

SOLUTIONS

Problem A

○ is Opponent
score: 0
pip: 160

Unlimited Game
Jacoby Beaver

pip: 167
score: 0

● is Player

XGID=a---aE-C---dE-a-c-e----B-0:0:1:53:0:0:3:0:10

● to play 53

1.	Rollout ¹	13/5*	eq: -0.082
	Player:	47.77% (G:13.98% B:0.68%)	Conf.: ± 0.016 (-0.098...-0.066) - [100.0%]
	Opponent:	52.23% (G:15.13% B:0.82%)	Duration: 12 minutes 04 seconds
2.	Rollout ¹	8/3 6/3	eq: -0.167 (-0.085)
	Player:	45.99% (G:12.26% B:0.53%)	Conf.: ± 0.016 (-0.183...-0.152) - [0.0%]
	Opponent:	54.01% (G:15.12% B:0.67%)	Duration: 9 minutes 51 seconds
¹ 1296 Games rolled with Variance Reduction. Moves: 3-ply, cube decisions: XG Roller			

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Interestingly, the correct solution to this problem would have been easily found by the swashbuckling backgammon players of the early 1970's. In fact, during that time there were well-regarded experts who went so far as to counsel against making the 3-point with a 53 opening roll, instead preferring to bring down builders from the midpoint with 13/10 13/8.¹ By the end of the 1970's, though, making the 3-point became more or less the universally accepted choice for the play of an opening 53 – and since this play is far and away the best way to play this opening roll, it has remained the default play up to the present day. Modern players now have a much better appreciation for made points than players of the 1970's did, and

¹ Magriel, Paul, *Backgammon*, X-22 Publishing, 1976, pp. 53-54: "5-3 could also be used to make the three point. However, despite the importance of making points in your home board, deep points – namely, the three, two, and especially the one – are not effective in blocking opposing checkers unless the intervening four and five points have already been made. Closing these deep points takes checkers out of play that may be used more constructively elsewhere." See also, *e.g.*, Cooke, Barclay, and Bradshaw, Jon, *Backgammon The Cruellest Game*, Random House, Inc., 1974, p. 26: "Some experts have suggested establishing [the] 3 point with a roll of 5-3, but it is an inferior play. At this point in the game, the 3 point is almost irrelevant; it does not become really valuable until the 5 and 4 points have been secured."

nowadays the preference goes to making a point, rather than preparing to make a point by bringing down builders (even if the point being sought by the building play is a better point).

Some players take this concept too far, however, and the problem position is a case in point. While making the 3-point in this position is a constructive play, Black has a much better alternative – he can hit White’s checker on his 5-point. As the rollout shows, Black should pass up the sure point (8/3 6/3) to go for the loose hit (13/5*). In this particular position, the loose hit does several good things: it puts a White checker on the bar, starts the useful 5-point, and prevents White from making the defensive 20-point. The “experts” from the 1970’s weren’t entirely wrong – the 3-point is a deep inner point, so it’s not the strongest of assets. In this case, the loose hit is a superior choice to making the 3-point, even though it leaves a blot on the 5-point.

A few other things to note:

- It is thematic in the opening stages of a backgammon game to hit enemy blots that are placed on your 5-point or 4-point to prevent your opponent from establishing an advanced defensive anchor. In the first few moves of a game, it will seldom be the case that you should forgo a loose hit on these points in favor of another play.
- In this particular position, the hit has the added advantage of depriving White of half of his next roll, which is helpful since White has added a new builder on his 10-point with his opening roll. Unless White enters from the bar with a lucky set of doubles, he will not be able to make a new inner-board point on his own side of the board.
- Another problem with making the 3-point in this position is that White has opened by splitting his back checkers with the aim of making the defensive 20-point. Since the 3-point will be behind that potential anchor, it loses some of its value.
- As the rollout shows, Black will be an underdog irrespective of how he plays this roll. When you are an underdog, it’s often the case that a dynamic play will be preferable to a safer, more positional alternative – within reason, of course, since those safe, positional plays that are very strong will generally still be correct. In this case, the 3-point is a nice asset, but it is not so good as to trump the benefits of the hitting play.

Problem B

○ is Opponent
score: 0
pip: 157

Unlimited Game
Jacoby Beaver

pip: 167
score: 0

● is Player

XGID=--a----EaC---dE--ac-e----B-:0:0:1:54:0:0:3:0:10

● to play 54

1.	Rollout ¹	24/20 6/1*	eq: -0.175
	Player:	45.66% (G:12.54% B:0.44%)	Conf.: ± 0.015 (-0.190...-0.160) - [100.0%]
	Opponent:	54.34% (G:14.96% B:0.80%)	Duration: 11 minutes 32 seconds
2.	Rollout ¹	24/20 13/8	eq: -0.223 (-0.048)
	Player:	44.53% (G:10.95% B:0.48%)	Conf.: ± 0.014 (-0.237...-0.209) - [0.0%]
	Opponent:	55.47% (G:14.23% B:0.62%)	Duration: 10 minutes 48 seconds
3.	Rollout ¹	24/15	eq: -0.290 (-0.115)
	Player:	43.13% (G:9.03% B:0.38%)	Conf.: ± 0.015 (-0.305...-0.275) - [0.0%]
	Opponent:	56.87% (G:14.54% B:0.56%)	Duration: 11 minutes 23 seconds
¹ 1296 Games rolled with Variance Reduction.			
Moves: 3-ply, cube decisions: XG Roller			

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Hitting on the ace-point when your opponent has split to the bar-point is often a good tactic. You break the connectivity of your opponent's back checkers, make it harder for him to make the defensive bar-point and convert the non-hitting 6's that he might roll from the bar into poor shots (instead of point-makers). Of course, since White has placed a checker on your bar-point, it is best to play the other half of your roll by splitting your back men, instead of leaving a direct shot on your own side of the board by playing a checker down from the midpoint. 24/20 6/1* is the best play in this position.

Related Plays

- You should generally hit on the ace-point if you roll 52 or 54 after your opponent splits his back checkers with a 6 (with a 51 roll you hit the checker on the bar-point from your midpoint, with a 53 roll you make the 3-point, and with a 56 roll you hit two checkers; of course, with a 55 roll you make the 3-point and the ace-point and put White's remaining back checker on the bar). Splitting the back checkers with the 2 or the 4 completes the play. The one exception to this rule is that if your opponent plays 24/18 13/10 with a 63 opening roll, and you reply with a 54 roll, you should obviously hit his blot on the 10-point rather than make a loose hit on the ace-point.

the bots themselves. As a result, many players began to split, and slotting fell out of fashion for a while. The stronger players ultimately returned to slotting, for a few reasons. First, they realized that while the neural nets played backgammon at an extremely high level, certain position types were not their strong suit – in particular, they handled backgames and complex holding games (where many checkers have been hit and sent back) pretty poorly. Since the slotting plays would lead to these types of plays more often than would the splitting plays (which would frequently lead to ordinary holding game formations instead), the top players recognized that the bots were undervaluing the merits of the slotting plays. Second, since the slotting plays would more often lead to backgames, priming games and complex holding games, rather than ordinary holding games (which are much easier to play correctly), these game types would give stronger players more frequent opportunities to exploit their superior playing ability against their presumptively weaker opponents.

Fast-forwarding to our modern era, the play of the bots in the more complicated game types, including backgames, has vastly improved (although they still have playing deficiencies in positions that involve outside primes or “snakes”). The current consensus for standard money game backgammon with the Jacoby Rule in effect, based on the latest and greatest in neural network technology, is as follows:³

- With 21, slotting and splitting are toss-up plays.
- With 41, splitting is better (and this is due in large part to the strength of the builder that is placed on the 9-point, which creates many point-making numbers, negating the need to incur the additional risk that is entailed when you slot the 5-point – *i.e.*, slotting is “overkill” in this case).
- With 51, splitting is better than slotting, but not by a large amount.

Having taken a bit of a detour, digressing to give a brief history of the evolution of backgammon opening theory on this topic, let’s return to the problem at hand.

Note first that in the problem position, Black is not confronted with an actual opening roll situation. He is responding to White’s play of his own opening roll, which changes things considerably. Since we know that modern theory recognizes the slotting and splitting options to be essentially toss-ups for the play of a 21 on the opening roll, we need to evaluate how the costs and benefits of slotting and splitting have changed as a result of White having played 13/10 13/9 on the opening roll.

Slotting

- Cost of Slotting. The cost of slotting has gone down considerably. The main cost in slotting is that your blot on the 5-point might get hit, costing you a large amount in the race. Here, White hits with 4’s if Black makes the slotting play. However, White’s 4’s all play very well on his own side of the board now that he’s brought down two builders from his midpoint: 54, 44, 43 and 41 make the 5-point; and 64 and 42 make the 4-point. Since most of these options aren’t available to White in the case where Black slots his 5-point with 21 on the opening roll, it is clear that the relative cost of slotting the 5-point with a 21 roll in this specific position (as compared to the corresponding situation on the opening roll) has gone down considerably – while White will hit Black’s blot on the 5-point if he gets the opportunity to do so, he now has to forgo his chance to make a strong point on the other side of the board in order to make the hit.

³ See http://www.extremegammon.com/OB/Opening_in_unlimited_game.html to see the current play preferences contained in Extreme Gammon’s Opening Book.

- Benefit of Slotting. The main benefit of slotting a point in the early game comes from the possibility that you might make the point and improve your position (slotting also unstacks the 6-point, but this improvement reflects a much smaller benefit). White's play of his opening roll has not really done anything that changes this. The benefits of slotting now are basically the same as they are on the opening roll.

Splitting

- Cost of Splitting. The cost of splitting has gone up. Having brought down two checkers from his midpoint, White has more attackers in place to launch a blitz attack if the opportunity presents itself (note that he now has eight checkers bearing on his inner board – the two builders he has brought down, the three checkers on the 8-point and the three spares on the 6-point – rather than the six checkers that bear on his inner board in the starting position); essentially, all of his attacking variations have become more dangerous to Black. The best protection against a blitz attack is to have an anchor in your opponent's home board (since anchored checkers can neither be attacked and placed on the bar nor closed out). As such, White's enhanced attacking threat makes it more dangerous for Black to split the two checkers that he has on the 24-point.
- Benefit of Splitting. The main benefit of splitting is that you get some additional coverage of White's inner and outer boards, as well as some combinations that allow you to create an advanced anchor. These benefits apply to a split by Black in this position, although it is likely that White will be able to safety one or more of his outside blots and/or make a new point with his next roll – so, some of the beneficial aspects of splitting are reduced, since Black won't have as many rolls that will make an advanced anchor, and he likely won't have that many additional indirect shots at an outfield blot. Overall, the splitting play in this position offers Black some additional benefits, but on balance they are not that large.

To summarize: Compared to the opening roll, the cost of slotting has come way down, while the cost of splitting has gone up. The relative benefits of the two plays hasn't really changed much (although there is a slight improvement in the benefits of splitting). Since the choice is a toss-up on the opening roll, slotting after White brings two builders down becomes the clearly correct play in the problem position. 13/11 6/5 is best in Problem C.

Discussion of Related Plays When You Respond to the Opening Roll With a "Slot-or-Split" Roll

- As a general rule, slotting is better than splitting after your opponent brings two builders down from the midpoint (generally for reasons similar to those discussed above).
- When your opponent splits his back checkers on the opening roll, splitting becomes your preferred play (the cost of slotting goes up a lot as you are now subject to a double-direct shot in your inner board if you drop a checker onto the 5-point).
- When your opponent slots, it is generally correct to counter with a slot of your own (he doesn't have that many rolls that both hit your slotted checker and cover his own, so many of his hitting rolls will leave you with a return shot of your own, *i.e.*, the cost of slotting has again gone down).
- When your opponent makes an inner-board point, splitting is better than slotting (the possibility of getting hit is now more costly as you are out-boarded and thus at a disadvantage if a blot-hitting contest ensues). However, in the case where your opponent makes his deuce-point, slotting becomes the indicated play, since splitting by playing 24/23 is no longer an option.

