The 100 Endgames You Must Know Workbook

Practical Endgames Exercises for Every Chess Player
# Contents

Explanation of symbols .............................................. 6
Introduction ..................................................................... 7

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1</td>
<td>Basic endings</td>
<td>13</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Knight vs. pawn</td>
<td>18</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Queen vs. pawn</td>
<td>21</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Rook vs. pawn</td>
<td>24</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Rook vs. two pawns</td>
<td>33</td>
</tr>
<tr>
<td>Chapter 6</td>
<td>Same-coloured bishops: bishop + pawn vs. bishop</td>
<td>37</td>
</tr>
<tr>
<td>Chapter 7</td>
<td>Bishop vs. knight: one pawn on the board</td>
<td>40</td>
</tr>
<tr>
<td>Chapter 8</td>
<td>Opposite-coloured bishops: bishop + two pawns vs. bishop</td>
<td>44</td>
</tr>
<tr>
<td>Chapter 9</td>
<td>Rook + pawn vs. rook</td>
<td>50</td>
</tr>
<tr>
<td>Chapter 10</td>
<td>Rook + two pawns vs. rook</td>
<td>62</td>
</tr>
<tr>
<td>Chapter 11</td>
<td>Pawn endings</td>
<td>67</td>
</tr>
<tr>
<td>Chapter 12</td>
<td>Other material relations</td>
<td>78</td>
</tr>
<tr>
<td>Chapter 13</td>
<td>Appendix</td>
<td>85</td>
</tr>
<tr>
<td>Chapter 14</td>
<td>Solutions to exercises</td>
<td>91</td>
</tr>
</tbody>
</table>

Index of players .................................................. 283


Introduction

‘Learn from the mistakes of others. You can’t live long enough to make them all yourself.’ – Eleanor Roosevelt

Background and motivation

My endeavours in the world of endgames extend over a period of many years as a trainer, and represent a continued effort to help learners improve their skills in this all-important and all-decisive phase in a game of chess. Since the improving player often struggles to remember certain key ideas or manoeuvres, or – more often – fails to execute the acquired theoretical knowledge in their games, I have developed specific training methods designed to explain these positions in the clearest possible way. All too often have I witnessed the following tragic scenario unfold: a player, having learned a theoretical endgame by heart, becomes so confident that he assumes such a position can hold no secrets to him. But then he gets the position on his board in a tournament game – sometimes even the very next day after training – and disaster strikes.

Interestingly, the decisive blunder is usually not a ‘novelty’, but rather a typical violation of endgame theory seen in some earlier game(s), occasionally even perpetrated by this or that decorated chess star. As Tartakower once famously remarked: ‘All blunders are all there, waiting to be made.’ Perhaps I am justified in adding an Orwellian twist to this and state that ‘all blunders are equal, but some are more equal than others.’ Database statistics certainly support this claim; some endgame positions reveal a much higher victim rate than others. Aspiring chess players, therefore, are well advised to become acquainted with these common pitfalls. In my experience, the best way to train these endgame positions is by solving exercises such as the ones in this book, as this approach greatly helps you recognize certain key ideas in your own games.

The quote above, by the First Lady of former US president Roosevelt, is not meant ironically, but genuinely echoes my recommended approach to endgame study: seeing where and how others went astray greatly accelerates your own learning process. Therefore, besides carefully analysing the positions in this book, I would encourage you not only to examine any flawed play produced in your own games, but also to look at games of friends at your chess club or at other boards in the tournament, if you happen to be playing one. Moreover, don’t stop once you’ve figured
out what went wrong; also try to understand why it went wrong, what might have been tried, or what ought to have been the outcome with correct play.

Most chess players are human beings, endowed with human qualities. They smile at the tragedy of other chess players, and say to themselves: ‘That would never happen to me.’ A highly dangerous presumption!

One such example is a game from the 2014 U18 European Championship in the city of Batumi, Georgia, played by the extraordinary Spanish talent Jaime Santos Latasa. In a crucial game that could have earned him the title, Jaime first spoiled a promising middlegame position and then, disappointed about the way the game had developed, played an endgame – that everybody knew was still a draw – on autopilot. The expected result would have earned Jaime the bronze medal (his opponent would be silver medallist, while the Russian player Daniil Yuffa would win gold). But then this happened:

70...♗e6?? and after 71.♔g6! it’s zugzwang, and the position is lost. The rest of the game is of little interest: 71...♗h3 72.♖e7 ♔f8 73.♖f6 ♕g8 74.♖g6 ♔f8 75.♖e3 ♔d7 76.♖f6 ♕g8 77.♖g3+ ♔h8 78.♖f7! ♔h7 79.♖g5! ♔h6 80.♖f6! 81.♔d5 82.♖c7 ♔g4 83.♖c2 1-0 Boruchovsky-Santos Latasa, Batumi 2014 (9).

Thus, Boruchovsky became European Champion, Yuffa ended as the runner-up, while Jaime Santos dropped to fourth place.

Errors such as the one in this game are usually the result of fatigue, time trouble, or some psychological weakness such as disappointment, apathy, or a sudden distraction. While these human factors can never be ruled out in a practical game, thorough study of the endgame can – and does – help players prevent blundering away a theoretical draw or win in the vast majority of cases.

The following well-known diagram represents, I believe, the most important position in the endgame rook vs. pawn. Adrian Mikhalchishin, I am sure, would agree with me, as he presents this position in the first diagram in Chapter 1 of his book Mastering Basic Rook Endgames. Many games have reached this position, and the current one continued as follows:
55.h7?
The correct move is 55.♔g7.
55...♖g1+ 56.♔h6 ♔f7 57.h8 ♖+ ♔f6
58.♔h7 ♖g3 0-1 Alfaya Marcelo-Martin Duque, San Sebastian 2014.

This shows it’s never too late to spoil a perfectly tenable game, even in simplified positions.

If you are a sceptical nature, and feel inclined to retort ‘hang on, this was only a young player, rated below 2000 Elo’, well, allow me then to show you another example, from a game Kotronias-Sandalakis, Nikaia 2016:

This is essentially the same position. Here, White played 64.♔g7 (Kotronias, one would assume, knows exactly what he’s doing) 64...

64...♖g4+ 65.♔f8 ♖f4+ 66.♔g7 ♖f7+, reaching the following position:

67.♔g8?? ♔f6 1-0
So there was another trick, victimising an internationally titled chess heavyweight.

Or how about the following example taken from an ultimate elite contest:

This position occurred in a tiebreak game Gelfand-Anand for the World Championship, Moscow 2012. White could have broken Black’s only resource, Vancura’s Defence, even with a tempo to spare, for example 61.♔g3 ♔b7 62.♔g4 and White wins.

But here, White instead played 61.♖h7?? and after 61...♕d6 Black got his king closer, drew the game, and retained his world title.
Many more examples of such technical mishaps, or as Dvoretsky called them ‘tragicomedies’, are presented and analysed in this book to help you improve this crucial phase in the game of chess. 

Solving diagram positions from a book is not the same as solving problems over the board, but more often than not, having done one’s homework will give a player that decisive edge at the moment of making a crucial decision. While doing these exercises, I recommend you try imagining you are playing a real game. This will help you make decisions in the most realistic – and best – frame of mind.

Some learners complain: ‘Is it really worth studying all endgame positions? What if I never get any of them on my board in a tournament game?’ At first, such concerns appear to make some sense, and this reminds me of a strong FIDE Master confessing to me that, as a junior, he once had to deliver checkmate with bishop and knight vs. lone king, and failed. Embarrassed, he went home to study every detail of this endgame, and swore revenge: someday, he would prove that he could do it. At the time of his confession, some 20 years later, the moment still hadn’t come, though, and who knows he might never get another shot at redemption. So, was his study time wasted? I would argue that it was not. Determined chess minds usually come back stronger from hardship, by discipline and rigorous analysis. Therefore, even if the statistical likelihood of you getting every position contained in this book in real games were nil, I would still whole-heartedly recommend you analyse all positions carefully; there is no better recipe for significant chess improvement.

I am a firm believer in the instructional value of real game examples. It seems to me that the essence of our human condition is that to understand an ordeal, we have to be subjected to it. Theoretical knowledge alone is not enough. Therefore, all the positions in this book were taken from real games, mostly featuring strong players. Throughout this book, however, you will find examples, too, of games between average players – even beginners – particularly where these positions reveal some instructive or common mistakes. I am aware that not every blunder made on the chessboard makes it into the databases, while many others are yet to be ‘found’, in the Tartakowerian sense of the word; such might well be the object of my future research. The present publication, I believe, is an accurate collection not only of the most important endgames you must know, but also of the most frequent errors players of all levels commit in these positions.

**How to use the material in this book?**

Solving the exercise requires two things: an effort to calculate properly and accurate theoretical knowledge of the relevant endgame. In each
exercise, the reader is asked to answer one specific question. The most common question is whether the position is winning or not. Another typical question is to choose between two or more options, an approach I personally like very much, as it mimics the decision-making process during a real game. In such positions, you should particularly look out for any subtle hidden resources. I might also ask you to assess the consequences of some simplifying operation, which is such a common occurrence in a chess game, and one which often requires mature decision-making. (To become proficient in the art of simplification, I highly recommend the books *Liquidation on the Chess Board* by Joel Benjamin, as well as *The Correct Exchange in the Endgame* by Eduardas Rozentalis.) A few times I ask you to give all the winning moves in a position, not out of any practical necessity (one winning move is more than enough in a practical game), but with the aim of reinforcing your theoretical knowledge of the endgame in question. When you work out the answers to such questions, calculation takes a back seat, and the error rate in practical play is usually much lower.

In each chapter, the exercises are organized in increasing level of difficulty: while the first ones should pose few problems for the average player, the ones at the end of each chapter are likely to challenge even a seasoned chess master. Therefore, each player can work through this book focussing on positions suitable for their level. For less experienced players, my recommended approach is this: solve only the first half of each chapter, and leave the rest for some later stage of your chess improvement. By contrast, I would advise stronger players to start at the end and work their way through the chapter in reversed order, stopping once you feel the problems become as easy as eating your favourite sweet baked food at an outdoor lunch. I recommend that all players, regardless of their Elo, repeat any positions they weren't able to figure out, within one year.

I am aware that level of difficulty is to some degree a subjective matter: a player who happens to have studied a particular endgame before might have no problem solving even the more difficult problems on the topic, whereas a player making his first footsteps into new endgame territory might struggle to find the basic ideas. For this reason, I have decided against awarding some sort of 'star system' to indicate the level of difficulty to each problem, which might only mislead you. What I have sometimes provided, though, is statistical analysis to show, for instance, the frequency of and average score in certain positions.

To all exercises I have attached a highlighted reference to the corresponding endgame presented in *100 Endgames You Should Know*, including exercises relating to the Appendix on fortresses. Please note
that not every single endgame that was covered in 100 Endgames You Must Know has made it into this book, for the simple reason that some positions produce few or no instructive mistakes in chess praxis, and have therefore been left out. Less than a handful of positions in this book are new in the sense that they received no previous coverage in 100 Endgames You Must Know. Where this is the case, I have provided detailed explanations to equip you well with all the knowledge you need to play these positions. Perhaps, such new positions will find their way into a future edition of 100 Endgames You Must Know.

A final note on terminology: some terms in the English version of this book have been updated and differ from the terminology used in 100 Endgames You Must Know. I hope the new terminology improves your reading experience.

Enjoy the journey through these exercises – I am confident they will help you become a better chess player.

Jesus de la Villa
Pamplona, January 2019
Chapter 2

Exercise 25

Ivan Cheparinov 2681
Peter Prohaszka 2617
Croatia tt 2015 (6)

White can still win by exploiting the knight’s limited ability to stop passed pawns, or otherwise win the knight by tactical means:

68.f6! ♔xh4 69.f7 1-0

The knight is unable to stop the pawn, for example: 69...♘e4 70.♔e7 or 69...♗g4 70.♗g7!.

See also ENDING 10.

Exercise 26

Edmar Mednis 2405
Robert Fontaine 2300
Cannes 1996 (10)

53...g3 54.♗g5!=

The only square for the knight (barring direct attacks on the pawn), enabling White to save the game, regardless of who is to move.

54...♗g1

54...g2 55.♖f3+! (55.♗b5 ♔g3!—+)
55...♖g3 56.♗g1; the knight is in front of the pawn, thus ensuring a draw.

55.♖c5 g2 56.♕d4 ♗f2

56...♖h2 57.♖f3+; 56...♗f1 57.♖h3=; 56...♖h1 57.♖f3=.

57.♖h3+ ♔g3 58.♖g1 ♗f2 59.♖h3+ ½-½

See also ENDING 11.

Exercise 27

Maria Petraki 2102
Athanasios Papadimitriou 1869
Nikea 2005 (4)

Getting the knight onto the right circuit is by itself no guarantee for a draw. Depending on the position of the enemy king, you have to choose the right square.

66.♗c1+??

In this case, the other option was called for: 66.♗b4+ ♔b3 67.♗c5=. 
Once the king lends a helping hand, things become so much easier. Notwithstanding, 67.♘d3 is also good enough.

66...♔b1!

Now, the knight has a limited choice lest the pawn queen on its own.

67.♗e2
67.♗b3 ♔b2++. The knight is powerless to stop the pawn.

67...♔b2! 0-1

ENDING 12

Exercise 28

Ari Dale 1085
Joshua Devarajh 1151

Sandy Bay ch-AUS jr 2010 (11)

This is an easy example, but it is striking to see how the offside knight still manages to give checkmate. While not very important from a theoretical point of view, it’s interesting to see the squares (with stars) from where the knight can deliver checkmate and from where it cannot: almost all of them are dark squares, except for the corners and the ones which would bring about an illegal position; almost none are light squares except for the ones at jumping range of the b4-square.

The logical 63...♔a3 leads to a draw:

64.♔c3 ♔a2=.
64...♔f3 ♔a1 65.♔d2 ♔a2 66.♔e4 ♔a1 67.♔c5 ♔a2 68.♔d3 ♔a1 69.♔c1 ♔a2 70.♔b3#

ENDING 14

Exercise 29

Graeme Spain 2200
Anthony Ker 2330

Wanganui ch-NZL 2006/07 (6)

The move ...a4-a3 is a fatal blunder, allowing checkmate with a lone knight:

63...a3??

64...g3?

Black is winning, but not with this move. Now the knight is able to make it back in time, even though in the game it failed to do so.
64...a4! is the right move. It’s perhaps counter-intuitive that the knight, apparently closer to the action on the e4-square, is in fact too slow: 65.♘xg4 (65.♗c3+ ♕b3 66.♕xa4 g3!, now the other pawn does a runner, 67.♗c5+ ♕a3!—+) again we see the optimal range of king vis-à-vis knight 65...a3 66.♗d2 (intending to get on track) 66...♕a1—+.

Truly remarkable, yet at the same time completely logical: by stepping into the corner, the black king renders the knight’s route via c4 useless. Only after playing ...a3-a2 will it step out of the corner to facilitate promotion, except in the variation 67.♗e4 ♕b2!.

65.♕xg3 a4 66.♗e4?
White doesn’t seem to know about the rule of the correct knight circuit: 66.♕e2! (toward the c1-square) and if 66...♕b2, 67.♕f4! (toward the d3-square) 67...♗c3 (67...a3 68.♕d3+=) 68.♕d5+! ♕b3 69.♕f4 a3 70.♕d3=.

66...a3!
Now there is no way to get on track.

67.♗c3+
67.♗d2 ♕a1 68.♗c4 a2 69.g4 ♕b1—+.

67...♕b2 68.♗d1+ ♕b3—+ 0-1 (80)
ENDING 12

Exercise 30

Vereslav Eingorn 2560
Alexander Beliavsky 2525
Kiev ch-URS 1986 (12)

With correct play, White can keep the knight at bay. The position visually contrasts with the previous diagram, where the knight was in time even though it was further away.

70.♗f6!
Fending off the knight on a three-square diagonal is optimal technique: the knight would have to spend three moves to give a single check.

70...♗c2
70...♗e2 71.h5 ♗g3 72.h6 and the pawn will promote; 70...♗f3 71.h5 ♗h2 72.♗f5!+-.

71.h5 ♗e3 72.♗g5!
Again, optimally fending off the cavalier.

72...♗c4 73.h6
Beliavsky resigned in view of 73...♗e5 74.h7 ♗f7+ 75.♗f6 ♗h8 76.♗g7—.

ENDING 12
Here, we find a perfect example of how to share duties: the g3-pawn, supported by the king, must force a rook sacrifice, while the knight aims to give itself up for the b6-pawn. Both these tasks are feasible, but Black must play accurately.

62...g2?

Now the knight will not be able to control the b-pawn. It was necessary to play 62...♘e6! and the knight would get the job done without any problems.

63.♖xg2 ♔xg2 64.♔b8?

White returns the favour with this inaccurate move.

64.♗c8! was correct, and if 64...♗b5, 65.♗d7+--; The same move would follow after 64...♕f5; two further examples of effectively fending off an enemy knight.

64...♕f3??

A losing blunder. The player with the black pieces was probably unfamiliar not only with the concept of lateral control, but also with the specific features of knight’s pawns.

64...♗c2 65.b7 ♗b4; 64...♕f5??

65.♗c7; 64...♕e6=.

65.b7 ♗b5 66.♗a8! ♗c7+ 67.♗a7 1-0

ENDINGS 10 & 11

Exercise 32

Jesus Nogueiras Santiago 2557

Maikel Gongora Reyes 2417

Las Tunas ch-CUB 2001 (12)

Taking on f6 was a bad decision. The move, most likely prompted by a desire to reach a draw as quickly as possible, leads to checkmate in the corner by a lone knight.

75...♗xf6?

75...♗e3! would have held the draw: 76.♗g6 ♗g4 77.♗g7 ♗xf6. Now this sacrifice is possible, e.g., 78.♗xf6 ♗e5 79.♗g6 ♗d4 80.♗f5 ♗c3 81.e4 ♗b2 and White can’t imprison the black king.

76.♗xf6 ♗e5 77.♗d7+ ♗d4 78.♗f4

This endgame is of theoretical importance and has been reached much more often than you might think. The white king is intent...
on imprisoning its counterpart once the latter captures the pawn; meanwhile, the knight is two jumps away from one of the mating squares (b3). These are the preconditions necessary to obtain a winning position.

\[78...\text{c}3\ 79.\text{e}3\ \text{b}2\ 80.\text{d}2\ \text{xa}2\ 81.\text{c}2\ \text{a}1\ 82.\text{c}5!\ \text{a}2\ 83.\text{d}3\ \text{a}1\ 1-0\]

ENDINGS 12 & 14

Exercise 33

L Garcia 2130

Sergio Navarrete Delgado

Pamplona 1997

h5-h6 is the move of a player who doesn’t know what it feels like to get checkmated in one of the corners of the chessboard by a lone knight.

\[56.\text{h}6?\]

56.e7+ \text{e}8 57.\text{g}7 \text{xe}7 58.\text{xh}7 \text{f}7 59.\text{h}6 leads to a clear draw.

\[56...\text{d}3!\]

Black is alert and moves the knight closer.

\[57.e7+ \text{e}8 58.\text{g}7 \text{xe}7\]

59.\text{xh}7?!

The king is five moves away from certain death. White could have put up slightly more stubborn resistance by keeping the king next to the black pawn without capturing it. However, against correct play this also loses:

\[59.\text{g}8 \text{f}4 60.\text{g}7 \text{e}6+ 61.\text{g}8 \text{f}6 62.\text{h}8 \text{f}7!\]

and White must face the music:

\[63.\text{xh}7 \text{g}5+ 64.\text{h}8 \text{f}8 65.\text{h}7 \text{f}7#.\]

\[59...\text{f}7! 60.\text{h}8 \text{f}4 61.\text{h}7 \text{e}6 62.\text{h}8 \text{f}8! 0-1\]

It is checkmate in one move.

ENDINGS 12 & 14

Exercise 34

Mauricio Rios 2488

Li Chao 2674

Concord 2013

It might appear irrelevant where White’s king goes, but if he chooses the wrong option, Black can prevent the white pawn from promoting and is able, by doing some extraordinary twisting, to get the king in to harass the knight.

\[51.\text{e}3?\]

The move played in the game is wrong because the king is useless.
here. It ought to be helping the advance of the f-pawn:
51.♔e5! ♔g3 52.f4 h4 (if now
52...♔g4 53.f5 ♔g5 54.f6 ♔g6
55.♔e6 and Black even loses) 53.f5
h3 54.f6 h2 55.f7 h1♕ 56.f8♕ ♕h5+
57.♔d4 ♕d1+ 58.♔c3 a1♕+=.

51...♔g3 52.f4 ♔g4!
52...h4? is a race which ends in both
pawns queening: 53.f5 h3 54.f6 h2
55.f7 h1♕ 56.f8♕=.

53.♘a1
53.♔e4? is a bad idea, allowing the
black pawn to queen with check:
53...h4 54.f5 h3 55.f6 h2 56.f7 h1♕+.

53...h4 54.♘c2
54.♘b3 leads to a different
variation, with a different no-go
area for the king: 54...h3 55.♗f2
♗xf4 56.♗g1. Now, the king can
easily overcome this hindrance, as
is shown in the analysis diagram:

56...♗e5 57.♗h2 ♗d5! 58.♗xh3 ♗c4
59.♗a1 ♗c3++.

54...h3 55.♕f2 ♗xf4 56.♕a1 ♗e5
There are other winning moves,
but Black already sets out to
circumvent the no-go area about to
be concocted by the knight.

57.♕c2

The squares e3, d3, d4 and d5
represent the no-go area for the king.

57...♕d6! 0-1
Black’s king easily dismantles the
barrier and is in time to bully the
knight. Any move not directly
aimed to circumvent the no-go area
in the most efficient way spoils the
win, for example: 57...♗e4? 58.♕g3
♕d5 59.♗xh3 ♕d6 60.♕g3 ♗c5
61.♗f3 ♗c4 62.♗e2 ♗c3 63.♗d1 and
White’s king is in time to help the
knight.

ENDING 13

Exercise 35
Markus Stangl
Schneider
Berlin 1992

The move c4-c5 is the right plan to
save the game, although it involves
Chapter 14 – Solutions to exercises

having to find some only moves at the end of a long variation.

1.c5!

This game is not in the databases. Dvoretsky rescued it from oblivion in his book For Friends and Colleagues (1). The game saw 1.♘g7? ♗f6 2.♘xh5 ♗d4 3.c5 (3.♘g3 ♗d3) 3...♗xc5 4.♘f6 ♗d4 5.♘d7 ♗d5 6.♗e1 ♗d4—.

1...♗g3 2.c6 h4 3.c7 ♗xc7 4.♗xc7 h3 5.♗d5+ ♗d4 6.♗e7 h2 7.♗f5+ ♗c4 8.♗g3 ♗b4 9.♗f2 ♗xa4 10.♗xf3

All these moves were forced. Now Black can move his king to different squares.

10...♗b3

10...♗b4 11.♗g2 a4 12.♗e2 and the knight reaches the c1-square.

11.♗g2 a4

The critical position. Remember that the effective knight circuit is a2-b4-d3-c1. This last square is crucial.

12.♗e2!

The knight heads for the c1-square.

12...♗b2 13.♗f4!

Now it aims for the d3-square.

13...♗c3 14.♗d5+ ♗b3 15.♗f4 a3 16.♗d3!

The game is a draw. The knight cannot be prevented from getting onto the circuit again via c1 or b4. Praise the knight for this extraordinary display of skill!

ENDING 12

Exercise 36

Hana Kubikova 2180
Libuse Skazelova 2060

Ostrava ch-CSL 1992 (3)

Black threatens 55...♗g2, winning, but White can prevent this move by playing 55.♖g1, and later on try to win the bishop with a knight fork. There is, however, a crucial difference between playing 55.♖g1 directly, or flicking in a check.

55.♖d1+?

It seems logical to push the king away, but White is actually helping his opponent get out of any knight forks.

55.♘g1! is the right move. The forcing variation that Black has at his disposal allows us to witness an astonishing display of resilience, worthy of a Troitsky study.

55...♗g2?! Here, this is not the best move as it allows a forced draw
(55...♗f1! would have made White suffer a little while longer, but the result should be a draw, too, for example: 56.♖g6 h3 57.♔d6+ ♔c4 58.♔g3 ♖g2+ 59.♖xh3 ♗g7+ 60.♖h4 ♖xc5=): 56.♖xg2! ♖xg2 57.♘e1+.

And now Black’s king has a choice between no less than 5 squares, but believe it or not, all allow a tempo-gaining knight check:
A) 57...♔e2 58.♘xg2 h3 59.♘e3 (59.♘g3? loses the pawn endgame, since White is unable to answer ...♖xc5 with ♔c3) e.g. 59...h2 60.♖f5 h1♕ 61.♔g3=;  
B) 57..♔d2 58.♖xg2 h3 59.♖h4 h2 60.♔f3=;  
C) 57..♔d4 58.♖xg2 h3 59.♖h4 h2 60.♔f3=;  
D) 57..♔c3 58.♖xg2 h3 59.♖e3 h2 60.Петербургъd1+ ♔d4 61.♔f2=;  
E) 57..♔c4 58.♖xg2 h3 59.♖e3+ ♖xc5 60.Петербургъg3=.

55...♖e2 56.Петербургъg1 ♖g2 57.Петербургъxg2 ♖xg2 58.Петербургъe1+ ♔b3!

On this remote square, the king can’t be disturbed.

59.Петербургъxg2 h3  
Finally, the knight sits helpless on its most uncomfortable square on the board, and while it is true that the king comes to its aid, the pawn endgame is lost.

60.Петербургъg3 hxg2 61.Петербургъxg2 ♔c4 0-1

ENDINGS 15 & 80

Chapter 3

Exercise 37
Carlos Barrero Garcia 2302  
Oleg Korneev 2649  
Dos Hermanas 2006 (6)

The correct result is a draw, but in practice, even grandmasters have lost this position as Black, particularly after erring on the second move.

66...♖f1  
This is correct, but the real problem is the next move. Including all possible symmetrical positions, my database shows this position has arisen in seventeen games, with White winning eleven times! It’s true that Black could already blunder with 66...♖f2?, allowing 67.Петербургъa2+! and it’s already too late to save the game. Nonetheless, the
error on the next turn is as natural as it is common. Players should try to bar such mishaps in either one of two ways: in the first place, it should be possible to calculate this endgame correctly, but, if you’re not confident about your calculation skills, I suggest you learn the following useful guideline: the attacking side wins if he manages to give a horizontal check on the second rank. By the same token, if the defending side can avoid that check, he mustn’t allow it.

67.♕c4+

67...♔f2?
A common mistake. Remember the rule: avoid any horizontal checks on the second rank!
67...♔g1! is the correct move; for example: 68.♕c5+ (68.♕c1+ ♔h2 and the checks run out, since on the next one, the black queen will interpose on the g2-square) 68...♔h2! 69.♕h5+ ♔g1 70.♕d1+ ♔h2 71.♕xh1+ ½-½ Gawehns-Kaiser, Bad Homburg 2012 (in this game these move numbers were 52-56).

68.♕c2+
Now the queen comes closer by a series of checks until she forces the king to move to g1.

68...♕f1 69.♕d1+ ♔g2 70.♕e2+ ♔h3
70...♕g1 71.♕g3 leads to checkmate.
71.♕g4+ ♔h2 72.♕g3#

ENDING 20

Exercise 38
Dolfi Drimer
Leonid Stein
Havana 1968 (8)

73...♖xg5! 74.hxg5
74.♕xg5 ♔g3 75.♕xg6 ♔xh4 76.♕f5 ♔g3–.
74...♔h4 75.♕xg6 h3 76.♕f7 h2 77.g6
h1♕ 78.g7 ♔h7!
Black won twelve moves later by means of a well-known procedure: move the queen closer and closer with check until the enemy king is forced to step in front of its pawn, thus gaining the necessary tempi for the king to approach, step by step.

78...♕f8 ♔e7 79.♕e7 ♔g6 81.♕f8 ♔f6+ 82.♕g8 ♔g3 83.♕h7 ♔f7 84.♕h8 ♔h5+ 85.♕g8 ♔g4 86.♕f8
56.\textbf{\textit{d}5?} was a poor idea. The trick White relied on in the game, and which eventually turned out well for him, has in fact a major flaw, as the white king voluntarily abandons the winning zone.

\textbf{56.\textit{d}5?}

56.\textit{h}1, among other moves, was easily winning, because the white king is in the winning zone (two steps away from g3, to be precise). There might follow: 56...\textit{e}2 57.\textit{x}h2 \textit{f}3 (57...\textit{e}1 58.\textit{e}4+- as in the game) 58.\textit{h}1+ \textit{e}2 59.\textit{e}4+ \textit{d}2 60.\textit{f}3 \textit{e}1 61.\textit{e}3+ \textit{f}1 62.\textit{f}4 \textit{g}2 63.\textit{e}2 \textit{g}1 64.\textit{g}3 and checkmate.

56...\textit{h}1+! 57.\textit{x}h1 \textit{e}2 58.\textit{h}2

A tricky position.

\textbf{58...\textit{e}1??}

Another one bites the dust. Whether or not the player with the black pieces trusted his position, had he been familiar with — or remembered — the theoretical endgame, he wouldn’t have had any problems finding 58...\textit{f}3!.

\textbf{59.\textit{e}4! \textit{e}2 60.\textit{g}2 1-0}

ENDINGS 16

Exercise 39

Valerij Popov 2579

Timur Gareev 2191

Samara 2002 (2)

White should be careful not to give just any random queen check.

\textbf{59.\textit{e}2+?}

This prepares a trick which actually won White the game, but objectively, allowing the black pawn another step forward is the wrong idea since the king is outside the winning zone; now the position is a theoretical draw.

The right move is 59.\textit{b}7+. Perhaps White couldn’t find another check after 59...\textit{c}1 (59...\textit{a}1 allows the queen to come closer by means of checks: 60.\textit{a}6+ \textit{b}2 61.\textit{b}5+ \textit{a}2 62.\textit{a}4+ \textit{b}2 63.\textit{b}4+—), but after 60.\textit{d}4! the king has time to enter the winning zone: 60...\textit{c}2 61.\textit{d}3 \textit{d}1 62.\textit{h}1#.
59...c2 60.♔d4

This tricky position has claimed many victims. My database reveals thirteen games with identical or symmetrical positions. Seven timed did the side with the pawn err.

60...♕b1??
60...♕a1= is the right move, as you can find out for yourself.

61.♖c3 ♗c1+ 62.♔b3 1-0

ENDING 19

Exercise 41
Klaus Thönnessen 2155
Patrick Boos 2015
Worms 2003 (1)

Black wins as long as he doesn’t let the enemy king escape via the right side of the pawn. In the game he achieved this only because of his opponent’s inexpert play.

69...♕e5?
Allows the white king into the corner, while Black lacks the tempi needed to bring his own king closer. The winning move is 69...♕h7! 70.♔e8♕ ♗e5 71.f8♕♕ ♗e6 and checkmate is inevitable.

70.♔e7?
But the king comes out via the wrong side of the pawn, a phenomenal blunder! 70.♕g7! holds the draw for the reason stated above: the black king has no time to come closer. In fact, it can neither reach e7 nor g6 in a single move: 70...♕g4+ 71.♔h7♕ ♗h5+ 72.♕g7♕ ♗g5+ 73.♔h7♕ ♗f6 74.♕g8♕ ♗g6+ 75.♔h8=. 70...♕b7+ 71.♔e8♕ ♗e6 0-1

ENDINGS 18 & 19

Exercise 42
Harry Schussler 2200
Ove Kinnmark 2390
Motala ch-SWE 1976 (9)

Capturing with the pawn is misleading: while it looks as if the pawn will promote, White’s king
can in fact return in time to capture it, and once two new queens appear on the board, the white king will be dangerously close.

44...bxc4?

44...♔xc4! is correct, but it is necessary to correctly assess the queen vs. two pawns endgame:

45.♔xf6 ♔b3 46.g4 ♖xb2 47.g5 a4 48.g6 b4 49.g7 bxa3 50.g8♕ a2=.

Both sides have a new queen, but White wins quickly as he is able to give a horizontal check on the second rank, as explained in Exercise 37.

54.♕g2+! ♔a3

54...♔b1 55.♕b3+-; 54...♔c1 55.♕f1+ ♔b2 56.♕e2+ reaches the game position.

55.♕f3+ ♔b2 56.♕e2+ ♔a3 57.♕e3+ ♔b2 58.♕d2+ 1-0

Exercise 43
Marcel Kanarek 2471
Gil Popilski 2500
Warsaw 2014 (7)

Black can make a draw, and while he did so in the game, he also
Chapter 14 – Solutions to exercises

showed that he didn’t really know what he was doing:

82...♔e1?
82...♔f3! is the right move, as we’ve seen in previous exercises.

83.♕h4?
White misses his chance. After this move he has to acquiesce to a draw. Victory is achieved by 83.♔d4! f1♕ 84.♕e3 and mate cannot be staved off.

83...♔e2 ½-½ (106)
ENDING 19

Exercise 44

Rafael Pita Romero Rodriguez 2041
Andres Castro Acosta 2068
Formigal ch-ESP jr 2002 (8)

Is might seem as if it doesn’t matter whether White plays 51.♕f8 or 51.♔h8, but once again there is a trick.

51.♔h8?
Alas, this is losing! 51.♕f8 was an easy draw.

51...♗g3!!
Gaining two tempi to get the king closer.

52.♗g7 ♔f4+ 53.♕f8 ♔a8+ 54.♕g7 ♔b7+ 55.♕g8 0-1
ENDING 17

Exercise 45

Sokhib Djuraev 2354
Stephen Solomon 2378
Istanbul ol 2012 (9)

There is one winning move, but it’s not the most obvious one, played in the game. You’ll see here an exceptional case of a queen unable to beat a pawn on the sixth rank.

58.♕d7?
A) The rook should be employed to win the c4-pawn, when the win would be a piece of cake, e.g. 58.♖c8! ♔a4 59.♕d5 ♔b5 60.♕c5+–;

B) Or 58.e8♕? ♔xe8 59.♘xe8 ♕d4 60.♕d8+ ♔e4 61.♕c8 ♕d4 62.♕f5 ♕c3 63.♕f4 ♕d3 64.♕f3 c2=.

58...♘xd7+ 59.♕xd7 ♔d2 60.e8♕ ♕c3

Extraordinary! The white queen has no checks.

61.♕e5 c2 62.♖b2 ♔d1 63.♕d4+ ♔e2 64.♕c3 ♔d1 65.♕d3+ ♔c1
66.♔c6 ♔b2 67.♔d2 ♔b1 68.♔b4+ ♔a2 69.♔c3 ♔b1 70.♔b3+ ♔a1 ½-½

ENDINGS 16 & 18

Exercise 46

Satea Husari 2307
Leonid Voloshin 2423

Koszalin 1999 (5)

Of course Black can win: he is a whole queen up! Several roads lead to Rome, but alas, materialism can cloud a player’s judgement.

50...♕xb2??

A) 50...♕d5! is easiest, pinning the c-pawn: 51.♔b6 ♔f3 52.c7 ♔a8--; B) 50...♔b3+ also suffices, for example: 51.♔c8 ♔f3 52.c7 ♔e4 53.♔d7 ♔d5+ 54.♔e7 ♔c6 55.♔d8 ♔d6+ 56.♔c8 ♔d5--; 51.♔c8=!

Queen vs. pawn on the sixth is not always winning; particularly if the queen has no checks at her disposal, or, as is the case here, if the only check available doesn’t help the attacker’s cause.

51...♔f3 52.c7

Now it is queen vs. pawn on the seventh, and the result is a draw.

52...♔e4 53.♔d7 ♔g7+ 54.♔d8?! 54.♔c6!, immediately heading for the queenside, would be easier.

54...♔f6+ 55.♔d7 ♔d4+

Interestingly, White has only one move to draw. This is a different version of the trick seen above.

56.♔c8?

A rather pessimistic choice. White must have been aware that the natural 56.♔e7? is losing on account of 56...♔a7 57.♔d8 ♔d5 58.♔c8 ♔d6 and mate is inevitable, but 56.♔e8! is good enough to hold the draw.

56...♔g7?

A series of astonishing blunders, possibly prompted by extreme time trouble. 56...♔a7! forces checkmate as given in the variation above.

57.♔d8 ♔d5 58.♔c8??

A ludicrous finish! 58.c8♕ ♔d6 is not mate because the queen has two checks.

58...♔g8+ 0-1

ENDINGS 17 & 19