

# All in One Endgame

Rhys Goldstein, November 2012



[Diagram A] White to play.

A typical endgame study has one main variation and illustrates a single theme. What makes the above position unusually instructive is that there are several key variations, and each contains its own lesson for playing minor piece endgames.

Analyzing this position, we will encounter a blockade, a pawn race, a skewer, a fork, and a perpetual check. We will see common endgame tactics, like hanging pieces on the sixth rank with a pawn on the seventh. We will see common endgame principles, like placing one's pawns on the opposite color as one's bishop. We will witness how saving time can be all-important in some cases, while in other cases one must lose a move to win the game. All of this in one endgame!

Before we begin, let's make an important observation about this position: Black cannot win. Although Black's c-pawn is only two steps away from queening, White can always give up the bishop for the queen on c1, leaving Black with insufficient material to force mate. So Black is playing for a draw, and White is playing for a win.

It turns out that White can win, though it is not immediately obvious how. The first few moves are critical if White is to preserve the advantage, so we'll start there.

## Part 1 – Preserving the Advantage

In Diagram A, Black is threatening 1...c2 and 2...c1=Q, forcing White to give up the bishop. But it seems that White can just win the c-pawn with 1.Kd3, so why not?

[A] **1.Kd3? Nc5+ 2.Kxc3 Kf5** [B]



[Diagram B] Move 3 with White to play

White is now two pawns up, but the game can no longer be won.

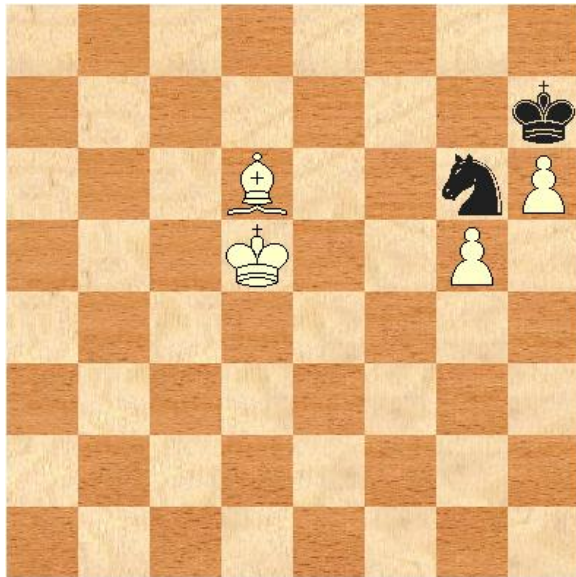
[B] **3. Be3? Ne4+ ½-½** (actual result)

It turns out that this endgame is from one of my own games. I was White, and here I offered a draw since after 4...Nxf4?? 4.g7 Ne4+ 5.Kd4 Nf6 6.h6 Kg5 7.h7 and White wins) **4.Kc4 Ng7 5.h6 Kxg6 6.hxg7 Kxg7** (theoretical result: ½-½)

[B] **3.g6 Ne6** (not 3...Kxf4?? 4.g7 Ne4+ 5.Kd4 Nf6 6.h6 Kg5 7.h7 and White wins) **4.Kc4 Ng7 5.h6 Kxg6 6.hxg7 Kxg7** (theoretical result: ½-½)

Interestingly, 3.h6 saves both pawns.

[B] **3.h6 Kg6** (of course not 3.Kxf4?? 4.h7) **4.Kc4 Ne6 5.Be3 Kh7 6.Kd5 Nf8 7.Bc5 Ng6 8.Bd6** [C] (½-½)



[Diagram C] Move 8 with Black to play

This position in Diagram C is instructive because, although Black remains two pawns down, White cannot win. Black's knight on g6 can move to any of 6 other squares, and White's king and bishop together can cover only 5 of them. So the Black knight will simply move to and from g6 and White can make no progress. This is a good illustration of a blockade. The blockade is effective here because White's pawns are on the same color squares as the bishop.

So we have seen how the passive 1.Kd3 leads to a draw. The lesson is to keep your King active in the endgame whenever possible.

Let us now return to the initial position in Diagram A, and consider the first move 1.g6. Black should respond by giving check with the knight.

[A] **1.g6? Nc5+** [D]



[Diagram D] Move 2 with White to play

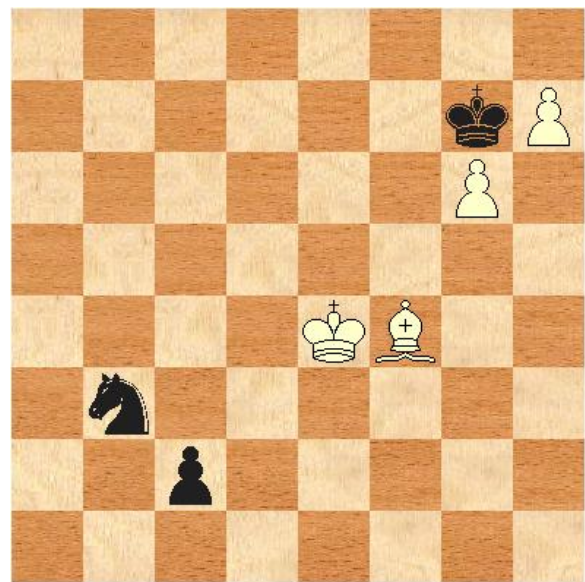
Here White has three choices. We will quickly dismiss 2.Ke3 and 2.Kf3. These two passive moves are similar in principle to 1.Kd3, which we have already analyzed. The details of 2.Ke3 and 2.Kf3 are actually fairly complicated, but in either case Black can force a draw by using his c-pawn as a distraction while going after White's g- and h-pawns.

White's other option is 2.Kd4. The move is noteworthy because, if Black responds correctly with 2...Kf5!, we see another important endgame theme: the pawn race. The key lesson about pawn races is simply that one must calculate them, even if that means looking many moves ahead. White must make the following calculation to see that after 2.Kd4 Kf5, Black will queen with check and draw easily.

[D] **2.Kd4 Kf5! 3.Kxc5** (if instead the bishop moves, 3...Ne6+ draws) **Kxf4 4.g7 c2 5.g8=Q c1=Q+** (½-½)

Let's go back one last time to initial position in Diagram A. The only way for White to preserve a winning advantage is to play the forcing move 1.h6!. Black then has no time to play anything other than 1...Kf7 to head off the h-pawn. White follows with the unexpected 2.h7!, and again Black's response is forced.

[A] **1.h6! Kf7** (if 1...Nc5+ Kd4, Black must give up the knight with 2...Kf7 in order to stop the h pawn) **2.h7! Kg7 3.g6 c2**. [E]



[Diagram E] *Move 4 with White to play*

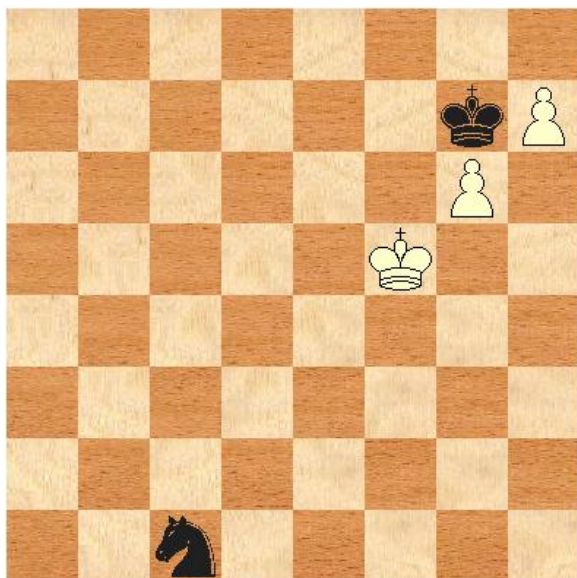
The key to finding 1.h6! and 2.h7! is to realize that the h-pawn can be preserved with 3.g6. Although the g-pawn is hanging on the sixth rank, Black of course cannot capture it since the h-pawn will queen. This is a common endgame tactic.

We have found the right way for White to preserve the advantage. But Black is threatening to promote the c-pawn next move. So how does White win?

## Part 2 – Winning the Game

In Diagram E, the most obvious strategy for White is to advance the king and give up the bishop for the c-pawn. The idea is to escort the pawns to the 8<sup>th</sup> rank with the king before the knight can return to stop them. Play might continue as follows.

[E] **4.Kf5 c1=Q 5.Bxc1? Nxc1** [F]



[Diagram F] Move 6 with White to play

This produces the position in Diagram F, which White cannot win. Though Black's knight appears out of play, it will in fact return fast enough to stop the pawns.

[F] **6.Ke6 Nd3 7.h8=Q+ Kxh8 8. Kf7 Ne5+**  
(½-½)

The game is drawn since Black will simply give up the knight for the g-pawn.

To see where White went wrong, return to Diagram E. It turns out that after 4.Kf5 c1=Q, White must allow Black to keep the new queen, at least for a while. After giving check with the bishop on the long diagonal and queening the h-pawn, White's advantage consists of an extra pawn and the initiative. What more could one ask for?

[E] **4.Kf5 c1=Q 5.Be5+! Kf8 6.h8=Q+ Ke7** [G]



[Diagram G] Move 7 with White to play

Now White has several ways to win, the simplest of which involves a skewer.

[G] **7.Bf6+ Kd6** (or 7...Kd7) **8.Qd8+ Kc5** (or 8...Kc6) **9.Qc8+ Kd6** (or any king move) **10.Qxc1 Nxc1 11.g7** (1-0)

The finish is beautiful. After giving up the option of trading a bishop for Black's queen along the c1-h6 diagonal, White trades queen for queen along the c-file. The extra pawn then decides. Here is the complete solution from the initial position.

**Solution #1:** [A] **1.h6! Kf7 2.h7! Kg7 3.g6 c2**  
[E] **4.Kf5 c1=Q 5.Be5+! Kf8 6.h8=Q+ Ke7** [G] **7.Bf6+ Kd6 8.Qd8+ Kc5 9.Qc8+ Kd6 10.Qxc1 Nxc1 11.g7** (1-0)

We have now found one forced win for White. But if we end the analysis here, we will miss two other surprising and instructive winning strategies.

Let's return to Diagram E. Instead of playing 4.Kf5 and 5.Be5+, what happens if White gives check immediately on the long diagonal?

[E] **4.Be5+! Kxg6 5.h8=Q c1=Q [H]**



[Diagram H] Move 6 with White to play

Here White has given up the extra pawn, and there is no possibility of checkmate. Yet surprisingly, the position in Diagram H is won for White. Here's how.

Because White's extra pawn is lost, a queen for queen trade is no longer sufficient to win. Instead of forcing Black's king onto the c-file for a skewer, White must force the king onto the c1-h6 diagonal and win the Black queen for the bishop with a fork.

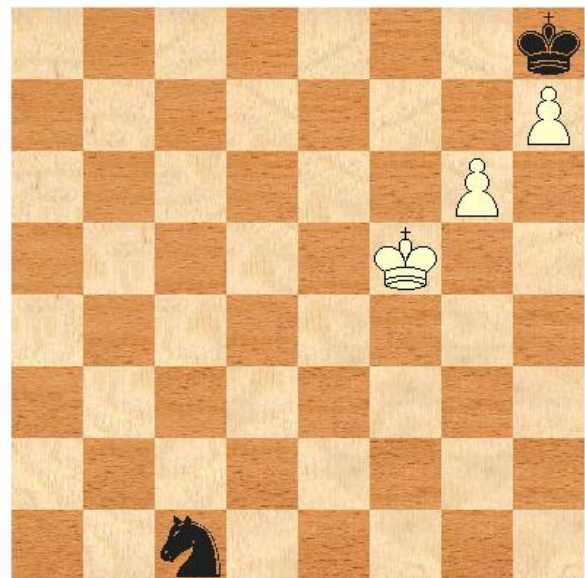
[H] **6.Qf6+ Kh5** (not 6...Kh7 Qg7#) **7.Qf3+! Kg6** (7...Kg5 and 7...Kh6 allow 8.Bf4+ winning the queen, while 7...Kh4 loses to 8.Bf6+) **8.Qf5+ Kh6 9.Bf4+** (1-0)

Note in this line how well-coordinated White's pieces are, particularly with the queen and bishop attacking on opposite colored squares. Here is the complete solution from the beginning.

**Solution #2:** [A] **1.h6! Kf7 2.h7! Kg7 3.g6 c2 [E] 4.Be5+! Kxg6 5.h8=Q c1=Q [H] 6.Qf6+ Kh5 7.Qf3+! Kg6 8.Qf5+ Kh6 9.Bf4+** (1-0)

We've now seen two ways to win the position in Diagram E, but the third is the most remarkable. Recall that 4.Kf5 c1=Q 5.Bxc1 leads to a draw. It turns out that this strategy wins after all, provided that White gains a little space beforehand. The winning move is 4.Bh6+!

[E] **4.Bh6+! Kh8** (if 4...Kxh6 5.h8=Q+ Kxg6, then although it isn't pretty, White can continue giving checks until there's an opportunity to fork the Black king and c2 pawn) **5.Kf5 c1=Q 6.Bxc1 Nxc1 [I]**



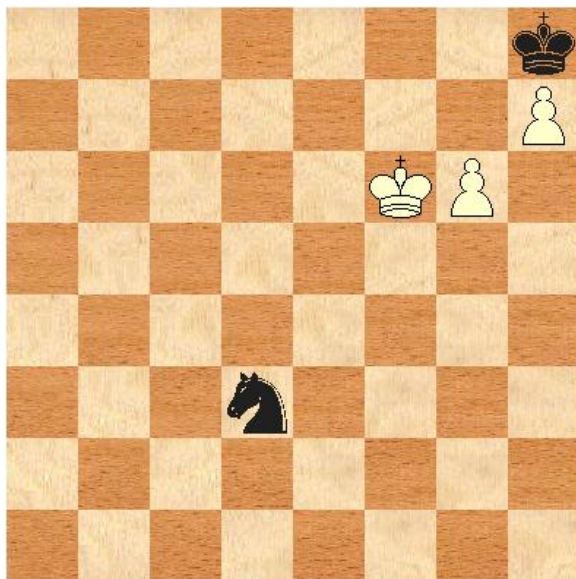
[Diagram I] Move 7 with White to play

Compare this position to that of Diagram F, which we concluded to be a draw. The only difference here is that Black's king is on h8 instead of g7. That small change allows White to advance his king to f6. But watch what happens if 7.Kf6 immediately.

[I] **7.Kf6? Nd3 8.g7+** (if 8.Kf7, then 8...Ne5+ followed by 9...Nxc6 draws) **Kxh7 10.Kf7 Ne5+ 11.Kf8** (otherwise 11...Kg8 draws immediately) **11...Nd7+ 12.Kf7 Ne5+** (½-½)

From Diagram I, the immediate 7.Kf6 allows Black to play 7...Nd3 and eventually draw by perpetual check. Yet f6 is in fact the correct square for White's king. The catch is that White's king must take two moves to go from f5 to f6. Sometimes one must lose a move to win the game.

[I] **7.Ke6!! Nd3** (if 7...Kg7, then 8.h8=Q+ Kxh8 9.Kf7 wins) **8.Kf6!!** [J]



[Diagram J] Move 8 with Black to play

If it were now White's move, the game would be drawn. We have already seen how g7+ leads to perpetual check, while Kf7 allows Ne5+ and Nxc6. But because White purposely lost a move, it is Black who must play. With the move, Black is lost. Here is one possible continuation.

[J] **8...Nf4 9.g7+ Kxh7 10.Kf7** (1-0)

And here is the third and final complete solution from the beginning.

**Solution #3:** [A] **1.h6! Kf7 2.h7! Kg7 3.g6 c2**  
 [E] **4.Bh6+! Kh8 5.Kf5 c1=Q 6.Bxc1 Nxc1** [I]  
**7.Ke6!! Nd3 8.Kf6!!** [J] **8...Nf4 9.g7+ Kxh7**  
**10.Kf7** (1-0)