



## Chess Botany - The "Trunk"

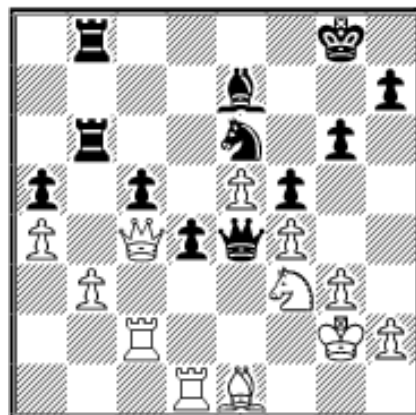
In his book, *Think like a Grandmaster*, grandmaster Alexander Kotov introduced the concept of a "tree of variations," or the collection of variations that need to be analyzed. He also enumerated three kinds of trees: the "bare trunk," the "shrub," and "variational debris." In this article and the articles that follow, we will be looking at examples of each variety of tree.

The "bare trunk" is a long, forcing variation practically devoid of alternatives. (In point of fact, there are almost always alternatives, but if they are of little significance, we can honestly assign our calculations this kind of label.)

For less highly-skilled players, the main impediment is the need to accurately foresee each of the many positions that come up in the course of the calculation. The deeper one goes into the variation, the stronger our doubts grow: should I extend this line? Did I calculate everything correctly? Did I overlook something important? You can increase your confidence in your calculation by moving down the line without haste, stopping at each step to check carefully whether or not there might be a strong alternative, either for yourself or for your opponent.

The question marks alongside the diagrams signify, as usual, that the position may be used as a self-testing exercise. Some of these exercises will be elementary in nature; others – very difficult.

*Spraggett – Browne*  
New York 1987



1. ?

Your task: evaluate 32 Bxa5.

Even with the question phrased this way, zeroing in on one concrete continuation, it's still necessary to think, if only for a little, about the starting position. Who is better here, and what will happen if White plays a quiet move?

For if White stands better, then we will not be satisfied if, for example, the sharp variation that we must calculate ends in a draw; we should also

be justified in cutting our analysis short if we see that it will lead to a situation that will be difficult to evaluate, and involve us in considerable risk.

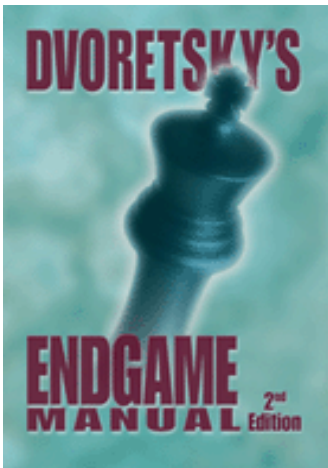
Conversely, these circumstances do not require us to just give up on the principled continuation, if we assess the starting position in our opponent's favor.

In the actual game, Kevin Spraggett chose **32 Rd3**. Black defended the a5-pawn with **32... Ra8** – although **32... Qa8!?**, intending **33... Qa6!** was also worth considering. An exchange

## COLUMNISTS

### *The Instructor*

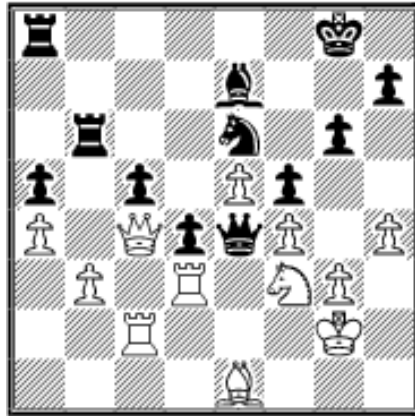
Mark Dvoretsky



of queens would render the b3-pawn more vulnerable, with Black apparently taking over the initiative.

White's next move was a serious error, which his opponent failed to exploit.

**33 h4?** (33 Kf2 was correct)



1...?

The simple, but elegant tactical blow 33...Bxh4! would have won a pawn, since 34 gh?! would be bad in view of 34...Qxd3! 35 Qxd3 Nxf4+.

**33...h6? 34 Kf2 g5?**

This is suicide! After 34...Kh8, the position remains unclear.

**35 Re2 Qb7 36 hg hg 37 fg Kg7 38 Bd2±**

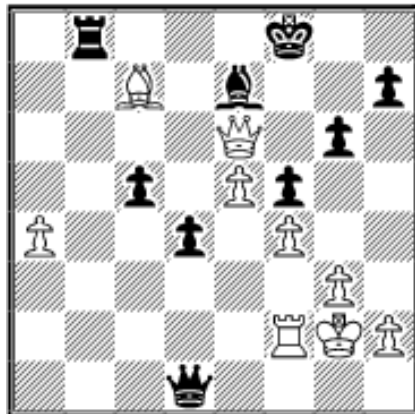
Of course, this did not give us a clear-cut answer to the assessment of our starting position, but some definite ideas have probably already surfaced. I don't know about you, but it seems to me that Black's chances are preferable – the position is easier to play for him.

And now, let's start calculating the principled line.

**32 Be1xa5!? Rb6xb3 34 Qc4xe6+ Kg8-f8 34 Rc2-f2 Rb3xf3 35 Rf2xf3 Qe4-e2+**

Of course not 35...Rb2+? 36 Rd2+--.

**36 Rf3-f2 Qe2xd1 37 Ba5-c7!**



1...?

White attacks the rook, and plans to create threats against the king by Bd6. After 37...Re8? 38 Bd6, he would have an obvious advantage. The counterattack 37...Rb1? fails in view of 38 Qc8+! (we shall examine the alternative 38 Bd6 after completing our analysis of the main line) 38... Kg7 39 Qe8+--.

This would all be very nice for White, if his opponent didn't have the following powerful move, forcing the exchange of queens:

**37...Qd1-b3!! 38 Qe6xb3 Rb8xb3**



The endgame looks good for Black, in view of the power of his connected passed pawns.

Here is exactly the place to recall those impressions we got while considering the starting position. If you liked it for White, then perhaps it



would make sense to stop here and reject the capture of the a5-pawn in favor of a quieter continuation. But if that position was not to your liking, then you should continue with the analysis: perhaps, in the endgame, White's counterplay – advancing his a-pawn – will be enough to save him. If so, then by taking the pawn, you avoid

defending an inferior position, force a draw (that is, if your calculations were correct), as well as posing a problem for your opponent, somewhere down the road (although it is true that the likelihood he will miss the move 37...Qb3!! isn't very great).

### 39 a4-a5

Now if 39...c4, 40 Ra2 c3 41 a6 Rb2+ 42 Rxb2 cb 43 a7 b1Q 44 a8Q+ Kg7 leads to equality.

### 39...Rb3-a3

The a-pawn is stopped, but now White has the chance to work up threats against the enemy king with e5-e6, Rb2 and Be5.

### 40 e5-e6 c5-c4 41 Rf2-b2 d4-d3 42 Bc7-e5 Be7-c5 43 Be5-f6

White likely has no reason to investigate the sharper line 43 Rb7 Ra2+ 44 Kh3 (44 Kf1?! Rxh2), although here too, the most likely outcome is a draw. For example, 44...Re2!? 45 Bg7+ Ke8 46 Rb8+ Ke7 47 Bf8+ Kxe6 48 Bxc5 d2 49 Rd8 c3 50 Bb4 Re1 51 Bxc3 d1Q 52 Re8+ and 53 Rxe1.

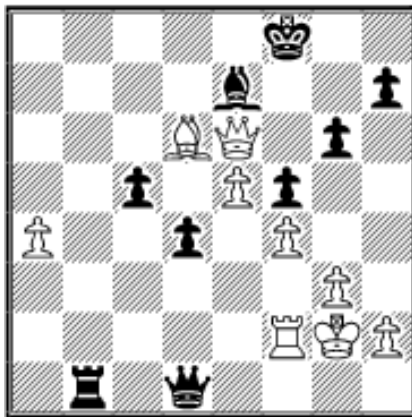
### 43...Ra3-b3

Forced.

### 44 Rb2xb3 c4xb3 45 Kg2-f1!

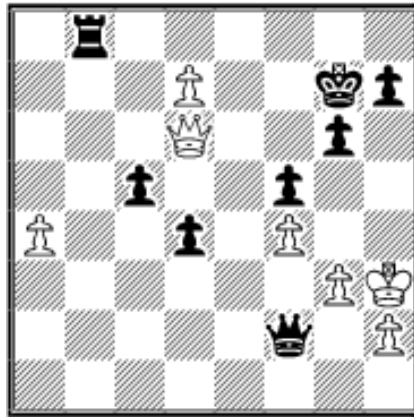
The passed pawns cancel each other out: the position is even.

And now, I'll let you solve an extra task, also on the theme of the "bare" (well, almost bare) trunk: calculate the variation 37...Rb1? 38 Bd6?!



1...?

The first few moves are forced: 38...Bxd6 39 ed (the queen capture ensures a draw, of course, but White wants more than this) 39...Qg1+ 40 Kh3 Qxf2 41 d7 Rb8 42 Qd6+ Kg7



1. ?

**43 Qe5+!**

43 Qxb8? Qf1+ 44 Kh4 Qf3 would lead to an immediate draw.

**43...Kf7!**

43...Kh6? would lose: 44 Qxb8 Kh5 45 Qb5 (or 45 Qb2!?).

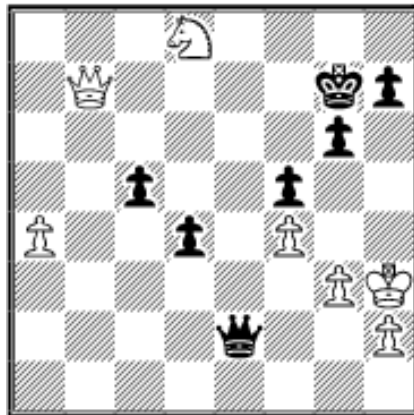
**44 Qxb8 Qe2!**

44...Qf1+? 45 Kh4 Qf3 no longer works: 46 Qe8+ Kg7 47 Qe7+ Kh6 48 Qf8 mate.

**45 d8N+!**

Queening the pawn would allow Black to give perpetual check.

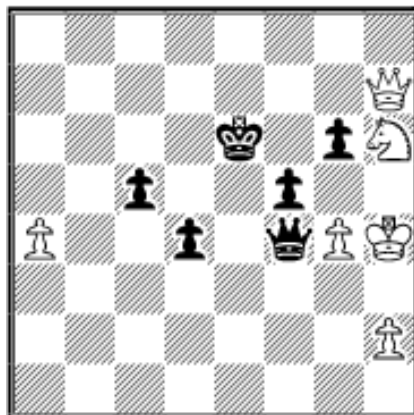
**45...Kg7 46 Qb7+!**



1...?

Retreating the king to f6 or to g8 leads to mate in one or two moves. 46...Kh6? is a mistake too: after 47 Nf7+ Kh5 48 Ne5+–, the king takes a vital checking square away from the queen.

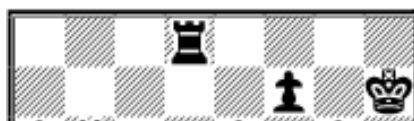
**46...Kh8! 47 Nf7+ Kg8 48 Nh6+ Kh8 49 g4!** (the only way to continue playing to win) **49...Qe3+ 50 Kh4 Qxf4 51 Qa8+ Kg7 52 Qg8+ Kf6** (52... Kxh6?? 53 Qf8#) **53 Qh8+! Ke6 54 Qxh7**



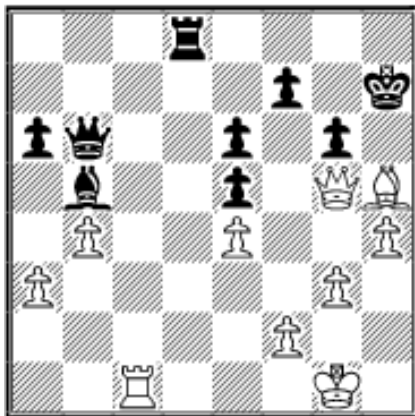
This is probably a good place to stop, since the forcing play has more or less ended. White retains the advantage, but it's difficult to say whether it will be enough to win.

For further training, I offer a couple of exercises from my "notebook."

*Kholmov – Jakobsen*  
Kislovodsk 1972



1. ?



Calculate 37 Bxg6+.

White has an overwhelming advantage; there is no need for a combination here. The game continued **37 Bf3 Rd3 38 Qf6 Qb7 39 h5 gh 40 Qxe5!** Black resigned.

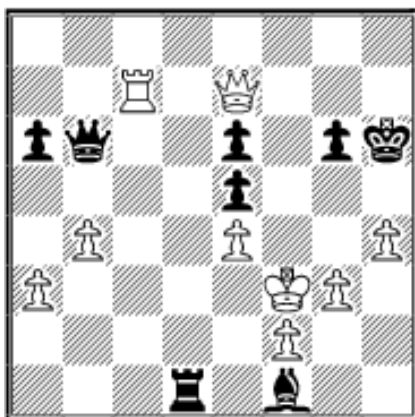
The bishop sacrifice would have thrown away the win.

**37 Bh5xg6+? f7xg6 38 Qg5-e7+ Kh7-h6 39 Rc1-**

**c7**

39 a4!? has to be met by 39...Be2!.

**39...Rd8-d1+ 40 Kg1-g2 Bb5-f1+ 41 Kg2-f3**



**41...Rd1-d3+**

If you can accurately calculate the main variation to the end, there's no need to distract yourself by calculating alternate lines. Nevertheless, I will demonstrate that immediately sacrificing two pieces will not give Black a draw: 41...Be2+? 42 Kxe2 Qb5+ 43 Kxd1 Qd3+ 44 Kc1 Qxa3+ 45 Kd2 Qb2+ 46 Ke3+-, or 42...Rd2+ 43 Kxd2 Qxf2+ 44 Kc1 Qe3+ 45 Kb2 Qd4+ 46 Rc3 Qd2+ 47 Rc2 Qd4 + 48 Ka2+-.

**42 Kf3-g4 Bf1-e2+ 43 f2-f3 (43 Kh3 Bf1+) 43...**

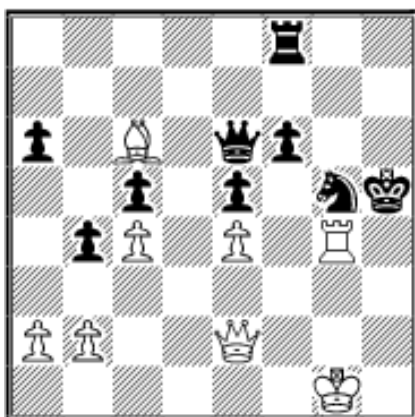
**Be2xf3+ 44 Kg4 h3 Bf3-g4+!**

But not 44...Bg2+? 45 Kh2!+-.

**45 Kh3xg4 Rd3xg3+! 46 Kg4xg3 Qb6-e3+**

Black gives perpetual check.

*Arnason – Miles*  
Reykjavik 1978



1. ?

Black has a healthy extra pawn, and with a "normal" continuation, he will most likely win. So White should carefully examine the combination beginning with a sacrifice on g5, because there just might be a draw there.

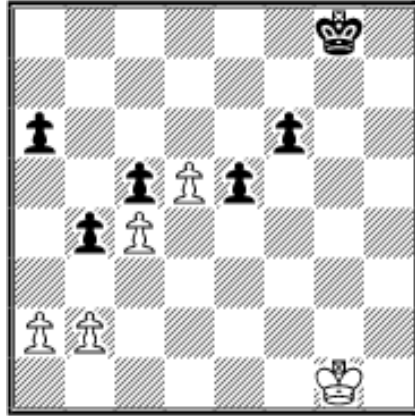
In the game, Jon Arnason decided against calculations, and deservedly lost: **36 Rg3+? Kg6 37 Bd5 Qc8 38 Qg2 Rh8 39 Rf3 Rh4 40 Rf5 Rf4 41 Bf7+ Kxf7 42 Qxg5 Rxf5 43 Qxf5 Qxf5 44 ef Kg7 45 Kf2 Kh6 46 Kf3 Kg5 47 Ke4 a5 48 b3**

**Kg4 49 Kd5 Kf4 50 Kxc5 e4** White resigned.

36 Rg4xg5+! Kh5xg5 37 Qe2-d2+! Kg5-g6 38 Qd2-g2+ Kg6-f7

There is no other way to escape the checks. Now the game becomes a pawn ending.

39 Bc6-d5 Qe6xd5 40 e4xd5! Rf8-g8 41 Qg2xg8+ Kf7xg8

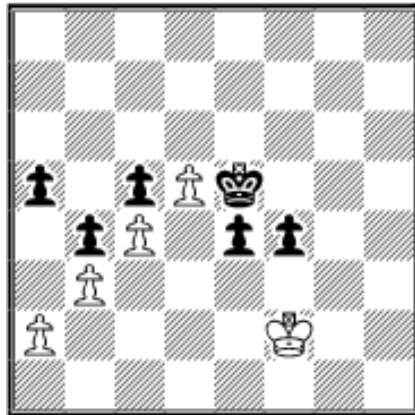


Now Black will strengthen his position as much as possible, advancing his pawns and king (in this stage, the individual moves don't have much significance). In order to ensure that one of his pawns will queen, at some point he will have to leave the square of the protected passed d-pawn, which will advance at once. Here, once again, concrete play resumes, requiring accurate calculation.

42 Kg1-f2 f6-f5 43 Kf2-e3 Kg8-f7 44 Ke3-f3 a6-a5 45 b2-b3

It's useful to bear in mind here that the pawns could be stationed a bit differently, starting with 45 a4!?. But for now, we shouldn't distract ourselves with this – we can come back to it, if our calculation shows us that the queenside pawn structure will factor significantly into the coming queen endgame.

45...e5-e4+ 46 Kf3-e3 Kf7-e7 47 Ke3-f4 Ke7-f6 48 Kf4-e3 Kf6-e5 49 Ke3-e2 f5-f4 50 Ke2-f2

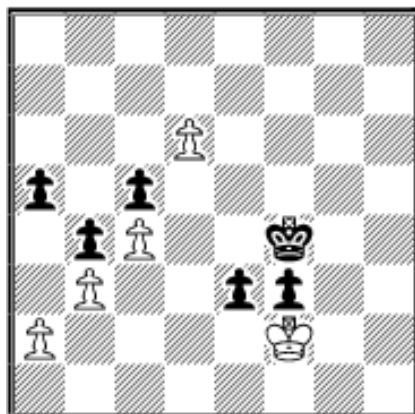


Two necessary elements of Black's play in such endings are choosing the optimal pawn placement on the "front line," and choosing the right moment to run the king in. In this case, Black should advance his f-pawn, since after 50...e3+?!, 51 Kf3 Kf5 52 Ke2 Ke4? doesn't work: 53 d6 f3+ 54 Kf1 e2+ 55 Kf2 Kd3 56 d7+, as White's pawn queens with check.

50...f4-f3 51 Kf2-e3 Ke5-f5 52 Ke3-f2 Kf5-f4

Tossing in the moves 52...a4 53 ba here does not change the assessment of the position.

53 d5-d6 e4-e3+



1. ?

54 Kg1? Kg3 55 d7 e2 loses for White. And on 54 Ke1!? f2+ 55 Ke2 Kg3 56 d7 Kg2 57 d8Q f1Q+ 58 Kxe3 Qe1+, the endgame looks dangerous for him.

In *Informant 25*, Anthony Miles assessed the final position of this variation as slightly better for Black. True, he arrives at it by a somewhat different route: 54 Kf1 f2 55 Ke2, etc. But 54... f2?? here is a gross blunder, which actually loses



for Black upon 55 Kg2!.

White manages to obtain a more pleasant version of the queen endgame here.

**54 Kf2-f1! Kf4-g3! 55 d6-d7 e3-e2+ 56 Kf1-e1 f3-f2+ 57 Ke1xe2 Kg3-g2 58 d7-d8Q f2-f1Q+ 59 Ke2-d2!**

This position is drawn.

For those who would like to solve similar exercises, I recommend the endings Pillsbury – Gunsberg (Hastings 1895) and Stangl – Schneider (Berlin 1992) in my [Endgame Manual](#).

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