

First Steps :

# Fundamental Endings

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# About the Author

Cyrus Lakdawala is an International Master, a former National Open and American Open Champion, and a six-time State Champion. He has been teaching chess for over 30 years, and coaches some of the top junior players in the U.S.

## **Also by the Author:**

*Play the London System*

*A Ferocious Opening Repertoire*

*The Slav: Move by Move*

*1...d6: Move by Move*

*The Caro-Kann: Move by Move*

*The Four Knights: Move by Move*

*Capablanca: Move by Move*

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*Opening Repertoire ... c6*

*First Steps: the Modern*

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# Introduction

## Why Study Chess at its Cellular Level?

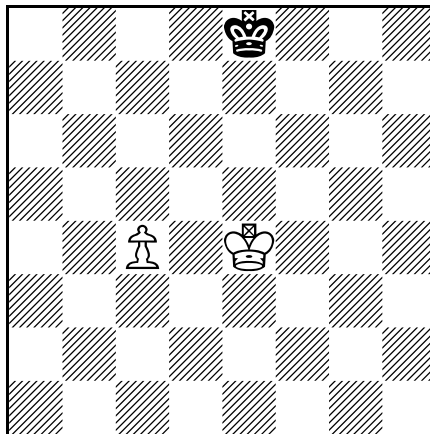
A chess battle is no less intense for its lack of brevity. Because my messianic mission in life is to make the chess board a safer place for students and readers, I break the seal of confessional and tell you that some students consider the idea of enjoyable endgame study an oxymoron. They complain that endgame study has the same tiring effect on them as a lullaby. So many of us are booked up on the opening and so few on the endgame. Is this logical? Have we reached maximum storage capacity for our brains with opening study? I don't think so. Resistance to the necessary is an act of anti-survival and to my mind, competency in the endgame is one of our game's unavoidable and admittedly burdensome demands. The squandering of our potential in this phase of the game (from not studying endings, and thereby not having a feel for them), virtually ensures our future poverty over the board. It's crushingly disheartening to look back at games and see all the precious winning endings we allowed to slip away, not to mention those we should have drawn and didn't. To become competent endgame players we must endure some pain, studying some rather tedious technical endings. Yet it's a good kind of pain, similar to the feeling you get after a tough workout at the gym. I have many students who refuse to study endings and as a result, view each exchange in their game with fear-filled eyes. Many complain this is not their natural phase of the game, and its mysteries exude a sense of alien otherness which they just don't understand. To me, the claim that we can just wing it in the endgame is to claim to be a military expert, just because you read a Tom Clancy novel. I tell them: No chess player has the capacity to absorb the sum of all known endgame knowledge and it's not necessary to be a great endgame player. Instead, your goal should be to achieve the level of a *functional* endgame player, who knows how to win when clearly winning, and draw when clearly drawing. We must master the basics, for the sake of our own over-the-board survival.

From my own experience, study of the ending absolutely pays off in our over-the-board games. Endings tend to be a seasonal business, since we don't get them every game we play. There is no way to prove my theory, but I have a feeling that you are more likely to reach endings more often with solid, strategically based openings, like London System and Caro-Kann (assuming we don't get mated in the middlegame!), than if you open with the King's Gambit. With my strategic style, I tend to reach endings in perhaps in about 70% of my games. In middlegames your writer reminds many of a kindergartener who didn't get a good night's sleep. I'm weak for an IM in the middlegame, since I lack a natural feel for initiative and attack. The place I make up for the absence is in the endings, where I routinely beat masters in balanced ones. It's my bread and butter. You too can weaponize this understudied phase of the game, if you put in the hard work.

## The Layout of the Book

I covered every essential endgame position I could think of, which would help the club-level player survive this most exacting phase of the game. I also made the book as interactive as possible, with numerous exercises for you to try and solve. They can be critical decisions/planning, combinations or calculation. If our overall planning represents a book's table of contents, then combinations and calculation are the individual chapters. I dislike endgame books with too many composed studies, since there is an Andy-Kaufmanesque unreality to them, which is closer to performance art, than our to our actual over-the-board games. So I loaded up the book with examples from real life, from three of the most skilled endgame inquisitors of all time: Jose Capablanca, Bobby Fischer, and just to prove that I don't live in the past, our present day World Champion, Magnus Carlsen. I was struck when researching this book, at how often the endgame wins of these three giants seemingly arose by lucky geometric accident, rather than thoughtful design. Of course this is an illusion. It was Capablanca who quipped the better player is always lucky. I imagined all the past World Champions and contenders in their prime, inhabiting the present time period. If they were all given access to endgame books and endgame table bases, who would be the best/most accurate endgame players? I would put my money on Capa, Fischer and Carlsen, so that's why their endings feature so prominently in this book.

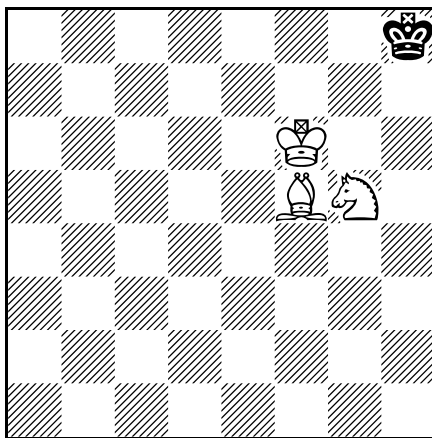
Some essential endings are changeless as the prehistoric insect sealed in amber. In Chapter One we cover essential survival knowledge, which if mastered, swings games your way, for the club-level player. Most of the must-learn endings are tasteless yet nutritious food, which our pallet may not enjoy, but our body needs. Essentially, this chapter is our kale green drink. These are not positions with divergent assessments, according to style. They are basically pass/fail math exams, where  $3+3$  must equal 6, and no other number, or we flunk.



We first require the elemental to create the ornate. Would humans have come up with the idea of an airplane if our world were devoid of birds and flying insects? The above diagram is an example of crucial elemental knowledge. A single pawn is the sum total of White's worldly possessions, yet compared to Black, he or she is a rich person. Let's say you have the black pieces in the

## First Steps: Fundamental Endings

above diagram. It's your move with your clock very low. You have a choice of e7, d7, or d8 for your king. Which one would you play? Warning: In pawn endings especially, we are given little to no room to negotiate. Often there is but a single correct answer, where all others alter the natural result of the game. The answer is ...♔d8!, which seizes distant opposition and holds the draw. Would you be able to come up with this move if you had five seconds on your time-delay clock in the game? Our goal is to make such fundamental endings second nature to you, where you don't even have to think. You simply *know* the correct idea.



Pawnless endings are notorious for their disorienting effect, since we lack strategic markers. This position is a rarely performed ceremony. I try to show students how to mate with bishop and knight versus king. They tell me it's impractical, since they will never get it. Even if this were true (I reached B+N vs. K twice in my career), my belief is that learning the pattern actually teaches you how to become a superior attacker, since in this case, we own the leanest possible attacking force, with almost zero margin for error, or we allow a draw via the 50-move rule, so there is no room for individual inclination or poetic metaphor. It's all math.

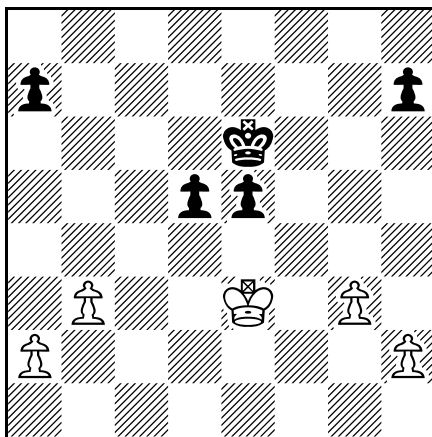
The next sections in the book cover essential queen, rook, bishop and knight endings. The final sections of the book cover various mixtures, like rook and minor piece, or queen and major pieces etc. In these games, the positions are hard to categorize, since the pieces constantly switch categories. What I mean is that we can start with an ending with queen, rook and knight versus queen, rook and bishop, and then queens and minor pieces are swapped and we get a rook ending. Then rooks come off the board and we get a king and pawn ending. Then follows a promotion race and each side gets a new queen. So in this case we actually end up with the study of four separate endings in just one game.

### Acknowledgements

Many thanks as always to my Everyman cousin Richard Palliser for his edit of this book, and to ruthless joke-deletor Nancy for her proofreading.

May we Capablancize our endgame ability to its maximum potential.

### 36) Outside Passers Beat Central Pawns



**Note:** Unlike most middlegames, where central pawns tend to be more valuable than wing pawns, in king and pawn endings, split wing pawns usually beat a central mass, as in this case, since the defender's king is unable to be in two places at once to stop White's passers.

#### 1 g4 a5 2 h4 ♔d6

2...d4+ is of no benefit. White wins just as he does in the game with 3 ♔e4 ♔d6 4 g5 ♔e6 5 a3.

#### 3 ♔d3 ♔e6 4 a3

White activates both majorities. Black's king will be unable to deal with White's split passed pawns, while White's king easily keeps at bay Black's central mass.

#### 4...♔d6 5 b4 axb4 6 axb4 ♔e6 7 h5

7 g5 also works: 7...♔f5 8 b5 ♔f4 9 b6 e4+ 10 ♔d4 e3 11 b7 and White promotes with check.

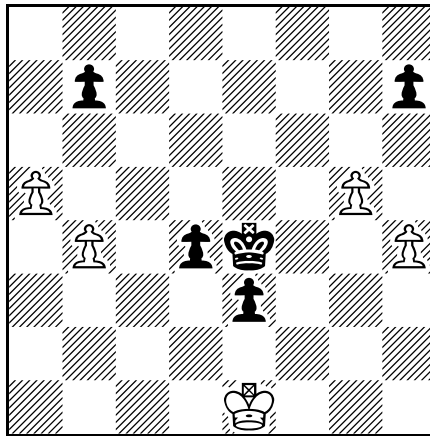
#### 7...h6 8 b5 ♔d6 9 g5!

This breakthrough is decisive.

#### 9...hxg5 10 h6 1-0

White promotes first.

### 37) Central Majority Beats Outside Passed Pawns



It's true that Black's king is unable to halt White's dual wing majorities, but he doesn't have to, since Black will either promote a central pawn or force mate, with the help of the black king.

**1...♔f3 2 h5 e2! 3 g6**

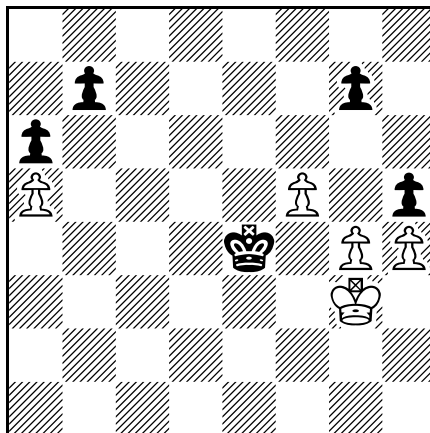
3 ♔d2 ♔f2 and Black queens with check next.

**3...♔e3!**

This move creates a mating net.

**4 gxh7 d3 5 h8♙ d2 mate**

### 38) Hobbled Majority, Part 1



The pawns are even; their ability to create a passed pawn is not. White's single a-pawn holds back Black's two queenside pawns which are frozen in place. This effectively makes White a pawn up.



**Exercise:** How can White force the win, despite Black's king position?

**7 f6!**

**Answer:** Breakthrough sacrifice! With this move White creates deadly passed h-pawns. Not 7 ♔h3? ♕f4 8 g×h5 ♕xf5 9 ♔g3 ♕e6 10 ♔g4 b5! 11 a×b6 ♔d6 12 ♔g5 a5 13 ♔g6 a4 14 ♔xg7 a3 15 h6 a2 16 ♔g8 a1♚ 17 h7 ♚g1+ 18 ♕f7 ♚d4 19 ♔g8 ♕e7! 20 h8♚ ♚c4+ 21 ♔g7 ♚g4+ 22 ♕h6 ♚xh4+ 23 ♔g7 ♚g5+ 24 ♕h7 ♕f7! (note that White lacks even a single check) 25 ♚d4 ♚h5 mate.

**7...gxf6 8 g×h5 ♕f5**

8...f5 9 h6 ♕e3 10 h7 f4+ 11 ♔g4 f3 12 h8♚ and Black is too late.

**9 ♕f3**

Black is in zugzwang and must give way.

**9...♕e6 10 ♕f4 ♕f7 11 ♕f5**

White's dominating king position, coupled with the outside passed h-pawns, make it an easy win.

**11...♔g7 12 h6+!**

Deflection, which is the standard winning mechanism of an outside passer.

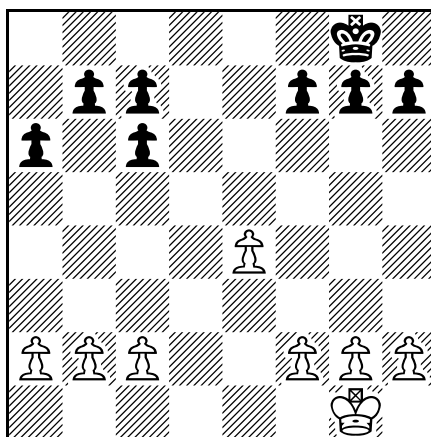
**12...♔xh6 13 ♕xf6 ♕h5 14 ♕e6 ♕xh4 15 ♔d6 ♔g5 16 ♕c7 ♕f6 17 ♔xb7 ♕e7 18 ♕xa6 ♔d7**

So close...

**19 ♔b7 1-0**

Black's king is cut off and White wins by a tempo.

### 39) Hobbled Majority, Part 2



**Note:** A structure like this can easily arise from an opening like the Exchange Ruy Lopez. In this case Black willingly swapped away all the pieces, landing in a lost king and pawn ending, since White's three queenside pawns are able to prevent Black's queenside four from turning into a passed pawn. Meanwhile, White eventually converts the kingside 4:3 majority into a winning passed pawn.

**1 f4 f6 2 ♖f2 ♖f7 3 ♖f3 ♖e6 4 g4 c5 5 h4 b5 6 g5 f5**

6...c4 7 ♖g4 b4 8 gxf6 ♖xf6 9 c3 c5 10 h5 a5 11 a3! b3 12 a4 (zugzwang) 12...h6 13 f5 ♖e5 14 ♖f3 ♖f6 15 ♖f4 ♖f7 16 e5 ♖e7 17 ♖e4 ♖d7 18 ♖d5 and White's king infiltration is decisive.

**7 h5 c4 8 ♖e3 c5 9 ♖f3 g6 10 h6 b4 11 c3 a5 12 ♖e3 a4 13 a3!**

**Tip:** When our opponent is saddled with such a hobbled majority, we can clamp down on dirty tricks with c3 and a3!. This prevents all pawn breakthroughs from our opponent's side. 13 ♖f3? allows Black a killing pawn breakthrough with 13...a3 14 bxa3 b3! 15 axb3 cxb3. White's king is outside of the square of the passed pawn, and White loses.

**13...b3 14 ♖f3**

Zugzwang.

**14...fxe4+**

14...♖f7 15 exf5 gxf5 16 ♖g3 ♖g6 17 ♖h4 ♖f7 18 ♖h5 ♖g8 19 g6 wins.

**15 ♖xe4 ♖f7 16 ♖e5 ♖e7 17 f5**

**Tip:** Success in chess is about increasing your odds. When there is no reason to race, then don't race, out of some misplaced sense of gallantry. This is the pragmatic move. There is no necessity for a promotion race, which also wins after 17 ♖d5 ♖f7 18 ♖xc5 ♖e6 19 ♖xc4 ♖f5 20 ♖b5.

**17...gxf5 18 ♖xf5 ♖f7 19 g6+!**

This eliminates Black's lone kingside pawn, insuring that it won't end in a race.

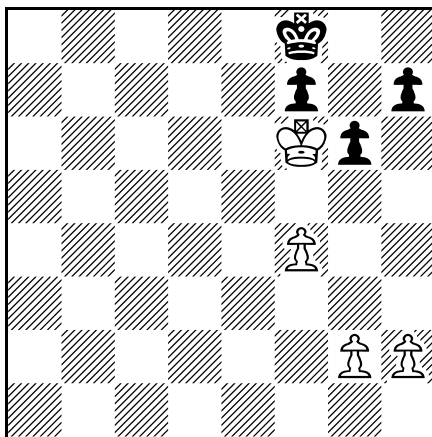
**19...hxg6+ 20 ♖g5 ♖g8 21 ♖xg6 ♖h8**

We have crushing king position, as well as outside passed pawns. All that's left is for our king to walk over and eat Black's queenside pawns.

**22 ♖f6 1-0**

I hope no reader considered 22 h7? stalemate.

### 40) Superior King Position



Three versus three on the same side is generally a draw, but not when one side enjoys a dominant king position, as in this case.

#### 1 g4 ♖g8

1...h6 2 h4 ♜g8 3 h5! gxh5 4 gxh5 ♜f8 5 f5! is zugzwang. Whichever direction Black's king moves, white's will infiltrate the opposite way. For example 5...♜g8 (5...♜e8 6 ♜g7 ♜e7 7 f6+ ♜e6 8 ♜xh6 ♜xf6 9 ♜h7 ♜g5 10 h6 f5 11 ♜g7 f4 12 h7 f3 13 h8♚ wins) 6 ♜e7 ♜g7 7 f6+ ♜g8 8 ♜e8 (zugzwang number two) 8...♜h8 9 ♜xf7 ♜h7 10 ♜f8 ♜h8 11 f7 ♜h7 12 ♜e7 wins.

#### 2 ♜e7!

Not 2 g5? ♜f8 3 h3 ♜g8 4 ♜e7 ♜g7 5 h4 ♜g8 6 ♜f6 ♜f8 7 f5 ♜g8 8 fxg6 fxg6 9 ♜e6 ♜f8 10 ♜f6 ♜g8 and White is unable to make progress.

#### 2...♜g7 3 f5! g5

- a) 3...gxf5 4 gxh5 h6 5 h3 h5 6 h4 ♜g8 7 f6 is zugzwang. Black drops the f7-pawn.
- b) 3...h6 4 f6+ ♜g8 5 h4 g5 6 h5 is zugzwang again.

#### 4 h3!

We use our extra pawn move to induce a future zugzwang.

#### 4...h6 5 ♜e8 ♜f6

- a) 5...f6 6 ♜e7 zugzwangs Black's king; as does...
- b) 5...♜g8 6 f6.
- c) Meanwhile if 5...h5 6 gxh5 ♜f6 7 h6! then Black once again finds himself in zugzwang, since 7...♜xf5 allows White to promote with 8 h7.

#### 6 ♜f8!

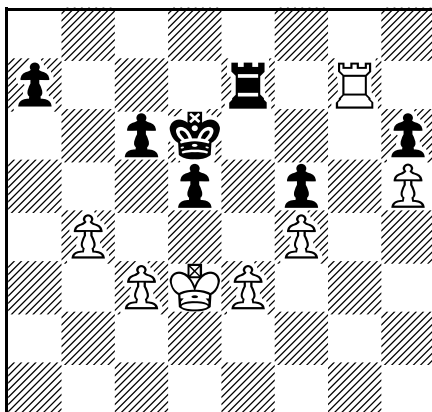
Zugzwang. Black's king enters through the back door to win Black's pawns.

#### 6...♜e5

6...h5 loses to 7 gxh5 ♜xf5 8 ♜xf7.

#### 7 ♜xf7 1-0

104) J.R.Capablanca-A.Kreymbourg, New York 1910



**Exercise:** Capa's omniscient eye pierced the gloom and ended Black's resistance. How?

**Answer:** Zugzwang.

**44 ♖g8!**

44 ♖g6+? ♜e6 45 ♔d4 (45 ♜xe6+ ♜xe6 46 ♔d4 ♔d6 47 c4 dxc4 48 ♔xc4 a6 49 ♔d4 c5+! – creating an outside passed pawn – 50 bxc5+ ♔c6 51 ♔c4 a5 52 e4 fxe4 53 f5 e3 54 f6 e2 55 f7 e1 ♖5 56 f8 ♖ ♖b4+ 57 ♔d3 ♖xc5 58 ♖xh6+ and the game should end in a draw) 45...♜xg6 46 hxg6 ♔e6 47 g7 ♔f7 48 ♔e5 ♔xg7 49 ♔xf5 a6 and White can't make progress due to Black's passed h-pawn so the ending should be drawn.

**44...c5**

- a) 44...♜e6 45 ♜f8 wins the f-pawn.
- b) 44...♔e6 45 ♖g6+ and there goes the h-pawn.
- c) 44...♔d7 45 ♜f8 ♔e6 46 ♜h8! The h-pawn falls.
- d) 44...♜f7 45 ♖g6+ ♔c7 46 ♜xh6 wins.
- e) 44...♜h7 45 ♖g6+ ♔d7 46 ♔d4! (even stronger than 46 ♜f6) 46...♔c7 47 ♔c5 and

pawns begin to fall.

**45 ♖g6+ ♜e6**

45...♔c7 46 bxc5 ♜h7 47 ♔d4 is also totally hopeless for Black.

**46 bxc5+**

Overloading Black's king.

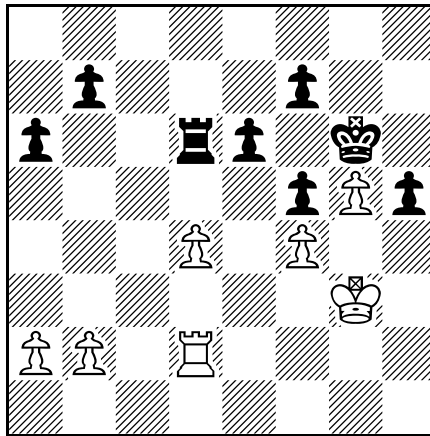
**46...♔d7 47 ♖g7+ ♔c6**

47...♜e7 48 c6+! ♔d6 49 ♜xe7 ♔xe7 50 c7 ♔d7 51 ♔d4 ♔xc7 52 ♔xd5 ♔b6 53 e4 fxe4 54 ♔xe4 a5 55 f5 a4 56 ♔d3 White's king can stop Black's lone a-pawn, while Black's king is unable to deal with White's two passers.

**48 ♜xa7 ♔xc5 49 ♜f7! 1-0**

Black's f-pawn falls as well.

105) G.Maroczy-J.R.Capablanca, Lake Hopatcong 1926



Black is up a passed h-pawn and White's rook is tied down to defence of his d4-isolani, which translates to a rather easy technical win.

**41...f6**

This way he opens the g-file to prepare the way for a future ...♖d7 and ...♗g7.

**42 gxf6**

42 ♔h4? fxg5+ 43 fxg5 ♗d5! The threat of ...e5! wins a second pawn.

**42...♔xf6 43 ♔f3**

After 43 ♔h4 ♗d8 44 a3 ♗d7 45 ♗d1 ♗g7 46 ♗f1 ♗g2 47 b3 ♗h2+ 48 ♔g3 ♗d2 White's pawns begin to fall.

**43...h4**

Capa decides to allow a swap of his h-pawn for White's isolated d-pawn to activate his rook.

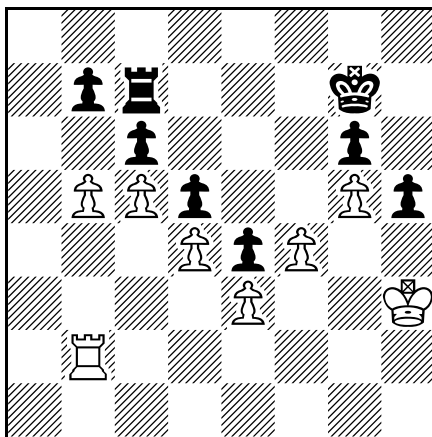
**44 ♗h2 ♗xd4 45 ♗xh4 b5 46 ♗h6+ ♔e7 47 ♗h7+ ♔d6**

The merry-go-round ride didn't bother Black's king at all.

**48 ♗a7 ♗a4 49 a3 ♔d5 0-1**

49...♔d5 50 ♗c7 a5 51 ♗c3 ♗d4 52 ♗e3 a4 53 b3 ♗d2 54 bxa4 bxa4 55 ♔g3 ♗b2! (threatening ...♗b3, with a completely winning king and pawn ending) 56 ♗e5+ ♔d6 57 ♗a5 ♗b3+ 58 ♔f2 ♗xa3 and Black wins a second pawn.

106) J.R.Capablanca-R.P.Michell, Ramsgate 1929



This war spans more than half the board. Black is busted, since his rook will soon be eternally tied down to passive defence of c6.

**51 ♔h4!**

Capa worries Black about ideas of a timely f5! and if ...gxf5, then White plays ♔xh5.

**51...♙f7 52 bxc6 bxc6 53 ♖b8!**

Zugzwang.

**53...♞e7**

53...♙g7 54 f5! gxf5 (otherwise f6+ follows) 55 ♔xh5 and Black is in zugzwang, since 55...♔h7 56 g6+ ♙g7 57 ♙g5 drops the f-pawn; if 57...f4 58 exf4! ♞e7 is way too slow, due to 59 f5 intending f6 mate.

**54 ♞c8!**

Forcing Black's rook to an even more awkward lateral stance to defend c6.

**54...♞e6 55 ♞c7+**

Black's king is sent to the first rank.

**55...♙g8**

55...♙e8 56 ♞g7 ♙f8 57 ♞d7 ♙e8 58 ♞d6! ♙f7 (58...♞xd6 59 cxd6 ♙d7 60 f5 gxf5 61 g6 f4 62 g7 and White promotes first) 59 f5! gxf5 60 ♔xh5 f4 61 g6+ ♙e7 62 g7 wins.

**56 ♙g3!**

56 f5? is premature. After 56...gxf5 57 ♔xh5 f4! and White is forced to take perpetual check.

**56...♙f8 57 f5!**

Now is the correct timing for this break, which allows White's king entry into Black's camp.

**57...gxf5 58 ♙f4 ♞e7**

58...h4 59 ♙xf5 ♞e8 60 ♞xc6 h3 61 ♞h6 and the h-pawn isn't going anywhere.

**59 ♞xc6 h4 60 ♞h6 ♙g7 61 ♞xh4 1-0**