong.
2. Making the 4 point achieves the goal of priming; running to the 17 point merely begins the process of escaping.
3. Making the 4 point prevents White from doing so. This is important since the race is not gin, and White is happy to convert to a holding game.
4. Making the 4 point increases Black's gammon chances.
5. If Black runs and is hit, his game gets much worse. He may stay on the bar and give White time to advance his anchor. In hitting, White also slots the fifth point of his own prime and is usually a favorite to cover.
6. If Black is forced to crack after making the six-prime, he'll still have a very strong five-prime.

```
10/4 6/4          .646
23/17 10/8        .428 (-.218)
```

7. Black now has only seven numbers to make the 4 point; 20 numbers to escape. When choosing between two or more constructive plays, it's usually correct to do what will be hardest to do later.
8. By splitting, Black diversifies White's numbers. Twenty-three of his rolls hit in the outfield. Additionally, 63 escapes the rear checker; 31 advances the anchor; 44 puts Black up against a five-point board; 33 creates a five-prime; and 61, though scary, does escape a checker. That leaves 43, 46, and 66 as White's only non-constructive rolls.
9. If Black makes the 4 point, the only option open to White is to counter-prime. Only eight of his rolls are constructive to that end.
10. Six-primes are very strong.

114



65

Black to play 52.

94

Backgammon for Profit #110

A second quite surprising priming-vs.-timing position. It looks so natural to hop out, forcing White to roll one of his 23 hitting numbers, else pass the recube. After all, the alternative is to make a prime which may last for only one roll. I'd guess that most of today's players would follow Dwek's recommendation, and further guess that all but a handful of the rest would think the plays are close. They aren't.

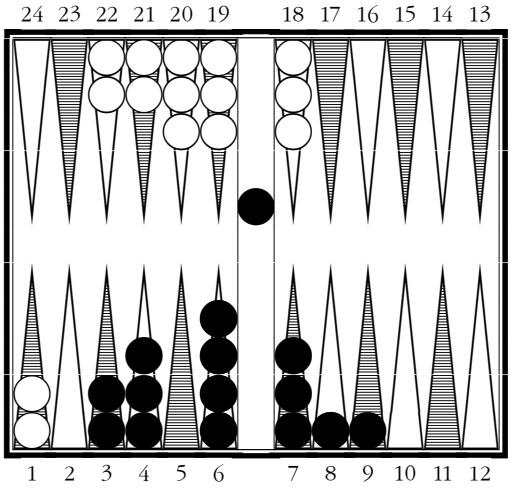
What's actually happening is this: broken five-primes are not so effective in containing an opponent's single checker, especially if that opponent has other targets to shoot at when he doesn't roll escaping numbers. Interestingly, this notion can be applied with equal force to both White's and Black's positions: if Black hops out and is hit, he may soon find his own broken five-prime not so effective against White's straggler; if he stays back and makes his 3 point, he may happily find White's broken five-prime not so menacing against his own straggler.

Suppose Black hops out. It's true that if White should miss, Black can cash. But consider that White misses only 13 times. The 64% of the time that he hits, White becomes the clear favorite. Black will fan nearly half the time, and when he does enter he doesn't get to use his full roll constructively on his side of the board. White will be able to pursue goals of attacking, priming, or escaping at leisure.

8/3 5/3	*.483*
24/17	*.312 (-.171)*

Instead, suppose Black completes his six-prime. Now White has only one roll (55) that makes him the favorite, rather than 23. Notice Black's subsequent diversification: 3's, 4's, and 6's to attack on the ace point; 2's to escape. Even when he rolls his worst, 44, White is still up against a five-point board. It's easy to underestimate these sequences for Black, forgetting that cracking is not so bad against an enemy blot, which can be attacked. If White were anchored on the ace point, Black would do better to run with his 52.

116



66

Black to play 11.

105

Backgammon for Profit #105

A third quite surprising priming-vs.-timing position. After entering and making the 5 point, Black can either complete the six-prime or advance to the launching pad. Dwek believes, as would most contemporary players, that escaping is more important by far. What we all miss is that Black has much more timing than White.

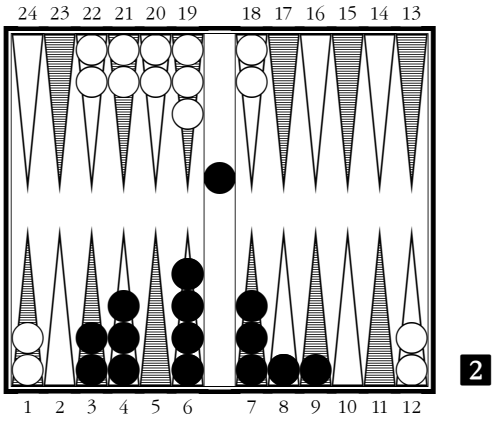
Consider: after Black makes the six-prime, White effectively crashes with 55, 44, 33, and *any 6* (Black is on the bar and maintains his six-prime). If Black does not yet have a cash, his next roll gives him only 55 and 44 to crash, plus 16 to escape. Then White rolls again.

If Black plays 24/23 instead, things look very different. First off, White has a crushing 16. Next, 62, 63, and 65 don't play as badly for White, for he won't be forced to put Black on the bar. Moreover, all rolls that slot or make the 2 point allow White to win fluke games going forward even when Black never crashes.

After Black primes, White has 15 rolls that allow him to take, eight of which are proper doubles. After Black steps up, White has 19 rolls that allow him to take, only four of which are proper doubles.

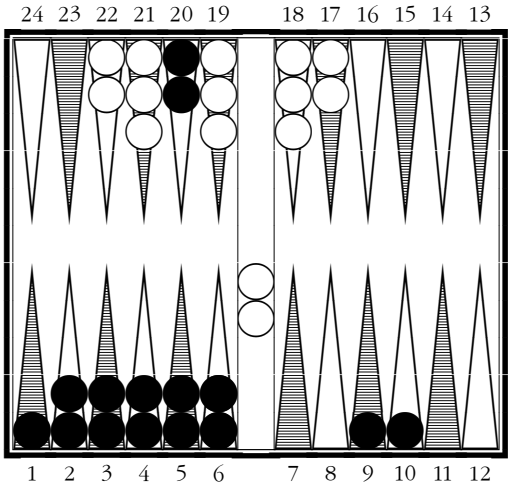
```
Bar/24 9/8 6/5(2)    .910
Bar/23 6/5(2)        .764 (-.145)
```

Give White some more time and the position changes dramatically. In Position 66A, White will not be crashing anytime soon and Black must step up in order to escape.



Position 66A: Black to play 11.

123



2

67

Black to play 64.

100

Backgammon for Profit #101 & Backgammon (Magriel) #13-25B

The backgammon gods pulled off a wonderful case of conceptual misdirection on both Dwek and Magriel with this position. The authors use the problem to illustrate the subtleties of diversification: 10/4 9/5 is indeed better than 10/6 9/3, because in those cases where White hits with an ace, Black will find that his entering 5's, 2's, and aces are diversified from the 4's and 3's that hit in his inner board. Clever.

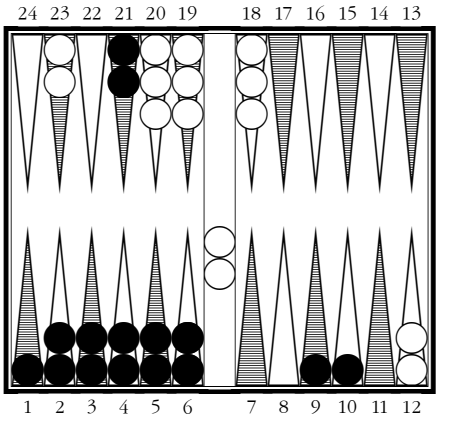
The problem comes when White doesn't hit and Black rolls 33 or 22. He's still winning, of course (White does have two on the bar), but all sorts of bad things can start to happen. Preventing these two horror rolls of extreme equity loss (50 games in 1296) completely outweighs creating 4 extra enter-and-hit numbers of moderate equity gain (44 games in 1296).

Strangely enough, this is a position of priming and timing; not one of builders and tactics. Black should escape one checker and bring in one builder with 20/14 10/6, although all the plays that do these two things are close.

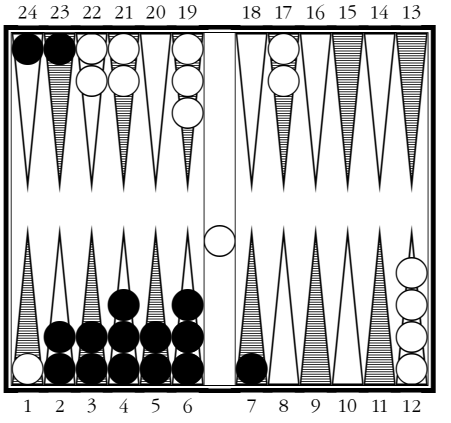
20/14 10/6	*1.416*	
20/16 10/4	*1.368*	
10/4 9/5	*1.313*	*(-.104)*
20/14 20/16	*1.283*	
10/6 9/3	*1.251*	

Exactly the same considerations apply to Magriel's companion position (13-25A) reprinted below as Position 67A. Magriel likes 10/6 9/3, but Black should play 21/15 10/6.

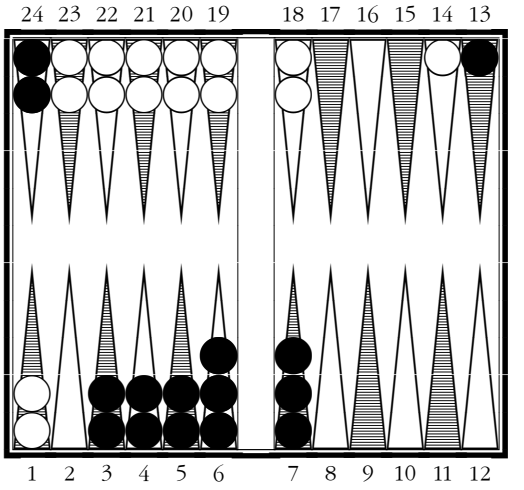
A good example where diversification really is the overriding theme is Position #108 from Robertie's *Advanced Backgammon* (67B below). After hitting, Black should put his spares on the 4 and 5 points, not the 6 and 3 points, to diversify his entering and hitting numbers. Note that the choice affects nothing else of import.



Position 67A: Black to play 64.



Position 67B: Black to play 61.



113

124

68

64

Black to play 42.

Backgammon for Profit #F (page 158)

Another conceptual switcheroo for both Dwek and Magriel, although this time they use slightly different positions. Magriel's version is given in the next problem.

Dwek likes 13/7, which kills 6's to Black's timing advantage. 13/7 is indeed better than the more "natural-looking" 13/9 7/5, or any other quiet play, for exactly that reason. What Dwek misses is the dramatic 7/5 6/2! (13/11 6/2 is just as good.)

As one would expect, slotting outperforms the alternatives in the variations where White fails to hit. Black will have 16 rolls to complete the six-prime, rather than just two (54) after 13/7.

What's harder to see is that slotting is by far the best option even when White does roll an ace. In these variations, Black will be very pleased to be on the bar, facing no immediate cracking numbers, twenty-five beautiful dancers, and an opponent under pressure to roll a quick 6.

To illustrate, let's give White a 51 after Black slots with 7/5 6/2 (Position 68A), and after Black kills 6's with 13/7 (Position 68B).

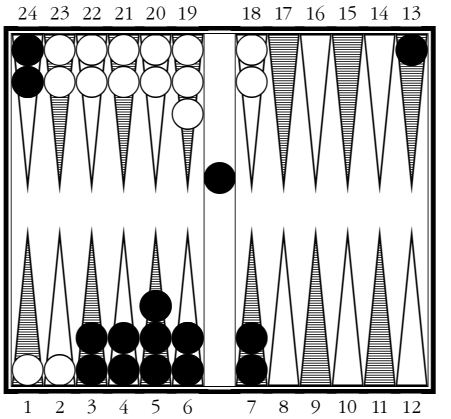
7/5 6/2	***.287***
13/11 6/2	***.272***
13/7	***.146 (-.141)***
13/9 7/5	***.128***

In 68A, Black is hoping to fan, of course, and will do so twenty-five times in thirty-six. White must roll a 6 or begin to crack. Black is the favorite and can beaver White's optimistic double.

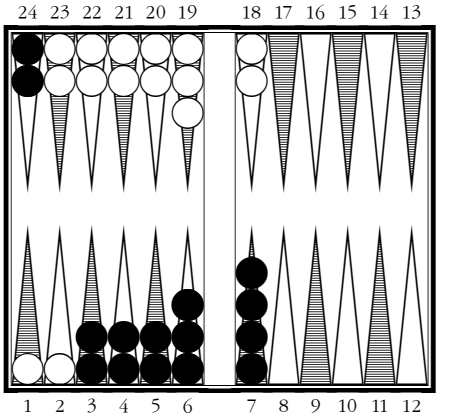
If instead Black enters with an ace, only 16, 15, and 14 give White an initial double, which Black can take. 13, 12, and 11 are not doubles.

In 68B, Black is desperate to roll small. 66, 55, 44, and 33 all destroy his position immediately, and any other 6 is a disaster, putting White on the bar, helping him preserve his six-prime. White can cash after any of these fourteen rolls.

Black's remaining 5's also put white on the bar, leading to takeable doubles. Most of Black's smaller rolls prevent White from doubling, but only the roll of 21 leaves Black the favorite, allowing him to beaver.



Position 68A: Black on roll.

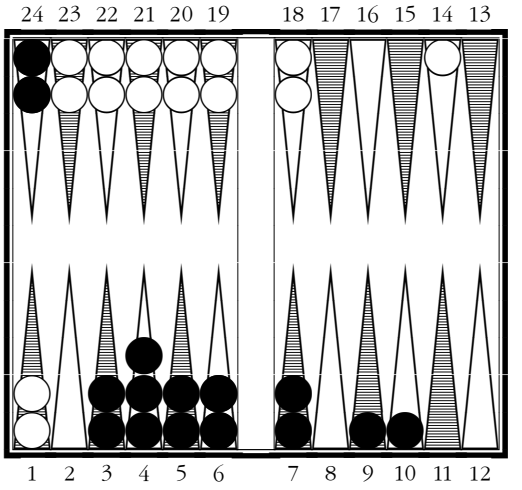


Position 68B: Black on roll.

Cube action resulting from Black's next roll	After Black: 7/5 6/2; White: 24/23* 11/6		After Black: 13/7; White: 24/23 11/6	
Double—Pass	**0**		**14**	66, 65, 64, 63, 62, 61, 55, 44, 33
Double—Take	**6**	61, 51, 41	**9**	54, 53, 52, 51, 22
No Double—Take	**5**	31, 21, 11	**11**	43, 42, 41, 32, 31, 11
No Double—Beaver	**25**	All non-aces	**2**	21

Slotting actually gains the most when the slot is hit. Sometimes backgammon is still pretty.

113



69

64

Black to play 42.

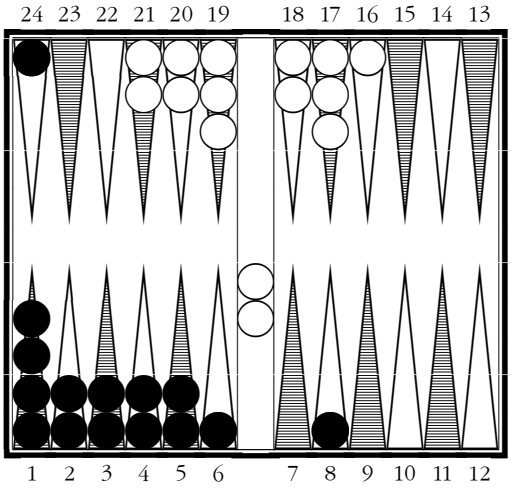
121

Backgammon (Magriel) #28-14

The same from Magriel. He likes 10/6 9/7 to kill 6's, but misses the far stronger play of 10/6 4/2.

10/6 4/2	*.165*
9/5 4/2	*.149*
10/6 9/7	*.065 (-.100)*
10/8 9/5	*-.026*

133



2

70

Black to play 41.

170

Advanced Backgammon #142

A simple oversight, the like of which appear more and more often as the session extends into the dawn. They become more costly, though, when they make their way into print.

If 6/2 truly were the forced play for the 4, then Robertie's analysis would be insightful and correct. 24/23 should be rejected because it reduces the number of rolls that take Black to the edge of the prime. 8/7 is productive because it diversifies the escape-preparing 2's from the potential pick-and-pass aces in those games where White rolls a 6. (It turns out that 6/1 may be even better, for it allows Black to play a 43 without cracking.)

But the 4 is not forced and 8/4 6/5, killing 5's and 6's, is far, far better.

Neil Kazaross comments on this position in his review of *Advanced Backgammon* in the March/April 1992 issue of *Chicago Point*.

```
8/4 6/5          -.100
6/1              -.288
8/7 6/2          -.308 (-.209)
24/23 6/2        -.356
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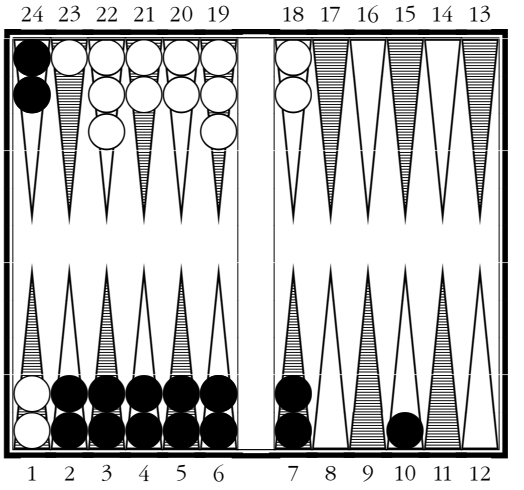
109



112

71

64

Black to play a lone ace.

Backgammon (Magriel) #28-15

This is one of those classically misanalyzed "strategically-eschew-the-hit-and-smugly-watch-White-crumble" positions of the '70s that Robertie first reexamined.

Magriel likes 10/9, pointing out that White will be a favorite (20 numbers) to break his bar next roll, and that hitting him may slow this process down. This much is true. But even when White's bar is broken, Black still needs to roll a 6 to escape, else he may crack himself. And what about the 16 games where White keeps his bar? Let's do a rough breakdown of the next two rolls after each play:

24/23*	***.874***
10/9	***.477 (-.397)***

If Black does not hit:

White breaks bar (20 rolls):
- Black escapes (11 rolls)
- Black cracks (8 rolls)
- Neither (17 rolls)

White keeps bar (16 rolls):
- Black escapes (1 roll)*
- Black cracks (16 rolls)
- Neither (19 rolls)

Total: 236 escapes, 416 cracks.

*After White keeps bar with 66, and Black rolls 16.

If Black does hit:

White breaks bar with 16 (2 rolls):
- Black escapes (36 rolls)*
- Black cracks (0 rolls)
- Neither (0 rolls)

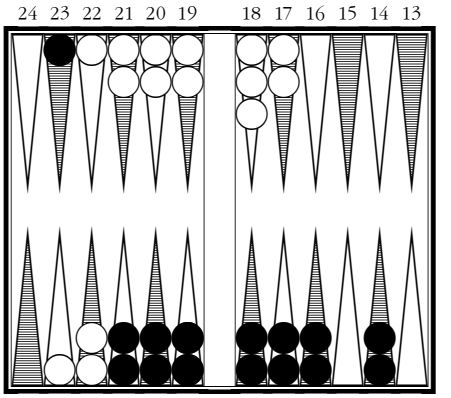
White keeps bar (29 rolls):
- Black escapes (11 rolls)
- Black cracks (5 rolls)
- Neither (20 rolls)

White hits with 11, 14, 15 (5 rolls):
- Black escapes (2 rolls)
- Black cracks (0 rolls)
- Neither (10 rolls)

Total: 401 escapes, 174 cracks.

*White's position is toast.

Hitting lets Black escape twice as often, and crack half as often. The breakdown reveals that while waiting creates *some* variations where White cracks and Black can escape with a 6, hitting *virtually guarantees* that Black will be able to escape with a 6. (The exceptions come when White rolls 11 or 14 from the bar.) Also note that hitting *really does guarantee* a third checker back for White. This means that all the "Neither" variations are much stronger after the hit. Not surprisingly, hitting wins about 10% more games as well as 15% more gammons.



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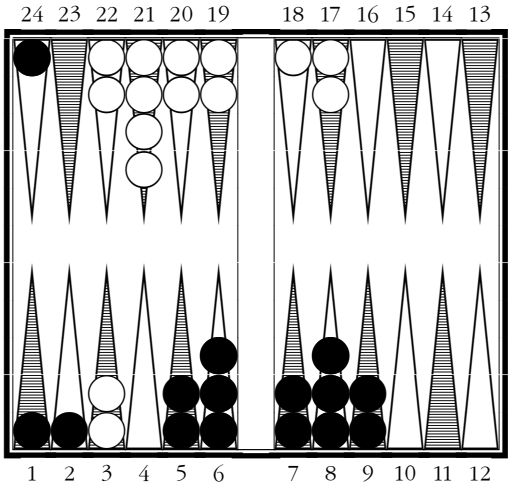
Position 71A: Black to play 31.

Robertie's *Advanced Backgammon* #137, presented at right, is quite similar, and correctly analyzed.

111



111

72

Black to play 61.

Paradoxes and Probabilities #70

A classic Cooke-style prime-vs.-prime play: when in doubt, leave a double shot. He simply doesn't trust that old ace point.

Cooke's plan is to be hit back, slowing himself down, which should give White more time to collapse. This can happen. The two relevant questions are: isn't there a potential downside to being hit? And: does White crash all that much more often after Black plays 24/18* 8/7? Let's look at each question in turn.

Is there a downside to being hit? Yes indeed: quite a large one. 11 (played Bar/24*/23* 8/7* 22/21) actually makes White the favorite. His next best replies are 22, 21, 41, and 31—each of which allows White to hit and come to the edge of Black's prime, with real winning chances going forward. If Black had made his ace point instead, even White's best reply (41) would not play as well as any of these.

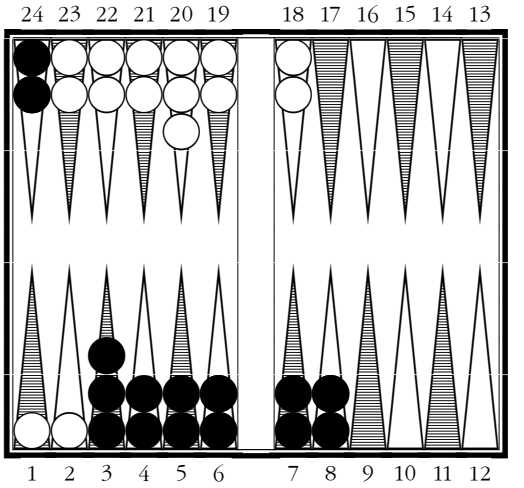
Does White crack more often after hitting? It's true that making the ace point does raise White's fanning numbers from four to nine, slowing the cracking process somewhat. And there is logic in the notion that bringing a second checker around the board (assuming it gets out) should slow Black down. But the real issue is this: *White cracks almost all the time even after Black makes the ace point.* After this roll, Black has roughly 20 pips to play before he breaks his own prime, and White is moving first.

```
24/18* 2/1       .933
24/18* 8/7       .837 (-.096)
```

Finally, consider this: Black doesn't *need* White to crack. He should realize that in those games when not hit back, he's no longer playing prime vs. prime—he's bearing in against a 3-point anchor. This is already a winning situation. Playing to be hit back opens up all sorts of immediate complications in exchange for ephemeral, potential, long-term, down-the-road gains. Black should keep it simple.

With the cube in the center, Cooke's error is magnified. Rolling a 6 was huge, and Black should be thinking about immediate cashing sequences, not long-term strategy. After making the ace point, White has only eight numbers that let him take: 41, 31, 21, and 64. After 8/7, White can take with 12 numbers: 11, 22, 21, 41, 31, 64, and 32.

106



117

73

Black to play 62.

2

Backgammon (Magriel) #28-19

A big blunder from Magriel. He wants to "gain time by forcing White to hit" with 8/2* 3/1*. Let's do some counting:

After 8/2* 3/1*, White has only one immediate destructo: 22. Three rolls enter both checkers but don't break, 16 rolls enter only one checker, and 16 rolls fan completely.

After 8/2* 8/6, White crashes immediately with nine numbers: 15, 14, 25, 24, and 22. Nine rolls enter without breaking, 16 rolls fan. Two numbers escape: 26.

In exchange for the 26 joker, Black can pick up eight more cracking numbers by not hitting the second checker. This is a huge trade. 8/6 wins more games and more gammons, and loses far fewer gammons by virtue of exposing only one new blot instead of three.

Additionally, notice that when the double hit does cause White to crack, Black is likely to be on the bar, rather than shooting at a direct.

Kleinman comes to the same conclusion by way of more abstract reasoning in his book, *Meanwhile Back at the Chouette.*

```
8/2* 8/6          -.311
8/2* 3/1*         -.574 (-.262)
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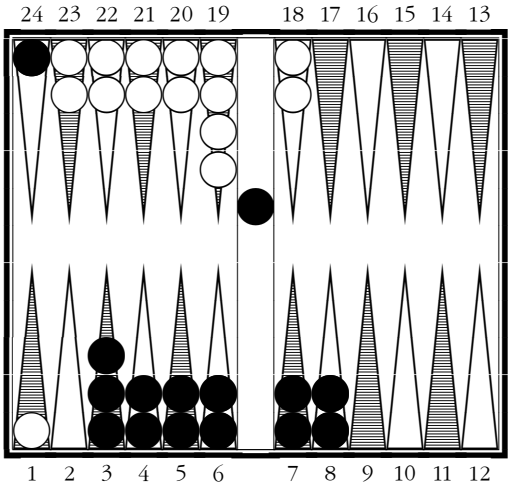
90



118

74

Black on roll.
Cube action?

2

Advanced Backgammon #153

More than any other in the book, this position gets my "Optical Illusion" vote. I have spent hours on this one: rolling out sequences, analyzing permutations, and, *slowly*, convincing myself of the correct answer. Then I look away for two minutes and—presto—the Wrong Answer seems compelling once again. If you're familiar with illusions you'll know what I mean when I say this cube is the Necker Cube of backgammon.

Robertie claims that "most players mistake White's position for a pass," which I can certainly believe. Black is a favorite to stay out, and then White's prime begins to crumble. Fan twice in succession (and has that ever happened to you against a five-point board?) and White has no game at all.

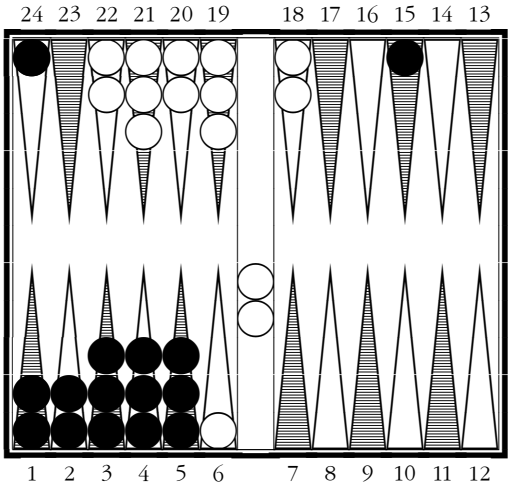
What's harder to see is that 30% of the time Black enters on the first shake and becomes the immediate underdog. Consider: nine of eleven entering numbers break his own prime. Black then has two of his own checkers behind a full prime and is holding only one behind a prime that is broken. White might escape next roll. If not, his 6's will be killed, allowing him to maintain his full prime with 23 of 36 rolls. Even if he breaks his bar, Black still has to roll a 6 to escape, else he cracks some more. Even if Black does roll a 6, White will then have the opportunity to attack the remaining checker and hope to escape from Black's broken prime

Cubeless	*.329*
No Redouble	*.582 ****
Redouble-Take	*.420 (Black: -.162)*

(perhaps picking up Black's escaped checker along the way and scoring some gammons).

So White should take? That's as far as Robertie got—farther than I might get over the board. In fact, Black loses well over a tenth of a point by doubling. With two back, he should wait for White to crack. Amazingly, Black is nowhere near even an initial cube.

121



75

Black on roll.
Cube action?

81

2

Backgammon for Profit #53

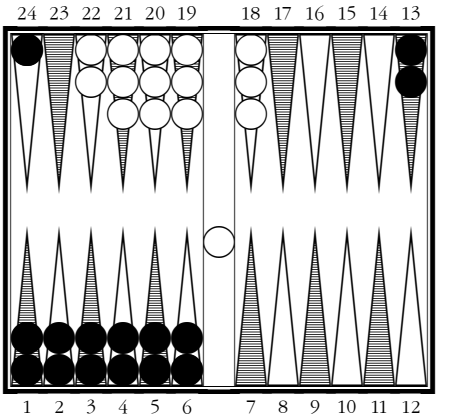
An illustration of many of the factors that can come into play late in the life of a priming battle. Black is trying to roll the magic 61 before doing more damage to his own board, and his outfield checker gives him a few rolls worth of time. With two checkers up and a third to be attacked, White can expect to lose a scary number of gammons. He does get sizable compensation, however, in that he can become the sudden favorite on any shake by way of Black's pre-broken 6 point. Even a single 6 helps White dramatically.

Robertie's Position #147 (shown below as 75A) serves as a good reference point. Black must hold off until he rolls the ace; White's decision to take will then be based on the position of Black's outfield spares. In Dwek's position, the broken 6 point favors White, while the extra checker on the bar favors Black. These factors cancel out almost perfectly, and the proper cube action is the same: No Redouble-Take.

Robertie writes: "In prime versus prime positions, it is often correct to redouble your opponent out of the game, rather than redouble him in." I don't know how true this is in general (Robertie's own Positions #150 and #158 are prime-vs.-prime Redouble-Takes), but it does prove to be a surprisingly robust rule for *this kind* of prime-vs.-prime position. Although the volatility is quite high in these positions (all rolls are

Cubeless	***.299***
No Redouble	***.474 ******
Redouble-Take	***.262 (Black: -.212)***

bad for Black except aces, which are quite good), the problem is that aces by themselves aren't such colossal market losers. Cashing then will still buy all those games in which Black might never roll that final 6—nothing to sneeze at.



Position 75A: Black on roll. Cube action?

Dwek writes, "In fact, the results were so fascinating that we played this game a hundred times and our statistical answer was that it is *definitely* a double and *barely* a take," innocently highlighting the advantage of studying backgammon in the computer age. Rolling out a position this gammonish even (gasp) *two* hundred times may well generate personal insight and understanding, but is certain to generate pure noise, statistically speaking. Just for fun, I had Snowie roll this out 100 times to completion with no variance reduction. The result looked reasonable, but the 95% confidence interval around that result was over a quarter of a point wide. Don't rush to bet your bankroll on information of that quality.