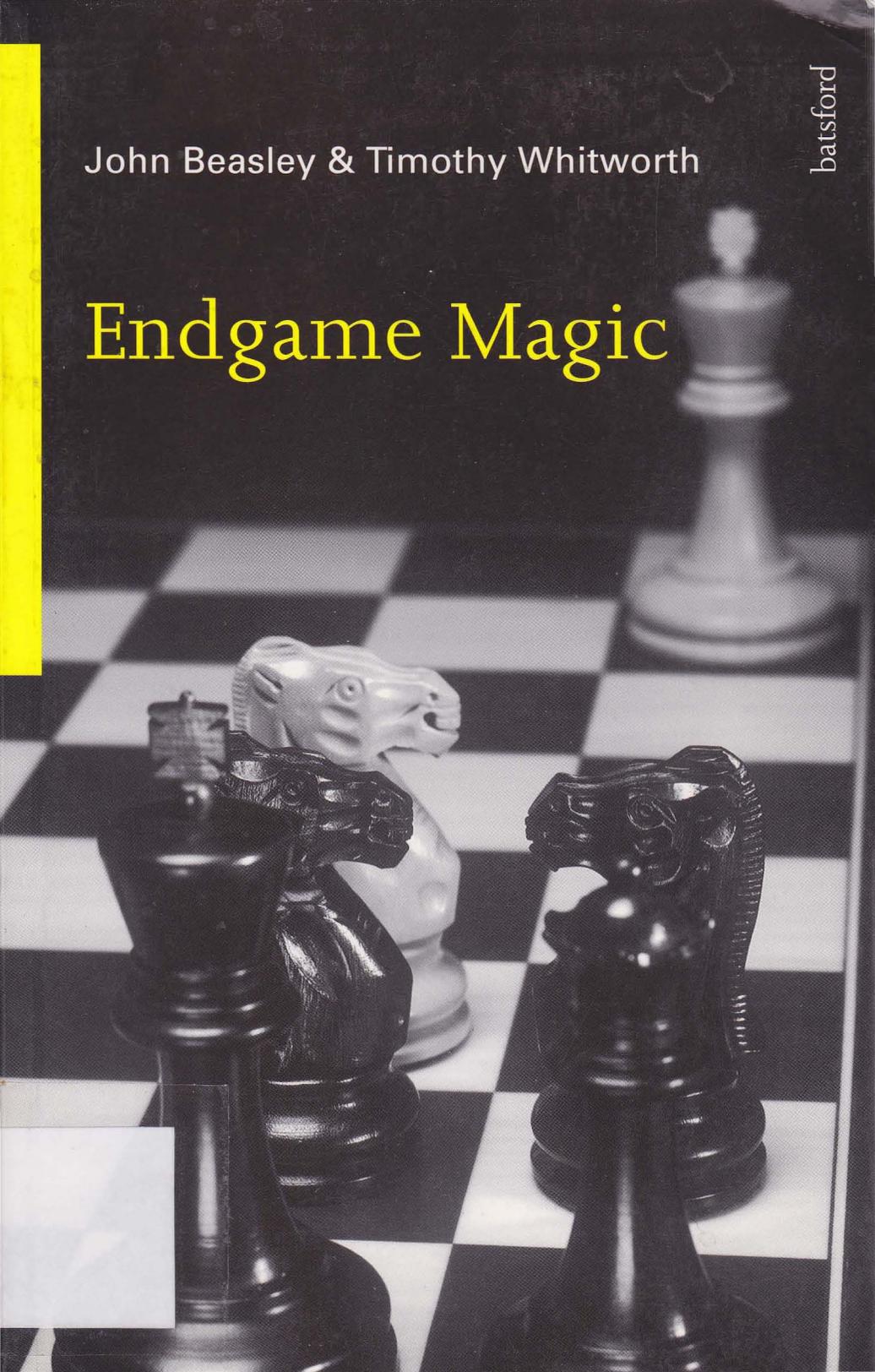John Beasley & Timothy Whitworth

Endgame Magic

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John Beasley and Timothy Whitworth

With a Foreword by Murray Chandler

B. T. Batsford Ltd, *London*

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Acknowledgements

Foreword

Endgame Magic is the first major book on studies in English since John Roycroft's *Test Tube Chess* in 1972. It is the product of a collaboration between two highly skilled and dedicated gentlemen, whose passion for the genre I know well, as they are the past and present study columnists of the *British Chess Magazine*. Such a carefully compiled and attractively presented book will, I hope, encourage many newcomers to develop an appreciation of this gentle and aesthetic side of the game. The pure world of the chess study is a marvellous and calming escape from a busy world. What is more, as Levitt and Friedgood have pointed out, it is an art form that any over-the-board enthusiast already possesses the basic knowledge and skills to appreciate. The numerous diagrams, clear explanations, and choice of examples mean that players of almost any level will be able to appreciate the concepts, intentions and difficulties involved in the original composition of such a study.

A word of advice: do, always, try to work out the solutions for yourself before reading the text. Even if you fail - in fact especially if you fail! - your enjoyment will be greatly enhanced. The longer you spend, the more pleasure to be proportionately gained when the solution to the study is ultimately revealed.

Like other works on studies and problems, the authors in this book start out by discussing the difference between a composed position and one that might occur in real play. However, I am coming to the conclusion that one major difference is that, in over-the-board competition, the solution is very rarely found! Just how many study-like positions arise by chance in competitive play, with nobody realising, has never been quantified. Perhaps this could be an interesting project for a computer boffin in the future. The number of missed opportunities is surely greater than generally thought, based on my experience at tournaments with Grandmaster colleagues who also happen to be knowledgeable study experts. On a number of occasions these colleagues have spotted remarkable resources in endgame positions which others have missed, directly attributable to concepts learned from studies.

Congratulations to the two expert authors, and publishers Batsford, on the production of this magical work.

Murray Chandler, *London 1996*

1 The study and the game

The composed endgame study has always played an important role in chess. The earliest chess manuscripts contain few complete games; they consist mainly of middlegame and endgame positions, sometimes claimed as "taken from play" but sometimes clearly composed to show something of particular interest. As time has gone on, this element of composition has increased. Many a player, having discovered an interesting manoeuvre in the course of endgame analysis, has chosen to polish and publish it immediately as a study, instead of waiting indefinitely for an opponent to allow him to play it in a game; and a few have found study composition so satisfying that they have come to concentrate on it, caring not for match results but only for the fascinating uses to which they can put the chessmen. Most of the studies in this book have been produced by such specialists.

Yet to many chess enthusiasts, the endgame study is an arcane mystery. Study composers try to extract as much as possible from the chessmen, which causes them to construct positions rather unlike those that occur in ordinary games; and most players find even normal endgame play difficult enough to fathom, let alone the exceptional manoeuvres that occur in studies. This book unlocks the mystery, and opens the door to the delights within. It explains why typical study positions differ from typical game positions, and it illustrates the usual objectives of play in studies and the most common means by which these objectives are achieved; and, in the process, it displays some of the most remarkable beauties of chess.

Let us therefore start by playing through a study and seeing how it differs from a game. **1.1** shows a celebrated composition which we owe principally to Richard Réti, though Arthur Mandler and Henri Rinck had a hand in it as well. (Mandler and Rinck were specialist study composers whose work we shall meet again; Réti was one of the chess world's all-rounders, known to all as author and player and no less worthy of respect as a composer.) At first sight, this position is unim-
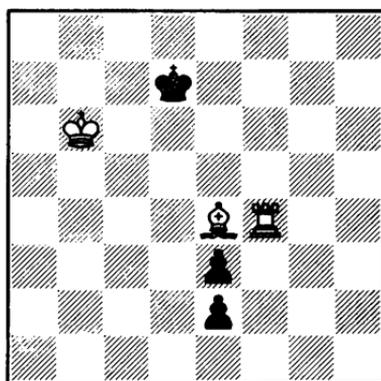
1.1   Win
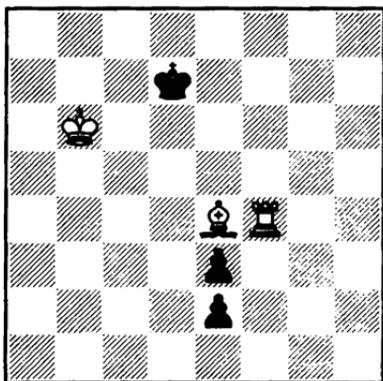
1.1 (repeated)   Win

1.1a   Line 1 ♗c6+
                    After 3...♔d6
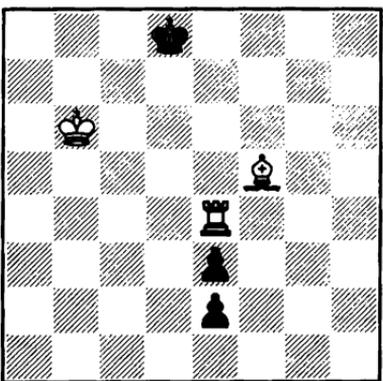
1.1b   Main line
                    After 3...♔e7-d8

pressive. There are only six men on the board, and a little analysis suggests that White has an easy win; he can play 1 ♗c6+, drive the Black king to the e-file (1...♔d6 2 ♖d4+ or 1...♔d8 2 ♖f8+), check with the rook on e4 or e8, and capture the helpless pawns. What can possibly be of interest here?
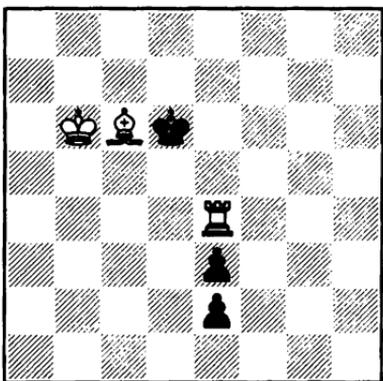
All right, let's try it: 1 ♗c6+ ♔d6 2 ♖d4+ ♔e5 3 ♖e4+ ♔d6! (1.1a). Now one pawn certainly goes, 4 ♖xe3, but this leads to 4...e1♕ 5 ♖xe1 stalemate; and if White doesn't play 4 ♖xe3, what is he to do instead? 4 ♖d4+ ♔e5 5 ♖e4+ ♔d6 merely repeats the position, and any other move allows Black to promote the pawn on e2. White's "easy win" has proved an illusion.

But White has an alternative bishop check:

1   ♗e4-f5+.

Now the bishop no longer guards d5, so Black cannot create a stalemate on d6. But Black can play for a stalemate on d8 instead:

1   ...   ♔d7-d8
2   ♖f4-d4+   ♔d8-e7 (or e8)
3   ♖d4-e4+   ♔e7-d8!

(1.1b). As before, one pawn can be captured, 4 ♖xe3, but the sequel 4...e1♕ 5 ♖xe1 will again give stalemate. And again, White appears to have nothing better; the check 4 ♖d4+ merely repeats moves, and anything else allows Black to promote his leading pawn.

A draw, therefore? No, because White has a remarkable resource. It starts with the bishop sacrifice

4   ♗f5-d7!

(1.1c). If Black captures this impertinent bishop, 4...♔xd7, he

destroys the stalemate, and White will win easily after 5 ♖xe3. But while White's sacrifice has certainly disrupted the stalemate, it does not appear to have done anything else of value, so is not the promotion

    4   **...**   **e2-e1♛**

at least good enough to draw? No, because

    5   **♗d7-b5!!**

shields the White king, and leaves Black with no sensible way of avoiding mate (**1.1d**).

One of the classics, this. The play is only five moves long, yet what a lot has been packed into this brief duel! If White starts with the most obvious attack, Black can avoid defeat by setting up a position of stalemate. So White tries a different attack, only for Black to set up another stalemate. White destroys this second stalemate by a sacrifice, but Black declines the offer, promotes a pawn instead, and seems to have achieved at least a draw. And then the climax, a beautifully quiet move by White, not a check, not a capture, not even a sacrifice; but it leaves White's minuscule army threatening mate, and Black's queen, on a wide open board, is powerless to do anything about it.
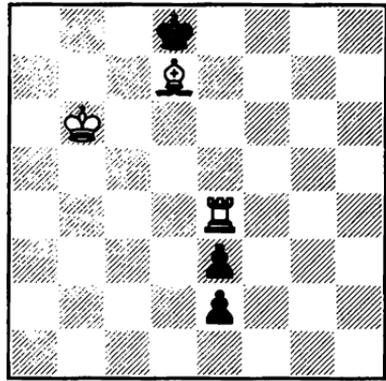
1.1c   Main line
After 4 ♗f5-d7
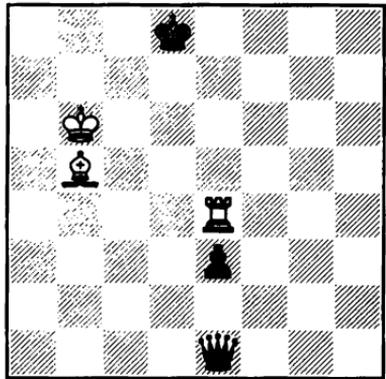
1.1d   Main line
After 5 ♗d7-b5

A study like this is a thing to be enjoyed rather than to be subjected to the pedantry of critical analysis, but it does provide a good illustration of the differences between a study and a combination from actual play.

(a) The purpose of a study is to show a particular move or sequence of moves. The purpose of a combination arising in play is to win or save the game. If the combination is of particular interest, the player is doubtless pleased, and the game may find its way into the anthologies; but a player only controls one side of the board, and (short of bribing his opponent or varnishing his games for publication) can only play those combinations

which his opponent happens to permit.

(b) Every man in a study is essential to the play. A combination in an actual game rarely involves more than a few men on either side; nearly always, there are irrelevant bystanders. The absence of such bystanders is one of the main reasons why study positions often seem unnatural.

(c) The play in a study is usually quieter and subtler than that which occurs in a game. We are not saying that blood and thunder are entirely absent from studies; there will be plenty of examples to the contrary later in the book. However, the incidence of captures is less, and forcing play tends to involve gentle coercion rather than brute strength. In a game, a spectacular sacrifice to break down a king's defences is not unusual, particularly when the players are ill-matched; but how often do you see a gentle piece sacrifice like 4 ♗d7, or a quietly decisive move like 5 ♗b5?

In short, a game is the chess equivalent of an episode from real life, humdrum or exciting almost by accident, whereas a study has the cultivated intensity of a short story; and if you conclude that the best thing to do with a study is to forget about real chess life for a moment and play it through for sheer enjoyment, you will be entirely correct.

In the hope that this has whetted the appetite, we briefly outline the rest of the book. There are over 150 studies here, ranging from the ninth century to the present day and from two moves to twenty and more. Those in Chapters 2-7 illustrate the most usual objectives of play: capturing material (Chapter 2), winning by giving mate (3), avoiding loss by creating a stalemate (4), racing to promote first (5), forcing or preventing promotion (6), and forcing a draw by perpetual harassment (7). **1.2** shows another famous study by Réti. White's position seems hopeless, since his own pawn is doomed and he cannot capture any of Black's without allowing another to run down and promote; yet he can actually

1.2   **Draw!**

force a draw, as we shall see in Chapter 5.
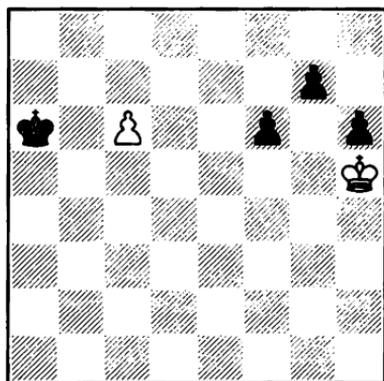
The studies in Chapters 8-13 illustrate tactical manoeuvres: losing the move (8), promoting a pawn to a man other than a queen (9), decoying a man (10), shielding or obstructing a man (11), constructing a fortress or blockade (12), and exploiting corresponding squares (13). In **1.3**, by A. O. Herbstman, White's first move **1 ♗h7+** is obvious, and the continuation **1...♔xh7 2 exf8♘+** is almost as obvious; but what happens if

Black plays 1...♔g7 or 1...♔h8? No doubt you have already guessed the answer, but you will find confirmation at the beginning of Chapter 9.

The remaining chapters are more general. Chapter 14 shows studies featuring echoed or repeated manoeuvres, and Chapter 15 studies in which Black contributes his full share of the good moves. Chapter 16 contains some exercises in pure fantasy (because even study composers occasionally let down their hair, and a very good thing too). Please don't ask how the pawn lines arose in **1.4** (P. A. Cathignol), just turn to Chapter 16 to find which pawn White must move first in order to break through. Only one works, and it is not the apparently obvious a-pawn. Finally, Chapter 17 illustrates the grand manner. It contains a dozen examples of rich and deep play from simple starting positions, which leave even hardened enthusiasts wondering how such things can be possible.

There are two appendices. Appendix A summarizes "endgame theory": the accumulated discoveries of analysts, sometimes assisted by computers, who have found whether a particular material advantage will lead to an eventual win if the stronger side plays properly. Appendix B contains reference data: details of original publication, notes on variant settings, and so on.

1.3   Win

1.4   Win

We have chosen the studies in this book for their quality and appeal, and because they illustrate particularly well the points which we wish to make. However, they constitute only a small proportion of the many fine studies in existence. Perhaps this is your first book on endgame studies. We certainly hope it will not be your last.
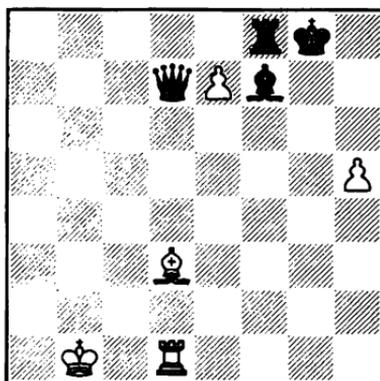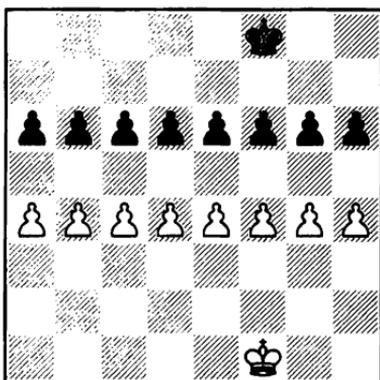
2 Winning material

Most chess combinations involve attempts to win material, so we start with some studies where this is the sole object of play. In these studies, the stronger side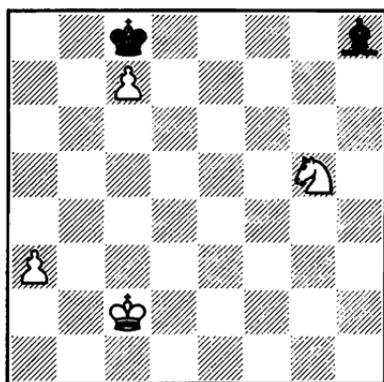 merely tries to achieve a material advantage which will lead to eventual victory, while the weaker side tries to prevent him; yet even this simple recipe has produced some delightful compositions. Readers unfamiliar with the relevant "wins" and "draws" of endgame theory will find them in Appendix A.

2.1   Win

2.1a   After 2 ♔c2-b1

In ordinary play, there are various ways of winning material: pin, fork, skewer, discovered attack, and so on. These occur in studies as well, but a technique known as "domination" is also important: attacking a man which has nowhere to hide. The open board of a typical study makes this technique peculiarly attractive.

To take an extreme example, the king and the knight are short-range pieces, yet between them they can dominate an entire long diagonal. **2.1** (H. Rinck, 1935) shows how. White starts with

    1   ♘g5-f7,

and Black's best defence is to run all the way:

    1   ...   ♗h8-a1.

However, White continues with

    2   ♔c2-b1!

and Black is helpless (**2.1a**). Four squares (a1, b2, e5, and h8) are directly commanded by king or knight, and each of the other four allows a knight fork: White checks on d6, Black takes the pawn, and White forks on b5 or e8. The White a-pawn has made no contribution so far, but it will clinch the win after the bishop has been captured.
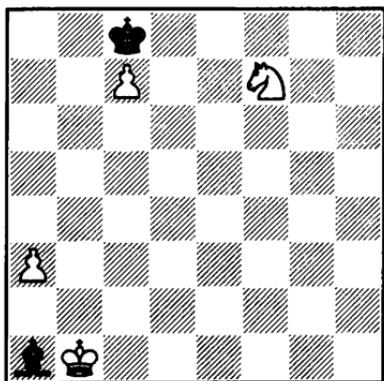
A rook can also be dominated by a surprisingly modest force. King and two bishops can force mate against a bare king, so White will win in **2.2** (V. Halberstadt, 1951) if he can co-ordinate his force; Black will have to give up his rook for the pawn, and the win will follow. However, White must first save his attacked bishop, and we shall see in due course that

1   &a2-e6!

is the only correct move. The more obvious 1 &d5 defends the pawn, but it loses the bishop after 1...♖c7+ 2 ♔d1(d2) ♖d7. Now, however, Black can win material by the fork

1   ...   ♖b7-b3!

since 2 &xb3 would produce stalemate. It isn't only White who is allowed to make good moves! White must now save his second bishop, and

2   &a3-d6!

will be seen in due course to be correct (**2.2a**). If Black captures the pawn immediately, White will force mate by 3 &e5+; but the check

2   ...   ♖b3-c3+

forces the White king away,

3   ♔c1-d2,

and

3   ...   ♖c3xf3

seems safely to have gained material. Drawn game? No, there is a sting in the tail. White's next move

4   ♔d2-e2

gives the position shown in **2.2b**, and we see why he chose the squares d6 and e6 for his bishops. Twelve of the rook's fourteen possible squares are commanded by the king or the bishops, and neither of the others offers more than a temporary haven: 4...♖f6 allows 5 &e5+, and 4...♖c3 allows 5 &e5 ♔b2 6 ♔d2.
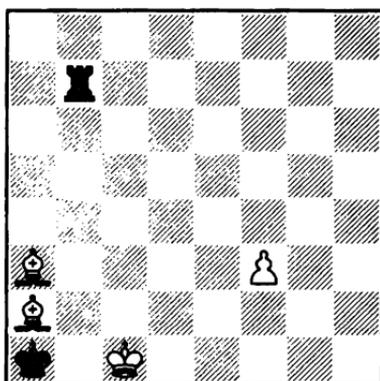
2.2   Win

2.2a   After 2 &a3-d6

2.2b   After 4 ♔d2-e2

2.3 Win (old rules)

2.3a After 2 ♘a5-c6

2.4 Win

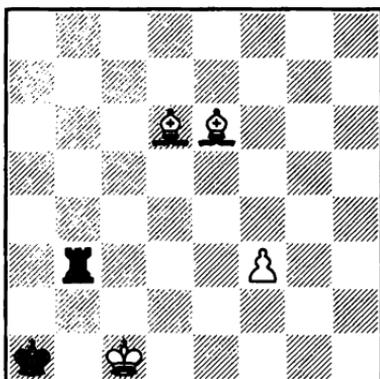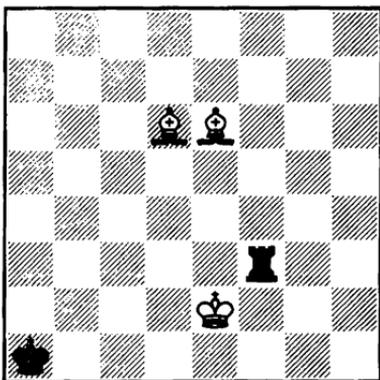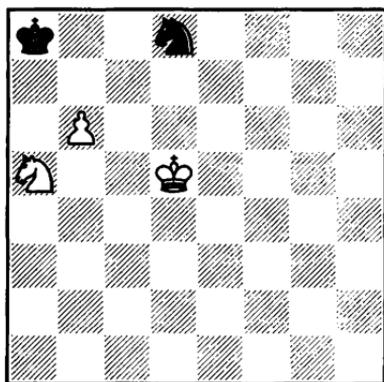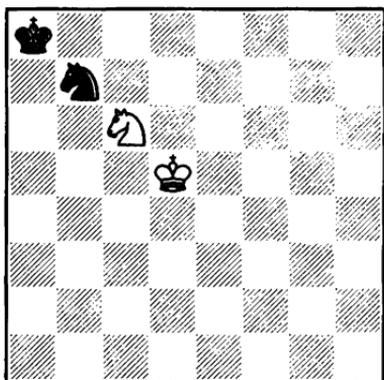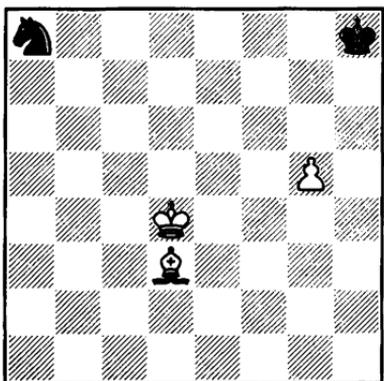The easiest piece to dominate is the short-stepping knight, and domination of the knight has been a favourite theme since the earliest days of chess. **2.3** comes from a manuscript which was compiled in 1283 for Alfonso X of Castile. The rules of chess were different in those days, and allowed a win by "bare king": a player could win the game by capturing all his opponent's men apart from the king, provided that his own last man could not be captured next move. (There was no queen in the old chess, and a pawn could be promoted only to the feeble "fers" or "firzan" which moved one square diagonally; so a player who had had the better of the game would frequently lack the material to force mate, and the win by bare king was a necessary compensation.) Under these rules, White can win by capturing or exchanging the Black knight, and he starts by playing

1   b6-b7+.

If Black now moves his king, there follows 2 ♘c6+ ♘xc6 3 ♔xc6 (or 2...♔xb7 3 ♘xd8+) and White's aim is achieved. However, after

1   ...   ♘d8xb7,

the capture 2 ♘xb7 is insufficient because Black can recapture. Instead, White must play

2   ♘a5-c6!

and this ties Black up quite beautifully (**2.3a**). His king cannot move at all, and his knight can move only to be taken.

2.4 (G. N. Zakhodiakin, 1931) shows a knight domination under modern rules. Black can afford to sacrifice knight for pawn, but not to lose it for nothing. The opening chase

1	♔d4-c5	♘a8-c7
2	♔c5-d6	♘c7-e8+
3	♔d6-e7	

is therefore straightforward. Black's best move is now

| 3 | ... | ♘e8-g7, |

since 3...♘c7 4 ♔f7 ♘d5 5 g6 would lead to mate, and

| 4 | ♗d3-g6 | |

leaves the knight without a move (**2.4a**). Black therefore plays

| 4 | ... | ♔h8-g8, |

and after White's reply

| 5 | ♗g6-f7+ | |

his better move turns out to be

| 5 | ... | ♔g8-h7; |

the alternative 5...♔h8 leads to the final position a move sooner. White must now bring his king round to guard h5, so that his pawn can advance and crowd the Black king, but he cannot let the knight escape via f5. Play therefore continues with

| 6 | ♔e7-f6 | ♔h7-h8 |
| 7 | ♔f6-e5 | ♔h8-h7, |

giving **2.4b**. The direct attack 8 ♔f4 ♔h8 9 ♔g4 ♔h7 10 g6+ ♔h6 now fails, but the waiting move

| 8 | ♔e5-e4! | |

does the trick; there follows

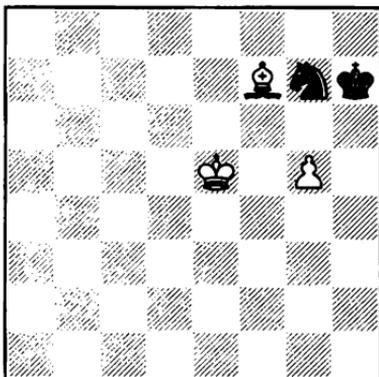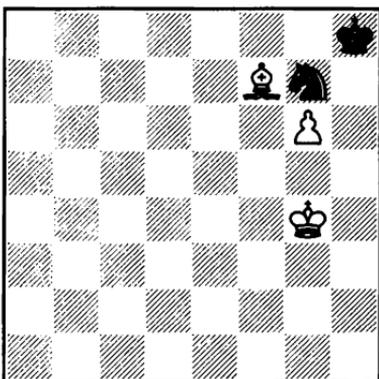| 8 | ... | ♔h7-h8 |
9	♔e4-f4	♔h8-h7
10	♔f4-g4	♔h7-h8
11	g5-g6!	

and the knight is doomed (**2.4c**).

Gleb Zakhodiakin (1912-82) was one of the most attractive of study composers. His concise, subtle manoeuvres in light settings show just what endgame composition is all about. Sadly, he did not produce a collection of his work, and only a fraction of it is well known.
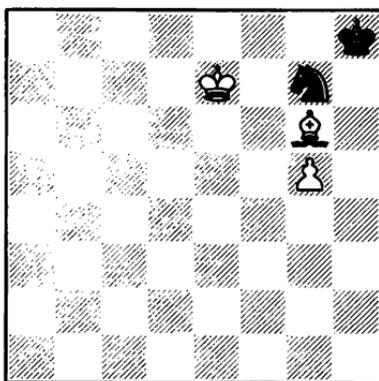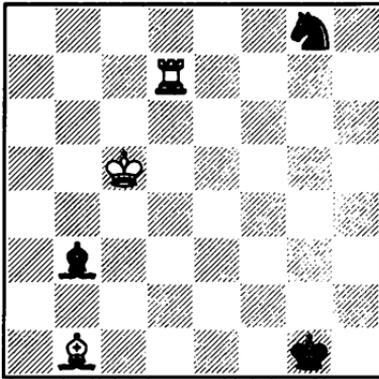

2.4a   After 4 ♗d3-g6

2.4b   After 7...♔h8-h7

2.4c   After 11 g5-g6

2.5   Win

2.5a   After 3 ♗b1-g6

2.5b   After 4 ♔b4-c3

When Black has more men, the possibilities are greater. White may be able to attack two men at once, or he may be able to exploit the fact that one Black man must defend another.

In **2.5** (J. Fritz, 1951), the fork ♖g7+ is in the offing, so the Black bishop is already tied to the knight's defence, and a straightforward chase

1	♔c5-b4	♗b3-e6
2	♖d7-d6	♗e6-f7
3	♗b1-g6	

puts Black under severe pressure (**2.5a**). The exchange 3...♗xg6 4 ♖xg6+ will cost the knight, and 3...♗a2 loses to 4 ♖d1+ and 5 ♖d2+. So Black must defend the bishop:

| 3 | ... | ♘g8-h6. |

Now White simply waits by

| 4 | ♔b4-c3! | |

and what is Black to do (**2.5b**)? Moving the knight is out of the question; 4...♗a2 loses to 5 ♖d1+ as before, and 4...♗g8 to 5 ♗h5; 4...♔f2(f1) can be met by 5 ♖f6+; and 4...♔g2(h1) runs into 5 ♗e4+. This leaves only

| 4 | ... | ♔g1-h2, |

after which the subtle

| 5 | ♗g6-h5!! | |

clinches matters. A counterattack by 5...♘f5 fails against 6 ♖d2+ and 7 ♗xf7, and the capture

| 5 | ... | ♗f7xh5 |

gives away not only the knight,

| 6 | ♖d6xh6, | |

but the bishop as well.
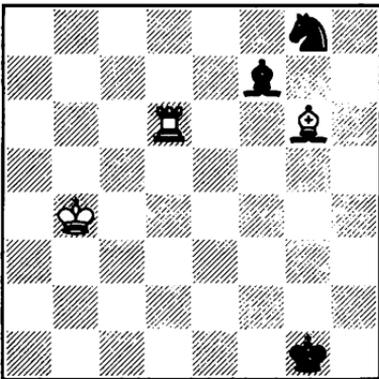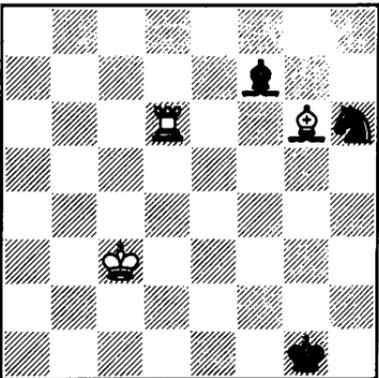
The work of Jindřich Fritz (1912-84) will make more than one appearance in this book. As a producer of striking effects from apparently simple positions, he had few equals.

2.6 (N. Littlewood, 1966) shows the simultaneous corralling of several Black men. White's present advantage is not enough to win, so he needs to gain another piece, and

    1   ♗h1-d5

is a good first step as it pins down the knight on a5. If Black plays 1...♗d7, intending to meet White's threatened 2 ♗c7 with 2...♘c6, he blocks his other knight and 2 ♗d6 will win it; if he tries 1...♘d7, intending to meet 2 ♗c7 by the counterattack 2...♘f6, he loses after 3 ♗g2+ ♔f2 4 ♗xa5 ♔g3 5 ♗e1+; and if he plays 1...♗e2, hoping to bring the knight out via c4, he will be mated by 2 ♗g2+ and 3 ♘h3. Hence he must try

    1   ...   ♗g4-c8,

preparing an escape square on b7, and now the moves

    2   ♗g3-d6!   ♘f8-d7
    3   ♗d6-c7

put him in great difficulty (**2.6a**). Counterattack again fails (3...♗b7 4 ♗e6 ♘f8 5 ♗h3+ and 6 ♗xa5), and the only alternative

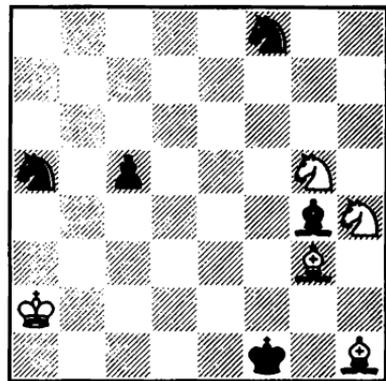   **3   ...   ♘a5-b7**

blocks the bishop on c8. There follows

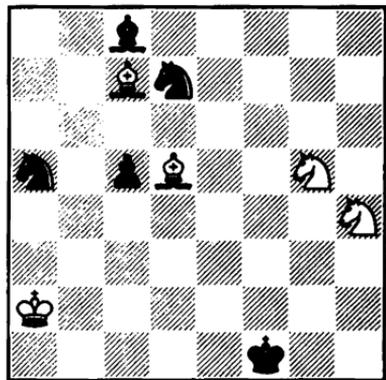   **4   ♗d5-c4+   ♔f1-f2** (say)
    5   ♘g5-h7!

and Black is curiously helpless (**2.6b**). All his men are tied up apart from his king, and White will simply play ♘g6 and ♘e7 and win the bishop.
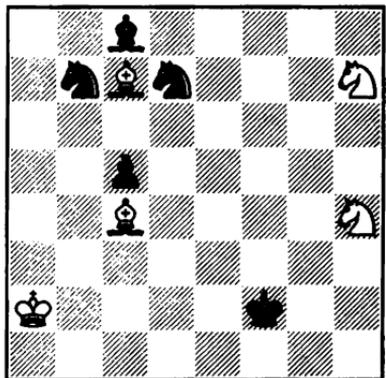

2.6   Win

2.6a   After 3 ♗d6-c7

2.6b   After 5 ♘g5-h7

2.7   Draw

2.7a   After 3...♘b5-a7

2.7b   After 7 ♔a6-b7

2.7 (H. H. Grondijs, 1981) is based on a curious fact: although a king and two knights cannot force mate against a bare king, a king, rook, and two knights can force mate against a king and rook. Typically, the stronger side advances and plays for mate, and if the defender offers an exchange of rooks he finds either that it can be avoided or that the knights can drive his king away and leave his rook to be taken for nothing. In the diagram, therefore, 1 ♖xd3+ ♘xc6+ would lead to a win for Black, and White must preserve his bishop by

    1   **♗c6-a8.**

Black's pawn is now doomed, but he can start a counterattack; after

    1   ...   **♖e5-e8!**
    2   **♖f3xd3+**   **♘d8-c6+**
    3   **♔b8-b7**   **♘b5-a7**

the bishop cannot be further defended, and ...♖b8+ will lead to its capture (**2.7a**). However, White can play the subtle

    4   **♖d3-b3!**

leading to

    4   ...   **♖e8-b8+**
    5   **♔b7-a6,**

since 5...♖xb3 6 ♗xc6+ ♘xc6 will be stalemate. Black must therefore take the bishop by

    5   ...   **♖b8xa8,**

and

    6   **♖b3-b8!!**

gives him a problem. He will lose his rook if he does nothing, and 6...♖xb8 will again be stalemate; so he must play

    6   ...   **♘c6xb8+,**

and White's reply

    7   **♔a6-b7**

wins the rook after all (**2.7b**).

The last four studies in this chapter show domination of a queen. This cannot be achieved on an open board without using a lot of White force, so either the queen must be blocked by its own men or there must be a tactical threat which ties it down.
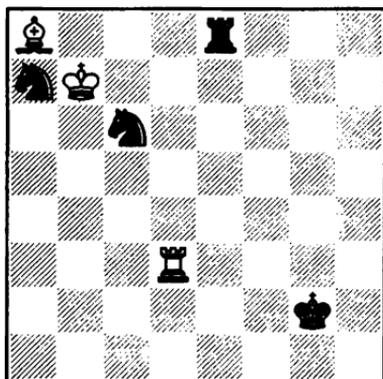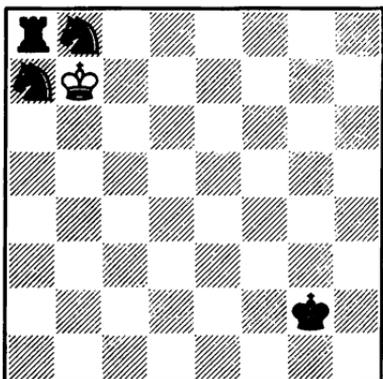
The tying down in **2.8** (H. M. Lommer, 1947) is achieved by a threat of mate. Play starts with

    1   ♖h8-h6+   ♚c6-d7
    2   ♖f8-f7+   ♚d7-e8,

and Black's attack on the nearer rook stops mate by ♖h8. However,

    3   ♖f7-a7!

attacks the queen and makes the mate threat a reality (**2.8a**). Black cannot usefully capture this intrusive rook, since 4 ♖h8+ and 5 ♖h7+ would win the queen, nor can he gain time by checking the White king, since each of the nine possible checking squares is guarded. So he must play

    3   ...   ♛a5-e5

to cover the mating square, but White plays

    4   ♖h6-h8+!

anyway (**2.8b**) and the sequel 4...♛xh8 5 ♖a8+ puts an end to the argument.

Harold Lommer (1904-80) was a major figure in study chess. He was the leading British composer of his generation; he was largely or wholly responsible for two major anthologies; and his Mandrake Club in London's Soho was a legendary haunt of artists, writers, and chess enthusiasts. He preached the doctrine that a study "should warm the heart", and it is a doctrine which we have tried to follow in this book.
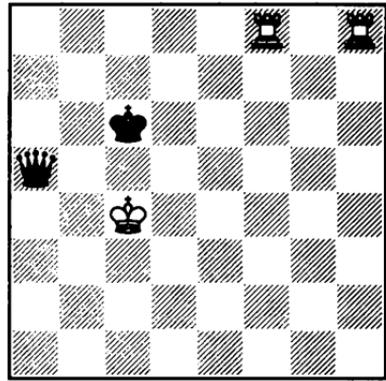
2.8   Win
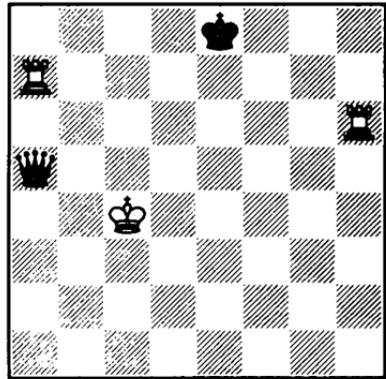
2.8a   After 3 ♖f7-a7
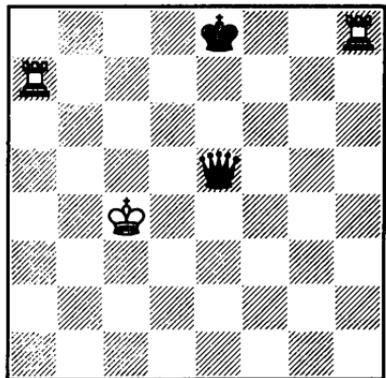
2.8b   After 4 ♖h6-h8+
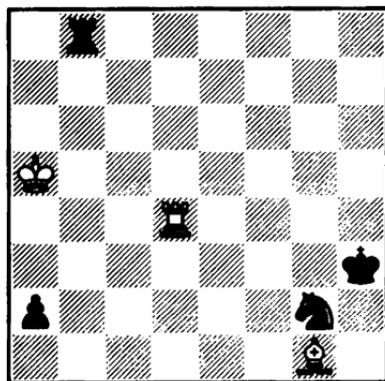
2.9   Draw
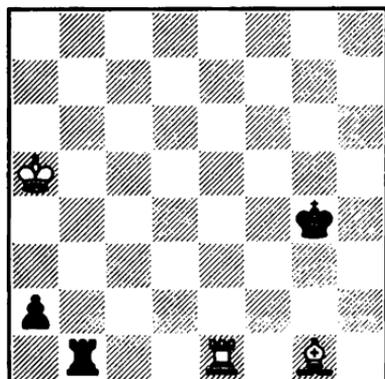
2.9a   After 3...♖b8-b1
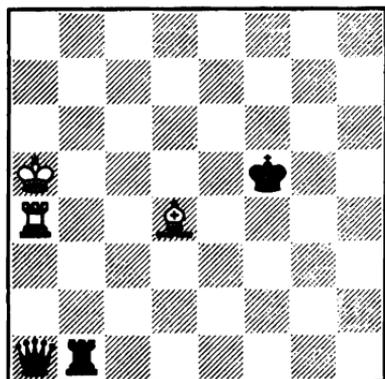
2.9b   After 6 ♗g1-d4

Black's pawn is dangerous in **2.9** (V. S. Kovalenko, 1972), and White's rook will not survive if it tries to stop it directly (1 ♖d1 a1♕+ 2 ♖xa1 ♖a8+). So White starts with

    1   ♖d4-d3+

intending 2 ♗d4, but Black's reply

    1   ...   ♘g2-e3!

prevents this and leaves White with nothing better than

    2   ♖d3xe3+.

Now 2...♔g2 can be met by 3 ♖e1; the capture of Black's knight means that White need no longer fear the sequel 3...a1♕+ 4 ♖xa1 ♖a8+ since king and rook are insufficient to win against king and bishop in the absence of pawns, and if Black tries the shut-off move 3...♖b1 White can play 4 ♖e2+ and 5 ♖xa2. So Black prefers

    2   ...   ♔h3-g4,

and after

    3   ♖e3-e1   ♖b8-b1

he still appears to be on top (**2.9a**). However, White now uses the Black king's position on the fourth rank to bring his rook round to the file:

    4   ♖e1-e4+   ♔g4-f5
    5   ♖e4-a4.

But cannot Black still win by playing

    5   ...   a2-a1♕,

since the sequel 6 ♖xa1 ♖xa1+ 7 ♔-- ♖xg1 will leave him a rook ahead? No, he cannot; the move

    6   ♗g1-d4!

brings the bishop to safety, and leaves the queen nowhere to go (**2.9b**).

2.10 (A. M. Belenky, 1976) also revolves around an advanced Black pawn. True, the opening attack

 1 ♘b2-c4+ ♚d2-e1
 2 ♗f1-d3

seems good for White; he threatens 3 ♗xe5, the advance 2...h2 can be met by 3 ♗e4, and the exchange

 2 ... ♗g4-e2
 3 ♗d3xe2

doesn't seem to help Black because 3...♚xe2 4 ♗xe5 ♚f2 5 ♗b8 ♚g1 6 ♘e5 ♚g2 7 ♘g4 still gives White a comfortable win. However, Black can interpolate the move

 3 ... e5-e4!

and this gives White a problem (**2.10a**). If he plays 4 ♗e5 as intended, Black will capture on e2, and White will be unable to stop both pawns without losing another piece; if he moves his attacked bishop to safety, Black will promote his h-pawn. In such a situation, experienced study enthusiasts have a saying: "All right, so Black makes a queen." Play continues with

 4 ♗e2-g4! h3-h2
 5 ♗a1-e5 h2-h1♕
 6 ♗e5-g3+ ♚e1-f1
 7 ♘c4-e3+ ♚f1-g1
 8 ♚f7-g7!!

and where is the queen to go? It is not attacked, but the rules of the game force it to move, and any move is suicidal (**2.10b**).

This is a splendid example of the study composer's art. Every man on the board moves at least once, each square to which Black might move at the end is denied to him in only one way, and every man still on the board plays a role in the final domination.
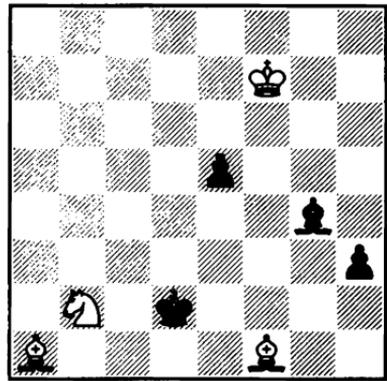
2.10   Win
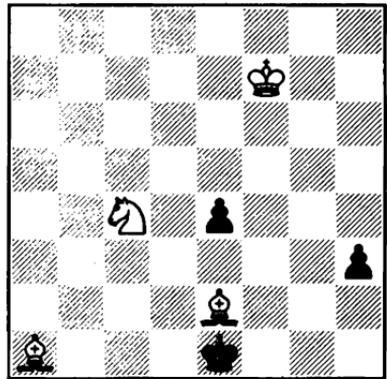
2.10a   After 3...e5-e4
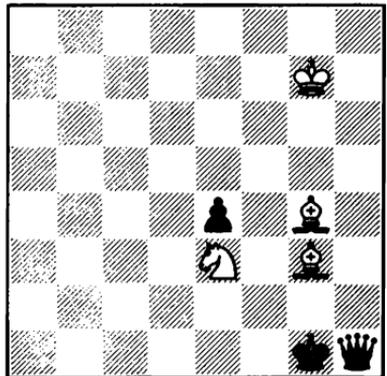
2.10b   After 8 ♚f7-g7
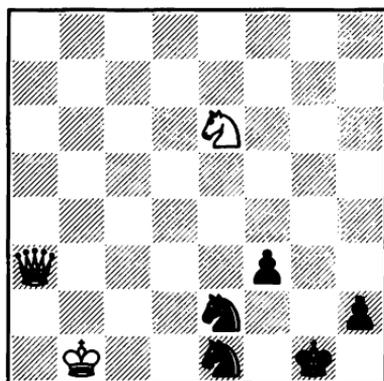
2.11   Draw
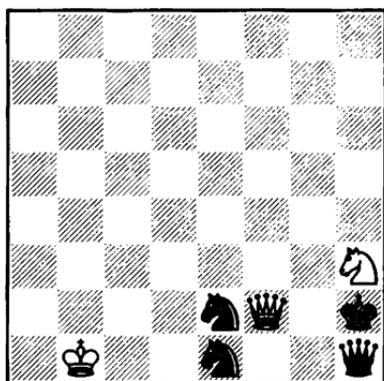
2.11a   After 4 ♕e3xf2+
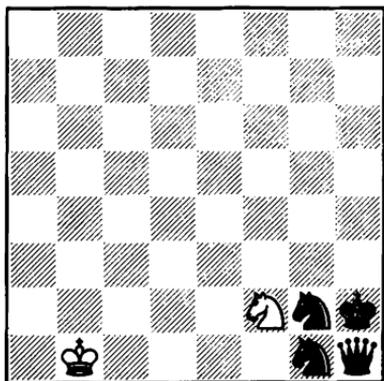
2.11b   After 6 ♘h3-f2

The strategic considerations underlying **2.11** (P. Joiţa and V. Nestorescu, 1986) are similar to those underlying 2.7, since king, queen, and two knights can force mate against king and queen. White starts with

> 1   **♕a3-e3+,**

after which no king move is satisfactory for Black. 1...♔h1 allows 2 ♕f2, 1...♔g2 leads to 2 ♕g5+ ♘g3 3 ♘f4+ ♔f2 4 ♕c5+ ♔f1 5 ♕b5+ and either 5...♔g1 6 ♘h3+ ♔g2 7 ♘f4+ or 5...♘e2 6 ♘xe2 fxe2 7 ♕f5+ ♔g1 8 ♕g4+ ♘g2 9 ♕xe2, and 1...♔f1 leads to 2 ♕h6 ♔g2 3 ♕g5+ and the same. The shielding reply

> 1   ...   **f3-f2**

is therefore best. The h-pawn is now certain to promote, but

> 2   **♘e6-g5**   **h2-h1♕**
> 3   **♘g5-h3+**   **♔g1-h2**
> 4   **♕e3xf2+**

gives White some counterplay (**2.11a**). The straightforward line 4...♔xh3 5 ♕xe2 now gives the standard draw of queen against queen and knight, so Black must cross-check:

> 4   ...   **♘e1-g2+.**

Now any move by the White king will allow Black eventually to safeguard his own knights and capture White's (for example, 5 ♔c2 ♕c1+ 6 ♔d3 ♕d1+ 7 ♔e4 ♘g3+ 8 ♔e5 ♔xh3), but

> 5   **♕f2-g1+!**

is available. There follows

> 5   ...   **♘e2xg1**
> 6   **♘h3-f2!**

and the Black queen is even more entertainingly helpless than usual (**2.11b**).

3 Giving mate

If winning material provides the most common way of winning a game, giving mate provides the most spectacular. Early mating studies were relatively crude; White had an apparently lost game, but could force a win by a series of sacrificial checks. This is thrilling at first, but eventually becomes tedious. A modern mating study is more subtle. Typically, White presses for a winning material advantage, but Black hangs on only to find that he has walked into a mate instead.

In **3.1** (A. and K. Sarychev, 1930), for example, the natural plan for White is to capture the imprisoned knight, mop up the pawn, and (if Black insists) play out the standard win with bishop and knight against bare king. A direct rush by the White king does not work because Black can gain time by a counterattack (for example, 1 ♔f2 ♔g6 2 ♔e3 ♔f5 3 ♘f2 ♔e5 4 ♔d3 ♔d6 and the Black king will shepherd its knight to safety). However, the preliminary manoeuvre

3.1   Win

| 1 | ♘g4-e5 | ♔h7-g7 |
| 2 | ♗a5-d8 | |

keeps the Black king at bay, and

2	...	♔g7-f8
3	♔g1-f2	♔f8-e8
4	♗d8-a5	♔e8-e7
5	♔f2-e3	♔e7-d6
6	♔e3-d4	

gives **3.1a.** The knight must now run, since it will be doomed after 6...♔e7 7 ♔c5; but its flight

| 6 | ... | ♘a8-c7 |

blocks its own king, and

| 7 | ♗a5-b4 mate |

exacts the penalty.
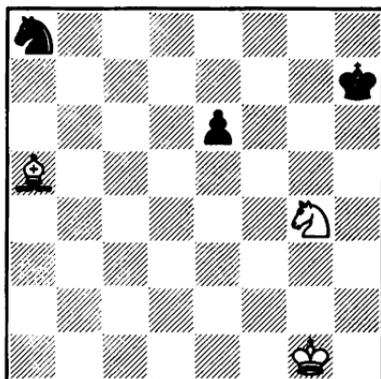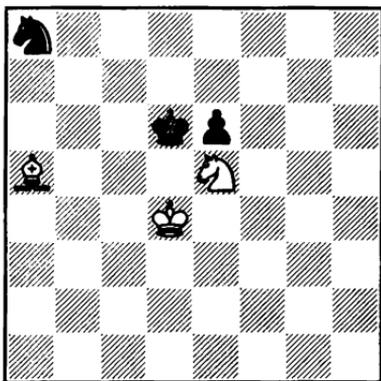
3.1a   After 6 ♔e3-d4
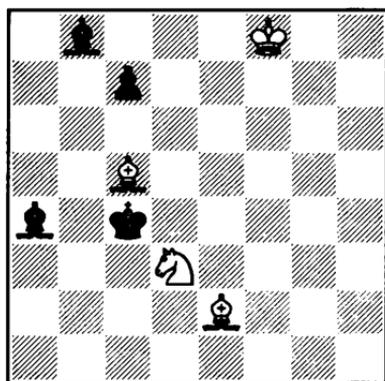
3.2   Win
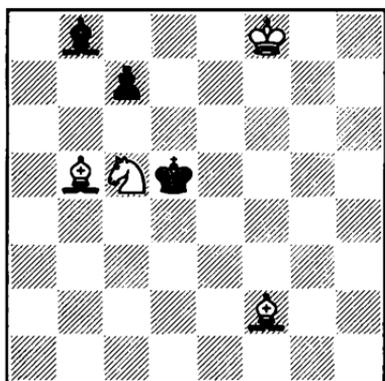
3.2a   After 3 ♗e2xb5
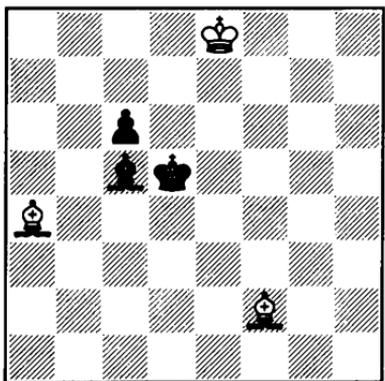
3.2b   After 5...♗d6xc5

There is a very common motivation for the play in minor-piece studies: three minor pieces do not win against two (except in the case of two bishops and knight against two knights) unless the stronger side also has a pawn. In **3.2** (L. Silaev, 1980), therefore, White needs to win another piece, and his first task must be to remove his bishop from c5 and release his knight. This bishop must remain on the diagonal c5-g1 in order to prevent the freeing move 1...♗a7, and the reason for the particular choice

1   ♗c5-f2

will appear in due course. The chief threat is now 2 ♘c5+ ♚b4 3 ♘a6+, and king moves are useless (1...♚d5 2 ♘b4+ ♚-- 3 ♘a6, 1...♚b5 2 ♘c5+ ♚a5 3 ♘a6). So Black plays

1   ...   ♗a4-b5

to keep the knight out of a6, but

2   ♘d3-c5+

still creates problems (2...♚b4 3 ♗xb5 ♚xb5 4 ♘d7). Black must temporarily concede the piece,

2   ...   ♚c4-d5
3   ♗e2xb5

(3.2a), and the pin 3...♗a7 does not win it back because the knight can retreat to d3 (which is why the bishop went to f2 at move 1). But Black can regain his piece in another way:

3   ...   c7-c6
4   ♗b5-a4   ♗b8-d6+
5   ♚f8-e8   ♗d6xc5.

The position now appears drawn (3.2b), but

6   ♗a4-b3+

renews the pressure; Black must play

6   ...   ♚d5-d6

if he is to preserve his bishop, and

7   ♗f2-g3 mate

then wins the king instead.

A similar motivation often underlies studies where White has a rook: if the stronger side has no pawns, an advantage of a clear rook is normally needed in order to win. The later play in **3.3** (Y. M. Makletsov, 1980) will depend on this. First, however, White must do something about the Black pawn, and

    1   ♘c8-b6+

makes a good start; White will win easily after 1...♘xb6 2 ♖c5. So Black plays

    1   ...   ♔a4-b4,

and now

    2   ♘h5-f4

prepares to answer 2...c1♕ with a fork on d3 (**3.3a**). Furthermore, 2...♘xb6 still fails, because White can extract his rook with check and then stop the pawn (3 ♖d4+ ♔c5 4 ♘e6+ ♔-- 5 ♔b2, or 3...♔c3 4 ♘e2 mate!). But Black can hold out for a while by promoting to a knight:

    2   ...   c2-c1♘+.

The sequel

    3   ♔a2-b1   ♘c4xb6

leaves White with a rook and a knight against two knights, and we have the situation envisaged at the start. White must now preserve his rook and win a knight, and there follows a dogfight in which the best play for both sides is

    4   ♖d5-d4+   ♔b4-c3
    5   ♖d4-d6   ♘b6-c4
    6   ♖d6-d1

(**3.3b**). Now

    6   ...   ♘c1-b3

seems to have brought Black's last stray man to safety; but the security is illusory, since

    7   ♘f4-d5 mate

suits White just as well.
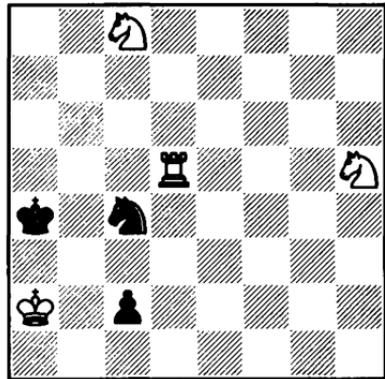
3.3   Win
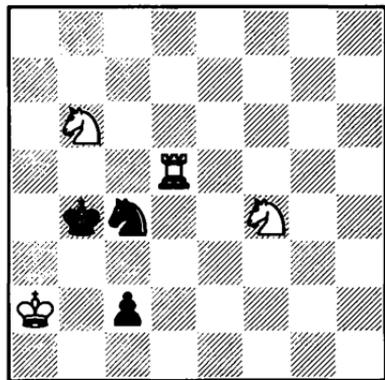
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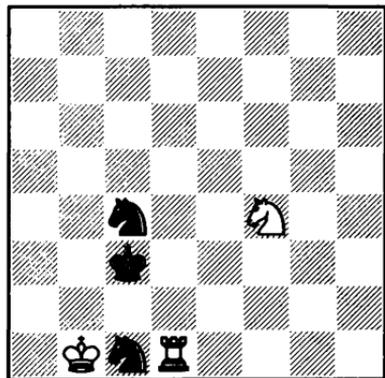
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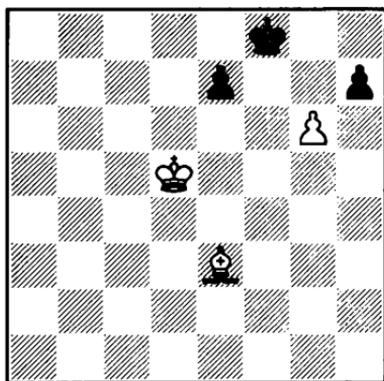
3.4   Win
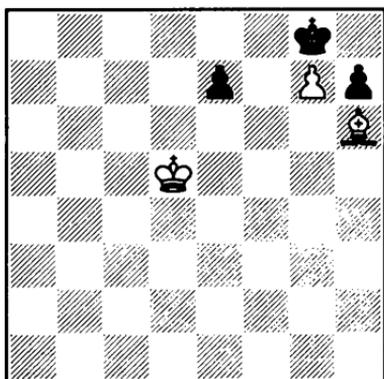
3.4a   After 2 g6-g7
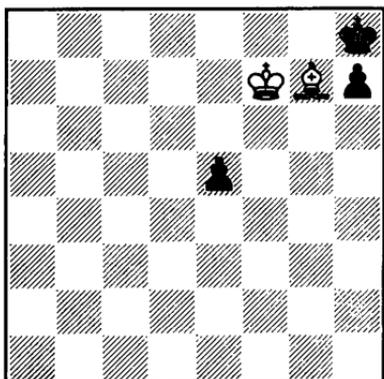
3.4b   6 ♗h6-g7 mate

All these studies have involved subtle manoeuvre rather than sacrifice. Perhaps it is time to redress the balance.

3.4 (A. A. Troitsky, 1895, version) starts quietly enough. The moves

    1   ♗e3-h6+   ♚f8-g8
    2   g6-g7

give **3.4a,** and now both 2...e5 3 ♚e6 e4 4 ♚f6 e3 5 ♗xe3 and 2...e6+ 3 ♚d6 ♚f7 4 ♚e5 ♚g8 5 ♚f6 win easily for White. However,

    2   ...   ♚g8-f7

looks good enough to draw; the Black king will oscillate between f7 and g8, and White cannot occupy e6 without giving stalemate. The amazing counterstroke

    3   g7-g8♕+!!

has become one of the most famous moves in chess. Surely White cannot throw away his pawn, which represents his only potential mating force, and leave himself with just a bishop? But he can, because there follows

    3   ...   ♚f7xg8
    4   ♚d5-e6   ♚g8-h8
    5   ♚e6-f7   e7-e5
    6   ♗h6-g7 mate

and all is explained (**3.4b**).

In so far as modern study composition had a principal founder, Alexei Troitsky (1866-1942) is generally considered as having filled this role. He was prolific, imaginative, and entertaining, and the impact of his best studies remains undiminished even today.

Not surprisingly, 3.4 has prompted imitations and developments. Not all have been improvements; some have sacrificed the simplicity of the original without adding anything of real value. However, here are two that are well worth attention.

3.5 (J. Gunst, 1922) adds a neat tempo manoeuvre to the basic scheme. The direct 1 ♗a6 does not work, because White has no waiting move after 1...♔c7; 2 ♔c5 allows 2...d6+! Instead, we must play

   1   ♗c8-b7!   ♔d8-c7
   2   ♗b7-a6
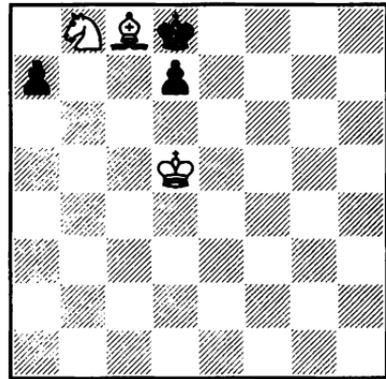
and so on.

3.6 (T. B. Gorgiev, 1938, version) will give Black a choice of captures. The opening move

   1   ♗f8-h6

attacks the knight, and after 1...♘f3 we have 2 ♔e7 ♘h4 3 ♔f7 ♘f5 4 ♔f8 ♘xh6 5 ♘d6 and mate next move. So Black tries

   1   ...   ♘d2-e4.

Now the direct 2 ♔e7 leads nowhere (2...♔g8 3 ♔e6 ♘c5+ etc) and we have another tempo manoeuvre:

   2   ♔d8-d7!   ♘e4-f6+
   3   ♔d7-e7.

Black now has a disagreeable choice (see **3.6a**). He can capture the knight and be mated by the bishop:

   3   ...   ♘f6xe8
   4   ♔e7-f8   ♘e8-d6
   5   ♗h6-g7 mate,

or he can capture the bishop and be mated by the knight:

   3   ...   ♘f6-g8+
   4   ♔e7-f8   ♘g8xh6
   5   ♘e8-d6   ♘h6-f5
   6   ♘d6-f7 mate.

3.5   Win
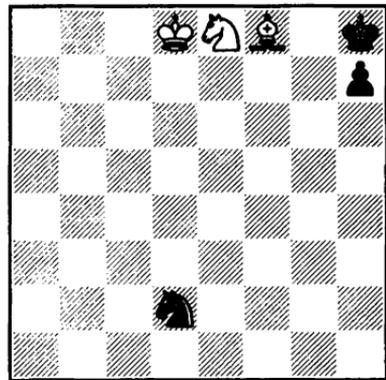
3.6   Win
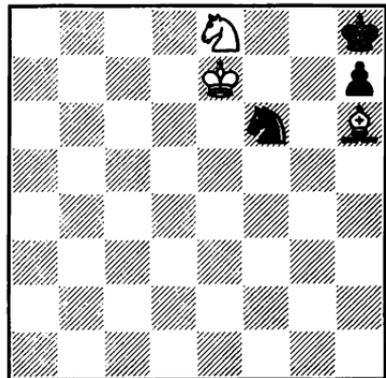
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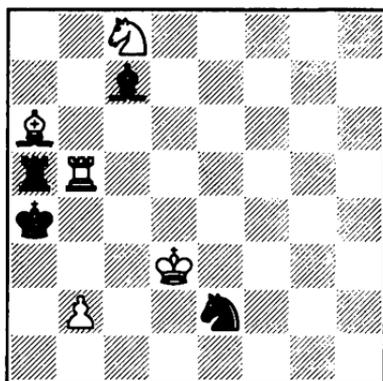
3.7   Win
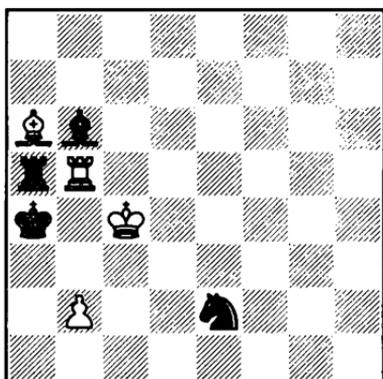
3.7a   After 2 ♔d3-c4
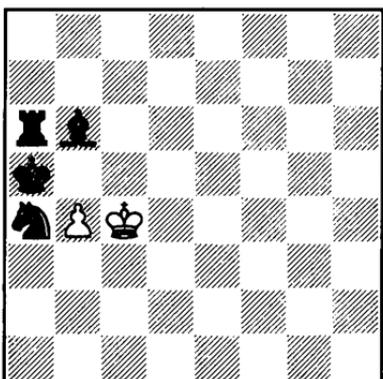
3.7b   6 b3-b4 mate

3.7 (E. L. Pogosiants, 1979) shows an ancient theme. The opening sacrifice

1   ♘c8-b6+   ♗c7xb6

blocks b6, and now

2   ♔d3-c4

threatens immediate mate by 3 ♖b4 (**3.7a**). The obvious defence 2...♖xb5 allows mate in two (3 ♗xb5+ ♔a5 4 b4) and 2...♗c5 loses hopelessly after 3 b3+ and 4 ♖xa5+, so

2   ...   ♖a5xa6

seems to represent Black's only chance. However, the leeway that it gives is insufficient. The sequel

3   ♖b5-b4+   ♔a4-a5
4   b2-b3

threatens mate by both ♖b5 and ♖a4, and the only defence is

4   ...   ♘e2-c3

which leads to the classic finish

5   ♖b4-a4+   ♘c3xa4
6   b3-b4 mate

(**3.7b**).

Ernest Pogosiants (1935-90) has been the most prolific of all study composers. Many of his pieces are trifles, but even his lightest work has a charm that more substantial creations often lack. "Mate with the last pawn" is a theme that has attracted many composers, but this rendering, although by no means the most spectacular, is as crisp as any. Every man involved in the mate moves into position during the play, and there is no idle man on the board at the end.

The White queen has been conspicuously absent from this chapter so far, but it takes a leading role in the next two studies. Many studies featuring a White queen involve long and difficult analysis, but the queen also lends itself to light-hearted systematic manoeuvres.

3.8 (E. N. Somov-Nasimovich, 1937) shows such a manoeuvre. The far-seeing introductory move

    1   d6-d7

forces Black to capture; if he tries 1...♕g8, the line 2 ♕d3+ ♔f3 3 ♕f5+ quickly settles the issue, and 1...exd4+ 2 exd4+ is also crushing. So Black plays

    1   ...   ♗c8xd7,

which blocks d7. Now the moves

    2   f2-f3+   ♕g2xf3
    3   ♕e2-d3+   ♔e4-d5

take the queens and the Black king one square to the north-west (**3.8a**). Repetition by

    4   e3-e4+   ♕f3xe4
    5   ♕d3-c4+   ♔d5-c6
    6   d4-d5+   ♕e4xd5

leads to **3.8b,** and

    7   ♕c4-a6 mate

neatly concludes matters.
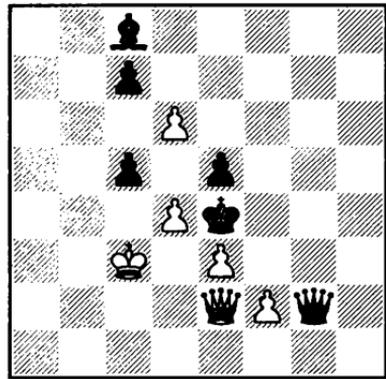
3.8   Win
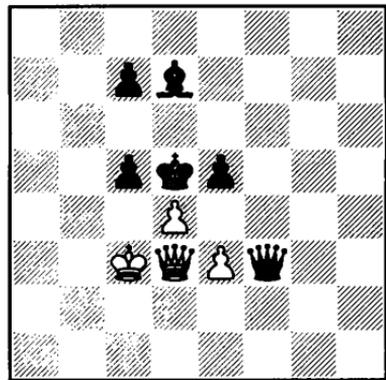
3.8a   After 3...♔e4-d5
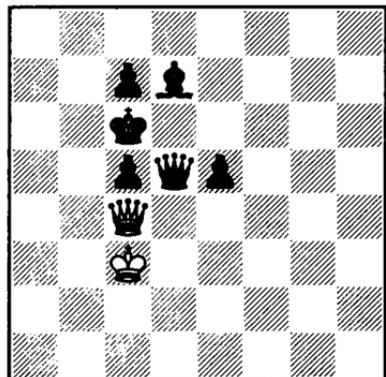
3.8b   After 6...♕e4xd5

3.9   Win

3.9a   After 2...♚c8-b8

3.9b   After 7...♚b5-a4

3.9 (A. Mouterde, 1922) is even more light-hearted. If the White king were on a2, instead of a1, the White queen would not be pinned, and White would have an elementary win; he could check with rook and queen alternately, and drive the Black king to the a-file. The queen being pinned, however, White can check only with the rook:

    1   ♖e3-d3+   ♚d8-c8
    2   ♖d3-c3+   ♚c8-b8

(**3.9a**). This unpins the queen, but after

    3   ♕g7-c7+   ♚b8-a8

the rook is pinned in its turn and mate by ♖a3 is tantalizingly out of reach. So the queen must free the rook again:

    4   ♕c7-a5+   ♚a8-b7
    5   ♕a5-b4+   ♚b7-a6
    6   ♕b4-a3+   ♚a6-b5
    7   ♕a3-b2+   ♚b5-a4.

This gives **3.9b,** and

    8   ♖c3-a3 **mate**

is at last possible.
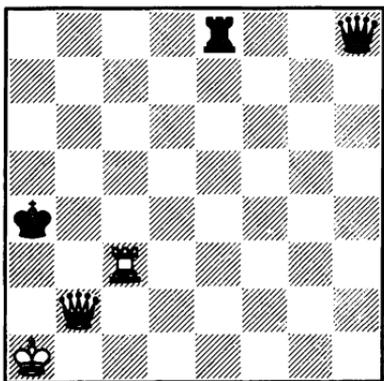
A modern trend in composition has been the creation of studies in which the Black men move into position as a result of aggressive play by Black himself, not merely in passive response to White's threats. **3.10** (G. M. Kasparian, 1961) shows an excellent study of this type. White's first task is to move his bishop so that his e-pawn can be promoted, and the reason for the precise move

    1   **♗e8-f7**

will appear in due course. Black's only hope is to play for perpetual check or mate:

    1   **...**   **♖b6-b8+**
    2   **♔a8-a7**   **♗h8-d4+**
    3   **b5-b6**

(**3.10a**). Black's 3...♖xb6 can now be met by 4 e8♕+ ♔c7 5 ♖a2, which explains White's first move; if the bishop were not guarding a2, Black could now mate by ...♖b2+ and ...♖xa2. As it is, Black must try

    3   **...**   **♗d4xb6+**
    4   **♔a7-a6**   **♗b6-d8**

(**3.10b**). The threat of mate now prevents White from promoting to a queen, but the Black rook and bishop have had to block their own king in order to create this threat, and White can take advantage:

    5   **♖c2xc6+**   **d7xc6**
    6   **♗f7-e6+**   **♔c8-c7**
    7   **e7-e8♘ mate.**

Ghenrikh Kasparian (1910-95) was one of the giants of the endgame study. He compiled several major anthologies, and was one of the finest of composers. Many of his studies are so deep as to preclude popular appreciation, but there are exceptions, as this example demonstrates.
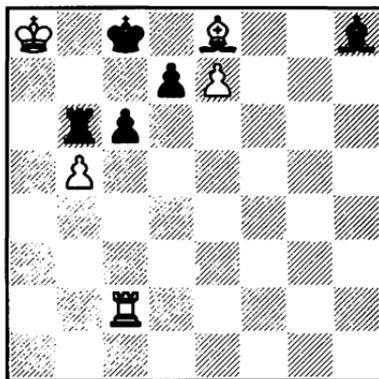
3.10   Win
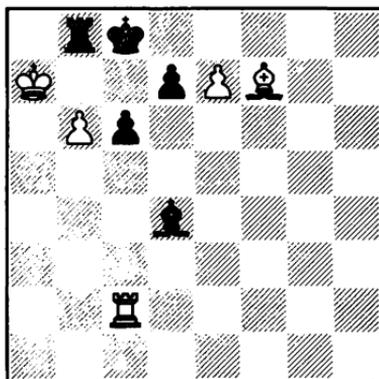
3.10a   After 3 b5-b6

3.10b   After 4...♗b6-d8

3.11 Win
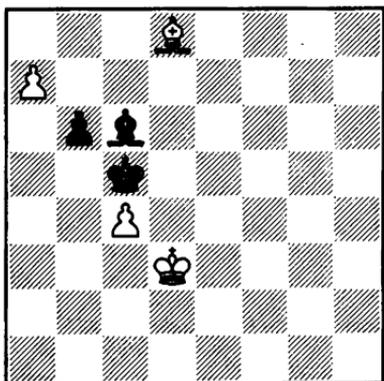
For our last example, let us return to the minor pieces. The bishops in **3.11** (O. J. Carlsson, 1976, version) run on opposite colours, and White has the wrong one to accompany his a-pawn. True, he is two pawns ahead, but his pawns are vulnerable. In fact, Black threatens to obtain a draw by 1...♗d7 and 2...♗xb5, and the line 1 ♔d4 ♗d7 2 ♗c5+ ♔a5 3 ♗xa7 does nothing to obstruct this plan. The only move which enables White to neutralize the threat is

1 ♗b4-e7!

Now if Black plays 1...♔a5, routine manoeuvres will see White through: 2 ♔d4 ♗d7 3 ♔c5 ♗e6 4 ♗d6 ♔a4 5 ♗b8 ♔b3 6 ♗xa7 ♗xc4 7 ♗b8 ♗f1 8 ♔b6 ♔a4 9 a7 ♗g2 10 ♔a6. If Black tries 1...♔c7, with the idea of putting the king in the corner, White can win by 2 ♗d6+ ♔xd6 3 b6 ♗h3 4 c5+ ♔d7 5 c6+. So Black plays

1 ... ♗e6-d7,

attacking the b-pawn as originally intended, and there follows

2 ♗e7-d8+ ♔b6-c5

(3.11a). White can now try to promote a pawn, but Black can stop it easily enough:

3 b5-b6 a7xb6
4 a6-a7 ♗d7-c6

(3.11b). However, in order to stop the pawn, Black has to block his king, and

5 ♗d8-e7 mate

clinches matters.

Of all the studies in this chapter, this is the most like an episode from actual play, and the charm of the modern mating study cannot be better displayed.

3.11a After 2...♔b6-c5

3.11b After 4...♗d7-c6

4 Creating stalemate

In the last chapter, Black contrived to avoid the loss of material only to walk into a mate. The studies in the present chapter show the other side of the coin. Black needs to gain material in order to win, but White so arranges matters that the crucial capture or promotion leads to stalemate.

A simple example is given by **4.1** (K. A. L. Kubbel, 1916). After the opening moves

1	f6-f7	♖e8-f8
2	e5-e6,	

White threatens 3 e7, but

2	...	b7-b6

is a sufficient answer since 3 e7 ♖xf7 will leave the White pawn pinned. Nor does

3	♔a7-b7	♔b5-c5

seem to help White, for the line 4 ♔c7 ♔d5 5 ♔d7 ♔e5 6 ♔e7 ♖h8 produces an easy win for Black. However, with the Black king lured away from b5, White can advance the e-pawn after all:

4	e6-e7	♖f8xf7
5	♔b7-a6!	

This gives **4.1a**, and if Black does not capture now he will have lost his chance; but

5	...	♖f7xe7
		stalemate

completes White's defence.

Leonid Kubbel (1892-1942) was one of the leading composers of the generation following Troitsky. Clear, incisive, and with unexpected conclusions, his studies have wide appeal.
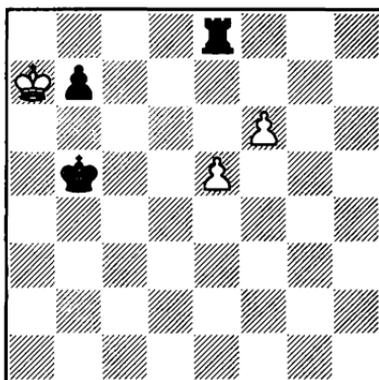
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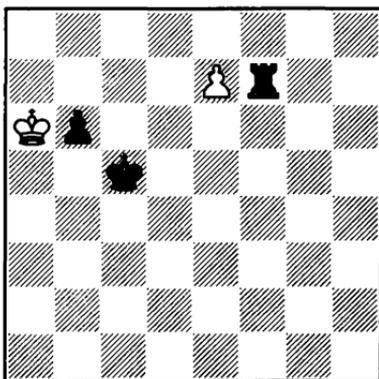
4.1a   After 5 ♔b7-a6
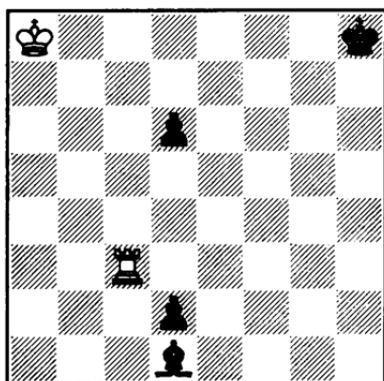
4.2   Draw
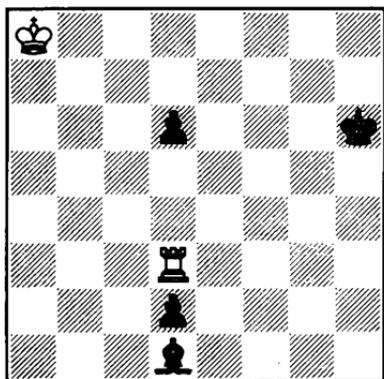
4.2a   After 3 ♖g3-d3
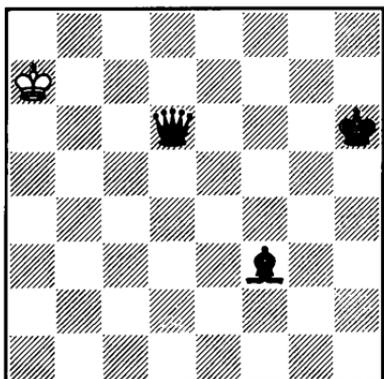
4.2b   5...♕d1xd6 stalemate

The development of the modern endgame study owes much to the exploration of stalemate by Kubbel and the brothers V. and M. Platov. **4.2,** from 1907, illustrates the work of the Platov brothers.

White has no time for 1 ♖d3, since 1...♗f3+ would get the bishop out of the way with check, and 1 ♖c8+ ♔g7 2 ♖c7+ ♔f6 is clearly hopeless. There remains
    1   ♖c3-h3+,
and it is Black's turn to think. If he keeps his king at the top of the g- and h-files, White will check indefinitely. If he takes it to the f-file, say by 1...♔g8 2 ♖g3+ ♔f8, White will be able to play 3 ♖d3, since 3...♗f3+ can now be met by 4 ♖xf3+. So he must bring the king down the g- and h-files, say by
    1   ...   ♔h8-g7
    2   ♖h3-g3+   ♔g7-h6,
and as soon as the king steps on to the sixth rank, White plays
    3   ♖g3-d3
(**4.2a**). But does not
    3   ...   ♗d1-f3+
    4   ♔a8-a7   d2-d1♕
still win for Black? Yes, if White plays 5 ♖xd1; but with the Black king on the sixth rank, White can capture the pawn first, because
    5   ♖d3xd6+
is check and the reply
    5   ...   ♕d1xd6
                   stalemate
suits White perfectly (**4.2b**). And if Black plays 4...d1♖ to evade this defence, White can simply play 5 ♖xf3; this draws without difficulty, for the remaining pawn is powerless.

4.3 (V. Neidze, 1981) shows a beautiful modern stalemate study. Black must preserve his pawn, so the opening moves

1	♔f5-e6	♚d8-c7
2	♘e3-d5+	♚c7-c6
3	♘d5-f6	♝e8-g6

are easily explained. We now have **4.3a,** and the attack

| 4 | e2-e4 | |

threatens a pawn exchange which will kill Black's chances. However, Black can avoid this exchange with the moves

4	...	♘a2-c3
5	e4-e5	d6-d5

(**4.3b**), after which the further advance of the pawn will cost White his knight. But White can capture the pawn straight away, because after

| 6 | ♘f6xd5 | |

we have the now familiar climax:

| 6 | ... | ♘c3xd5 |
| | | **stalemate.** |

White seems to have been manoeuvring quite gently and there have been no captures until the last two moves, yet the Black men have been persuaded on to precisely the squares which they must occupy in order to create the stalemate.
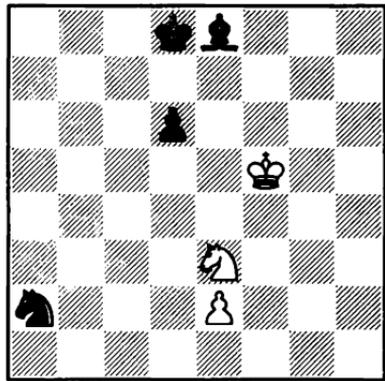
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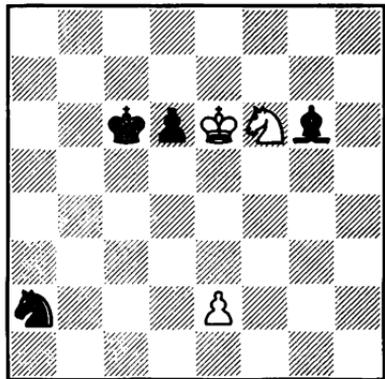
4.3a   After 3...♝e8-g6
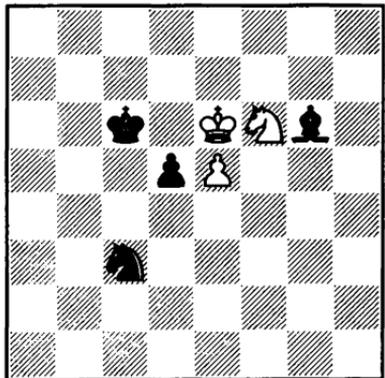
4.3b   After 5...d6-d5
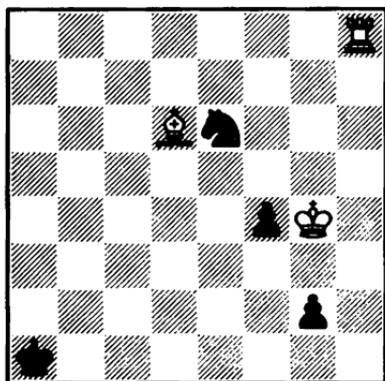
4.4   **Draw**
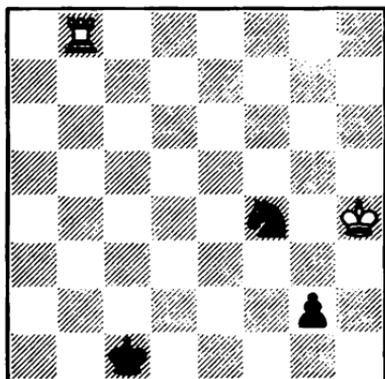
4.4a   **After 4 ♔g4-h4**
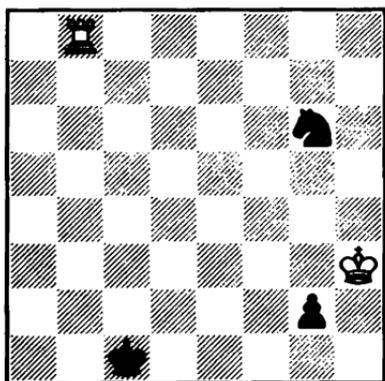
4.4b   **Line 4...♘f4-g6+**
             After 5 ♔h4-h3

Of course, composers have not always been content to restrict themselves to a single stalemate. **4.4** (J. Sehwers, 1905) features two stalemates: the White king will find refuge on one square or another, depending on how Black plays.

The g-pawn is out of reach, so White must attack the Black king. White gains nothing from 1 ♖a8+ ♔b1 2 ♖b8+ ♔c2, so the assault opens with

    1   **♗d6-e5+**   **♔a1-b1**
    2   **♖h8-b8+.**

Now the king cannot escape to the second rank without running into 3 ♖b2+. So Black must play

    2   **...**   **♔b1-c1,**

and the subsequent play

    3   **♗e5xf4+**   **♘e6xf4**
    4   **♔g4-h4!**

sets up a stalemate defence (**4.4a**). If Black now promotes his pawn,

    4   **...**   **g2-g1♕,**

the reply

    5   **♖b8-b1+**

provokes stalemate or wins the new queen. And if Black tries

    4   **...**   **♘f4-g6+**

before promoting his pawn, White can play

    5   **♔h4-h3!**

(**4.4b**). Black must promote his pawn now or never; but the line

    5   **...**   **g2-g1♕**
    6   **♖b8-b1+**

leads to stalemate as before, and if Black avoids the stalemate by promoting to something else, his material advantage will be insufficient to win.

The eventual stalemate in **4.5** (from work by F. Lazard and S. G. Zhigis) is simple enough, but reaching it will demand care. White starts by playing

    1   ♖e3-f4

with designs against the g-pawn. But Black launches a counterattack on the f-pawn, forcing White to change tack:

    1   ...   ♖b8-c7
    2   ♖f4-e5

(**4.5a**). A pawn move now loses material, and Black's best is

    2   ...   ♖c7-d8;

the alternative 2...♖c8 leads to the final position one move sooner (3 ♖d6 ♖d8 4 c4!). There follows

    3   ♖e5-d6   ♖d8-e8
    4   c2-c3!   ♖e8-d8
    5   c3-c4   ♖d8-e8
    6   c4-c5

and we have **4.5b**, which is a position of reciprocal zugzwang. If it were White's move, he would have to play ♖c7 or ♖e5, allowing ...♖e7 lifting the pressure. But as it is, we have

    6   ...   ♖e8-d8
    7   f5-f6!   g7xf6
                          stalemate.

This concludes the main line, but why cannot White go straight for e5 by playing 1 ♖e4? Because Black could play 1...♖c8, since the danger to his g-pawn would be less imminent. The attack 2 ♖f4 ♖d8 3 ♖g5 ♖e7 4 ♖g6 would achieve nothing, while 2 ♖e5 ♖c7 would give 4.5a but with White to move. And 4.5a is also a position of reciprocal zugzwang; a White king move would allow Black to advance, while a move by the c-pawn would commit White too soon and allow Black to reach 4.5b with White to play (3 c3 ♖d8! 4 ♖d6 ♖e8 5 c4 ♖d8 6 c5 ♖e8, or 3 c4 ♖c8!).
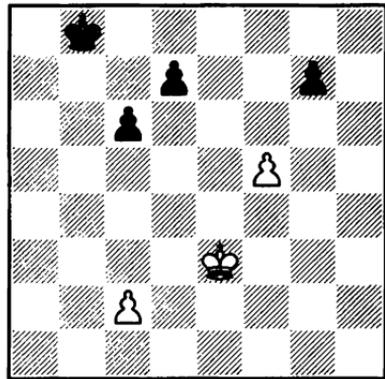
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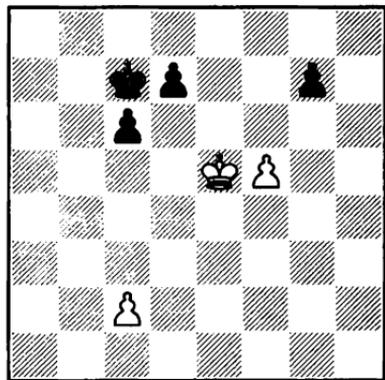
4.5a   After 2 ♖f4-e5
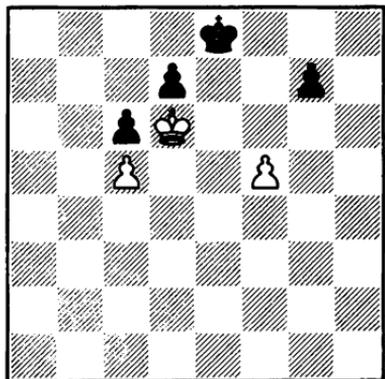
4.5b   After 6 c4-c5
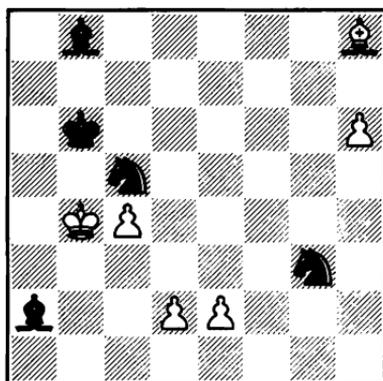
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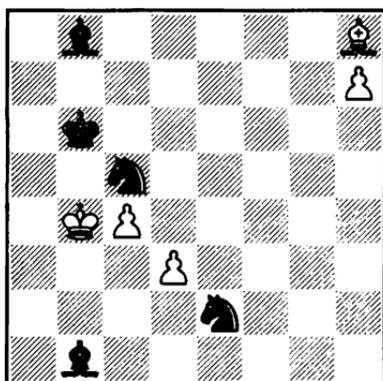
4.6a   After 2...♘g3xe2
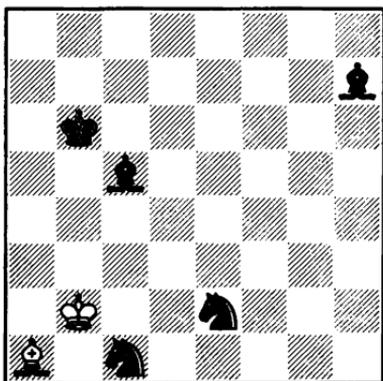
4.6b   7...♗b1xh7 stalemate

So far, we have seen only simple stalemate positions, attractive though they have been. The next few stalemates will display additional features.

Black is three pieces ahead in **4.6** (H. Ginninger, 1930, version by V. Nestorescu), so the h-pawn is White's only real hope. At first glance, 1 ♗d4 seems strong, clearing the road and attacking a knight, but Black can leave his knight to its fate and play 1...♗b1; White can now force the promotion of his pawn only by sacrificing his bishop (2 d3 ♘xe2 3 h7 ♘xd4 4 h8♕), and Black's four minor pieces will win against White's queen. And if White clears the road without attacking anything, say by 1 ♗g7, there will again follow 1...♗b1 2 d3, and Black can afford to play 2...♘xd3+ 3 exd3 ♗xd3. This leaves

    1   h6-h7   ♗a2-b1
    2   d2-d3,

after which 2...♘xd3+ does not work (3 exd3 ♗xd3 4 ♗d4+). However,

    2   ...   ♘g3xe2

sets White a bigger problem (**4.6a**). He can certainly clear the road, say by 3 ♗g7, but there will follow 3...♘xd3+ 4 ♔a3 ♗d6+ and his king will soon be exposed to a check from the knight on d3. The answer is

    3   ♗h8-a1!!

This move does not prevent Black from winning the pawn on h7, but it does make its capture valueless:

    3   ...   ♘c5xd3+
    4   ♔b4-a3   ♗b8-d6+
    5   c4-c5+!   ♗d6xc5+
    6   ♔a3-b3   ♘d3-c1+
    7   ♔b3-b2   ♗b1xh7
                       stalemate!

(**4.6b**).

In the last study, a White bishop was immobilized by incarceration. A more common way of immobilizing a White piece is by pinning.

The natural first move in **4.7** (A. P. Guliaev, 1955) is

1 **♖d8-d1,**

to which Black replies with

1 ... **♖c4-a4,**

renewing the threat of promotion and also attacking the knight. But White can ignore the attack on the knight and play

2 **♖d1-a1!**

since 2...♖xa6 3 ♖xa2 ♖xa2 will give stalemate. However, Black can play

2 ... **♔g4-g3** (or h3)

after which the knight is forced to move. This leads to

3 **♘a6-c5**   **♖a4-b4**
4 **♘c5-d3**   **♖b4-b1+**
5 **♘d3-e1**

(**4.7a**). Now 5...♖xa1 will give stalemate, the knight being pinned on the rank; and if Black makes the waiting move

5 ... **♔g3-h3**

(or 5...♔g3, if his king moved to h3 at move 2) White can play

6 **♖a1xb1**

because the capture 6...axb1♕ will give stalemate similarly. And if Black now tries

6 ... **a2xb1♗**

hoping for mate, White plays

7 **♘e1-f3**

attacking the pawn, whereupon

7 ... **♗b1-e4**
        stalemate

brings the struggle to a standstill, the knight this time being pinned on the diagonal (**4.7b**).
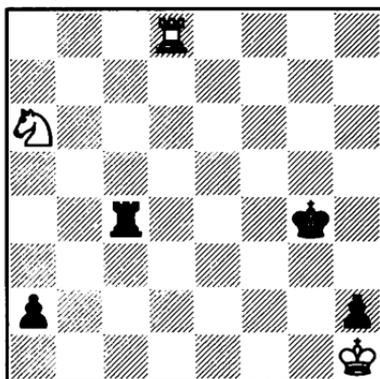
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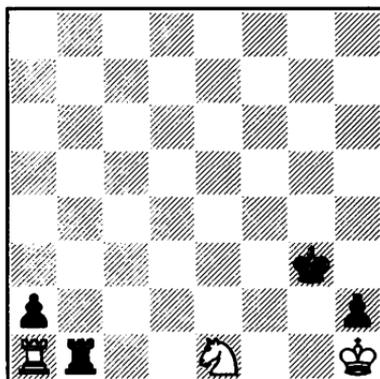
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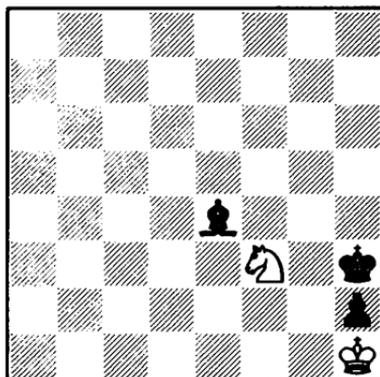
4.7b   7...♗b1-e4 stalemate
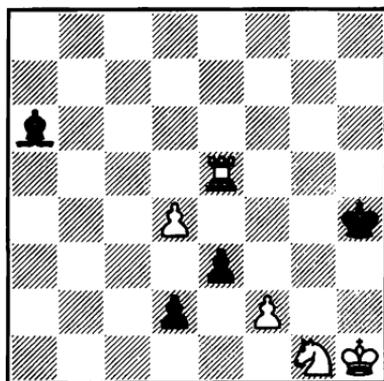
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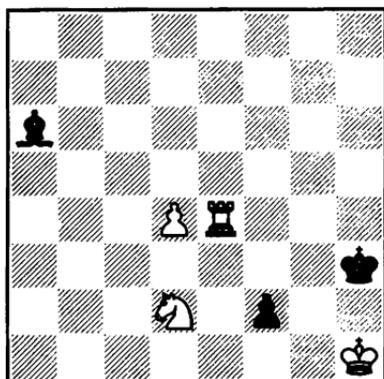
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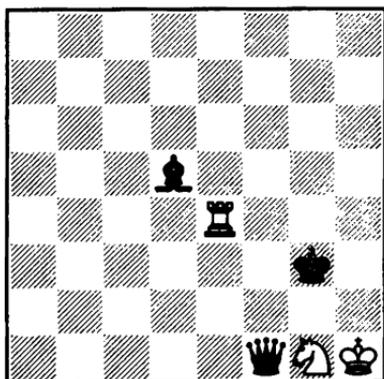
4.8b   6...♚h3-g3 stalemate

4.8 (S. Rumiantsev, 1972) also features dangerous Black pawns, and it is not immediately obvious how White will cope. However,

1   ♘g1-f3+

is stronger than it looks, because 1...♚g4 can be met by 2 ♘h2+, after which 2...♚h3 allows mate, 2...♚h4 allows 3 ♘f3+ repeating the position, and 2...♚f4 allows 3 fxe3+ ♚g3 4 ♖g5+ ♚-- 5 ♖g1. So Black must try

1   ...   ♚h4-h3,

and now

2   ♖e5-e4

threatens mate by ♘g1, as well as by ♘g5 or ♖h4. Black must therefore play

2   ...   e3xf2,

which disconnects the Black pawns and allows White to play

3   ♘f3xd2

(4.8a). Even so,

3   ...   ♗a6-b7

pins the rook and ties the knight to its defence. So White must head for stalemate by

4   d4-d5   ♗b7xd5
5   ♘d2-f3!

Now 5...♗xe4 gives stalemate with a pinned knight, and 5...♚g3 lets White wriggle out by 6 ♖g4+ ♚xg4 7 ♚g2 (or 6...♚xf3 7 ♖g1). This leaves only the obvious

5   ...   f2-f1♕+,

after which

6   ♘f3-g1+   ♚h3-g3
                    stalemate

gives a position with two men pinned (4.8b).

We have seen incarceration, and we have seen pinning. **4.9** (A. Lewandowski, 1986) features both.

In the diagram, Black threatens immediate mate, so White must take drastic action. Hence we have

1 ♘g2-e3+   ♗e4-g6
2 ♕g8xe6,

and now

2 ...   ♕a7-a1+

gives **4.9a.** If the knight interposes by 3 ♘d1, there follows 3...♖xd1+ 4 ♗xd1 ♕c3+ and Black soon mates; so the bishop must interpose,

3 ♗h5-d1,

and now 3...♖xd1+ is pointless because the reply 4 ♘xd1 leaves the knight guarding c3. Black is not done, however, and the continuing attack

3 ...   ♕a1-c3+
4 ♔e1-e2   ♗g6-h5+
5 ♘e3-g4   ♖d7-e7

puts White in difficulty because 6 ♕xe7 allows immediate mate. There is only one answer:

6 ♘c4-e5!!

This threatens both ♘f3+ and ♕xe7, either of which will lead to a draw at least; and the obvious counter does no better:

6 ...   ♖e7xe6
                   stalemate!

The final position **(4.9b)** is most remarkable: the White bishop is incarcerated and both the knights are pinned; moreover, the White king stands out from the edge of the board and is confined with exemplary economy of force.
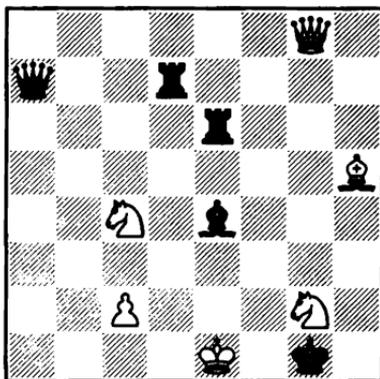
4.9   Draw
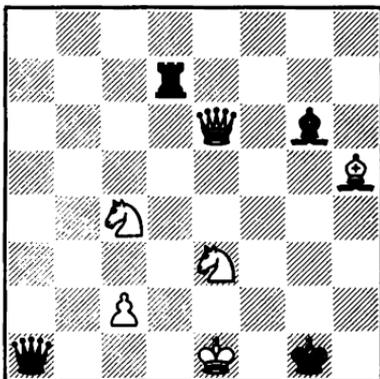
4.9a   After 2...♕a7-a1+
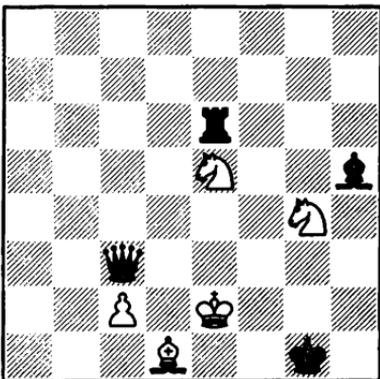
4.9b   6...♖e7xe6 stalemate

4.10   Win

4.10a   After 1...b3-b2

4.10b   After 4 ♘f8-g6

In the next two studies, stalemate is a potential defence for Black, and White's task is to circumvent it.

White can afford to give up one piece in **4.10** (L. B. Zalkind, 1928), but he cannot afford two. Play starts quite naturally,

    1   **♗h6-d2**   **b3-b2**

(**4.10a**), but now 2 ♗c3 gives immediate stalemate and lines like 2 ♘e6 b1♕ 3 ♗c3+ ♕b2 4 ♘c5 ♕xc3+ 5 ♔xc3 lead to stalemate also. The only solution is

    2   **♗d3-h7!**   **b2-b1♕**
    3   **♗d2-c3+**   **♕b1-b2,**

because

    4   **♘f8-g6**

now blocks the bishop's guard on b1 (**4.10b**). It follows that

    4   ...   **♕b2xc3+**
    5   **♔d4xc3**

is no longer stalemate, and the subsequent play 5...♔b1 6 ♘e5+ ♔a1(c1) 7 ♘d3(+) ♔b1 8 ♘c5+ ♔c1 9 ♘b3+ ♔d1 10 ♔b2 gives White an easy win; and if Black tries 4...♔b1 from 4.10b, the line 5 ♘e5+ ♕c2 6 ♗xc2+ ♔xc2 7 ♘c4 ♔b1 8 ♘a3+ wins just as easily.
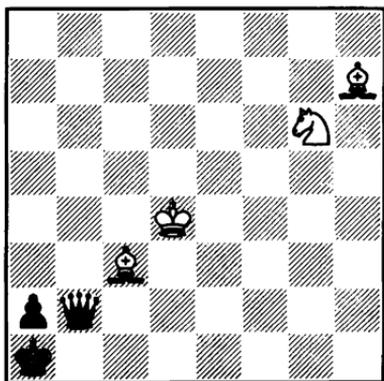
Lazar Zalkind (1886-1945) was a composer of problems as well as of endgame studies, and the manoeuvre shown here, in which a bishop or rook retreats so that another man can cut its line and relieve stalemate, is a favourite device of problemists.

In **4.11** (H. Mattison, 1930), Black is threatening to win a bishop. White's answer is to give up a rook instead,

 1   **♖d7-d5**   **♖e5xd5,**

because he can now withdraw his bishop along the diagonal h6-c1, threatening mate by ♗f7, and then hope to recapture the rook (**4.11a**). So where does the bishop go? After 2 ♗d2 we have 2...♖f5 3 ♗xf5 stalemate, and after 2 ♗c1 we have 2...d2 3 ♗xd2 ♖f5 with the same result. This leaves ♗e3 and ♗f4, both of which deal with 2...♖f5 (3 ♗xf5 d2 4 ♗g4+ and 5 ♗xd2), but we shall see in due course that only

 2   **♗h6-e3!**

is correct. Black now has nothing better than

 2   ...   **♖d5-g5,**

and

 3   **♗e6-f7+**

intensifies the pressure (**4.11b**). If Black now plays 3...♚h6, White will reply with 4 ♗e8, and Black will soon have to abandon the rook. So a more promising move for Black is

 3   ...   **♖g5-g6;**

if White merely waits by 4 ♗e8, the sequel 4...d2 5 ♗xd2 will give stalemate. Instead, White must play

 4   **♚h3-h2,**

releasing the stalemate in advance and picking up the rook as soon as Black abandons it. And now we see why the White bishop had to go to e3: if it were now on f4, Black could play 4...♚g4 and save the game.

Hermann Mattison (1894-1932) was a Latvian with an international reputation both as a player and as a composer. His studies reveal memorable ideas with classical economy.
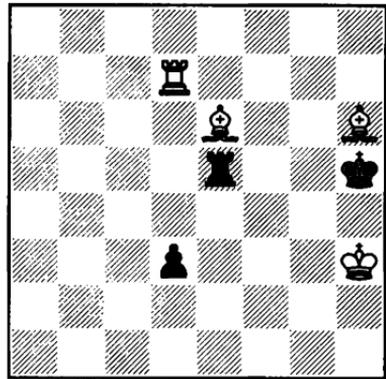
4.11   Win
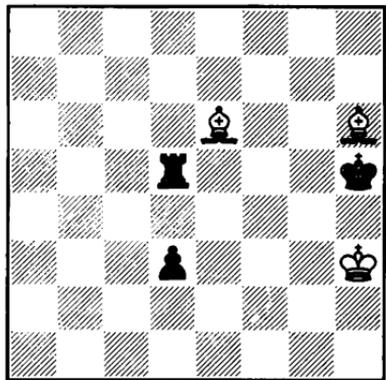
4.11a   After 1...♖e5xd5
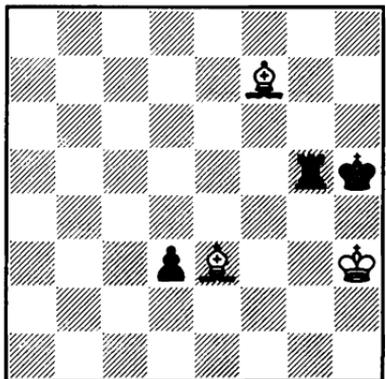
4.11b   After 3 ♗e6-f7+
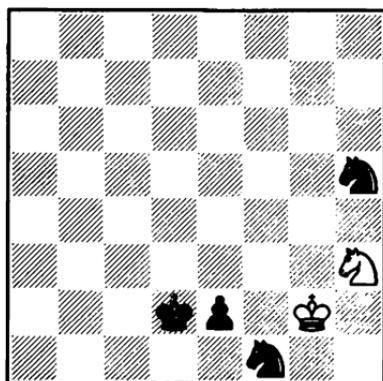
4.12   Draw
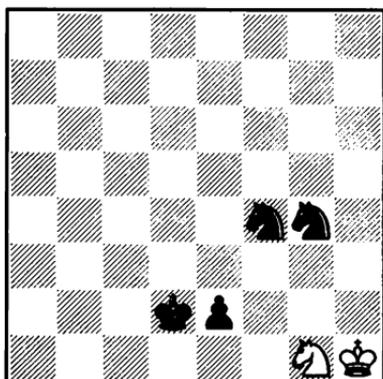
4.12a   After 4 ♔h2-h1
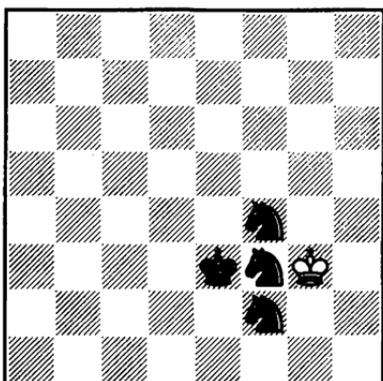
4.12b   7...♔d2-e3 stalemate

The first move in **4.12** (A. O. Herbstman and K. A. L. Kubbel, 1937) is clearly

　1　♘h3-g1,

attacking the pawn and preparing to meet promotion to queen with a fork. But three knights win against one, so we must consider promotions to knight as well. However, after 1...♘f4+ 2 ♔h1, the promotion 2...e1♘ leads at once to 3 ♘f3+ ♘xf3 stalemate; and after

　1　...　　　♘f1-e3+
　2　♔g2-h3!

the line 2...e1♘ 3 ♘f3+ ♘xf3 again produces stalemate. So there follows

　2　...　　　♘h5-f4+
　3　♔h3-h2,

and now 3...e1♘ 4 ♘f3+ ♘xf3+ 5 ♔g3 reduces Black to two knights, while 3...♘f1+ 4 ♔h1 transposes into the line after 1...♘f4+. The natural continuation is therefore

　3　...　　　♘e3-g4+
　4　♔h2-h1

(**4.12a**). Now 4...e1♕ and 4...e1♘ 5 ♘f3+ ♘xf3 provide two more stalemates, but

　4　...　　　♘g4-f2+
　5　♔h1-h2　e2-e1♘

seems at last to yield a winning promotion. But it is an illusion; the line

　6　♘g1-f3+!　♘e1xf3+
　7　♔h2-g3　　♔d2-e3
　　　　　　　　stalemate

gives the finest climax of all (**4.12b**).

The endgame of three knights against one was among those pioneered by Troitsky, and it is fitting that this splendid study should have taken part in a tourney conducted in his honour.

5 Racing to promote

The next two chapters feature strategic objectives based on promotion. In the present chapter, both sides threaten to promote, and White's aim is either to win the race himself or to prevent Black from gaining any profit from winning it.

5.1 (R. Réti, 1921) shows a classic study of this type. White's pawn can be captured in two moves; Black's is far out of range. Nothing daunted, White starts with

    1   **♔h8-g7!**

gaining some ground on both fronts at once. As the White pawn remains vulnerable, Black may choose to advance his own pawn,

    1   **...**   **h5-h4,**

but after

    2   **♔g7-f6!**

it is time for him to play

    2   **...**   **♚a6-b6.**

If he tries 2...h3 instead, there follows 3 ♔e6(e7) h2 4 c7 ♚b7 5 ♔d7. After 2....♚b6, however, White's only good move is

    3   **♔f6-e5!**

(5.1a). Now the double threat of ♔d6 and ♔f4 proves wonderfully effective. Plainly, the Black pawn must run, but after

3	...	h4-h3
4	♔e5-d6	h3-h2
5	c6-c7	♚b6-b7
6	♔d6-d7	h2-h1♛
7	c7-c8♛+	

both sides have promoted, and a very unlikely draw has been achieved.
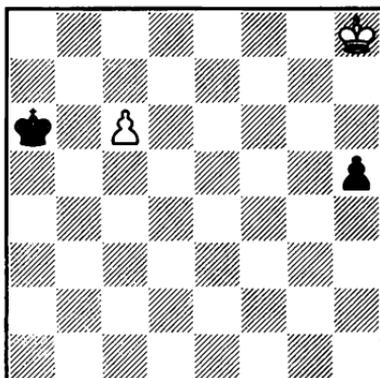
5.1   Draw!
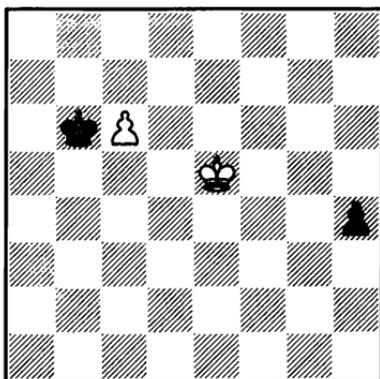
5.1a   After 3 ♔f6-e5
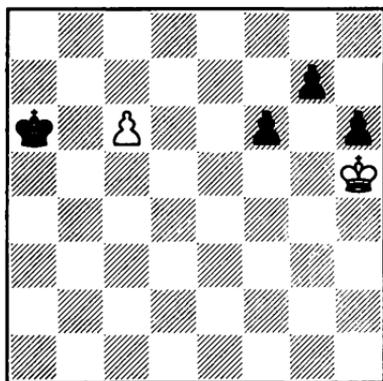
5.2 (repeats 1.2)   Draw!!
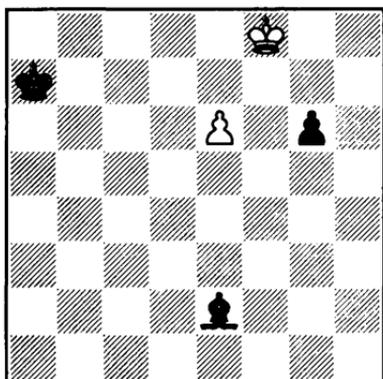
5.3   Draw
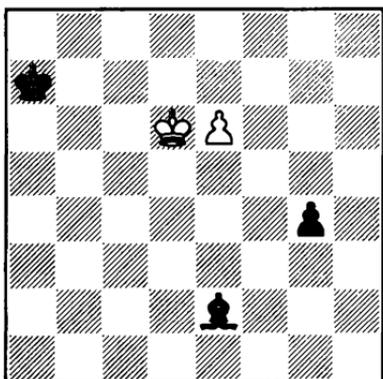
5.3a   After 2...g5-g4

Réti exploited the same idea in some other memorable studies. **5.2** (1931), which repeats 1.2, is perhaps even more striking than 5.1 because the starting position is so natural. Every textbook tells us that three passed pawns have a walk-over against one, but

1	♔h5-g6	h6-h5
2	♔g6xg7!	

brings us back to familiar ground, and it is easily seen that neither 1...♔b6 nor 1...f5 serves Black any better. In some lines (for example, 1...f5 2 ♔xg7 f4 3 ♔f6 ♔b6 4 ♔e5 f3 5 ♔d6 f2 6 c7 f1♕ 7 c8♕) Black can retain an extra pawn after the promotions, but it is too weak and backward to affect the result.

5.3 (1928) is spiced with a Black bishop. An immediate 1 e7 can be met by 1...♗b5, but

| 1 | ♔f8-e7! | |

forces the Black pawn to run, and

1	...	g6-g5
2	♔e7-d6!	g5-g4

leaves it blocking the diagonal e2-h5 (**5.3a**). As a result,

| 3 | e6-e7 | |

forces

| 3 | ... | ♗e2-b5, |

and now

| 4 | ♔d6-c5! | |

gains time by attacking the bishop. There might follow

4	...	♗b5-d7
5	♔c5-d4,	

and the draw will soon become clear. Black's bishop is overloaded with guard duties, and his king is too far away to help.

Other composers have also been attracted to this theme, and their best work bears comparison with Réti's own. In **5.4** (A. and K. Sarychev, 1928, version), the move 1 c8♕ would obviously lose to 1...♗f5+, and 1 ♔e6 would be met by 1...♔e4. However,

1   ♔d7-c8!

persuades the Black pawn forward, and

1   ...   b7-b5
2   ♔c8-d7!

now leads to play that recalls the previous study. There might follow

2	...	♗h7-f5+
3	♔d7-d6	b5-b4
4	♔d6-e5!	♗f5-c8
5	♔e5-d4	

and so on.

5.4   Draw

5.5 (L. A. Mitrofanov, 1976) shows the Réti manoeuvre used to achieve a win. The opening play

1   g2-g4   ♔e3-f4

is simple enough, and the subsequent manoeuvre

2	♔c8-d7!	b6-b5
3	♔d7-e6	b5-b4

is by this time familiar; and now White plays

4   ♔e6-f6!

threatening to win by pushing the pawn (**5.5a**). Black cannot usefully run his own pawn, since the line 4...b3 5 g5 b2 can be met by 6 ♘d3+, so he must try

4   ...   ♔f4-f3

hoping for 5 g5 ♔xf2 6 g6 b3 with a draw. However,

5	♔f6-f5!	♔f3xf2
6	♔f5-e4	

wins his pawn, and leaves him helpless.
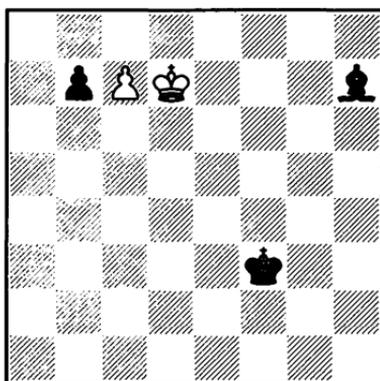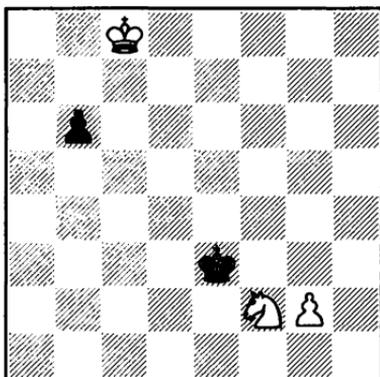
5.5   Win
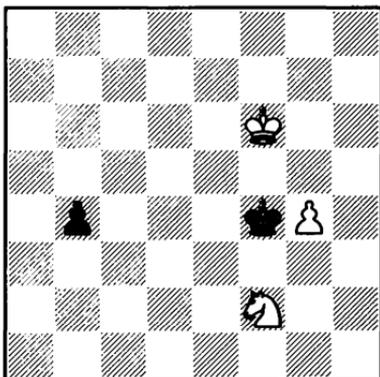
5.5a   After 4 ♔e6-f6
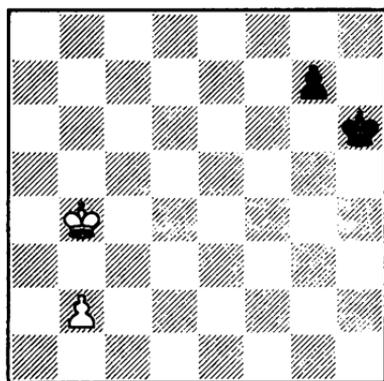
5.6   Win
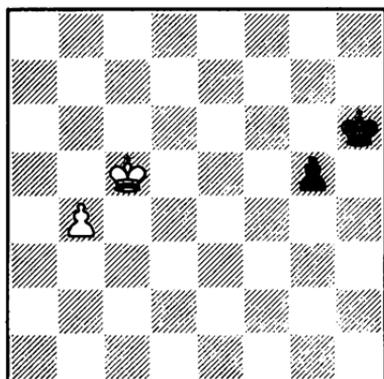
5.6a   After 2 b2-b4
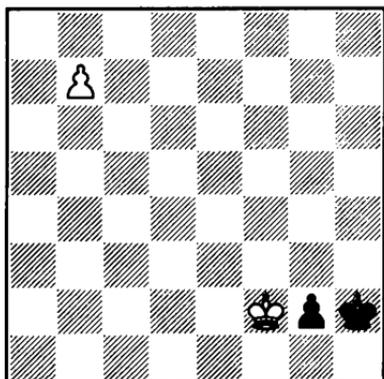
5.6b   After 8...♚h3-h2

Although it lends itself to spectacular studies, the Réti manoeuvre is strategically very simple. The White king threatens Black on two fronts, and Black must spend time defending each in turn. White can thus overcome an apparently overwhelming deficit. In the next two studies, White and Black start approximately level, and White's aim is to win the race by luring the Black king into check.

In 5.6 (O. Duras, 1905), White's first task is to keep the Black king away from the b-pawn, and 1 ♚c4 is not good enough; Black can reply with 1...♚g6! and hold the draw without trouble. Hence White must play

1   ♚b4-c5!

after which 1...♚g6 leads to 2 b4 ♚f7 3 b5 ♚e7 4 ♚c6! ♚d8 (otherwise White plays 5 b6, but the use of the eighth rank exposes Black to check) 5 ♚b7 g5 6 b6 g4 7 ♚a8 g3 8 b7 g2 9 b1♛+. The alternative for Black is to run his own pawn at once,

1   ...   g7-g5,

but the consequence of leaving his king on the edge of the board is that

2   b2-b4

puts White's pawn out of reach (5.6a). White can therefore concentrate on Black's pawn, and we have

2	...	g5-g4
3	♚c5-d4	♚h6-g5
4	b4-b5	g4-g3
5	♚d4-e3	♚g5-g4
6	b5-b6	♚g4-h3
7	b6-b7	g3-g2
8	♚e3-f2	♚h3-h2

(5.6b). Again, Black has had to expose his king to check from b8, and

9   b7-b8♛+

duly wins.

5.7 (A. Mandler, 1938) shows broadly similar play, but the White pawn is one file nearer and White can win even after allowing Black to promote. The immediate capture 1 ♔xb7 is soon seen not to work, because Black can play 1...♚b3 and catch the White pawn. Instead, White must play the delightful move

    1   ♔c7-d6!

since after 1...b5 2 ♔c5 ♚b3 3 ♔xb5 (**5.7a**) the White king is two ranks lower and the Black king can be headed off (3...♚c3 4 ♔c5 ♚d3 5 ♔d5). Black must therefore try

    1   ...   ♚a2-a3,

followed after

    2   ♔d6-c5

by

    2   ...   ♚a3-a4.

Now

    3   f2-f4

again puts White's pawn safely out of reach. There follows

    3   ...   b7-b5
    4   f4-f5   b5-b4
    5   ♔c5-c4   b4-b3
    6   ♔c4-c3   ♚a4-a3

(**5.7b**) and White's aim has been achieved; Black is vulnerable to a check from f8, and

    7   f5-f6   b3-b2
    8   f6-f7   b2-b1♕
    9   f7-f8♕+

leads either to mate or to the capture of the queen.
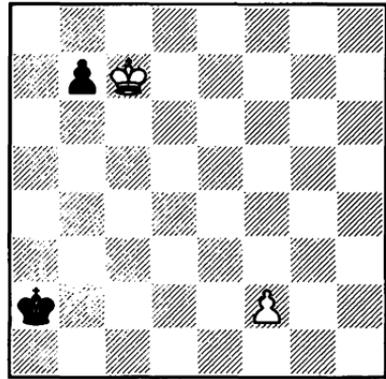
5.7   Win
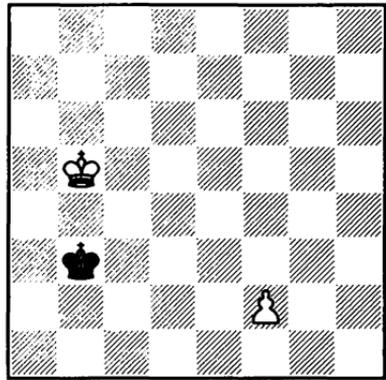
5.7a   Line 1...b5
After 3 ♔xb5
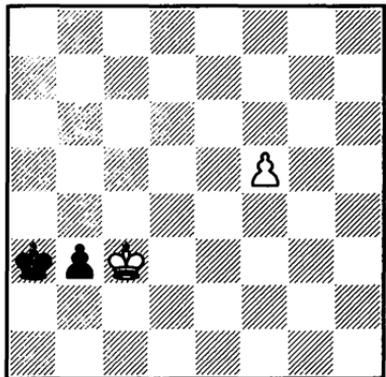
5.7b   Main line
After 6...♚a4-a3

5.8   Win

5.8a   After 4 e3-e4

5.8b   Line 4...a6-a5
                After 9 ♕d8-h8+

If promoting with check provides the simplest way of winning a race, promoting with the prospect of check on the following move can be just as telling.

Position **5.8** (N. D. Grigoriev, 1928) seems open enough, but by playing
    1   d3-d4
White threatens to promote with check, and the natural sequence

1	...	♚h4-g5
2	♔g8-f7	♚g5-f5
3	d4-d5	♚f5-e5
4	e3-e4	

produces a very tight position (**5.8a**). White now threatens 5 ♔e7. If Black prevents this by 4...♚d6, 5 ♔f6 leads to an easy win. So Black must advance a pawn, but which one? If he runs his a-pawn, we get

4	...	a6-a5
5	♔f7-e7	a5-a4
6	d5-d6	a4-a3
7	d6-d7	a3-a2
8	d7-d8♕	a2-a1♕
9	♕d8-h8+	

and the new queen is lost (**5.8b**). Neither of the other pawns is better: 4...b5 leads to 5 ♔e7 b4 6-8 d8♕ b1♕ 9 ♕d6+ ♔xe4 10 ♕g6+, and 4...h5 to 5 ♔e7 h4 6-8 d8♕ h1♕ 9 ♕d6+ ♔xe4 10 ♕c6+. And a curious note: even if the chessboard had a ninth file, and Black had a pawn on i6 as well as on a6, b6, and h6, he would still lose!

Nikolai Grigoriev (1895-1938) was a strong player, but he is remembered chiefly as an outstanding endgame analyst and a peerless composer of pawn studies: simple in appearance, profound in effect.

The spear check after promotion is a potent weapon, and many fine studies employ it. **5.9** (M. S. Liburkin, 1940) seems featureless, but

    1   h5-h6

obliges Black to grab the long diagonal at once (1...♗d2 2 h7 ♗c3 provokes the crushing reply 3 ♗b4); so the natural continuation is

    1   ...   ♗a5-c3
    2   ♗a3-f8   b5-b4
    3   ♗f8-g7,

producing the striking position shown in **5.9a**. White can now exchange bishops and promote, but Black promotes immediately afterwards with a draw. So White must try to bring his king to g6 to support his bishop. To counter this plan, Black can play

    3   ...   ♚e1-f1

(3...♚f2 leads to the same finish, but one move sooner) and after

    4   ♔h1-h2   ♚f1-f2
    5   ♔h2-h3   ♚f2-f3
    6   ♔h3-h4   ♚f3-f4

it is clear that White will not reach g6 (**5.9b**). However, the Black king is now in line with the promotion square c1, so White can play

    7   ♗g7xc3,

and after

    7   ...   b4xc3
    8   h6-h7   c3-c2
    9   h7-h8♕   c2-c1♕
    10   ♕h8-h6+

he will be able to pick up the new queen. And if Black tries 6...♚e4 instead of 6...♚f4, thinking that 7 ♔g5 can be met by 7...♗d2+ and 7 ♔h5 by 7...♚f5, White will play 7 ♔g4! and will force his way through to g6 after all (7...♚-- 8 ♔f5 etc).
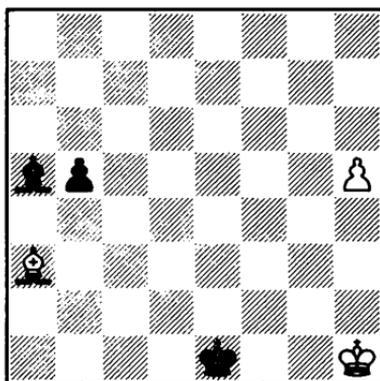
5.9   Win
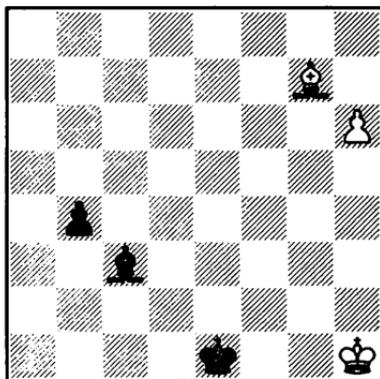
5.9a   After 3 ♗f8-g7
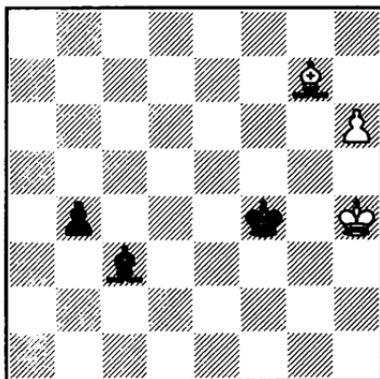
5.9b   After 6...♚f3-f4
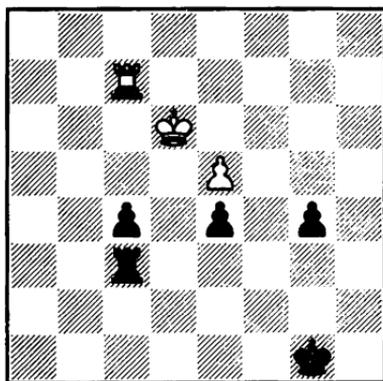
5.10   Draw
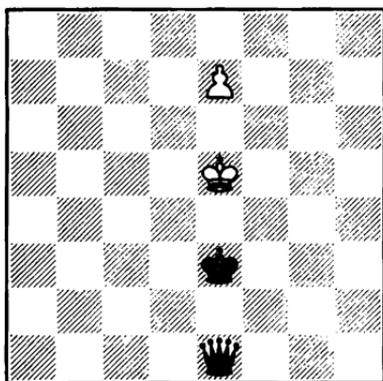
5.10a   After 7...e2-e1♕
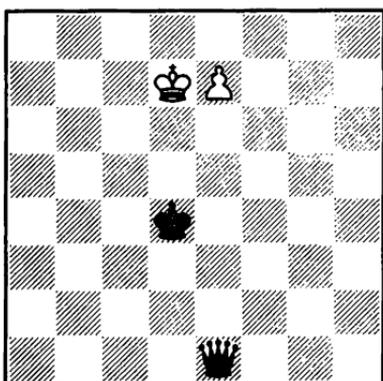
5.10b   Line 8...♚e3-d4+
                   After 9 ♚e6-d7

Even when a race seems to have been well won, the winner may not be able to capitalize as he might expect. **5.10** (A. A. Troitsky, 1935) will show a case in point. The initial move

    1   e5-e6

looks promising, since White's potential queen on e8 will command Black's promotion square e1, but

    1   ...   ♖c3-d3+

presents White with an awkward choice. In fact, his best move is

    2   ♚d6-e5,

even though this allows Black the possibility of promoting with check. The sequel

    2   ...   e4-e3
    3   ♖c7xc4   e3-e2
    4   ♖c4xg4+   ♚g1-f2
    5   ♖g4-e4

reduces Black to one pawn which is controlled by White's rook; but Black can play

    5   ...   ♖d3-e3,

after which

    6   ♖e4xe3   ♚f2xe3
    7   e6-e7   e2-e1♕

gives the position shown in **5.10a**. Now an immediate promotion loses to a discovered spear check, and we all know that a queen wins against an e-pawn on the seventh rank. But on this occasion it doesn't; the move

    8   ♚e5-e6!

leaves Black only the choice between

    8   ...   ♚e3-d4+,

after which

    9   ♚e6-d7

draws since Black has neither check nor pin (**5.10b**), and

    8   ...   ♚e3-f4+,

after which

    9   ♚e6-f7

draws similarly.

The consequences of **5.11** (V. A. Korolkov, 1965, version) are even more dramatic. After the simple start

1	c4-c5	f5-f4
2	c5-c6	f4-f3,

White must play

| 3 | e2xf3 |

to prevent 3...f2, and the next move

| 3 | ... | ♘g8-e7 |

forces him to play

| 4 | ♗d6xe7 |

because 4 ♔xe7 lands him in trouble after 4...e2. Now

| 4 | ... | ♗g1-h2 |

produces **5.11a**, which looks good enough for Black since his own advanced pawn seems just as dangerous as White's. True, the decoy manoeuvre

| 5 | f3-f4! | ♗h2xf4 |
| 6 | ♗e7xg5 | |

puts Black under some pressure, but

| 6 | ... | e3-e2 |

appears a sufficient counter; after

| 7 | ♗g5xf4 | e2-e1♕, |

Black would normally be looking to win, not merely to hold the draw (**5.11b**). But this position holds a surprise. After

| 8 | c6-c7, |

the only move to stop promotion is

| 8 | ... | ♕e1-c3; |

and now

| 9 | ♗f4-e5+ | ♕c3xe5 |
| 10 | c7-c8♕+ | |

leads to mate.

Vladimir Korolkov (1907-87) composed studies as striking and imaginative as any. To create them, he frequently resorted to complex initial positions; but, as we see here, he could produce a striking finish from a simple setting as well.
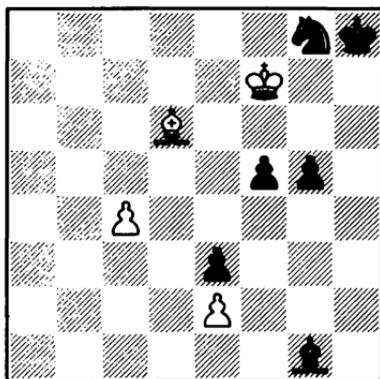
5.11   Win
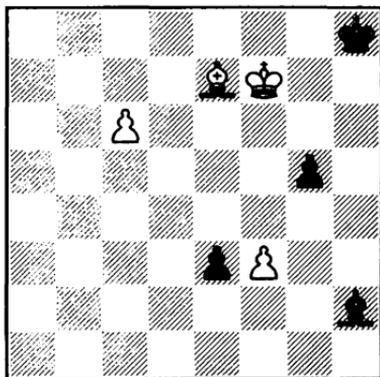
5.11a   After 4...♗g1-h2
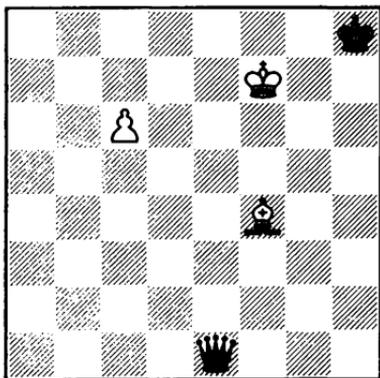
5.11b   After 7...e2-e1♕

5.12   Win

5.12a   After 4...♚b2-c3

5.12b   After 7 a5-a6

5.12 (N. I. Kralin, 1987) brings together several of the ideas in this chapter. The opening move
    1   ♔h2-g3
prevents 1...f2, and challenges Black to do what he can with his king before the White knight arrives:
    1   ...   ♚c4-c3
    2   ♘b8-c6   ♚c3xc2
    3   ♘c6xd4+.
Now Black loses quickly after 3...♚d3 4 ♘xf3 and 3...♚c3 4 ♘b3, but he can put up a fight by playing
    3   ...   ♚c2-b2!
intending a Réti manoeuvre. There follows
    4   a2-a4   ♚b2-c3
(**5.12a**), and now 5 a5 ♚xd4 will successfully conclude the manoeuvre. So White decoys the Black king back to the b-file, and after
    5   ♘d4-b3!   ♚c3xb3
    6   a4-a5   ♚b3-c4
    7   a5-a6
we have **5.12b**. Now suppose for a moment that White had played 1 ♔xh3 instead of 1 ♔g3; the White king would now be on h3 instead of g3, and 7...♚d3 would draw for Black (8-9 a8♕ f1♕+). As it is, however, Black needs to decoy the White king by
    7   ...   h3-h2,
and after
    8   ♔g3xh2
it is not open to check from f1. The Black king is still on a line to this square, however, and the sequel
    8   ...   ♚c4-d3
    9   a6-a7   f3-f2
    10   a7-a8♕   f2-f1♕
    11   ♕a8-a6+
leads to a familiar finish.
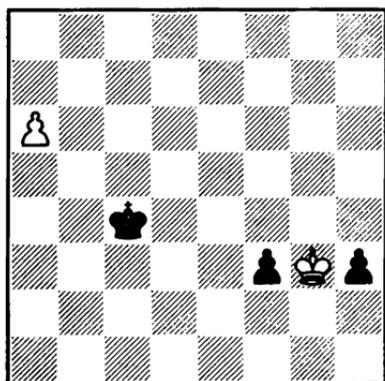
6 Fighting to promote

In the previous chapter, both sides were able to promote, and each was trying to do so first. In the present chapter, the objective is to force promotion in the face of hostile action.

6.1 (F. Lazard, 1910) may serve as an archetype. The Black rook is already on the back rank, the White pawns are disconnected, and the White king is far away; only the White knight can help. So we have

    1   ♘h3-f4+,

and Black must tread carefully because 1...♚g5 can be met by 2 ♘e6+ ♚-- 3 ♘d8, shutting off the rook. However,

    1   ...   ♚h5-h6

is clearly better, and

    2   ♘f4-e6   ♖b8-e8

prevents any shut-off by ♘d8. So White must try the decoy

    3   g7-g8♕   ♖e8xg8,

after which

    4   ♘e6-f8

does indeed shut off the rook (**6.1a**). But what about

    4   ...   ♖g8-g5,

preparing to meet 5 e8♕ with 5...♖e5+ and stalemate? The answer is the splendid

    5   ♘f8-g6!

shutting off the rook again and leaving Black helpless.
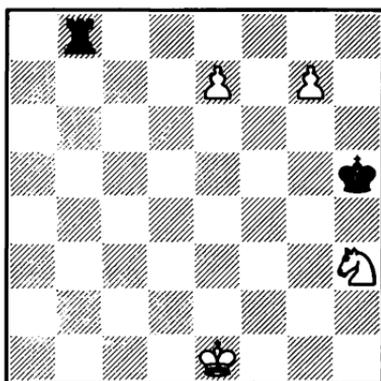
6.1   Win
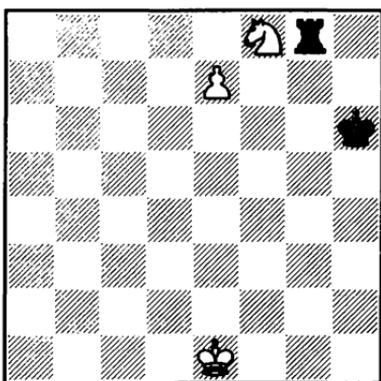
6.1a   After 4 ♘e6-f8
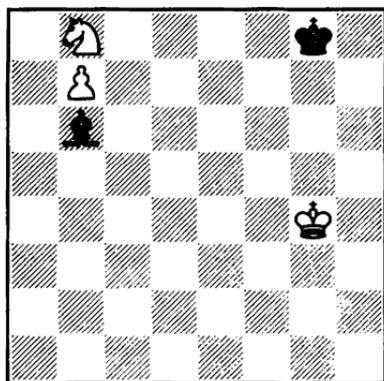
6.2   Win
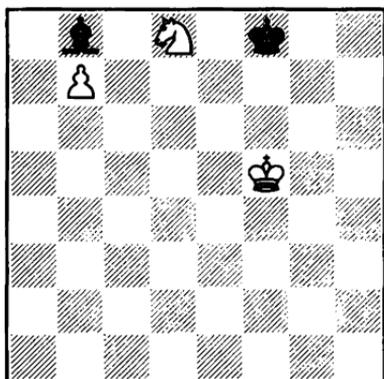
6.2a   After 3...♔g8-f8
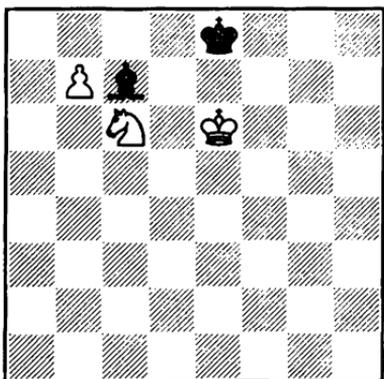
6.2b   After 6 ♔f6-e6

Many fine studies of this kind feature a White knight and a Black line piece. In 6.1, White's principal opponent was a rook; in **6.2** (V. Halberstadt, 1930) it is a bishop. The start
   1   ♘b8-c6   ♗b6-c7
is simple enough, and
   2   ♘c6-d8!
delays the Black king's approach because 2...♔f8 would lose the bishop to 3 ♘e6+. Black's best is now
   2   ...   ♗c7-b8,
as becomes clear after
   3   ♔g4-f5   ♔g8-f8
(**6.2a**); if the bishop were now on d6, 4 ♔e6 would gain a tempo, and if it were on h2, 4 ♘e6+ ♔-- 5 ♘f4 would shut it off. There follows the straightforward
   4   ♘d8-c6   ♗b8-c7,
but now
   5   ♔f5-f6!
is necessary to lose a move since the position after
   5   ...   ♔f8-e8
   6   ♔f6-e6
is a reciprocal zugzwang (**6.2b**). Were it his move, White could make no progress; but Black, to move, has nothing better than
   6   ...   ♔e8-f8.
This allows
   7   ♔e6-d7,
and after the bishop has moved away, say to h2, White plays 8 ♔c8 and 9-11 ♘c7, and the outcome is clear.

The fight between knight and knight has also generated some fine studies, and **6.3** (L. Prokeš, 1941) shows a sparkling development of the "old chess" domination seen in 2.3. The b-pawn is merely a decoy, and vanishes after

    1   b6-b7   ♘c8-d6+,

but

    2   ♔e4-d4!

is now necessary since the position after

    2   ...   ♘d6xb7

    3   ♔d4-d5

6.3   Win

is a reciprocal zugzwang (**6.3a**). If it were White's move, he would have to move his knight, allowing ...♘d8 with an easy draw, or play e7, allowing ...♔f7 followed by ...♘a5. Black, to move, cannot usefully play 3...♘c5; although White cannot afford to capture, he can play 4 e7, which leads to a win by routine manoeuvres (for example, 4...♘e6 5 ♔d6 ♘g7 6 ♔d7 ♔f5 7 ♘d4+ ♔e4 8 ♘e6 ♘h5 9 ♔d8 ♘f6 10 ♘c5+ ♔d5 11 ♘d7, or 4...♘a6 5 ♔d6 ♔f7 6 ♘d8+ ♔e8 7 ♘e6 ♔f7 8 ♘g7 ♘c7 9 ♔d7 ♔f6 10 ♘e8+). However,

    3   ...   ♔f6-g7

6.3a   After 3 ♔d4-d5

seems more promising, because it threatens 4...♔f8 and 5...♔e8. Indeed, it can be met only by

    4   ♘c6-d8!

(**6.3b**). The capture

    4   ...   ♘b7xd8

is now clearly necessary, and

    5   e6-e7

clinches matters.

6.3b   After 4 ♘c6-d8

6.4   Draw

6.4a   After 4...h6-h5

6.4b   After 6 ♘c5-b3
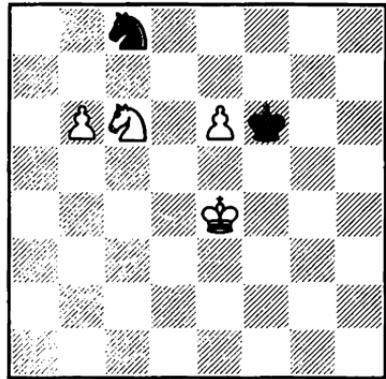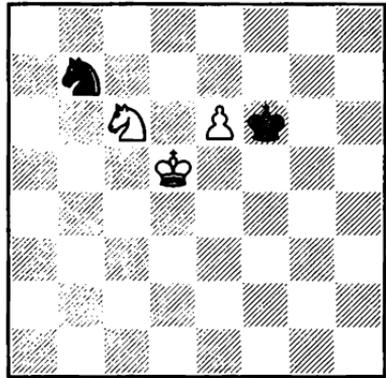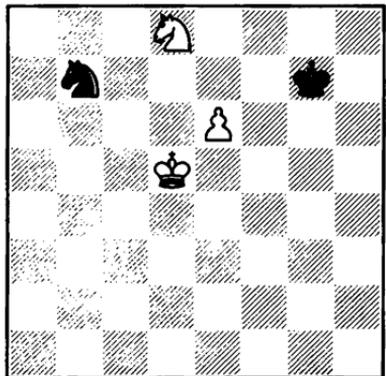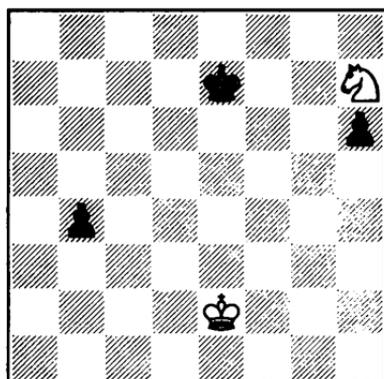
In **6.4** (N. D. Grigoriev, 1932)
White's knight has to defend. It is
initially trapped, but White can force
its release by attacking the b-pawn:

1	♔e2-d3	♔e7-f7
2	♔d3-c4.	

If Black now plays 2...♔g7 to win the
knight, there will follow 3 ♔xb4
♔xh7 4 ♔c3, and the White king will
get back in time to stop the h-pawn.
But Black has a stronger move:

2	...	♔f7-g6!

This frees the h-pawn from the duty
of guarding g5, and if White now
plays 3 ♔xb4, there will follow 3...h5
4 ♘f8+ ♔f5 5 ♘d7 h4 and the Black
king will keep the knight at bay. So
the knight must set out at once:

3	♘h7-f8+	♔g6-f5
4	♘f8-d7	h6-h5

(**6.4a**). White is now a move ahead
of the previous line, because the
Black pawn is still on h5, but the
Black king still has a dominating
position. If the knight moves to cover
h1, Black will force it into the corner
and win it (for example, 5 ♘c5 h4 6
♘d3 h3 7 ♘f2 h2 8 ♔xb4 ♔f4 9 ♔c3
♔f3 10 ♘h1 ♔g2). If White tries 5
♘b6 h4 6 ♘d5, hoping for 6...h3 7
♘e3+ ♔-- 8 ♘f1 with control of h2,
Black can play 6...♔e4. There is one
other possibility:

5	♘d7-c5	h5-h4
6	♘c5-b3!	

(**6.4b**). By playing the knight to f1
via b3, White can prevent the Black
king from interfering. The knight
will arrive too late to stop the pro-
motion, but no matter:

6	...	h4-h3
7	♘b3-d2	h3-h2
8	♘d2-f1	h2-h1♕
9	♘f1-g3+.	
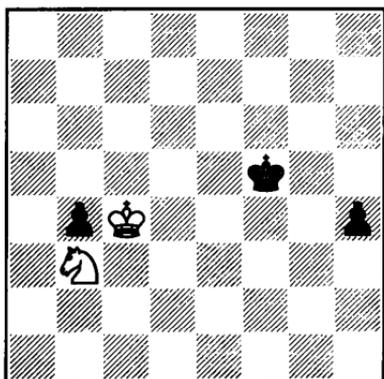
In **6.5** (H. Mattison, 1923, version),
White has bishop against rook. If he
advances the b-pawn immediately,
Black can secure a draw by means of
1...♖f5+ 2 ♔c6 ♖c5+ 3 ♔b6 ♖b5+ 4
♔a7(c7) ♖a5(c5)+ 5 ♔b8 ♖f5. So
White must mobilize his bishop, and
the contest begins with the moves

1	♗g1-h2	♖f3xf2
2	b6-b7	♖f2-d2+.

Now 3 ♔c6 may seem the natural
move, but in fact it misplaces the
king: after 3...♖d8, White cannot
crowd the rook sufficiently to make
progress. For example, the line 4
♗c7 ♖h8 5 ♔d7 ♔b5 6 ♗d8 ♖h7+ 7
♗e7 ♖h8 yields a straightforward
draw. Instead, White must play

3	♔d5-e6!	

and after

3	...	♖d2-d8
4	♗h2-c7	

the rook is coming under pressure
(**6.5a**). True, there are eight squares
on the rank, and the White king,
bishop, and pawn can command only
seven of them at once; but, by attack-
ing the rook without let-up, White
can prevent any movement of the
Black king, and can thus keep alive
the prospect of a check to improve his
position still further. So there follows

4	...	♖d8-h8
5	♗c7-e5	♖h8-d8
6	♔e6-e7	♖d8-g8
7	♔e7-f7	♖g8-d8
8	♗e5-c7.	

This forces

8	...	♖d8-h8

(**6.5b**), after which the manoeuvre

9	♗c7-d6+	♔b4-b5
10	♗d6-f8	♖h8-h7+
11	♗f8-g7	

leaves Black helpless.
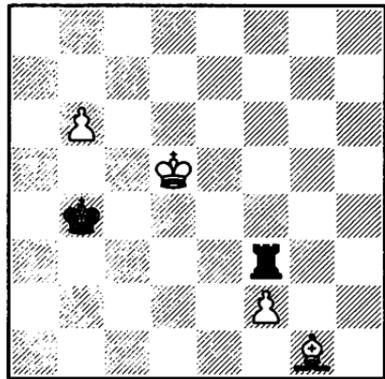
6.5   Win
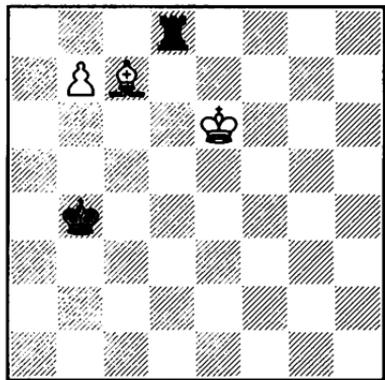
6.5a   After 4 ♗h2-c7

6.5b   After 8...♖d8-h8

6.6   Win

6.6a   After 3...♝c3-a1

6.6b   After 4...♝a1xd4
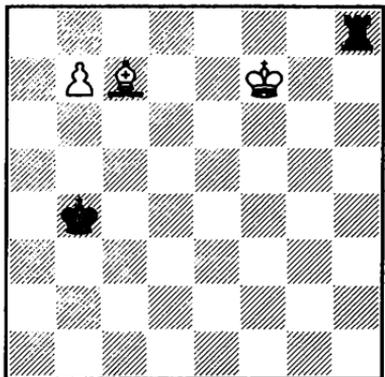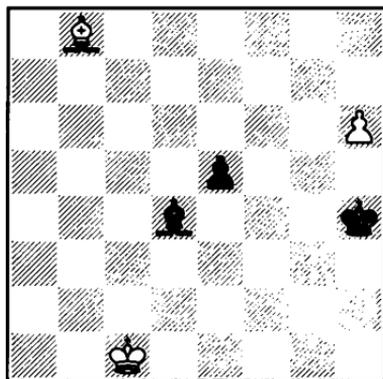
6.6 (P. Heuäcker, 1930, employing an idea shown earlier by A. Mouterde) also features the hounding of a Black piece. Black's bishop is already shut off, and White's immediate need is to prevent the freeing move 1...e4. A move such as 1 h7 is therefore useless, and White must take the bull by the horns:

> 1   ♗b8-a7!

This leads to

> 1   ...   ♝d4-a1
> 2   ♚c1-b1   ♝a1-c3
> 3   ♚b1-c2   ♝c3-a1

(**6.6a**) and the White king can do no more; but the bishop can make the spectacular move

> 4   ♗a7-d4!

because 4...exd4 5 ♚d3 will allow the White pawn to go on to promotion. But what if Black plays

> 4   ...   ♝a1xd4

(**6.6b**)? The answer echoes what we have just seen; the move

> 5   ♚c2-d3

prevents the immediate freeing move 5...e4+ because the bishop is under threat, and

> 5   ...   ♝d4-b2
> 6   ♚d3-e4

seals off the bishop as before.
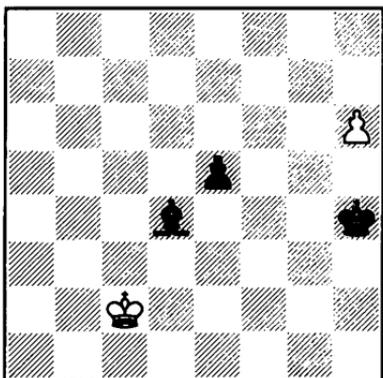
Endings with queen and pawn against queen have long been notorious for their difficulty, but a few positions in this class yield to simple and decisive manoeuvres. **6.7** (L. van Vliet, 1888) is one such. White starts with

1   **♕b3-b4,**

which forces the Black queen to move, and Black must play to maintain the pin. Let us take the easy lines first. After

1   ...   **♕c6-f3** (or d5),

there follows

2   **♕b4-a4+**   **♚a6-b6**
3   **♕a4-b3+!**

(6.7a) since 3...♕xb3 can be answered by the spear check 4 b8♕+. After

1   ...   **♕c6-g2,**

there follows

2   **♕b4-a3+**   **♚a6-b6** (or b5)
3   **♕a4-b2+!**

similarly. This leaves

1   ...   **♕c6-h1,**

after which the Black king can escape to the c-file. However, if Black steers it to c7, he finds that after

2   **♕b4-a3+**   **♚a6-b6**
3   **♕a3-b2+**   **♚b6-c7**

White can play

4   **♕b2-h2+!**

leading to a spear check on the diagonal **(6.7b)**; if he tries c6, the king interrupts the pin; and if he avoids both the b-file and the diagonals a8-h1 and b8-h2, say by playing 2...♚b5(b6) 3 ♕b2+ ♚c4(c5), he finds that 4 ♕c2+ forces 4...♚d4, after which the line 5 ♚a7 ♕a1+ 6 ♚b6 leads to the pawn's promotion.
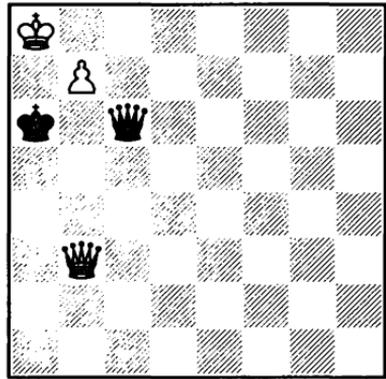
6.7   Win
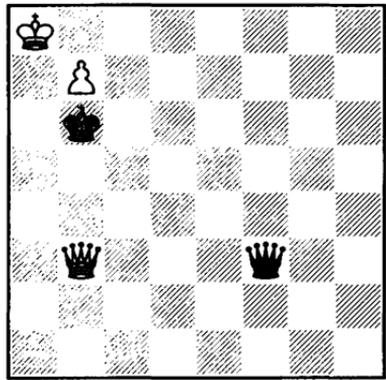
6.7a   Line 1...♕c6-f3
          After 3 ♕a4-b3+
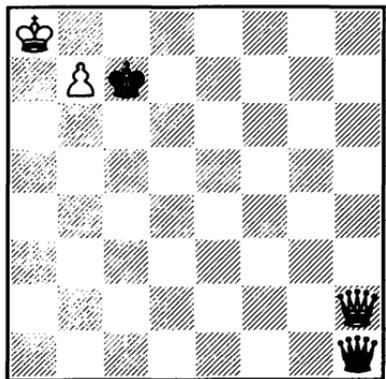
6.7b   Line 1...♕c6-h1
          After 4 ♕b2-h2+
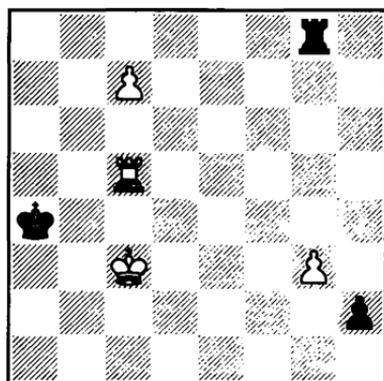
6.8   Win
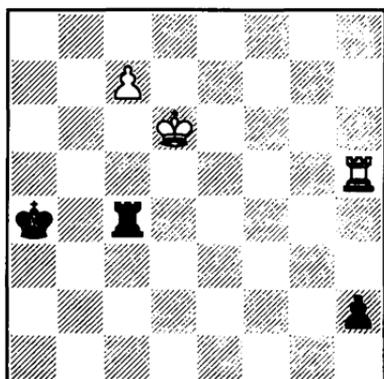
6.8a   After 4 ♔e5-d6
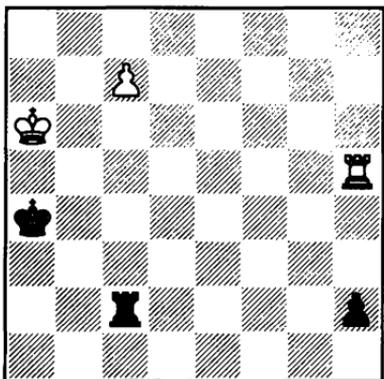
6.8b   After 7...♖b2-c2

6.8 (V. Kalandadze, 1984) features rooks, and will embody a manoeuvre first shown by Emanuel Lasker. There is only one way for White to start: he must play

　　1　　♖c5-h5

to stop the h-pawn. Now the continuation 1...♖c8 2 ♖xh2 ♖xc7+ is lost for Black because his king is so distant. So Black plays

　　1　...　　　♖g8xg3+,

and this sets White a problem: how is he to escape the checks? The king must go to the fifth rank, because if it moves towards the Black rook, say by 2 ♔d2 ♖g2+ 3 ♔e3, the rook will play to the c-file and Black will quickly draw. But on d5, after say 2 ♔c4(d4) ♖g4+ 3 ♔d5, the king is exposed to check from h1 and the line 3...♖g5+! 4 ♖xg5 h1♕+ is fine for Black; and if White tries 3 ♔c5 instead then the same manoeuvre leads to a startling draw: 3...♖g5+ 4 ♖xg5 h1♕ 5 ♖g4+ ♔a5 6 c8♕ ♕c6+! and stalemate. There is only one way:

　　2　　♔c3-d4　　♖g3-g4+
　　3　　♔d4-e5!　　♖g4-c4
　　4　　♔e5-d6

and the pawn is safely defended **(6.8a)**. Black can now check only on the file, and White can shelter at a6:

　　4　...　　　♖c4-d4+
　　5　　♔d6-c5　　♖d4-d2
　　6　　♔c5-b6　　♖d2-b2+
　　7　　♔b6-a6　　♖b2-c2

(6.8b). Now White drives the Black king down the board for a surprising finish:

　　8　　♖h5-h4+　　♔a4-a3
　　9　　♔a6-b6　　♖c2-b2+
　　10　　♔b6-a5　　♖b2-c2
　　11　　♖h4-h3+　　♔a3-a2
　　12　　♖h3xh2!

6.9 (M. S. Liburkin, 1949) demands immediate action by White to stop the Black pawns:

> 1   ♘f1-g3+   ♚h5-h4
> 2   ♚a1-b2.

White now threatens ♗c6 with an iron grip on h1, so Black must claim the long diagonal first, and his only way of doing so is by playing

> 2   ...   c2-c1♛+
> 3   ♚b2xc1   ♗b1-e4

(**6.9a**). The threat is now ...♚xg3 and ...h1♛+, and only the promotion-square sacrifice

> 4   ♘g3-h1!

delays Black sufficiently. Black must play

> 4   ...   ♗e4xh1,

and White has time to free his own pawn. The spectacular

> 5   ♗d7-h3!

is now playable because 5...♚xh3 6 d7 ♗-- 7 d8♛ h1♛+ is only a draw, but why is it the only correct move? Because if Black extracts his bishop straight away,

> 5   ...   ♗h1-c6 (say),

the subsequent manoeuvre

> 6   ♗h3-g2!   ♗c6xg2

leaves the Black bishop on g2, and after

> 7   d6-d7   h2-h1♛+
> 8   ♚c1-d2

Black is unable to stop White's promotion (**6.9b**).

Mark Liburkin (1910-53) was one of the finest composers of his generation; depth and subtlety abound in his work. A collection of his studies and those of S. M. Kaminer was published by R. M. Kofman in 1981.
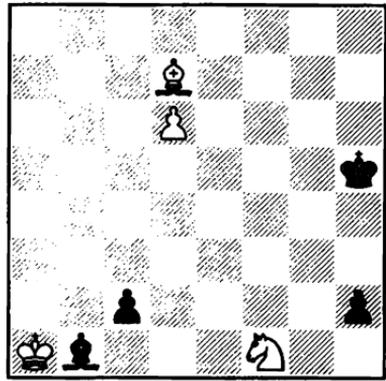
6.9   Draw
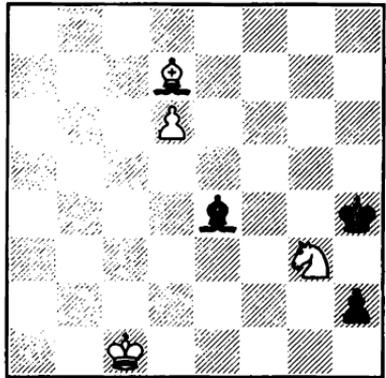
6.9a   After 3...♗b1-e4
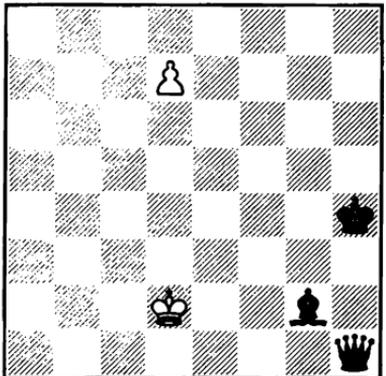
6.9b   After 8 ♚c1-d2

6.10   Win

6.10a   After 2...♖a1-e1

6.10b   After 4...♖a1-b1

6.10 (P. Heuäcker, 1937) shows two promotion-square sacrifices, which together produce a most striking effect. The opening moves

1	♗f8-g7	a3-a2
2	♗g7xh8	

are simple enough, but now

2	...	♖a1-e1

puts White under pressure (**6.10a**); the primary threat is 3...a1♕+ with 4 ♗xa1 ♖xa1+ 5 ♔-- ♖a8 to follow, and Black also threatens 3...♖e6(e7). The answer is clearly

3	♗h8-a1,

but it leads only to

3	...	♖e1xa1
4	h7-h8♕,	

and

4	...	♖a1-b1

restores the pressure (**6.10b**). Again, White faces the threat of 5...a1♕+, and 5 ♕a8+ loses to 5...♔h2. However, the second corner-to-corner sacrifice

5	♕h8-a1!

settles matters:

5	...	♖b1xa1
6	h6-h7	♖a1-e1 (say)
7	h7-h8♕+	♔h1-g1
8	♕h8-g8+	

leaves White in full command.
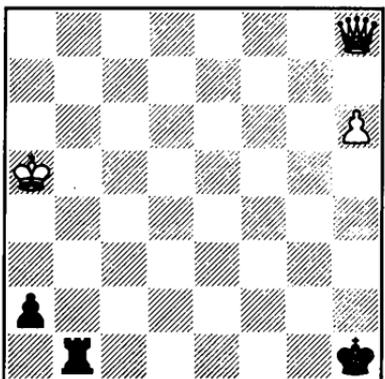
7 Perpetual harassment

The last of our strategic objectives is that of obtaining a draw by perpetual harassment. Typically, one side is so far behind on material that he would normally lose, but he pesters his opponent by repeated attacks and his opponent never gets the chance to realize his advantage.

This is a very old idea, and the simple but striking **7.1** was published by Alessandro Salvio as far back as 1604. White appears to be in some difficulty because Black is threatening 1...♖e1+ and 2...g1♕ mate, and if White evades this by 1 ♔f2, Black can play 1...♖f8(e2)+ instead. To survive, White must play

1   ♖g7-h7+,

which is more than just a spite check; it forces

1   ...   ♔h3-g3,

and now

2   ♖h7-e7!

holds off Black's attack (**7.1a**). If Black captures, White is stalemated; and if he side-steps by

2   ...   ♖e8-f8,

White simply follows suit and plays

3   ♖e7-f7.
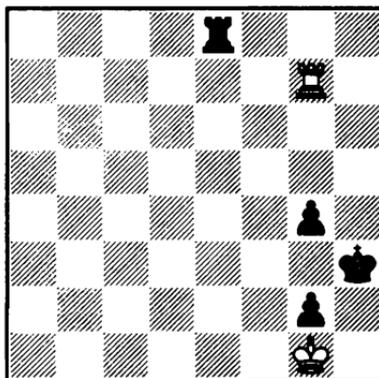
7.1   Draw

7.1a   After 2 ♖h7-e7

7.2   Draw

7.2a   After 5 ♘e4-g3

7.2b   After 10 ♘f3-g5+
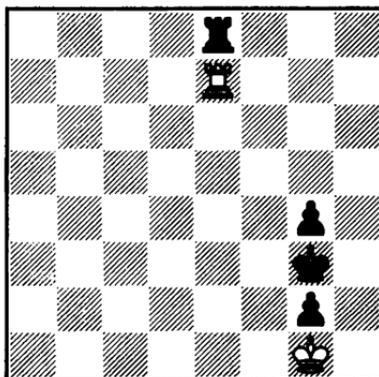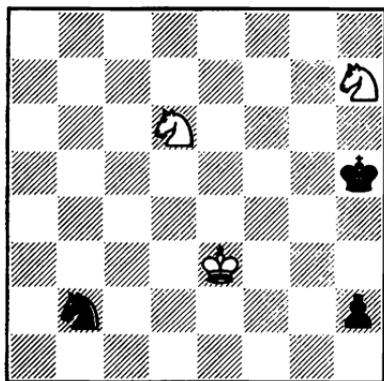
The most violent form of harassment is a repeated attack on the king, and many an apparently lost position can be saved by it. In **7.2**, a 1957 study by V. V. Yakimchik, play starts with

    1   ♘d6-e4

threatening 2 ♘g3+, and Black's only good reply is

    1   ...   ♔h5-h4.

If he tries 1...♘d1+ instead, White responds with 2 ♔f4, securing g3 for the knight. As it is, White continues with

    2   ♘h7-g5,

and the immediate promotion 2...h1♕ can be met by 3 ♘f3+ and either 4 ♘g3+ or 4 ♘f2+ as appropriate. However,

    2   ...   ♘b2-d1+

guards f2, and promotion will surely follow:

    3   ♔e3-f4   h2-h1♕.

So far so good, but

    4   ♘g5-f3+   ♔h4-h3
    5   ♘e4-g3

leaves the new queen under attack (**7.2a**), and only

    5   ...   ♕h1-g2

is safe. This blocks the king's escape square, and perpetual check by

    6   ♘f3-g5+   ♔h3-h2
    7   ♘g5-f3+   ♔h2-h3
    8   ♘f3-g5+   ♔h3-h4
    9   ♘g5-f3+   ♔h4-h3
    10   ♘f3-g5+

duly follows (**7.2b**). The heart of the study, of course, is position 7.2a, and we notice once again how every man on the board has moved before it is reached.
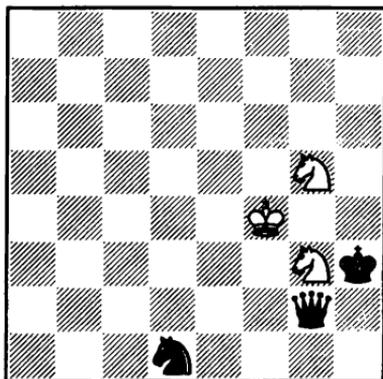
Vitold Yakimchik (1909-77) was one of the masters of the endgame study. **7.3** (V. Shoshorin, 1970) shows what a relatively minor composer can do. White cannot prevent Black from promoting a pawn (for example, 1 ♗g4 can be met by 1...c1♕ 2 ♘xc1 ♗c3+ and 3...e1♕), and queen and bishop can normally expect to defeat two bishops and knight. White must therefore find some way of neutralizing Black's new queen, and the purpose of his opening move

1   ♗f8-c5!

is to make the later play possible by putting a guard on b6. There follows

1	...	**c2-c1♕**
2	**♘a2xc1**	**♗e1-c3+**
3	**♔g7-f7**	**e2-e1♕**
4	**♗h3-d7+**	**♔a4-a5**
5	**♘c1-b3+,**	

giving **7.3a**, and if White had not guarded b6 on his first move, 5...♔b6 would now allow the Black king to escape. As it is, however, Black has nothing but

5   ...   ♔a5-a6,

and

6	**♗d7-c8+**	**♔a6-b5**
7	**♗c8-d7+**	**♔b5-c4**
8	**♗d7-e6+**	**♔c4-d3**
9	**♗e6-f5+**	**♔d3-e2**
10	**♗f5-g4+**	**♔e2-f1**
11	**♗g4-h3+**	

creates a delightful perpetual check (**7.3b**). Many composers have set this theme over the years, but none has done so quite as neatly.
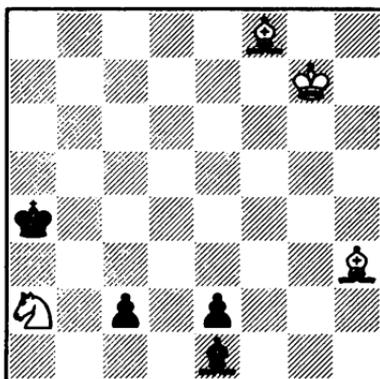
7.3   Draw
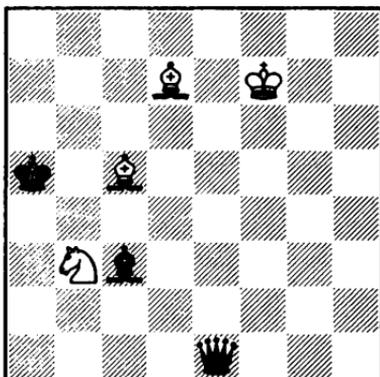
7.3a   After 5 ♘c1-b3+
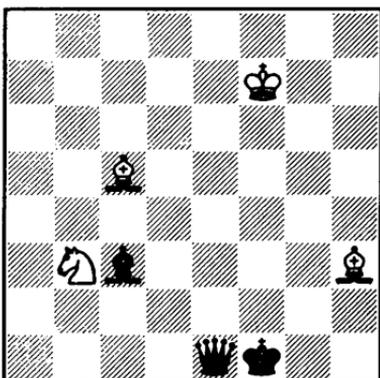
7.3b   After 11 ♗g4-h3+
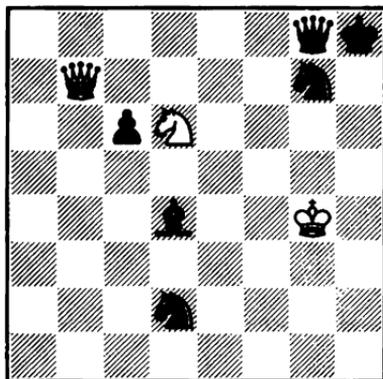
7.4   Draw
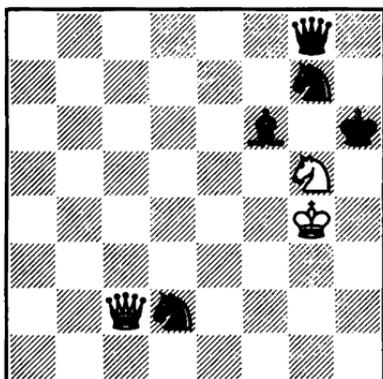
7.4a   After 4...♔g6-h6
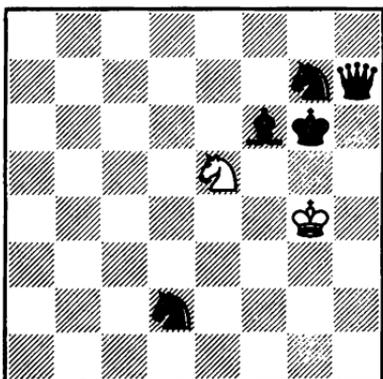
7.4b   After 7 ♘f7-e5+

White must start from **7.4** (C. M. Bent, 1988, version) by driving the Black king into the open:

> 1   **♘d6-f7+**   **♔h8-h7**
> 2   **♘f7-g5+.**

Now 2...♔h6 allows White to secure a draw quite easily (3 ♕xc6+ ♘e6 4 ♕xe6+ ♕xe6+ 5 ♘xe6), so

> 2   ...   **♔h7-g6**

is the best response. White can still play to win a piece,

> 3   **♕b7xc6+**   **♗d4-f6**
> 4   **♕c6-c2+,**

but when Black plays

> 4   ...   **♔g6-h6,**

White must pause (**7.4a**). If he takes the knight, 5 ♕xd2, Black replies with 5...♘h5, shielding his king and pinning the White knight, and his winning advantage will be restored. If White tries 5 ♘f7+ ♕xf7 6 ♕xd2+ hoping for perpetual check, he discovers that the Black king can find shelter. What else is there? The answer is pretty:

> 5   **♕c2-h7+!**

This diverts the Black queen and sets up a genuine perpetual check,

> 5   ...   **♕g8xh7**
> 6   **♘g5-f7+**   **♔h6-g6**
> 7   **♘f7-e5+**

(**7.4b**), and if Black avoids the repetition by playing 7...♗xe5 he gives stalemate.

Michael Bent (1919-) has become Britain's most prolific composer of endgame studies, and this pithy denouement is typical of his work.

The position in **7.5** (S. Kozłowski, 1931) seems very simple, and greatly to Black's advantage. White can give some obvious checks,

    1   ♖f1-f8+   ♚c8-d7

    2   ♖f8-f7+,

but

    2   ...   ♚d7-e6

seems to save Black from further harassment (**7.5a**). White has no more checks, and cannot capture Black's unguarded rook without losing his own. What next? The answer is the quietly spectacular

    3   ♖f7-f5!

after which it is Black's turn to wonder what to do (**7.5b**). If he moves his attacked rook to safety, he loses his other rook to ♖f6+; and if he moves his king back to the seventh rank to reunite his rooks, White can resume checking.
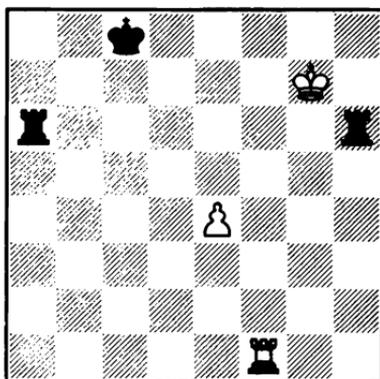
7.5   Draw
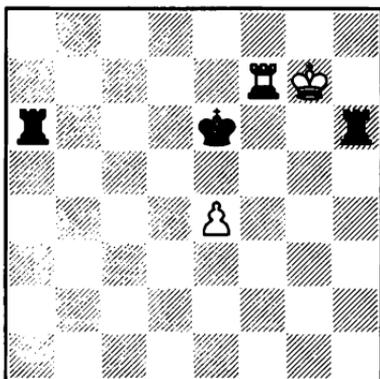
7.5a   After 2...♚d7-e6
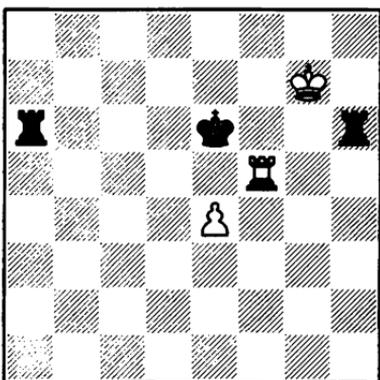
7.5b   After 3 ♖f7-f5

7.6   Draw

7.6a   After 2...♖h2-h4+

7.6b   After 5...♗g1xa7

7.6 (V. A. Korolkov and L. A. Mitrofanov, 1959) heralds a keen struggle. White's opening move

    1   a6-a7

threatens promotion, and forces drastic action from Black:

    1   ...   ♗b3-a4+
    2   ♔b5xa4   ♖h2-h4+

(**7.6a**). Now White makes the decoy move

    3   g2-g4!

for a reason which will become apparent in due course. There follows

    3   ...   ♖h4xg4+
    4   f2-f4   ♖e3-e4+
    5   ♔a4-b5   ♗g1xa7

and the dangerous pawn has been captured (**7.6b**); but the Black rooks are now on vulnerable squares (which is why White played 3 g4), and Black can preserve them only by allowing perpetual check:

    6   ♖f8-d8+   ♔d5-e6
    7   ♖d8-e8+   ♔e6-f5
    8   ♖e8-f8+   ♔f5-g6
    9   ♖f8-g8+   ♔g6-h5
   10   ♖g8-h8+   ♔h5-g6
   11   ♖h8-g8+   ♔g6-f5
   12   ♖g8-f8+   ♔f5-e6
   13   ♖f8-e8+   ♔e6-d5
   14   ♖e8-d8+.
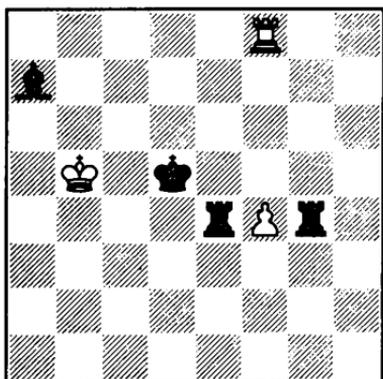
Leopold Mitrofanov (1932-92), although a generation younger than Korolkov, was closely associated with him. They composed around forty studies together, including some fine prize-winners.

Black's promotion is inevitable in **7.7**
(D. Gurgenidze, 1978), and 1 ♖f1
b1♛ 2 ♖xb1 ♖xb1 would lead to a
win for Black. So White must try for
perpetual check, and the object of

    1   ♔c4-d5!

is to prevent the future Black queen
from interfering on e4. There follows

1	...	**b2-b1♛**
2	**♖f4xg4+**	**♔g3-f3**
3	**♖g4-f4+**	**♔f3-e3**
4	**♖f4-e4+**	

(**7.7a**), and if the White king were
not guarding e4, Black could play
...♛xe4, giving up his queen for both
rooks. As it is, however, Black must
play

4	...	**♔e3-d3,**

and now

    5   ♖a4-d4+!

is another far-sighted move. Its
purpose is to continue checking while
leaving the other rook on e4, and the
value of this appears after

5	...	**♔d3-c3**
6	**♖d4-c4+**	**♔c3-b3**

(**7.7b**). Now White cannot usefully
continue checking (7 ♖e3+ ♔b2 8
♖e2+ ♔a3 9 ♖e3+ ♖b3), but he can
harass the Black rook instead, and

    7   ♔d5-c6

cannot be met by a check from h1
because of the shielding rook on e4.
So Black's rook must run, but it must
stay on the file to stop ♖b4+, and

7	...	**♖b7-b8**
8	**♔c6-c7**	**♖b8-b5**
9	**♔c7-c6**	

duly forces the draw.

Original manoeuvres for rooks are
a speciality of David Gurgenidze
(1953-), one of the most imaginative
of contemporary composers.
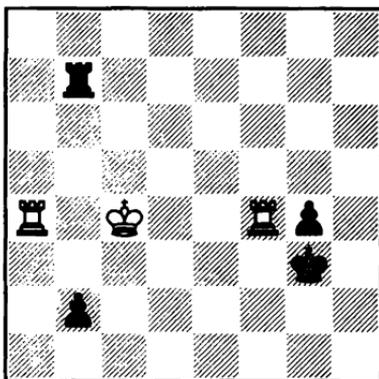
7.7   Draw
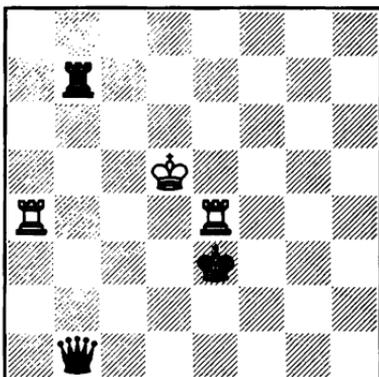
7.7a   After 4 ♖f4-e4+
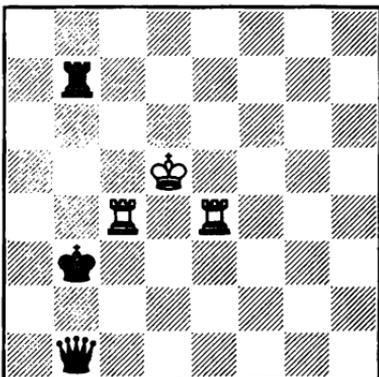
7.7b   After 6...♔c3-b3

7.8   Draw

7.8a   After 4 a5-a6

7.8b   After 7 ♔e8-e7

7.8 (V. A. Evreinov, 1969) also features the hounding of a Black rook. White starts with

1   ♗h3-g2,

and Black can play neither 1...♖xa6 (because of the spear check 2 ♗f1+) nor 1...♖c7+ 2 ♔-- ♖a7 (because 3 ♗b7 will imprison the rook and leave no way to win). The best continuation is

1	...	♖c6-c5
2	a6-a7	♖c5-c7+
3	♔e7-e8!	♖c7xa7
4	a5-a6	

(**7.8a**). Now the reason for White's third move is apparent: if the White king were on the sixth rank, 4...♖xa6 would be check, and if it were on d8, 4...♗f6+ and 5...♖h7 would win. As it is, however, the only way in which Black can rescue his rook from incarceration by ♗b7 is to play

4   ...   ♖a7-c7,

and

| 5 | ♔e8-d8 | ♖c7-f7 |
| 6 | ♔d8-e8 | |

hounds it along the seventh rank. The moves 6...♖c7 7 ♔d8 would be a repetition, so Black can only try

6   ...   ♖f7-f8+,

whereupon

7   ♔e8-e7

keeps him under pressure (**7.8b**). Black must now play

7   ...   ♖f8-c8

in order to meet a7 by ...♖c7+, and

| 8 | ♔e7-d7 | ♖c8-f8 |
| 9 | ♔d7-e7 | |

hounds the rook along the eighth rank instead.
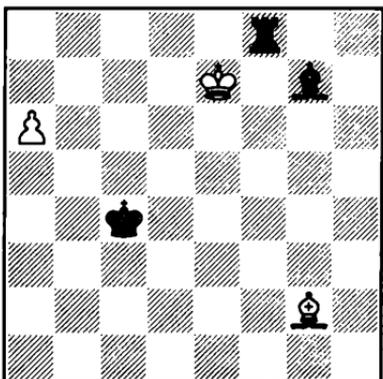
In **7.9** (K. A. L. Kubbel, 1937), White needs to win a piece or bring about an exchange of bishops. The opening

1	g6-g7+	♔h8-h7
2	♗d7-e6	

is straightforward, and now Black must bring a knight to the defence of g8. The better knight is that on e3, since 2...♘bd5+ can be met by 3 ♔d4, and so there follows

2	...	♘e3-d5+
3	♔c3-d4	♘d5xf6.

Now

4	g7-g8♕+	♘f6xg8

lures this knight out of the way (**7.9a**), and

5	♔d4-c5	

starts hunting the other knight, which must come down the board because if Black tries 5...♘a8 then 6 ♗d5 draws immediately. After

5	...	♘b6-a4+
6	♔c5-b4	

the knight must keep going, since 6...♗c6 7 ♗b3 ♘b6(b2) 8 ♔c5(c3) quickly settles matters. So we have

6	...	♘a4-b2
7	♔b4-c3	♘b2-d1+
8	♔c3-d2	♘d1-f2
9	♔d2-e3,	

and now Black must play

9	...	♘f2-h3

(**7.9b**) because 9...♘h1 can be met by 10 ♗f5+ and 11 ♗e4. But the knight now obstructs its own bishop, and it becomes the latter's turn to be hounded:

10	♗e6-f5+	♔h7-h6
11	♗f5-e4	♗g2-f1
12	♗e4-d3	♗f1-g2
13	♗d3-e4.	
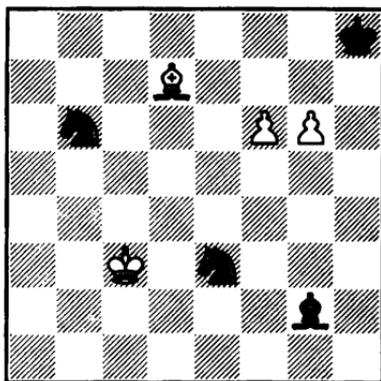
7.9   Draw
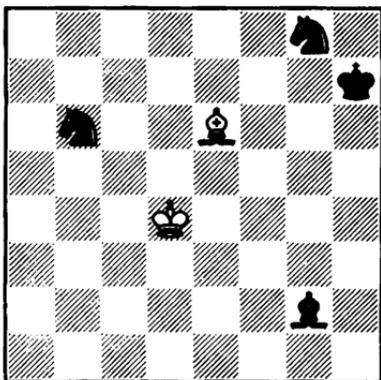
7.9a   After 4...♘f6xg8
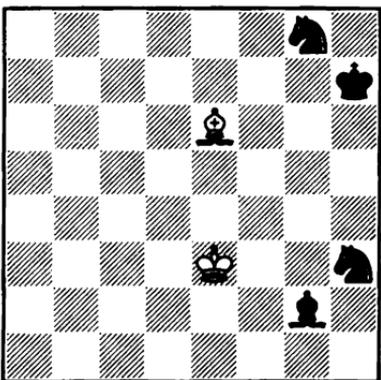
7.9b   After 9...♘f2-h3

7.10   Draw

7.10a   After 2...♝c1-a3

7.10b   After 4...♝a3-c1

7.10 (F. S. Bondarenko and A. S. Kakovin, 1954) features a repetition with a different motivation. The opening move

>   1   ♔h5-g6

threatens mate in two by either ♖c2 or ♔f7, and 1...♚g8 leads to a straightforward draw after 2 ♖c2 ♚f8 3 ♔f6 ♚e8 4 ♚e6 ♚d8 5 ♖xc1 e2 (nothing else is better, either here or on Black's next move) 6 ♚d6 d3 7 ♖h1 ♚e8 8 ♚e6 ♚f8 9 ♚f6 ♚g8 10 ♖g1+ ♚h7 11 ♖h1+ ♚g8 12 ♖g1+ ♚f8 13 ♖h1. The interesting move is

>   1   ...   d4-d3,

after which

>   2   ♖e2-a2   ♝c1-a3

gives **7.10a**. White is now thwarted in his attempt to reach the eighth rank, but he can play

>   3   ♔g6-f7,

which threatens mate on the h-file. Now

>   3   ...   d3-d2

is the better defence since it guards c1 and prepares the way, after

>   4   ♖a2-a1,

for the interposition

>   4   ...   ♝a3-c1

(**7.10b**). The scene is now set. White achieves nothing with a check, but with the moves

>   5   ♔f7-g6   ♝c1-a3
>   6   ♔g6-f7

he threatens mate on the rank and the file alternately, and Black has no time to promote a pawn.
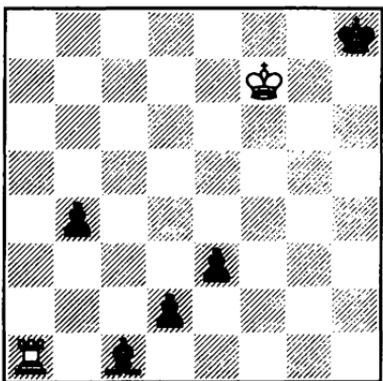
In recent years, composers have directed their attention to complicated repetitions involving several pieces. **7.11** (A. Maksimovskikh and V. Shanshin, 1984) shows a composition in this style. White's loose knight stops him from playing 1 ♗e3+, but after

    1   ♘g7-f5+   ♔h6-g5
    2   ♘f5-g3   c2-c1♛

we have a sequence of checks like those which followed from 7.3:

    3   ♗c5-e7+   ♔g5-h6
    4   ♗e7-f8+   ♔h6-g5
    5   ♗f8-e7+.

This time, however, Black can interpose a bishop:

    5   ...   ♝b2-f6

(7.11a). But this blocks the Black king, and

    6   ♗e7-b4!

threatens 7 ♗d2+ ♛xd2 8 ♘e4+. So Black brings his bishop back, moves his king to h6, and tries again:

    6   ...   ♝f6-c3
    7   ♗b4-e7+   ♔g5-h6
    8   ♗e7-f8+   ♝c3-g7

(7.11b). But again he has blocked his own king, and

    9   ♗f8-c5!

threatens 10 ♗e3+ ♛xe3 11 ♘f5+; and

    9   ...   ♝g7-d4

leads to a repetition as usual:

    10   ♗c5-f8+   ♔h6-g5
    11   ♗f8-e7+   ♝d4-f6
    12   ♗e7-b4.
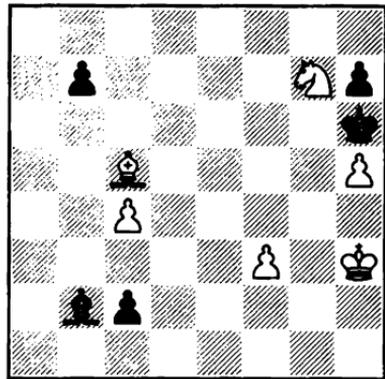
7.11   Draw
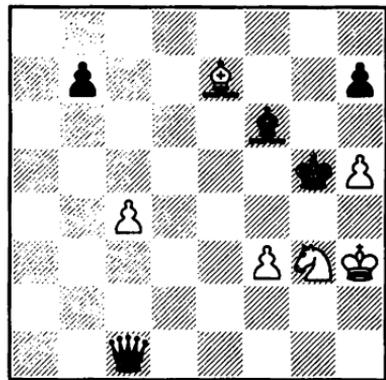
7.11a   After 5...♝b2-f6
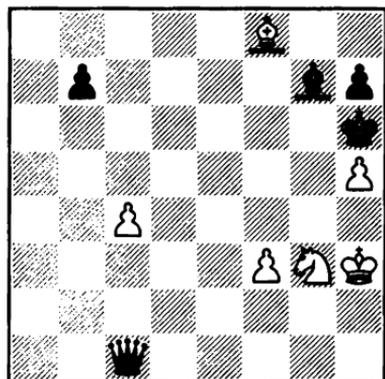
7.11b   After 8...♝c3-g7
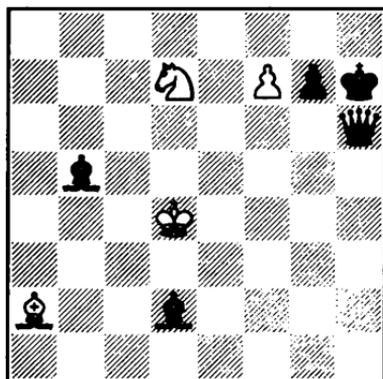
7.12   Draw

Finally, **7.12** (F. J. Prokop, 1926) shows the boot on the other foot: it is the side which is trying to win that finds itself giving perpetual check! The opening attack

>   1   ♘d7-f8+   ♚h7-h8
>   2   ♘f8-g6+

obliges Black to counter with

>   2   ...   ♛h6xg6,

after which

>   3   f7-f8♛+   ♚h8-h7
>   4   ♗a2-b1

gives **7.12a.** Now 4...♛xb1 leads to stalemate after 5 ♛f5+ ♛xf5, and if Black tries

>   4   ...   ♗d2-c3+,

hoping for 5 ♚xc3, then

>   5   ♚d4-e3!

prepares to meet ...♛xb1 with an echo of the same stalemate. So Black tries

>   5   ...   ♗c3-d4+,

but

>   6   ♚e3-d2!

(**7.12b**) sets up another echo after 6...♛xb1 7 ♛h8+ ♚g6 8 ♛h7+ ♚xh7. There remains only

>   6   ...   ♗d4-e3+,

after which

>   7   ♚d2-c3!

produces yet another echo if Black takes the bishop; and

>   7   ...   ♗e3-d2+
>   8   ♚c3-d4!

brings us back to 7.12a.
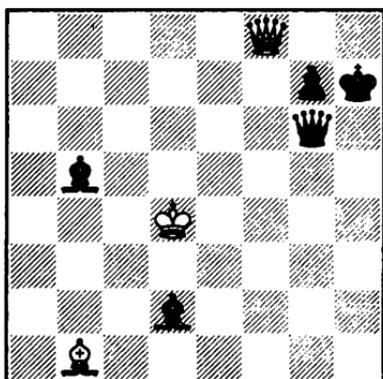
7.12a   After 4 ♗a2-b1
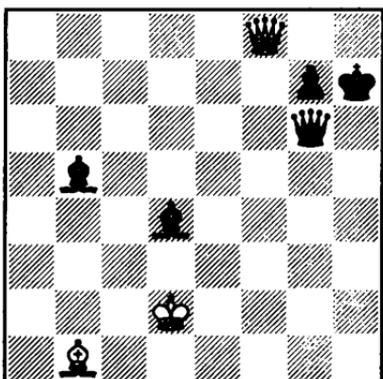
7.12b   After 6 ♚e3-d2

8 Losing the move

So far, we have been considering the long-term objectives of play. We now start to look at techniques by which these objectives are achieved, and one of the most elegant of these is "losing the move". We have already seen several instances of this (for example, the king manoeuvre ♔e5-e4-f4 of position 2.4, the bishop dawdle ♗c8-b7-a6 of 3.5, and the single-step pawn move of 4.5) but it deserves a chapter to itself.

In **8.1** (A. P. Guliaev, 1929), White's only chance is to stalemate himself, and he starts by playing

    1   a6-a7.

If Black now dawdles, say by 1...h6, White achieves his aim without difficulty: 2 c4 h5 3 c5 h4 4 c6 h3 5 c7 h2 stalemate. But suppose, as is natural, that Black hurries ahead by

    1   ...   h7-h5.

If White still runs at full speed, Black will promote with mate (2 c4 h4 3 c5 h3 4 c6 h2 5 c7 h1♕). But White can dawdle as well:

    2   c2-c3!

There follows

2	...	h5-h4
3	c3-c4	h4-h3
4	c4-c5	h3-h2
5	c5-c6	

(**8.1a**), and it is plain that Black has been wrong-footed; try as he may, he cannot improve on

    5   ...   h2-h1♕
                           stalemate.
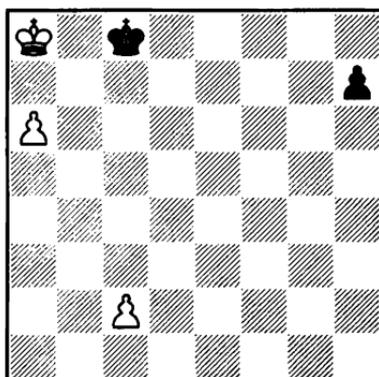
8.1   Draw
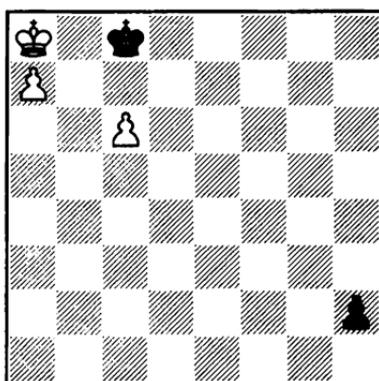
8.1a   After 5 c5-c6
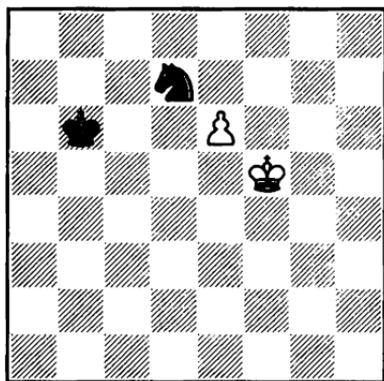
8.2   Black to play, White wins
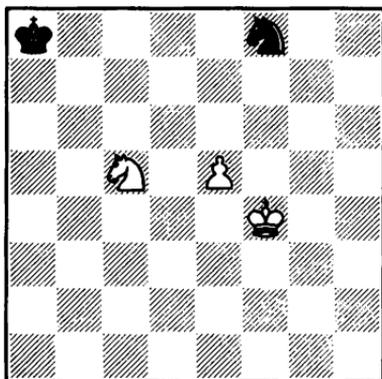
8.3   Win
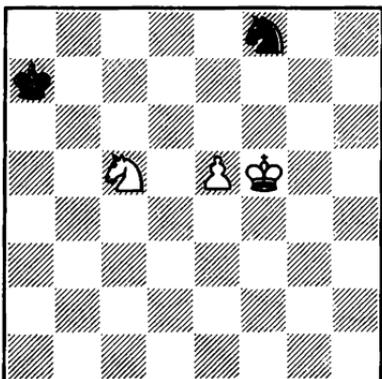
8.3a   After 2 ♔g5-f5

8.2 shows an interesting position. As a rule, a pawn on the sixth rank (other than a rook's pawn) cannot win against a diagonally adjacent knight, but here the White king prevents 1...♘f6 and the Black king prevents 1...♘b6 2 e7 ♘c8 3 e8♛ ♘d6+. Position 8.2 is unique, however; put either king on another square, and Black can draw.

8.3 (V. Halberstadt, 1949) shows a neat study which is based on this fact. Black's knight is in danger, and his king is too far away to defend it effectively; a typical line is 1 ♔f5 ♔b8 2 ♔f6 ♔c8 (if 2...♔c7 then 3 ♘e6+) 3 ♔g7 ♘d7 4 ♘xd7 ♔xd7 5 ♔f7 and White wins very easily. However, Black can counterattack by 1...♔a7 2 ♔f6 ♔b6, and this is much more effective; White must move his knight, and then 3...♘d7+ draws. So White must be more subtle:

>   1   ♔f4-g5!   ♔a8-a7
>   2   ♔g5-f5

(**8.3a**). If Black now plays 2...♔b8, White plays 3 ♔f6 and wins as before; and if Black continues his counterattack by

>   2   ...   ♔a7-b6,

White can meet it by

>   3   ♘c5-d7+!

since

>   3   ...   ♘f8xd7
>   4   e5-e6

gives position 8.2. It is a simple but attractive study. White can reach position 8.2 only by playing ♘d7+ while the Black king is on b6 and his own is on f5, so he must waste a move at the start in order to arrive at position 8.3a with Black to move.

To have any chance of winning from **8.4** (D. Gurgenidze, 1980), Black must promote his pawn, so his answer to

    1   **♘b5-c3+**

must be

    1   **...**   **♚b1-a1;**

the only alternative, 1...♚c2, can be met by 2 ♘d5+. The Black king is now penned and

    2   **♘e6-d4**

threatens mate (**8.4a**), but the continuation

    2   **...**   **♖b8-e8+**
    3   **♚e4-d5**   **♖e8-d8+**
    4   **♚d5-e4**   **♖d8xd4+**

eliminates the threat and 5 ♚xd4 f1♕ will lead to a win (**8.4b**). White cannot maintain the blockade, and once it is lifted Black's king and queen will overcome White's king, bishop, and knight. But White can delay the capture:

    5   **♚e4-e3!**   **f2-f1♕**
    6   **♚e3xd4.**

This again reaches position 8.4b, but now it is Black's move and he cannot prise White's king away from the knight. His only realistic try is

    6   **...**   **♕f1-a6,**

but

    7   **♗a3-c1**

creates an equivalent position.

Subsequent computer analysis (K. L. Thompson, 1985) has thrown an interesting light on this study. There are approximately 120 million different positions with king and queen against king, bishop, and knight, and 8.4b is the one and only position of reciprocal zugzwang. This was therefore a remarkable discovery by the composer.
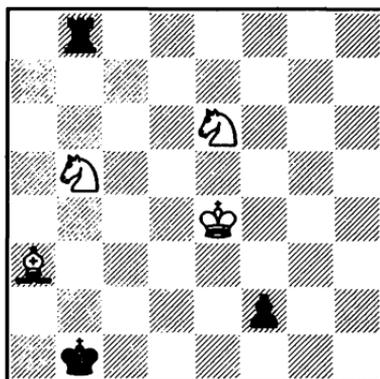
8.4   Draw
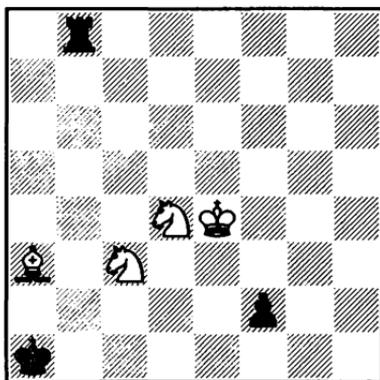
8.4a   After 2 ♘e6-d4
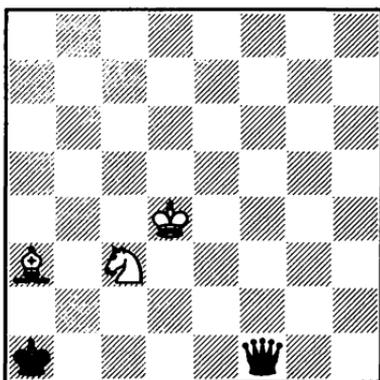
8.4b   Line 5 ♚xd4
                 After 5...f1♕

8.5   Win

8.5a   After 6 ♔a4-b3

8.5b   Line 6...c5
              After 9...h5

The play from **8.5** (V. Balanovsky, 1985) starts with one of the most amazing moves in the book:

1   ♔b8-a8!!

How can this be the only way to win? Black to move could draw by 1...c5; he promotes first after 2 b5 c4 because White's king obstructs his pawn, and 2 bxc5 h5 leads to stalemate. So the king must get off the b-file, and the c-file is no better; after 1 ♔c7(c8) c5 2 b5 c4, Black will promote with check. Only a7 and a8 are left, and the reason for a8 will appear.

Let us play on, therefore. 1...c5 2 b5 c4 is bad for Black; both sides promote, but White can zigzag in and mate. So Black must mark time, and

1	...	♔h4-h5
2	♔a8-a7	♔h5-h4
3	♔a7-a6	♔h4-h5
4	♔a6-a5	♔h5-h4
5	♔a5-a4	♔h4-h5
6	♔a4-b3!	

leads to **8.5a**; note how White avoids exposing his king to check from c1. Black's only hope now is self-stalemate, but White can just evade it; the composer gives **6...♔h4 7 ♔c2(c3) h5 8 ♔d3(d4) c5(+) 9 ♔xe3 c4 10 ♔d2 c3+ 11 ♔c1 c2 12 e4**, but the line **6...c5 7 b5 c4+ 8 ♔c3 ♔h4 9 b6 h5** is even more instructive (**8.5b**). White can now play 10 ♔d4 and mate with his new queen, but he is only just in time, and this is why he went to a8 on the first move. After 1 ♔a7, the line 1...♔h5 2-4 ♔a4 ♔h4 5 ♔b3 would have produced 8.5a but with the Black king already on h4, and the sequel 5...c5 6 b5 c4+ 7 ♔c3 h5 would have given 8.5b but with the White pawn only on b5; and there would be no win.
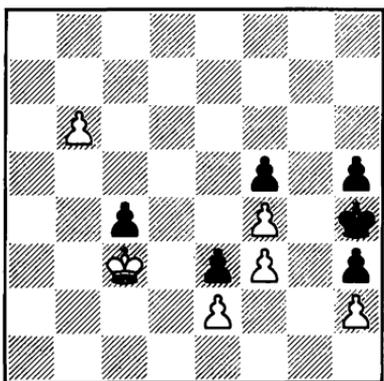
So far, we have been playing so as to arrive at a crucial position with Black to move. There is another class of studies, no less interesting, in which we first arrive at the crucial position with White to move, and then play so as to pass the move to Black.

8.6 (J. Hašek, 1928) is a study of the kind that appears in textbooks, but it bears repetition. Black's a-pawn is helpless, but White cannot simply grab it because his king will be shut in after 1 ♔c6 ♔e5 2 ♔b7 ♔d6 3 ♔xa7 ♔c7. However, after

1 ♔d5-c6 ♔f4-e5
(**8.6a**), Black must keep in contact with d6 in order to meet ♔b7 with ...♔d6, and this gives White a lever. He plays

2 ♔c6-c7,
and Black must reply with

2 ... ♔e5-d5
in order to keep in touch. Now

3 ♔c7-d7
eases the White king towards the f-pawn (**8.6b**), and any move other than

3 ... ♔d5-e5
will allow White to win it. There follows

4 ♔d7-c6!
and we are back at position 8.6a but with Black to move. Now Black can no longer keep the desired contact with d6; he has nothing better than

4 ... ♔e5xf5,
whereupon

5 ♔c6-b7
settles the issue.
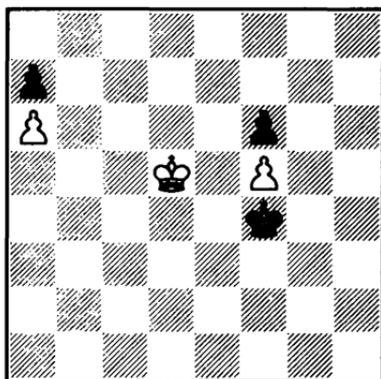
8.6   Win
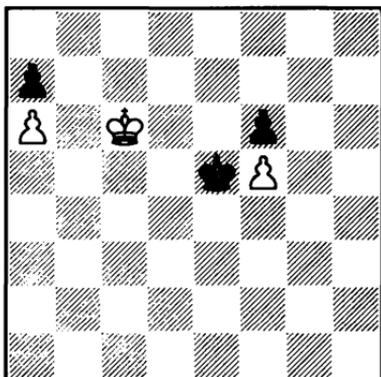
8.6a   After 1...♔f4-e5
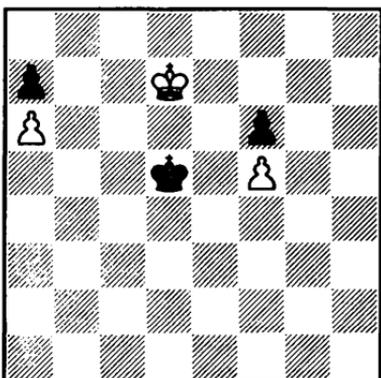
8.6b   After 3 ♔c7-d7
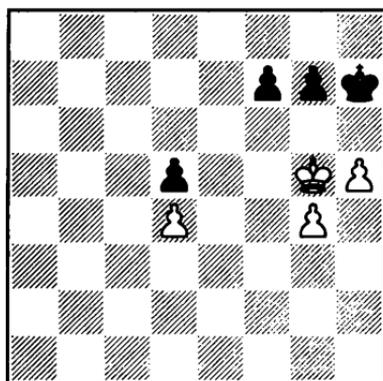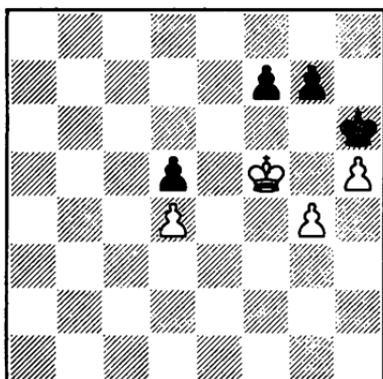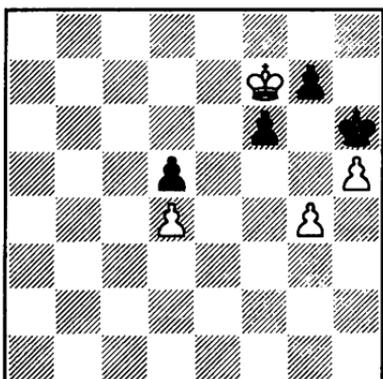
8.7 (B. Neuenschwander, 1985) shows a more complicated example of the same theme. Black cannot save his d-pawn, so his only hope is to mount a counterattack on White's g-pawn; after 1 ♔f5 ♔h6 2 ♔e5 ♔g5 3 ♔xd5 ♔xg4, for example, both sides will promote and Black will survive. However, Black only just draws in this line, and

    1   **♔g5-f4!**   **♔h7-h6**
    2   **♔f4-f5**

puts him in difficulty (**8.7a**); if his king retreats, White will play ♔e5 and win in comfort. So he must try

    2   **...**   **f7-f6,**

and this allows White's king to advance via e6 and attack the g-pawn. There follows

    3   **♔f5-e6**   **♔h6-g5**
    4   **♔e6-f7**   **♔g5-h6,**

giving **8.7b**, and Black is holding out for the moment since he can still meet ♔e6 with ...♔g5. But the vulnerable Black g-pawn gives White another lever, and the manoeuvre

    5   **♔f7-e7**   **♔h6-g5**
    6   **♔e7-f8**   **♔g5-h6**
    7   **♔f8-f7**

returns to position 8.7b but with Black to play. Black must now retreat,

    7   **...**   **♔h6-h7,**

and

    8   **♔f7-e6**

wins easily.

8.7   Win

8.7a   After 2 ♔f4-f5

8.7b   After 4...♔g5-h6

Our last and most striking example comes from the earliest days of chess. It uses the old rules and some readers may wish to skip it, but those who follow it through will find play quite unlike anything in the modern game.

8.8 was given by as-Suli (854-946). He wrote that it was even then very old, yet neither al-'Adli (a master of a hundred years before) nor anyone else could say whether it could be won; no one could solve it unless he had been shown by as-Suli himself. as-Suli's solution has not survived, and the first modern analyst to tackle the position successfully was Yuri Averbakh in 1986. The computer has slightly refined Averbakh's solution, but he rediscovered all the essentials.

The queens in 8.8 represent "firzans", which move one square diagonally, and the rules allowed the win by "bare king" which we met in 2.3: a player could win by taking his opponent's last man, provided that his own last man could not be taken next move. Thus if it were White's move in 8.8, he could attack Black's firzan by 1 ♔a2, but Black could resist by 1...♔d3 since 2 ♔xa1 ♔xc3 would only be a draw. However, White could rescue his firzan by 2 ♕b4 ♔c4 3 ♕a3, after which Black would be unable to chase it further and 4 ♔xa1 would win. Such play typifies the final stages of this ending.

But it is actually Black's move, and Black can play

1   ....   ♔e4-d5

(**8.8a**). The Black king now has the same relation to the White firzan (two squares up and one to the right) as the White king has to the Black firzan,
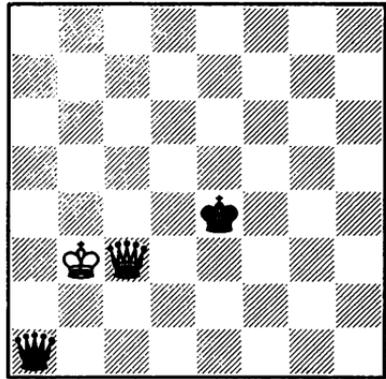
8.8   Black to play
White wins (old rules)
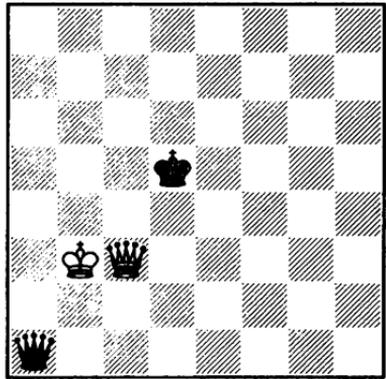
8.8a   After 1...♔e4-d5
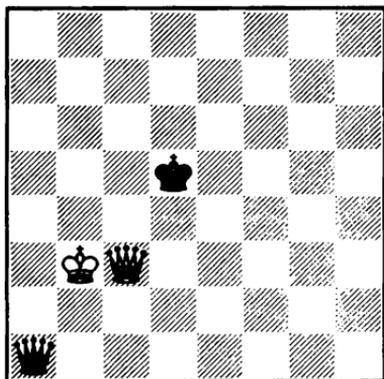
8.8a (repeat)   After 1...♚e4-d5
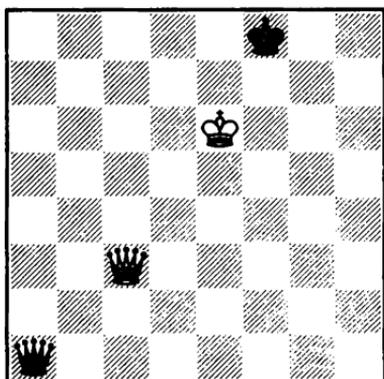
8.8b   After 7...♚g7-f8
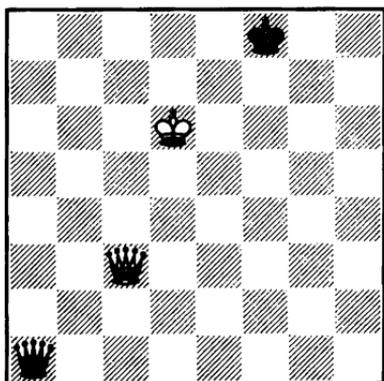
8.8c   After 8 ♚e6-d6

and we shall call such a position "balanced". A balanced position is awkward for White, because Black may be able to answer any move by creating another balanced position. If White plays ♛d2, Black plays ...♚e4, still two up and one to the right; if White plays ♚b4, three up and one to the right, Black plays ...♚d6, also three up and one to the right. And if White attacks Black's firzan, Black will attack White's, and White's capture will be met by Black's.

So White must make Black leave him an unbalanced position before he attacks the Black firzan, and *to do this he must use one of the far edges of the board!* An optimal line for each player is

2	♚b3-b4	♚d5-d6
3	♚b4-c4	♚d6-e6
4	♚c4-d4	♚e6-f6
5	♚d4-d5	♚f6-f7
6	♚d5-e5	♚f7-g7
7	♚e5-e6,	

and now Averbakh gives 7...♚g8, assuming that Black should preserve the balance as long as possible. He then gives 8 ♚f6, which is certainly the simplest although 8 ♚e7 forces the win one move sooner, and he continues with the elegant line 8...♚h8 9 ♚g6 ♚g8 10 ♛d2 ♚f8 11 ♛c1 ♚e7 12-15 ♚c2 ♚a3 16 ♚b1 ♚-- 17 ♚xa1. However, according to the computer it is best for Black to abandon the balance straight away by

7   ...   ♚g7-f8,

and the sequel is even more instructive (**8.8b**).

White must now come back to capture the Black firzan *without allowing Black to set up another balanced position*, and the simplest way is to

set up a balanced position himself:

    8   ♔e6-d6

(**8.8c**). There might follow

8	...	♚f8-e8
9	♔d6-c6	♚e8-d8
10	♔c6-b6	♚d8-c8,

giving **8.8d**, and now White cannot keep the balance by 11 ♔a6 since Black will play 11...♚c7, threatening to come down the c-file. (White can hold him off by playing 12 ♔b5, but Black will then recover the balance by 12...♚d7 and all White's work will have been wasted.) However,

    11   ♔b6-c5

makes it impossible for Black to regain the balance, and the sequel

11	...	♚c8-d7
12	♔c5-b5	

restores it to White. The moves

12	...	♚d7-c7
13	♔b5-c4	♚c7-d6
14	♔c4-b4	

are similarly motivated, and now

    14   ...   ♚d6-e5

gives Black a last throw (**8.8e**); White cannot play ♔c3 because his firzan occupies that square. But

    15   ♔b4-a3

forces Black to play

    15   ...   ♚e5-d5

to meet 16 ♔a2 with 16...♚c4, and

    16   ♔a3-b3!

brings us back to 8.8a but with Black to move. Now White will soon win; a typical line is 16...♚c5 17 ♕d2 ♚d4 18 ♔c2 ♚-- 19 ♕c1 ♚-- 20 ♔b1 ♚-- 21 ♔xa1.
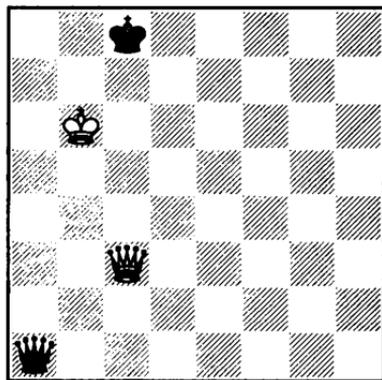
8.8d   After 10...♚d8-c8
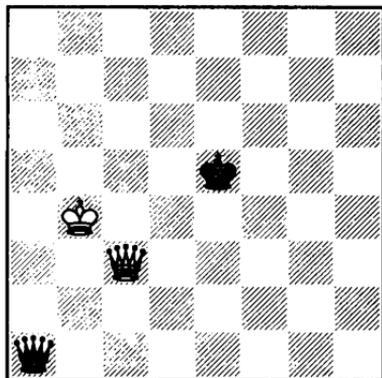
8.8e   After 14...♚d6-e5

Position 8.8a could hardly be simpler, and all the action appears to focus on the bottom left-hand corner; yet to pass the move to Black takes fifteen moves, and the White king has to manoeuvre its opponent to the top of the board and back. As we remarked at the beginning of this discussion, there is nothing remotely like it in modern chess.

9 Underpromotion

Another striking technique is the promotion of a pawn to a lesser piece than a queen. In real life, this is a rarity; in studies, it is quite common.

9.1 (repeats 1.3)   Win

9.1a   Line 2 exf8♕+
          3 ♖xd7 stalemate

9.1 (A. O. Herbstman, 1934) repeats 1.3 from Chapter 1, and we remarked there that the knight promotion

  1   ♗d3-h7+   ♔g8xh7
  2   e7xf8♘+

is fairly obvious since White must check the king in order to pick up the queen. But what happens if Black moves his king to g7 or h8? Clearly, White must still check in order to pick up the Black queen, but if he plays the obvious 2 exf8♕+ he finds that 2...♔xh7 3 ♖xd7 gives stalemate (**9.1a**). Instead, he must promote to bishop or rook:

  1   ...   ♔g8-g7
  2   e7xf8♗+!
or
  1   ...   ♔g8-h8
  2   e7xf8♖+!

Three legal Black moves, three White promotions in reply; each move demands a different promotion, and none of them is to queen.

A promotion to knight, although spectacular, is never really surprising, because there are things which a knight can do and a queen cannot. The rest of this chapter will therefore concentrate on promotions to rook and bishop. It is not often realized just how easy it is to set up a position that demands such a promotion. To take an extreme example, a promotion to rook may be needed even though there are only two kings and a pawn on the board.

9.2   Win

9.2 shows one half of a twin study published in 1913 by F. Sackmann. The opening moves

1   ♘g5-f7+   ♖f8xf7
2   g6xf7   ♚h8xh7

lead to the position of **9.2a,** and now

3   f7-f8♖!

is needed in order to win. If at an earlier stage Black tries 1...♚g7, the line 2 h8♕+ ♖xh8+ 3 ♘xh8 ♚xh8 4 ♚h6 ♚g8 5 g7 gives a standard win.

9.3 shows the other half of the twin. The only difference in position is that the White king and knight have been interchanged, yet the solution is completely different; the moves

1   g6-g7+   ♚h8xh7

are straightforward, but

2   g7xf8♗!

is now needed to win.

9.2a   After 2...♚h8xh7

This, perhaps more than any other, is a study to show friends at the club. It is easy to remember and to set up; the two starting positions are entirely natural; each solution is striking in itself; and the combination of the two is out of this world.
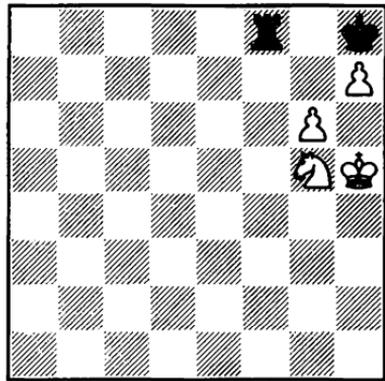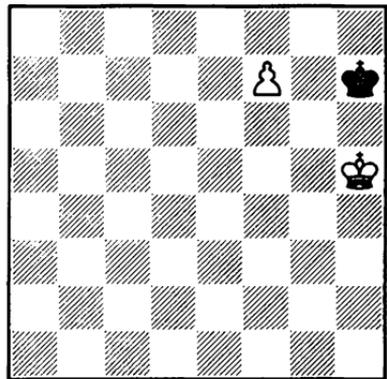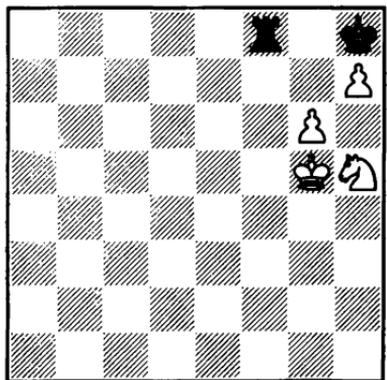
9.3   Win
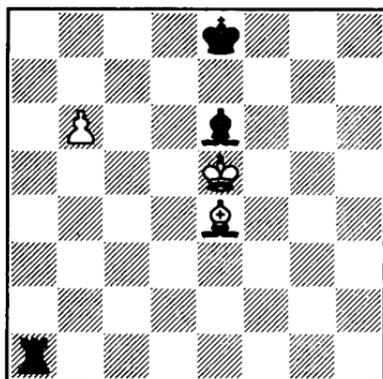
9.4 Win
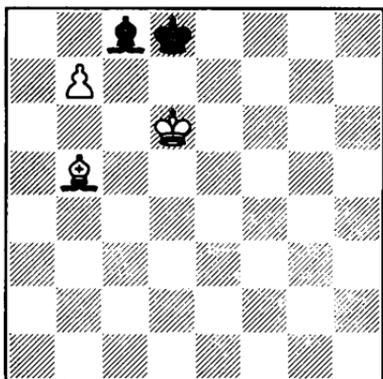
9.4a After 4...♗e6-c8
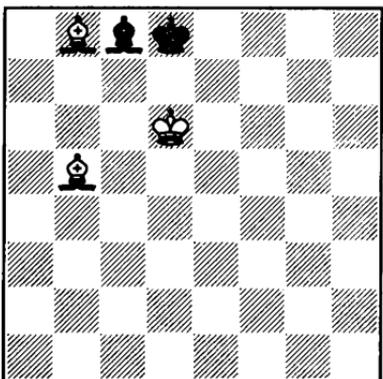
9.4b After 5 b7-b8♗

The next two examples also start from positions that are entirely natural. **9.4** (J. Fritz, 1933) uses a bishop promotion that was first shown by L. Centurini in 1856 and has been exploited by a number of other composers since. White starts with the obvious move

1   b6-b7,

and Black replies with

1   ...   ♖a1-a5+,

hoping for 2 ♔xe6 ♖a6+ 3 ♔-- ♖b6 with an easy draw. But White evades this by playing

2   ♔e5-d6

since 2...♖a6+ can now be met by 3 ♗c6+. This leaves Black nothing better than

2   ...   ♖a5-b5,

and the sequel

3   ♗e4-c6+   ♔e8-d8

4   ♗c6xb5

seems good for White; but

4   ...   ♗e6-c8!

suddenly presents a problem (**9.4a**). The pawn is threatened, and 5 b8♕ would give stalemate. However, Centurini's move

5   b7-b8♗!!

provides the answer (**9.4b**). Two bishops do not normally win against one, but 5...♗d7 loses the Black bishop (6 ♗c7+ ♔e8 7 ♗xd7+) and every other move allows mate in two.

The underpromotion in **9.5** (H. G. M. Weenink, 1918) is almost incidental; indeed, Kasparian, in his collection *2500 Finales*, classifies this study under "mate" and not under "underpromotion to avoid stalemate". The opening move

    1   c6-c7

ensures promotion, but

    1   ...   ♘d8-b7

sets up a stalemate if White promotes to queen. All right, so White makes a rook; but after

    2   c7-c8♖   ♘b7xa5,

doesn't Black have a draw on material (**9.5a**)? No, he does not. The move

    3   ♖c8-c5!

attacks the knight, and the only move to save it is

    3   ...   ♘a5-b7;

and

    4   ♖c5-c6 mate

puts an end to matters (**9.5b**).

Henri Weenink (1892-1931) was one of the most versatile of chess composers. His fame rests mainly on his book *The Chess Problem*, but he was more than just an outstanding problemist; he was good enough to have beaten Euwe in tournament play, and his studies, elegant and pungent, are among the best.
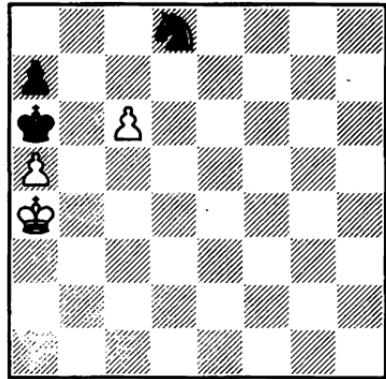
9.5   Win
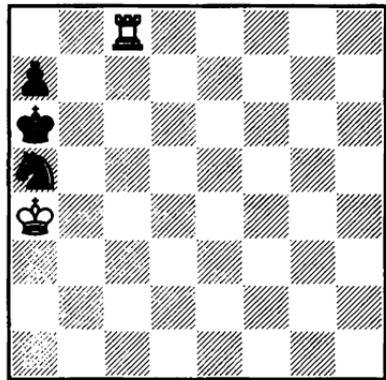
9.5a   After 2...♘b7xa5
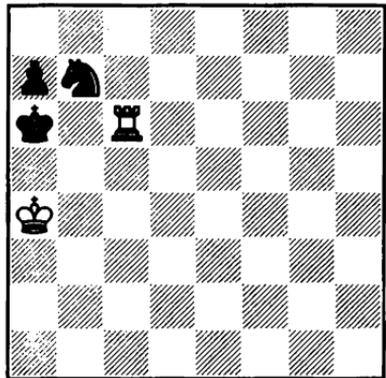
9.5b   4 ♖c5-c6 mate
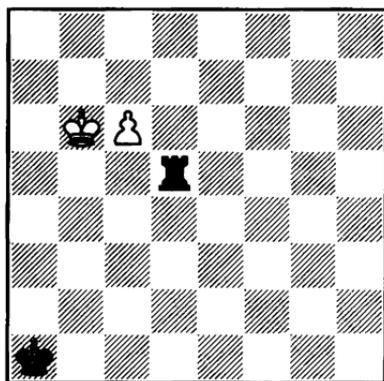
9.6   Win
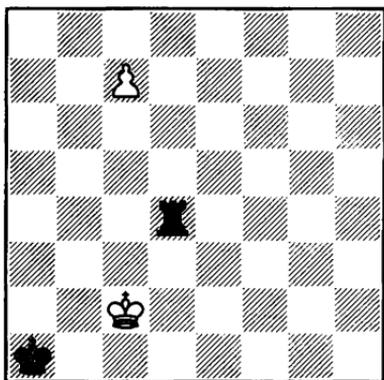
9.6a   After 5...♖d3-d4
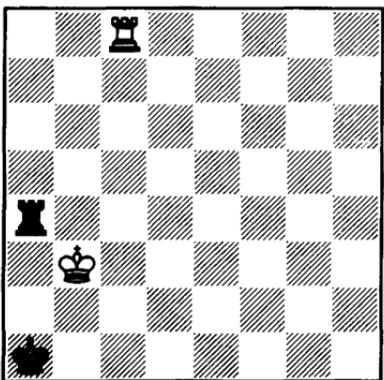
9.6b   After 7 ♔c2-b3

9.6 (G. E. Barbier and F. Saavedra, 1895) has a curious history. It was first published by Barbier as a study derived from a game, the Black king having been moved from its original square to a1. The opening moves

| 1 | c6-c7 | ♖d5-d6+ |

are obvious, but White must now be careful. His king must maintain a guard on c6 to prevent 2...♖c6, but 2 ♔b7 would invite the pin 2...♖d7, and 2 ♔c5 would allow 2...♖d1 and 3...♖c1(+). So White must play

| 2 | ♔b6-b5. |

The sequel

2	...	♖d6-d5+
3	♔b5-b4	♖d5-d4+
4	♔b4-b3	♖d4-d3+
5	♔b3-c2

is explained similarly. Now the rook can check no more, and the position of the Black king becomes relevant. In the game as quoted by Barbier, it was on h6, and White should have won. Barbier's idea was that with the king on a1, Black could draw by

| 5 | ... | ♖d3-d4! |

(**9.6a**) since 6 c8♕ ♖c4+ 7 ♕xc4 would be stalemate. But Saavedra showed that White can win even now:

| 6 | c7-c8♖!! |

This threatens mate on the a-file, and if Black plays

| 6 | ... | ♖d4-a4 |

to prevent this mate then

| 7 | ♔c2-b3 |

attacks the rook and threatens mate on c1 instead (**9.6b**).

This combination of underpromotion and mating threat is now known as the "Saavedra" theme, and Saavedra has joined the select ranks of those who have become famous on account of a single move.

The board in **9.7** (V. S. Kovalenko, 1985) contains kings and pawns only, yet even as simple a position as this may demand bishop and rook promotions in different lines of play.

The bishop promotion is simple enough. After
    1   d6-d7   a3-a2,
White must do something about the a-pawn, and 2 d8♕ a1♕ 3 ♕f6+ ♔xb3 4 ♕xa1 would give stalemate; so
    2   d7-d8♗!
is the obvious answer (**9.7a**).

However, Black has an alternative line in
    1   ...   ♔b2xb3,
and this is more dangerous than it looks. Promotion to queen still leads to stalemate (for example, 2 d8♕ a2 3 ♕a8 a1♕ 4 ♕xa1), and promotion to bishop now fails because Black can play 2...♔a2 and promote on b1. Fortunately,
    2   d7-d8♖!
is just good enough (**9.7b**). After 2...a2, White can stop the Black pawns (for example, 3 ♖a8 ♔b2 4 c5 b3 5 ♔c4 and so on). The alternative 2...♔a2 gives more trouble, but after 3 c5 b3 4 c6 b2 5 ♖b8 ♔a1 (5...b1♕+ leads to 6 ♖xb1 ♔xb1 7-8 c8♕ a1♕ 9 ♕c2 mate) 6 c7 a2 7 ♖xb2! ♔xb2 8 c8♕ a1♕, we have a textbook position which White can win (for example, 9 ♕c3+ ♔a2 10 ♕c4+ ♔a3 11 ♕a6+ ♔b2 12 ♕b5+ ♔a3 13 ♕a5+ ♔b2 14 ♕b4+ ♔a2 15 ♔c2).
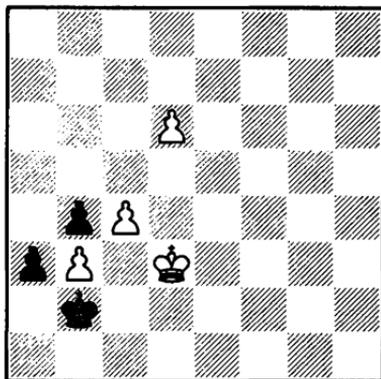
9.7   Win
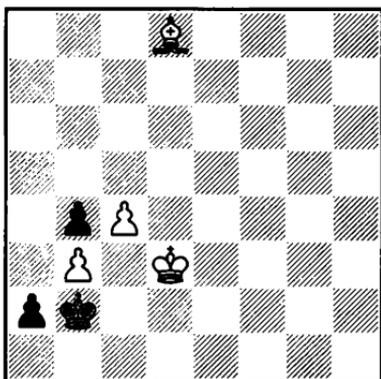
9.7a   Line 1...a3-a2
After 2 d7-d8♗
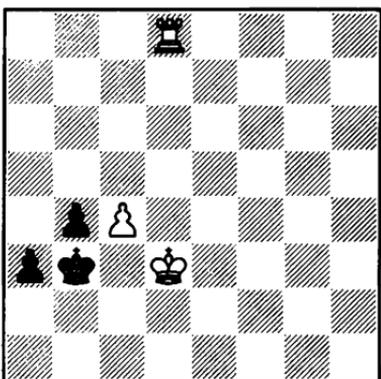
9.7b   Line 1...♔b2xb3
After 2 d7-d8♖
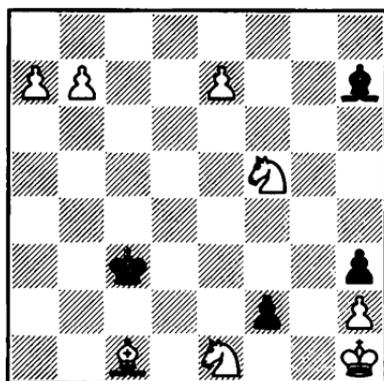
9.8   Win
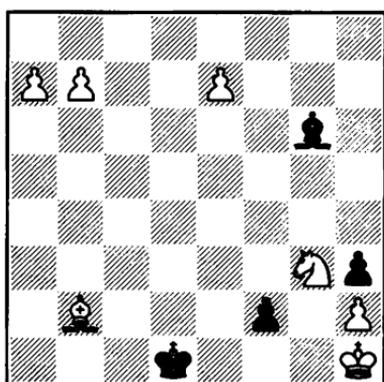
9.8a   After 5...♗h7xg6
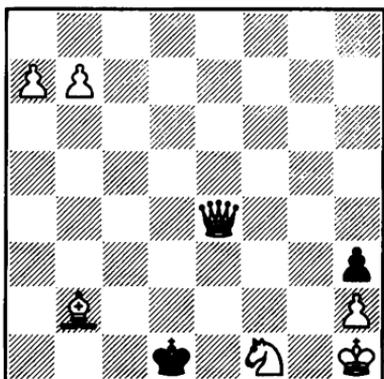
9.8b   Line 6 e8♕ ♗e4+
            7 ♕xe4 f1♕+
            8 ♘xf1 stalemate

To finish the chapter, let us look at a study which features successive underpromotions. Such a study inevitably has an air of fantasy, since there must be several pawns awaiting advancement, but **9.8** (E. L. Pogosiants, 1975, distilled from work by M. S. Liburkin) is neater than most.

In principle, White has enough material to win comfortably, but he must contend with mating threats both immediate (...f1♕) and latent (...♗e4). His need to cope with these threats, and Black's to preserve them while avoiding check from b8 and e8, leads to the following play:

1	♗c1-b2+	♔c3-d2
2	♘e1-f3+	♔d2-d3
3	♘f3-e5+	♔d3-e2
4	♘f5-g3+	♔e2-d1
5	♘e5-g6	♗h7xg6.

The reasoning behind some of these moves is not without interest, and a full analysis can be found in Jonathan Levitt and David Friedgood's book *Secrets of Spectacular Chess* (Batsford, 1995). However, for present purposes all this is merely introductory play, and we pass over it without further comment and go straight to position **9.8a**. At this point, promotions to rook, knight, and bishop follow in quick succession:

6	e7-e8♖!	♗g6xe8
7	b7-b8♘!	♗e8-g6
8	a7-a8♗!	

Clearly, the knight promotion is needed to guard c6, while a queen promotion on e8 or a8 would lead to stalemate after ...♗e4+ and ...f1♕+ (**9.8b**).

10 Decoys and diversions

Another effective technique is that of the decoy: to divert a man to a square where it can do no harm, or where it will damage its own side.

10.1 was given by Greco early in the seventeenth century. Black is ahead by two pawns and his men are well defended, so he appears to have a simple win; all he has to do is to march carefully down the board and promote a pawn. But the moves

1	♖a2-a8+	♖f7-f8
2	♖a8xf8+	♔g8xf8

produce **10.1a,** and

3	♗f4-h6!!

suddenly ruins Black's chances. If he captures, his g-pawn becomes an h-pawn, and two h-pawns are no better than one if the accompanying bishop runs on squares of the wrong colour; and if he does not capture, White will sacrifice his bishop for the g-pawn next move, and the result will be the same.
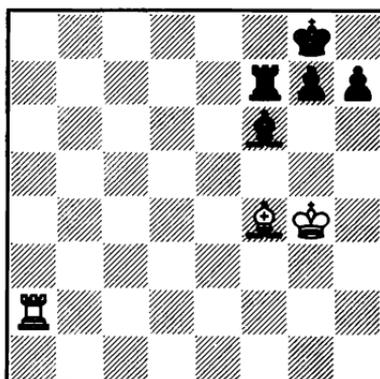
10.1   Draw
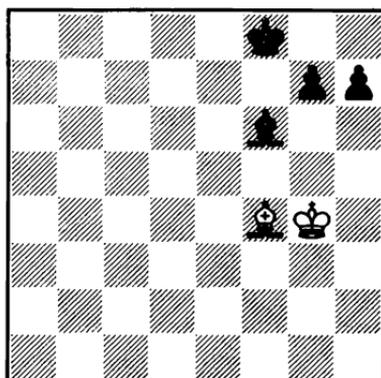
10.1a   After 2...♔g8xf8

10.2   Draw

10.2a   After 2 ♖c3xc6

10.2b   After 4...♖g3xf3
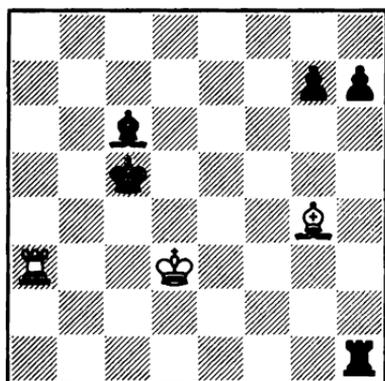
10.2 (S. M. Kaminer, 1927) is based on a similar idea. The opening moves

    1   ♖a3-c3+   ♔c5-b5
    2   ♖c3xc6

put White a bishop ahead **(10.2a)**, because the recapture 2...♔xc6 would allow 3 ♗f3+. So Black must counterattack, and

    2   ...   ♖h1-g1

is the better move; 2...♖h4 would allow White to consolidate by 3 ♗d7, whereas 3 ♗d7 now loses to 3...♖d1+. So White must defend the rook by

    3   ♗g4-f3

instead, and

    3   ...   ♖g1-g3

pins his bishop. Its capture cannot be avoided, and the sequel

    4   ♔d3-e2   ♖g3xf3

seems to restore Black's advantage **(10.2b)** because if White captures then so will Black; but

    5   ♖c6-h6!

promptly destroys Black's triumph. White's threatened 6 ♖xh7 will lead to a draw because the White king is near enough to the g-pawn, and the exchange of rooks by 5...gxh6 6 ♔xf3 will leave Black's pawns doubled and helpless.
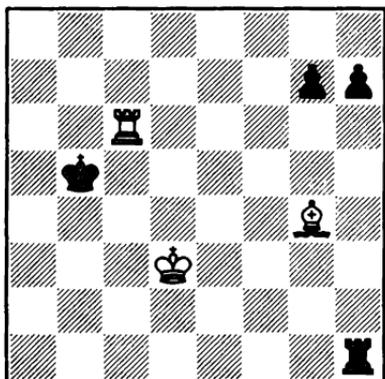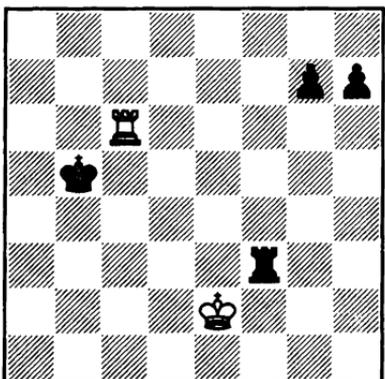
10.3 (M. A. Zinar, 1985) features a subtle pawn decoy. Black has a passed pawn, and the arithmetic appears to be straightforward: White will take five moves to capture the passed pawn and a further two moves to come back and defend his own pawn, whereas Black can capture the White pawn in six moves. Black therefore appears to have a win, and a line such as 1 ♔c1 ♚g6 2 ♔b2 ♚f5 3 ♔c3 (or 3 ♔b3 ♚f4!) ♚e4 4 ♔b4 ♚f3 5 ♔xb5 ♚e2 offers confirmation. But White can play

1 ♔d1-e1!

This threatens the d-pawn, and a line such as 1...♚g6 2 ♔f2 ♚f5 3 ♔e3 will lead to an easy draw. So Black must advance his b-pawn:

1 ... b5-b4.

Now 2 ♔f2 will allow the Black pawn to promote, so White must go back; and after

2 ♔e1-d1 ♚h7-g6,

what has White gained? The answer (**10.3a**) is that the arithmetic now favours White; he will take only four moves to capture the b-pawn and one to defend his own, whereas Black still needs five moves to reach the White pawn. By advancing his king, Black has gained a move; by advancing his pawn in response to White's feint, he has lost two. There might follow

3 ♔d1-c1 ♚g6-f5
4 ♔c1-b2 ♚f5-f4
5 ♔b2-b3 ♚f4-f3
6 ♔b3xb4,

giving **10.3b**. If Black now continues his attack on the White pawn, he will actually lose (6...♚e2 7 ♔c3, or 6...♚f2 7 ♔c4 ♚e2 8 ♔c3). He must play 6...♚e4(f4), and 7 ♔c4 ♚e5 8 ♔xd3 ♚d5 yields a standard draw.
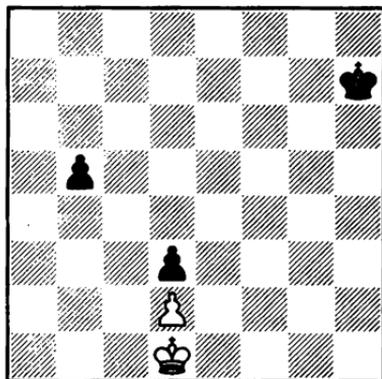
10.3 Draw
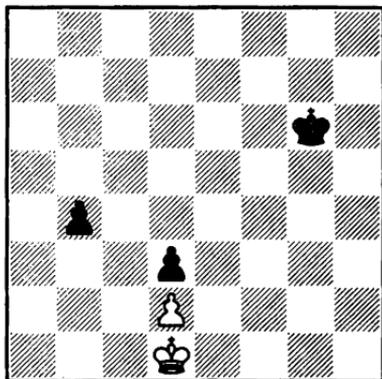
10.3a After 2...♚h7-g6
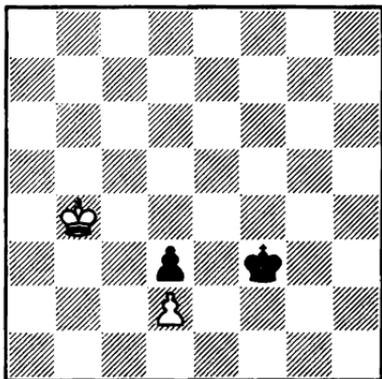
10.3b After 6 ♔b3xb4

10.4   Draw

10.4a   After 4 ♘f5-g3

10.4b   8 ♔e4xf3 stalemate

White's men are awkwardly placed in **10.4** (A. P. Grin, 1993). His only apparent chance is to play 1 ♘c3, in preparation for ♘e4+ and ♘g3, but the knight can easily be kept at bay (1...♔f5 2 ♔d5 h2 3 ♘e4 h4). What to do? The answer is simple: lure the Black king to a less favourable square, even at the cost of a piece. So White starts with the sacrifice

    1   ♗f8-g7+!

There is clearly no reply other than

    1   ...   ♔f6xg7,

and now White can afford to play

    2   ♘d1-e3.

This threatens ♘f1, so

    2   ...   h3-h2

is forced, and

    3   ♘e3-f5+   ♔g7-f6
    4   ♘f5-g3

stops the advanced pawn (**10.4a**). Black's only chance now is to drive the knight into the corner and capture it, but his cause is soon seen to be hopeless; he has nothing better than

    4   ...   h5-h4
    5   ♘g3-h1   ♔f6-f5
    6   ♔d6-d5   ♔f5-g4
    7   ♔d5-e4   ♔g4-h3,

whereupon White simply plays

    8   ♔e4xf3 stalemate

(**10.4b**).
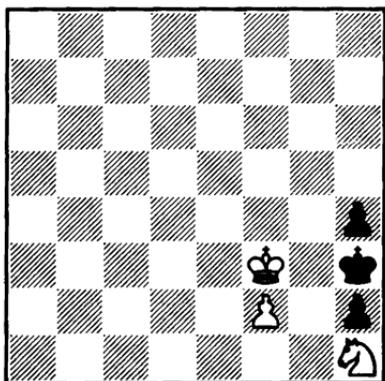
Everything in **10.5** (K. A. L. Kubbel, 1914) depends on the White pawn, so the opening moves

1	h2-h3	♔f3-g3
2	♘e6-g5	♔g3-f4
3	♘g5-e4	♔f4-f3

are straightforward. Now

| 4 | ♔d3-d4 |

threatens 5 ♔e5. The line 4...♔g2 5 ♘g5 ♔g3 6 ♔e5 is clearly hopeless for Black, so he must hold off the White king by

| 4 | ... | ♔f3-f4, |

and the moves

| 5 | ♔d4-d5 | ♔f4-f5 |

are similarly motivated (**10.5a**). Now the Black king has been decoyed well away, so White has time to regroup, but the obvious 6 ♘f2 is not good enough since the line 6...♔f4 7 ♔e6 ♔g3 8 ♔f5 ♔xf2 9 ♔g4 ♔e3 10 ♔xh4 ♔f4 leads to a draw. Instead, White must play

| 6 | ♘e4-c3! |

The knight's destination is g1, and this is the only way to get there; having been decoyed too far up the board, the Black king must now be decoyed too far down it. The moves

6	...	♔f5-f4,
7	♘c3-e2+	♔f4-f3
8	♘e2-g1+	♔f3-g2

lead to **10.5b**, and the sequel

9	♔d5-e4	♔g2xg1
10	♔e4-f3	♔g1-f1
11	♔f3-g4	♔f1-e2
12	♔g4xh4	♔e2-f3
13	♔h4-g5

shows Black to be one move too late.
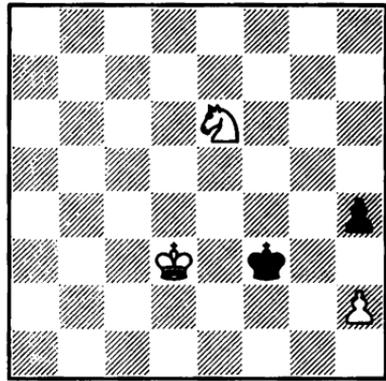
10.5   Win
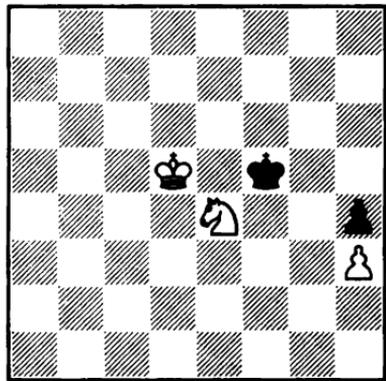
10.5a   After 5...♔f4-f5

10.5b   After 8...♔f3-g2

10.6   Win

10.6a   After 3 &g3-d6

10.6b   Line 3...&e3
                  After 5 &g3
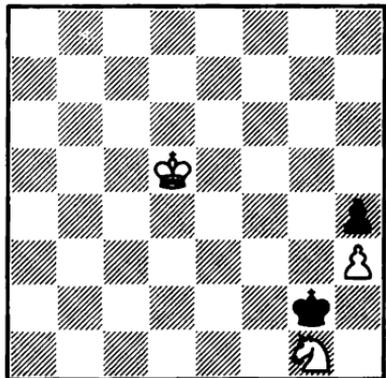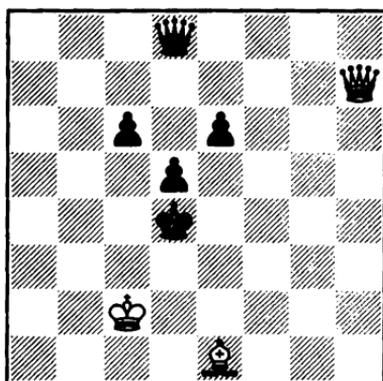
Queen and bishop against queen is
only a draw, so White can win from
10.6 (H. Rinck, 1908, version) only
by giving mate or by capturing the
queen. So he starts by playing

    1   &el-f2+,

and the apparently good move
1...&c4 can be met by 2 ♛b7; this
threatens immediate mate, and 2...d4
3 ♛xc6+ &b4 4 &e1+ still brings a
quick finish. So Black must play

    1   ...   &d4-e5,

and there follows

    2   &f2-g3+   &e5-d4.

Now the bold move

    3   &g3-d6!

threatens mate (**10.6a**), and the natu-
ral response is to capture the bishop:

    3   ...   ♛d8xd6.

But on d6, the queen is vulnerable;
White can play

    4   ♛h7-d3+,

to be followed by either

    4   ...   &d4-c5
    5   ♛d3-a3+

or

    4   ...   &d4-e5
    5   ♛d3-g3+.

(If Black tries 3...&e3 in position
10.6a, the continuation is 4 ♛h3+
&e2 5 &g3, giving **10.6b**. White
now threatens mate by 6 ♛g2+ &e3 7
♛f2+ &e4 8 ♛f4, and Black has no
good defence; typical lines are 5...e5
6 ♛f5 with mate next move, 5...d4 6
♛g4+ with mate in three, and 5...♛f6
6 ♛g2+ &e3 7 ♛d2+ &f3 8 ♛f2+.)
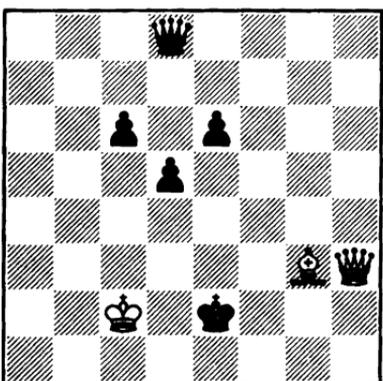
Henri Rinck (1870-1952) was one of
the pioneers of the modern endgame
study. He was a prolific composer
with a sure technique, and his best
works still appear as bright as ever.

White's initial difficulty in **10.7** (W. Korn, 1933) is that Black may be able to capture White's advanced pawns at the cost of his rook and then use his king to pick up the b-pawn. After 1 a6, for example, we might have 1...♖xf7 2 a7 ♚f6! 3 a8♕ ♖f8+ 4 ♚b7 ♖xa8 5 ♚xa8 ♚e6 6 ♘b4 ♚e5 7 ♚a7 ♚d4 8 ♘c2+ ♚c4 9 ♘a1 ♚d3 10 ♚a6 ♚d2 11 ♚a5 ♚c1. However, White can improve on this line: 3 ♘d8! Now Black has nothing better than 3...♖xa7 4 ♚xa7, and White's king will reach the pawn in time. This suggests that

1	a5-a6

is actually a good move, and Black must think of something else:

1	...	a4-a3.

The sequel

2	b2xa3	♖f4-a4
3	a6-a7	♖a4xa3

is straightforward, and a new set of difficulties confronts White (**10.7a**). His f-pawn is vulnerable, and if his knight moves across to defend it then his king and his a-pawn will be harassed by the rook. However, there is no alternative, and White does in fact have a winning sequence:

4	♘c6-d8!	♖a3-b3+
5	♘d8-b7	♖b3-a3
6	♘b7-d6	♖a3-b3+
7	♚b8-c7	♖b3-a3
8	♚c7-b7	♖a3-b3+
9	♘d6-b5!!	

(**10.7b**). This spectacular move prevents ...♖a3 and lures the rook to a square on which it can be attacked, and the rest is soon done:

9	...	♖b3xb5+
10	♚b7-a6	♖b5-b1
11	f7-f8♕+	♚g7xf8
12	a7-a8♕+.	
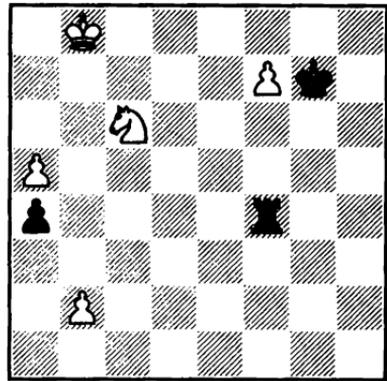
10.7   Win
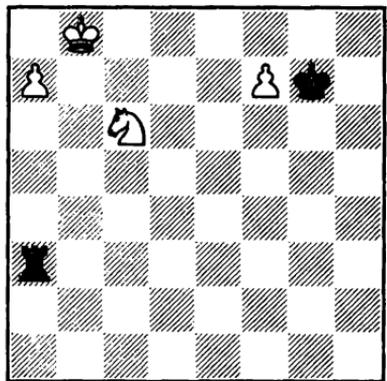
10.7a   After 3...♖a4xa3
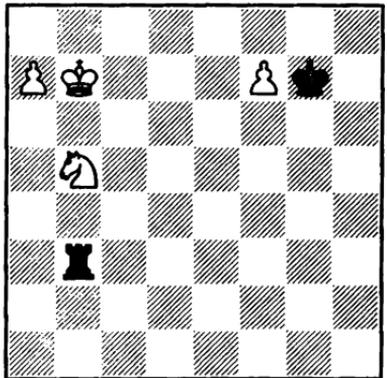
10.7b   After 9 ♘d6-b5
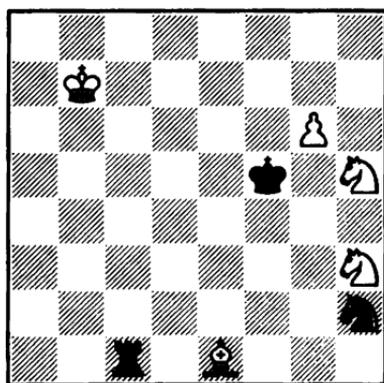
10.8

Win
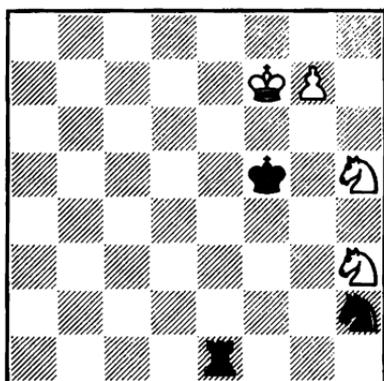
10.8a   Line 2 ♔c7
After 5 ♔f7
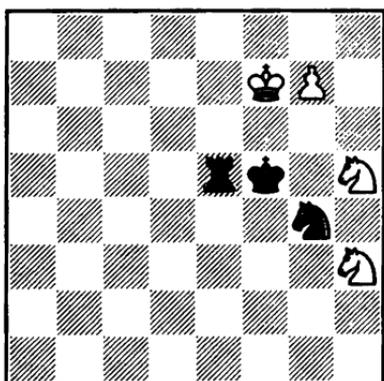
10.8b   Main line
After 8...♘h2-g4

10.8 (A. Sochniev, 1987) features another decoy of a rook, but the denouement to which it leads is rather different. White must try to promote his pawn,

  1   g6-g7,

and Black starts a barrage of checks with

  1   ...   ♖c1-b1+.

A little thought shows that White can escape from this barrage only by hiding on f7 (not f8, because Black can then play ...♖a1 and ...♖a8+). However, the simple line 2 ♔c7 ♖c1+ 3 ♔d7 ♖d1+ 4 ♔e7 ♖xe1+ 5 ♔f7 gives **10.8a**, and we see that 5...♘g4 draws for Black because 6 g8♕ can be met by 6...♘h6+. But suppose White decoys the rook to the fifth rank before hiding his king on f7:

  2   ♔b7-a7   ♖b1-a1+
  3   ♗e1-a5!   ♖a1xa5+
  4   ♔a7-b7   ♖a5-b5+
  5   ♔b7-c7   ♖b5-c5+
  6   ♔c7-d7   ♖c5-d5+
  7   ♔d7-e7   ♖d5-e5+
  8   ♔e7-f7.

On e5, the rook blocks its own king, and

  8   ...   ♘h2-g4

blocks it further (**10.8b**); and

  9   ♘h5-g3 mate

takes advantage.

11 Shielding and obstruction

In a typical middlegame position, the board is full of men, most lines are obstructed, and the kings are well shielded. A typical attack is directed towards the destruction of these obstacles. In the ending, the board is open, and it is the *placing* of a shield or obstruction that often constitutes the decisive manoeuvre.

11.1 (R. Bianchetti, 1925) shows shielding at its simplest. The opening move

    1   ♗c1-b2

threatens an attack on the rook, and it is soon seen that any move other than 1...♖f7 and 1...♖f8 (and the equivalent 1...♖g6/♖h6) loses the rook in short order. Among these immediate wins, the cross-check line 1...♖a6+ 2 ♖a3+ introduces the first shield. And 1...♖f7 is even worse, because it blocks the king's escape and allows a mate in two. So only

    1 ...   ♖f6-f8

gives White trouble. There follows

    2   ♖c3-c7+   ♚h8-g8
    3   ♖c7-g7+   ♚g8-h8,

giving **11.1a**. Now White can get no further by giving another check: after 4 ♖f7+ ♚g8, the Black rook is defended. He must first play

    4   ♚a1-a2!

and force the Black rook away from the king; and the reason for playing to a2 rather than b1 is that the White rook can shield its king from check on the file (4...♖a8+ 5 ♖a7+) but not from check on the rank.

And, of course, if Black plays 1...♖h6, we have 2 ♖g3+ ♚h7 3 ♖g7+ ♚h8 4 ♚b1 instead.
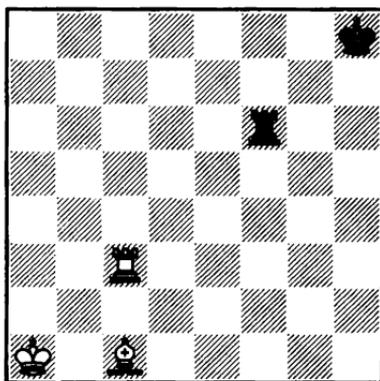
11.1   Win
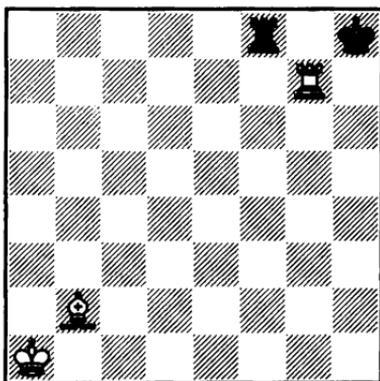
11.1a   After 3...♚g8-h8

11.2   Draw

11.2a   After 2 &f2-c5

11.2b   After 5 &a7-b8

It is not only kings that need shields. The vulnerable man in **11.2** (J. Gázonyi, 1934) is the bishop, and the shield is an ingenious one.

White's opening move

1   &f4-g3

attacks the Black pawn and threatens to attack the rook as well, and the counterattack 1...&f1 fails against 2 &e3+. Black must therefore move his king out of range of the White bishop, and

1   ...   &c1-c2

gives White the most trouble; we shall come back and look at the alternatives at the end. To meet 1...&c2, White must play

2   &f2-c5!

neatly hiding the bishop behind the Black king (**11.2a**). The moves

2	**...**	**&c2-b3**
3	**&c5-b6**	**&b3-a4**
4	**&b6-a7**	**&a4-b5**
5	**&a7-b8**	

have a similar rationale, and now the bishop is on the diagonal b8-h2 (**11.2b**). So, after

5   ...   &b5-c6,

White can play

6   &g3-g2,

because the attack

6   ...   &h1-b1

can be met by

7   &b8xh2.

We can now see how White deals with Black's alternatives at move 1. 1...&b1 is met by 2 &b6, with play similar to the main line; and 1...&d2 is answered by 2 &d4, with 2...&d3 3 &h8 as the prospective continuation.
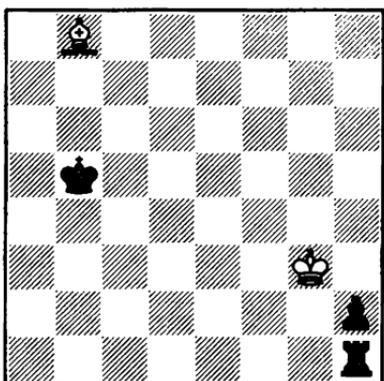
11.3 (S. Chimedtzeren, 1975) shows that an effective shield need not involve physical interposition. White would like to retreat his bishop to safety and then win the Black queen by a discovered check, but an immediate move to h1 fails because Black can check on c2. So the preliminary retreat

    1   ♗c6-e4!

is necessary, and only after

    1   ...   ♛c5-e3

can White play

    2   ♗e4-h1.

The bishop is now safe, while the queen is uncomfortably exposed (**11.3a**). Black's only sensible check is

    2   ...   ♛e3-e8+,

and after

    3   ♔a4-a3

we see the shielding effect of the White rook on b7. Black would like to check on e7 and then come down the board, but he cannot; he can only check by

    3   ...   ♛e8-f8+,

and there follows

    4   ♔a3-a2   ♛f8-g8+
    5   ♔a2-a1   ♛g8-h8+
    6   ♔a1-b1

(**11.3b**). Black now has no sensible check at all, and his queen will soon fall. White's rook has given its king crucial protection, not by placing itself in the line of attack, but just by controlling the seventh rank.
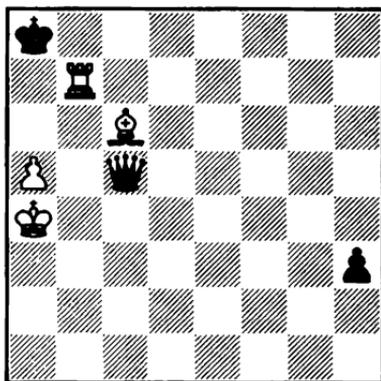
11.3   Win
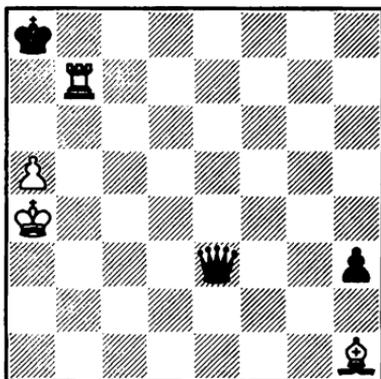
11.3a   After 2 ♗e4-h1

11.3b   After 6 ♔a1-b1

11.4   Win

11.4a   After 2...♖a1xa3

11.4b   After 5 ♗a7-f2
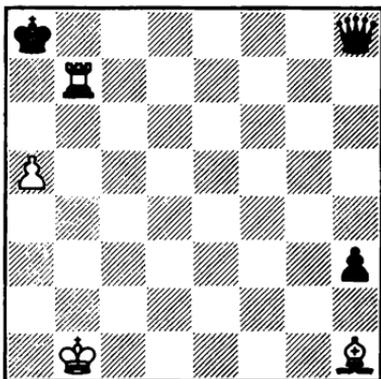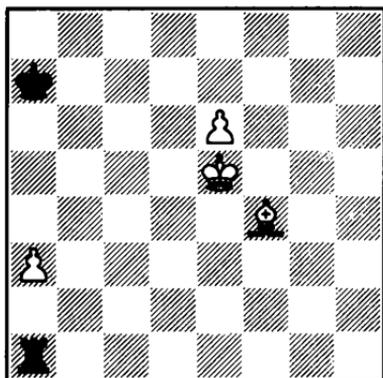
White would like to promote his e-pawn in **11.4** (H. Mattison, 1914), but an immediate 1 e7 is inadequate; Black will play 1...♖e1+ and 2...♖xe7, and leave White with just an a-pawn and the wrong bishop. Furthermore, 1 ♔e4, with the threat of 2 e7, can be met by 1...♖h1. So the manoeuvre

1   ♗f4-e3+   ♔a7-b7
2   e6-e7

is necessary to keep White's prospects alive. Even so, does not

2   ...   ♖a1xa3

save the game (**11.4a**)? Black threatens both ...♖a8 and ...♖xe3+, and White has no obvious remedy. The answer is the obstruction sacrifice

3   ♗e3-a7!!

which denies the Black rook access to the eighth rank. 3...♖xa7 can now be met by 4 e8♕, and 3...♔xa7 by 4 ♔d4 (or ♔f4) because White will promote as soon as Black's checks run out. But Black can fight on by

3   ...   ♖a3-a1,

heading for e1. This can be met only by the subtle manoeuvre

4   ♔e5-f4   ♖a1-f1+
5   ♗a7-f2!

after which the Black rook can be crowded (**11.4b**); Black has nothing better than

5   ...   ♖f1xf2+
6   ♔f4-e3   ♖f2-f1,

and

7   ♔e3-e2

provides a simple win.
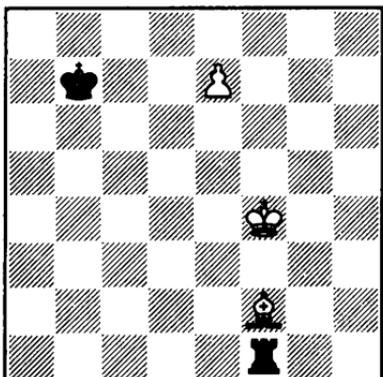
11.5 (J. A. J. Drewitt, 1917) has something in common with 11.3, in that the White king has to be kept safe from the Black queen on an open board. Queen and knight against queen being only a draw, White must mate quickly or win the queen, and

    1   ♕d4-f2

makes a good start. Now the Black queen is tied to the defence of g3, and 1...♕g5 2 ♘g1+ ♚g4 3 ♕f3+ leads to mate. So Black plays

    1   ...   ♕g4-h4.

Now

    2   ♕f2-f1+

is strong, because 2...♚g4 can be met by 3 ♕f4+ ♚h3 (or 3...♚h5 4 ♘g3+) 4 ♘g1+ and 5 ♕xh4; but after

    2   ...   ♚h3-h2
    3   ♕f1-g1+   ♚h2-h3

White can make no more progress by forcing play. However, the quiet

    4   ♚a3-b3!

is available, after which Black has no sensible check and cannot safely move his queen (**11.5a**). But is not

    4   ...   g6-g5

harmless? No! It obstructs the diagonal h4-e7 and allows White to play

    5   ♚b3-a3!!

(**11.5b**), leaving Black to bring about his own downfall on the next move.

When the White king is on an adjacent rank to the Black queen, it is often safe when six files away; no check is available on a diagonal, so only the rank need be controlled. We shall see a spectacular example in Chapter 17. The king is less safe when seven files away, because a check on a diagonal may be available, and it is the creation of a haven on a3 as well as b3 that lifts this little study above the average.
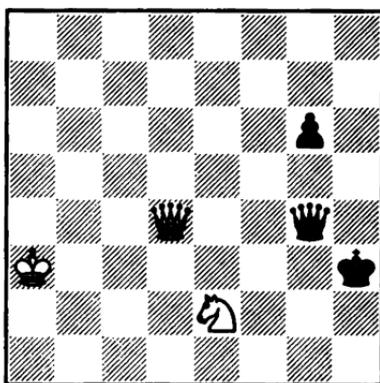
11.5   Win
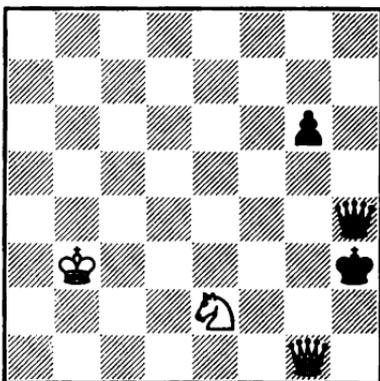
11.5a   After 4 ♚a3-b3
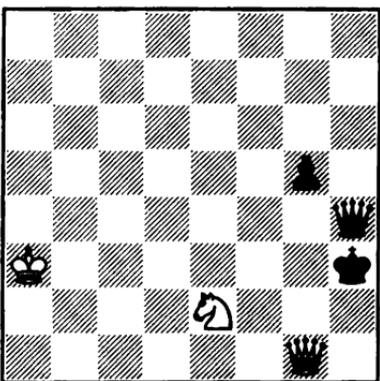
11.5b   After 5 ♚b3-a3

11.6   Draw

11.6a   After 3 ♗g2-c6

11.6b   After 5 ♗c6-d5
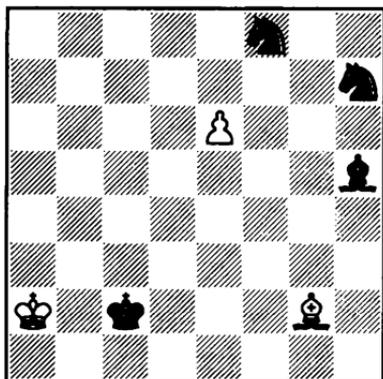
Black will again be persuaded to obstruct himself in **11.6** (E. Paoli, 1966). King, bishop and two knights can force a win against king and bishop, so White must play to recover some material, and the natural way to start is with

    1   e6-e7.

Now 1...♘g6 will allow promotion, and any other move by this knight will allow 2 ♗e4+ and 3 ♗xh7. But Black can be more subtle:

    1   ...   ♗h5-f7+!
    2   ♔a2-a1!   ♘f8-g6,

shielding his knight on h7 without blocking the line of his bishop. So far so good, but

    3   ♗g2-c6!

puts Black under renewed pressure (**11.6a**) because 3...♘xe7 will once again allow 4 ♗e4+. So

    3   ...   ♘h7-f6
    4   e7-e8♕   ♘f6xe8

is the only way to deal with White's promotion. Black has now preserved his material advantage, but only by creating a straitjacket for his bishop, and

    5   ♗c6-d5!

exploits its embarrassment (**11.6b**). If Black defends his bishop, White exchanges it off and leaves him with just two knights; and if Black's bishop captures White's, he gives stalemate.

11.7 (F. S. Bondarenko and M. S. Liburkin, 1950) shows alternative obstructions: bishop obstructing king, or king obstructing bishop. But the h-pawn is White's first concern, and how to tackle it is a nice question. White wants to play his knight to f3, but is he to take it there via h4 or e1? We shall see later that he must avoid e1, and play starts with the moves

1	♘g2-h4	♔h1-g1
2	♘h4-f3+	♔g1-g2
3	♘f3xh2	♔g2xh2

(**11.7a**). If the White king now goes for the a-pawn, the Black king can get back to c7 and draw. So White must play

| 4 | e4-e5! |

and if

| 4 | ... | ♗a1xe5, |

the Black bishop obstructs its king and White can win: **5 ♔e6! ♔g3 6 ♔d7** and so on.

But Black need not capture the e-pawn immediately. He can play to stop it at e7:

| 4 | ... | ♗a1-c3 |
| 5 | e5-e6 | ♗c3-b4. |

Now his king is free to get back to c7. However, after

6	♔f5-e5	♔h2-g3
7	♔e5-d5	♔g3-f4
8	♔d5-c6	♔f4-e5
9	♔c6-b7	♔e5-d6

it obstructs its bishop (**11.7b**), and

| 10 | e6-e7! |

takes advantage.

We can now see why **1 ♘e1** fails. Black replies with **1...♗c3**, attacking the knight, and then enters the second variation with a move in hand: after **2 ♘f3 ♔g2 3 ♘xh2 ♔xh2 4 e5**, he can play **4...♔g3** or **4...♗b4**, securing a draw without trouble.

11.7   Win

11.7a   After 3...♔g2xh2

11.7b   Line 4...♗a1-c3
After 9...♔e5-d6

11.8   Win

11.8a   After 2...♔h8-g8

Our last example shows an incisive manoeuvre to remove an obstruction. White cannot usefully advance his pawn in **11.8** (S. Kozłowski, 1931) because Black will simply move his rook to safety; White may be a bishop ahead, but after 1 g7 ♖a8 he will have no way of winning. But if the bishop were not there at all, White could follow up with ♖h8+ and win the rook. All right, no sooner said than done:

    1   ♖h7-g7+!   ♔g8xh8
    2   ♖g7-h7+   ♔h8-g8

(**11.8a**). The bishop has duly vanished, and

    3   g6-g7

leaves Black helpless.

Several studies in this book are short and sweet, but this is surely one of the sweetest.
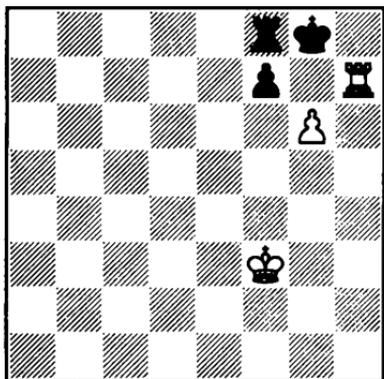
12 Fortress and blockade

This chapter examines two related techniques: the building of a fortress to keep a stronger enemy at bay, and the blockading of a superior enemy force so that he cannot realize his advantage.

12.1 (J. Hašek, 1937) shows the use of a fortress. Black appears to have an easy win by ...♔g7 and ...♖h8-h2xg2, but a surprise is in store; after

1 ♔a2-b1 ♔h7-g7,

the sacrifice

2 ♖f6-h6!

will be seen to gain a crucial tempo. There follows

2	...	♔g7xh6
3	♔b1-c1	♔h6-g5
4	♔c1-d1	♖a8-h8
5	♔d1-e2	♖h8-h2
6	♔e2-f1	♖h2-h1+
7	♔f1-e2	

12.1   Draw

and we see the point (**12.1a**): 7...♖c1 and 7...♖g1 will give stalemate, so Black cannot break in although he is a rook ahead. His only other option is to sacrifice his rook for the g-pawn, but it is a forlorn hope; if he tries 7...♖h3, hoping for 8 gxh3 ♔h4 etc, White will simply ignore it, and 7...♖h2 8 ♔f1 ♖xg2 9 ♔xg2 ♔h4 10 ♔g1 ♔h3 11 ♔h1 g2+ 12 ♔g1 yields an elementary draw.

All this being said, cannot Black save a move by playing 1...♖h8 instead of 1...♔g7? Now 2 ♔c1 ♔g7 3 ♖h6 ♖xh6 leaves White a tempo behind the main line, and 2 ♖h6+ ♔xh6 is no better. But White has an alternative sacrifice: the line **2 ♖f8! ♖xf8 3 ♔c1** gains a tempo another way, and leads to a draw as before.
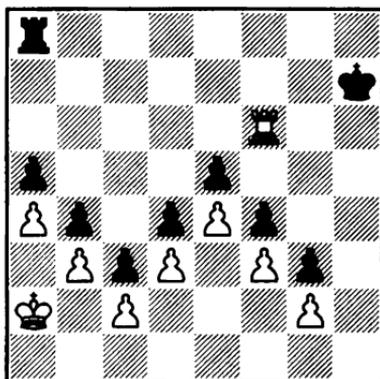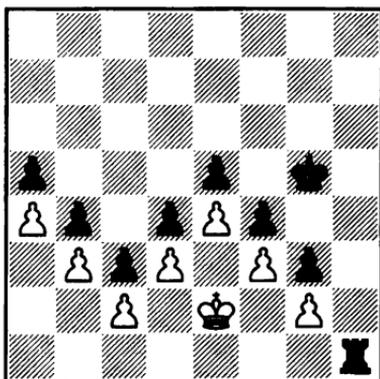
12.1a   After 7 ♔f1-e2

12.2   Draw

12.2a   After 2 ♔f2-e3

12.2b   After 5 b3-b4

The position in **12.2** (M. V. Tronov, 1913, version) appears singularly hopeless for White. He is a piece down, he must contend with a passed pawn, and Black's king is poised ready to invade. Nor does the move

1   b4-b5!

appear to be more than a spite sacrifice. However, Black must accept it,

1   ...   a6xb5,

and now the simple move

2   ♔f2-e3

proves unexpectedly powerful **(12.2a)**. Black is threatened with mate, so he must play

2   ...   d6-d5,

and White can drive the Black king back and construct an impassable barrier against its return:

3   d3-d4+   ♔e5-d6
4   e4-e5+   ♔d6-c6 (say)
5   b3-b4!

White is now perfectly secure, despite his material disadvantage **(12.2b)**. He has shut the Black king out of the game; he has put all his pawns on squares inaccessible to the Black bishop; and his own king can come back and stop the h-pawn.
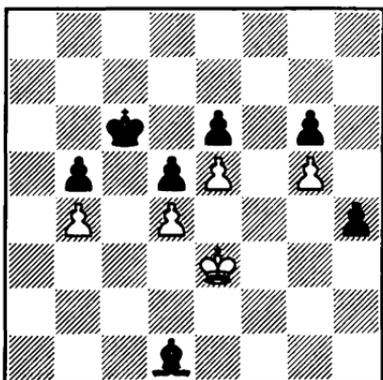
In the play from 12.1, Black finished in control of most of the board, but White was able to barricade himself into a small portion of it. In the next study, it is White who finishes in control of most of the board, and he is able to restrict a superior Black force to a small area.

White has hopes of perpetual check in **12.3** (Y. I. Zemliansky, 1965). The opening check
    1   ♗f7-g6+
cannot be met by 1...♚g8 because 2 ♘h6+ will lead to perpetual check straight away, and even the better move
    1   ...   ♚h7-h8
can be answered by
    2   ♘g4-h6!
(**12.3a**). This puts Black in considerable difficulty. Perpetual check by ♘f7+ and ♘h6+ is threatened; 2...♛d8+ can be met by 3 ♚e2, after which Black has no good move; and any knight move can be met by 3 ♗b2+ ♘g7 4 ♘f7+ ♚g8 5 ♘h6+. So Black can prevent the perpetual check only by defending h6:
    2   ...   ♛b8-f4.
Yet Black still finds victory beyond his reach, because there follows
    3   ♘h6-f7+   ♚h8-g8
    4   ♘f7-h6+!   ♛f4xh6
    5   ♗a3-c1   ♛h6-h8
    6   ♗c1-b2
and we have **12.3b**. Black's superior force is now helpless. His knight is pinned; his king can move only to f8, upon which ♗a3+ drives it straight back again; and his queen can move only to h6, upon which ♗c1 is just as effective.
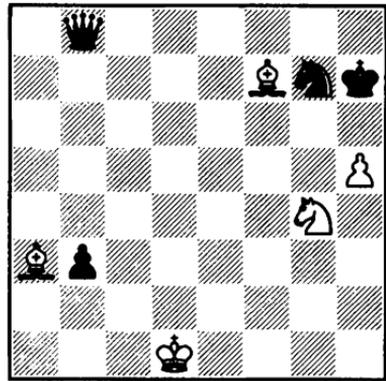
12.3   Draw
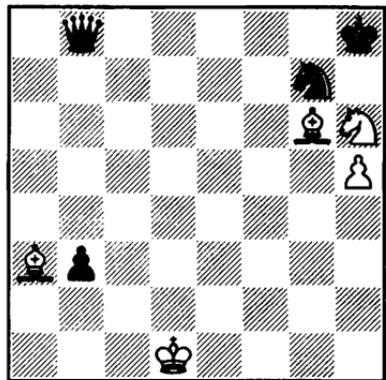
12.3a   After 2 ♘g4-h6
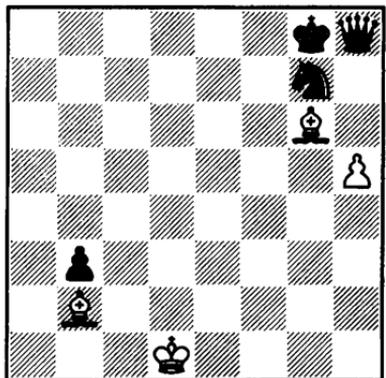
12.3b   After 6 ♗c1-b2

12.4   Draw

12.4a   After 2...♔h8-g8

12.4b   After 5 ♗c5-d6

In 12.3, White ties up the whole Black force. In **12.4** (G. N. Zakhodiakin, 1930) he ties up only a part of it, but the result is the same.

The opening check

    1   g6-g7+

must be met by the obvious capture

    1   ...   ♞f5xg7;

the alternative move 1...♚g8 can be answered by 2 ♞g4, attacking Black's pawn and threatening mate in two moves. There follows

    2   ♞e5-f7+   ♚h8-g8,

giving **12.4a.** Now it is clear that the promotion of Black's pawn cannot be stopped, but White can at least preserve his own pieces and keep the Black king confined by playing

    3   ♝f8-c5!

This keeps him in the game for the moment, but after

    3   ...   f2-f1♛
    4   ♞f7-h6+   ♚g8-h8

it seems that White has run out of steam, as perpetual check is out of the question with the new queen guarding f7. However, White has a subtle resource in reserve: he plays

    5   ♝c5-d6!!

and now what is Black to do **(12.4b)?** His queen cannot force mate on its own; it cannot capture the White pawn or bishop because of the potential fork on f7; if the knight moves, White will simply play ♝e5+ and drive it straight back; and if Black tries to prepare the ground by commanding e5 with his queen before moving the knight, the fork on f7 will allow White to play ♝e5+ anyway.
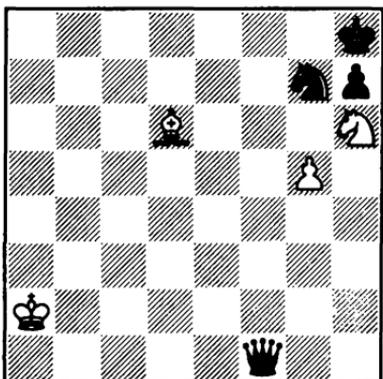
12.5 (C. J. de Feijter, 1941) starts with some subtle cut and thrust. The initial advance

    1   g6-g7

puts Black in apparent difficulty, because 1...♖e8 can be met by 2 ♗h7 followed by an exchange of pawn for rook. However, Black can respond with

    1   ...   ♖e2-e1+,

which is more than a spite check; 2 ♔b2 can be countered by 2...♗e5+, with mate following immediately, and 2 ♔a2 by the same move, 2...♗e5, because it still threatens mate. But White can play

    2   ♗c2-d1

(**12.5a**) because 2...♖xd1+ can be met by 3 ♔c2 followed by promotion. So Black must play

    2   ...   ♖e1-e8

after all, though he seems to have gained from the intervening manoeuvre because ♗h7 is no longer possible. But White has another string to his bow; he can play

    3   ♗d1-h5,

heading for f7, and there is no better continuation for Black than

    3   ...   ♖e8-g8
    4   ♗h5-f7   ♖g8xg7.

The denouement is now at hand: the move

    5   g5-g6!

takes the rook out of the game (**12.5b**), and the Black king and bishop can achieve nothing on their own.
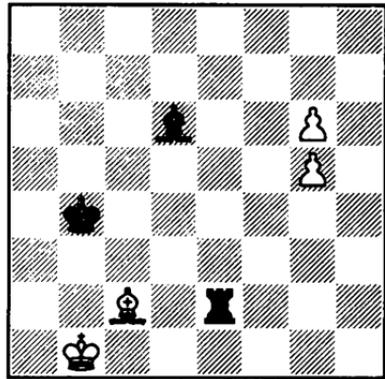
12.5   Draw
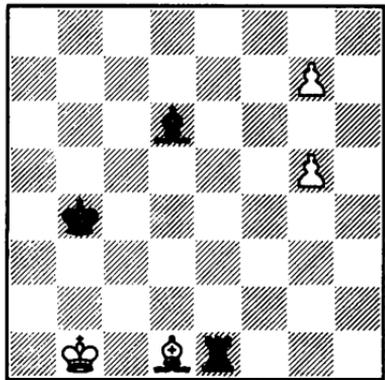
12.5a   After 2 ♗c2-d1
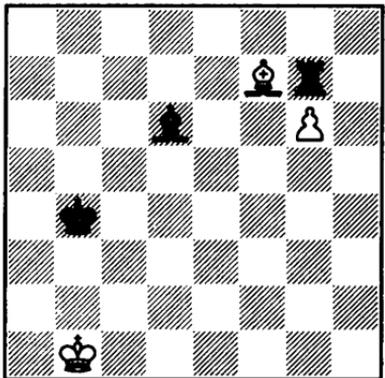
12.5b   After 5 g5-g6

12.6   Win

12.6a   After 2 &d3-e4

12.6b   After 4 &e4-d3

12.6 (A. G. Kuznetsov, 1964) shows the use of a blockade to obtain a win. White must win a piece, and the purpose of his opening move

　　1　　&c4-d3

is to stop Black freeing his bishop by 1...g5. 1...&b7 and 1...h4 can be met by 2 ♘e7, shortening the solution, and if the bishop tries to escape,

　　1　...　　&h7-g8,

the reply

　　2　　&d3-e4

shows it to be vulnerable (**12.6a**). Black must put it back in its cage,

　　2　...　　&g8-h7,

and now

　　3　　♘c6-e7+

locks the door. So far so good, but Black also has a king. It advances by

　　3　...　　&a8-a7,

and a direct attack by White allows Black to bring it to the bishop's defence; White's king must go round via d4 in order to avoid a freeing check from the g-pawn, and a typical line is 4 &f2 &a6 5 &d3+ (to prevent 5...&b5, but it is insufficient) &a5 6 &e3 &a4 7 &d4 h4 8 &e3 &b3 9 &f3 &c3 10 &b1 &d4. So White must blockade the king as well:

　　4　　&e4-d3!

(**12.6b**). The Black king is now confined to the corner, since ...&b6 or ...&c7 can be met by ♘d5+ and ♘f6, and White can advance at leisure:

4	...	&a7-b7
5	&g1-f2	&b7-b8
6	&f2-e3	&b8-a7
7	&e3-d4	h5-h4
8	&d4-e3	&a7-b7
9	&e3-f3	&b7-a7
10	&f3-g4	&a7-b8
11	&g4-g5	h4-h3
12	&g5-h6.	
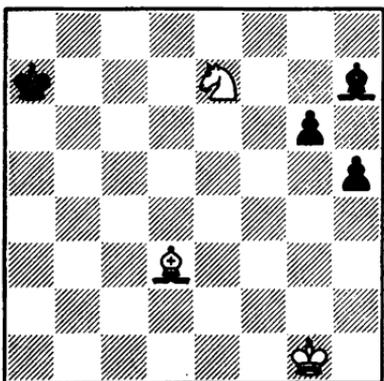
It is time to look at the destruction of a blockade. At first sight, Black's fortress in **12.7** (N. D. Grigoriev, 1931) is impregnable; even if White creates a passed pawn by playing g4, Black can play ...hxg4 and then keep his king on h6. However, after

    1   **♗d1-f3**   **♗a6-b7,**

the triangulation manoeuvre

    2   **♔f4-e3**   **♗b7-a8**
    3   **♔e3-e4**   **♗a8-b7**
    4   **♔e4-f4**   **♗b7-a8**

forces the Black bishop back to a8 (**12.7a**), and now three sacrifices break down the wall:

    5   **♗f3xh5!**   **♔h6xh5**
    6   **g3-g4+!**   **♔h5xh4**
    7   **g4-g5!**   **f6xg5+**

(**12.7b**). Black cannot usefully decline these sacrifices; if he tries 6...♔h6, for example, White will play 7 g5+, and Black can stop the pawns only by leaving his queen's side open to the invader. The sacrifices having been accepted, however, the fortress is destroyed, though White must still be careful; the plausible move 8 ♔e5 does not win, because there follows 8...g4 9-11 f8♕ g1♕ 12 ♕h8+ ♔g3 13 ♕g8+ ♔f2 14 ♕xg1+ ♔xg1 15-18 ♔xa8 ♔c4 19 ♔b7 ♔xb4 20 ♔xc6 ♔a4 and both sides will promote. Instead, White must play

    8   **♔f4-e4!**

in preparation for lines such as 8...g4 9 f6 g3 10 ♔f3! ♔h3 11-12 f8♕ g1♕ 13 ♕h8 mate. Black now has nothing better than

    8   ...   **♔h4-h5,**

and the rest is straightforward: 9 ♔e5 g4 10-12 f8♕ g1♕ 13 ♕h8+ ♔g4 14 ♕g8+ ♔f3 15 ♕xg1.
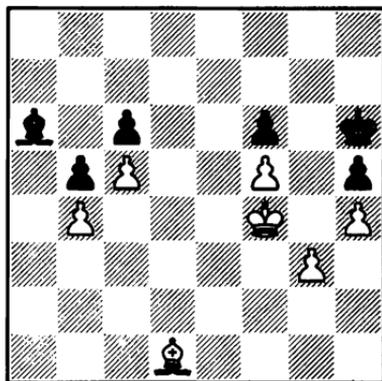
12.7   Win
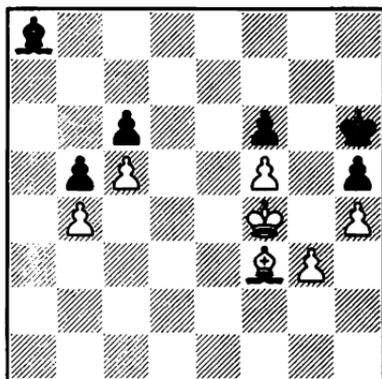
12.7a   After 4...♗b7-a8
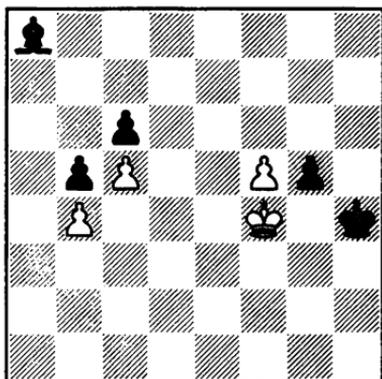
12.7b   After 7...f6xg5+

12.8   Win

12.8a   After 2...♘b5-d6+

12.8b   After 5 ♗c7-g3

Finally, in **12.8** (B. M. Sevitov, 1940) we see the destruction of a blockade by a counter-blockade.

White must promote his pawn, and 1 axb6 fails against 1...♘c4 2 b7 ♘d6+. So he must play

    1   a5-a6,

and after

    1   ...   ♘a3-b5
    2   ♗g1xb6

he threatens ♔d5 and ♔c5 to remove the Black knight. But Black can play

    2   ...   ♘b5-d6+,

giving **12.8a**, and the sequel 3...♘c8 seems to keep White's king at bay long enough for his own king to come up. (With the Black knight on c8 and the Black pawn on d7, the White king can penetrate only via e8, and a typical line appears to be 3 ♔d5 ♘c8 4 ♗c5 ♔g2 5 ♔e5 ♔f3 6 ♔f6 ♔e4 7 ♔f7 ♔d5 8 ♗g1 ♔c6 9 ♔e8 ♔b5.) But White can go the other way:

    3   ♔e4-f3!

The objective is to bottle up Black's king so that his pawn is forced to move, and experiment shows that White can always achieve this; a typical line is

    3   ...   ♘d6-c8
    4   ♗b6-c7   ♔h1-g1
    5   ♗c7-g3

(**12.8b**), and if the pawn and knight hold their ground then the king will be stalemated next move (5...♔h1 6 ♔f2 or 5...♔f1 6 ♗f2). There might follow

    5   ...   ♔g1-h1
    6   ♔f3-f2   ♘c8-a7
    7   ♗g3-d6   ♘a7-c8
    8   ♗d6-b8   d7-d6,

and the way is open; White's king will reach b7 while Black's is still far away.
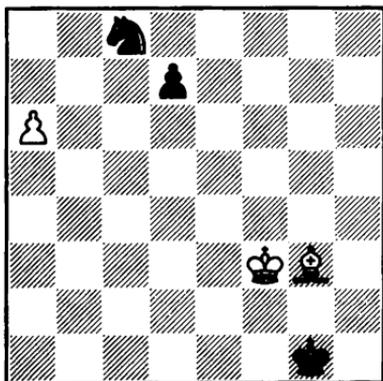
13 Corresponding squares

Our last technique, the exploitation of corresponding squares, has an undeserved reputation for difficulty. It certainly leads to startling and recondite moves, but the reason for them is very simple. Suppose that each player has only one mobile man, and that when the attacker is on square **A** or **B**, the defender must be on square **X** and **Y** respectively; then when the attacker is on any square **C** which threatens both **A** and **B**, the defender must be on a square **Z** which gives access to both **X** and **Y**.

13.1 shows an instructive position which Grigoriev analysed in 1922. The attacker is White, and when his king is on **f4**, Black's must be on **f6**; not g6, because 1 e7 ♔f7 2 ♔xf5 ♔xe7 3 ♔g6 would win. If White is on **h4**, Black must be on **g6**; not h6, because the e-pawn would run. So if White is on **g3**, threatening f4 and h4, Black must have access to f6 and g6, and the only good square is **g7**.

We can repeat this argument. If White is on **f3**, threatening f4 and g3, Black must be on **g6**, giving access to f6 and g7; if White is on **h3**, threatening g3 and h4, Black must be on **f6**, giving access to g7 and g6.

All this is shown in **13.1a**, and we see the point: if White is on **g2**, threatening f3, g3, and h3, Black must have access to g6, g7, and f6, and *no such square is available*. So White merely has to play his king down to g2, and then come back along the path which Black leaves undefended. A typical line is 1 ♔f3 ♔g6 2 ♔g2 ♔f6 3 ♔h3 ♔g7 4 ♔g3 ♔f6 5 ♔f4, but this is mere detail. Once the corresponding squares are found, the play is automatic.
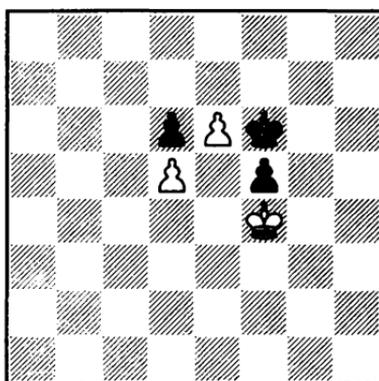
13.1   Win
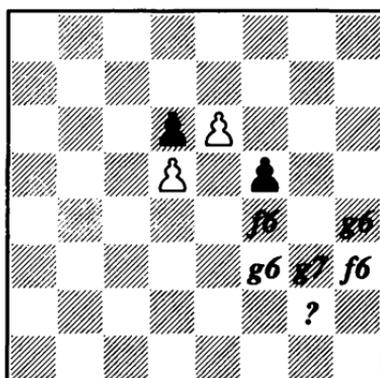
13.1a   Squares Black
                   must occupy

13.2   Draw

13.2a   Squares White must
             occupy (stage 1)

13.2b   Squares White must
             occupy (stage 2)
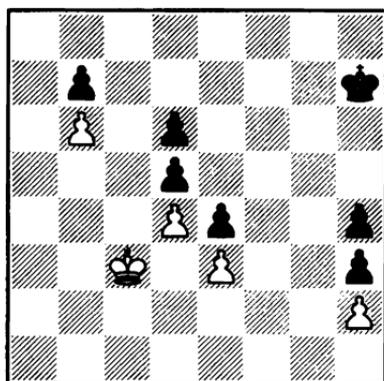
The attacker in **13.2** (K. Ébersz, 1930) is soon seen to be Black; he can attack White's pawns at b6 and e3, whereas White cannot attack Black's at all. If Black goes to **c6**, therefore, White must go to **a5**, and if Black goes to **g4**, threatening ...♔f3, White must go to **e2** (not f2, which would allow Black to run back and win the b-pawn). Furthermore, Black's path c6-d7-e6-f5-g4 takes only four moves, and White's only four-move path between a5 and e2 is a5-b4-c3-d2-e2; so if Black goes to any of the intermediate squares **d7, e6,** or **f5,** White must go to **b4, c3,** or **d2** respectively. If he fails to do so, Black will be able to penetrate at the unguarded end. **13.2a** summarizes the analysis so far.
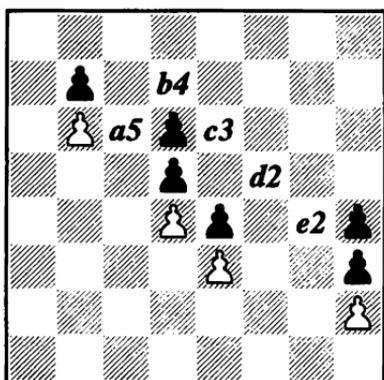
We now apply the argument used in 13.1. On **e7**, Black threatens d7 and e6, so White must go to **b3**, giving access to b4 and c3; on **f6**, Black threatens e7, e6, and f5, so White must go to **c2**, giving access to b3, c3, and d2; and so on. By applying this argument also to **f7, g5, g6, g7, h5, h6,** and **h7**, we obtain the correspondences shown in **13.2b.**
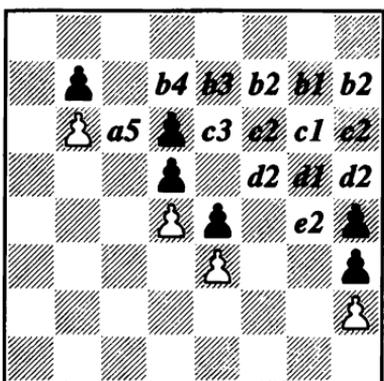
Now consider the square **e8**. From here, Black threatens d7, e7, and f7, so White must occupy a square giving access to b4, b3, and b2, and there appear to be two candidates: a3 and c3. However, if White occupies c3, Black moves to d8, still threatening d7 and e7, and White has no square from which he can retain access to b4 and b3. So White must occupy **a3**. The application of the previous argument to **d8, f8, g8,** and **h8** completes the map shown in **13.2c.**

There remain only the three

squares a8/b8/c8, and at last White has a choice. If Black is on c8, White can occupy any of the squares a3, b3, a5, or b5, ready to play to a4 or b4 as appropriate; if Black is on b8, White can occupy any square giving access to a3, b3, a5, or b5; and so on. However, these are the only cases in which White has any freedom. In every other case, he must answer Black by playing to a specific square.

The solution to 13.2 is now clear. Black is on h7, so White can draw only by playing

1   ♔c3-b2!

If Black replies with

1   ...   ♚h7-g8,

White must continue with

2   ♔b2-a1!!

And so it goes on; White meets each subsequent Black move by playing to the corresponding square, and Black can never break through.

If White fails to play to the correct square at any point, however, Black can take advantage and win. Suppose, after 1 ♔b2 ♚g8, that White plays 2 ♔c3. This places him out of reach of b1, so Black can win by playing 2...♚g7. If White continues with 3 ♔c2, Black counters by playing 3...♚f6, and White cannot move to the corresponding square c2 because he is already occupying it; and if, for example, he tries 4 ♔c3 instead, Black plays 4...♚e6, White perforce moves away, and Black penetrates at c6 or f3 as appropriate. A comparable line is always possible if White does not reply to 1...♚g8 with 2 ♔a1; and it follows that White must play his king to b2 on his first move, so that it can go to a1 on the second move if necessary.

	a3		a1	
♟		b4	b2	b2
♙ a5	♟ c3		c1	
	♟		d2	d2
	♙	♟	e2	♟
		♙		
				♙
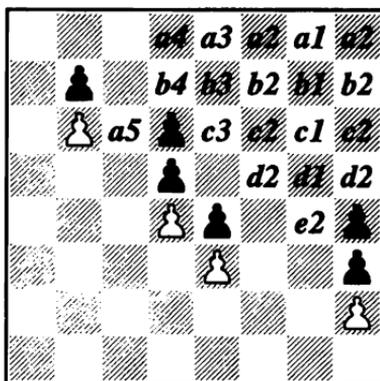
13.2c   Squares White must occupy (stage 3)

13.3   Draw

13.3a   Squares White must
              defend (stage 1)

13.3b   Squares White must
              defend (stage 2)
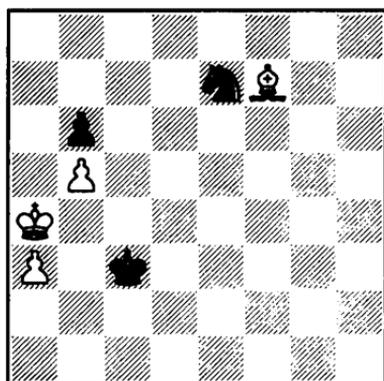
There are two other circumstances in which corresponding squares occur. One arises in queen endings, when the defender is trying to draw by perpetual check and his queen must have an answer to every move of his opponent's king. There is an instructive example (king and queen against king and two queens, analysis largely by R. Fontana) in John Roycroft's book *Test Tube Chess*. The other arises with knight against bishop.
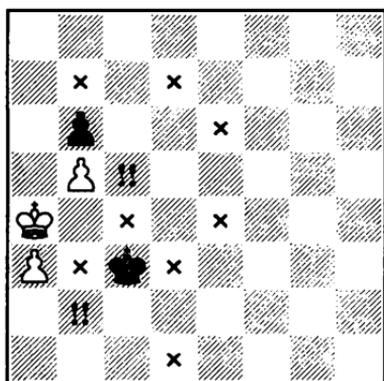
In **13.3** (A. Mandler, 1924), Black threatens to mate at c5 or b2. White cannot guard these with a light-square bishop, so he must defend the access squares b7, d7, e6, c4, e4, b3, d3, and d1. These are shown in **13.3a,** and we now see that e5 and f2 are also squares which must be denied to Black (at f2, for example, Black threatens e4, d3, and d1, and White cannot defend them by playing to c2 because his bishop would be taken). So White must defend the additional access squares f7, g6, g4, f3, h3, and h1. The need to deny f7, e6, e4, f3, and h3 now means that Black must be kept away from g5, which adds h7 to the squares that White must defend. All this is shown in **13.3b.**
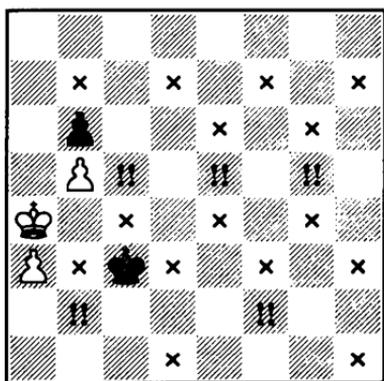
We can take this line of argument no further, since there are no further dark squares from which Black must be kept away. However, if Black goes to d8, he threatens b7, f7, and e6, so White must go to d5; and if he goes to h6, he threatens f7 and g4, so White must go to either e6 or h5. If we apply similar arguments to all the dark squares and note those which restrict White to at most two options, we obtain **13.3c.** Note that although White cannot go to c2 or d3, he can

safely go to c4 since the capture would give stalemate.

We can now do the same with the light squares. If Black goes to d5, he threatens f6, f4, and e3. In reply, White can also go to d5, capturing; alternatively, he must go to a square giving access to both f5 (to meet ...♘f6 and ...♘f4) and e2 (to meet ...♘e3), and the only safe candidate is g4. Similarly, if Black goes to f5, he threatens d6, d4, e3, h4, and h6; so White must go either to f5 itself or to a square giving access to d5, e2, and either h5 or both e4 and e6. The only candidate is f3. This gives **13.3d.**

Now let us look at e7, which is the square that Black actually occupies in 13.3. Black threatens to go to d5, f5, and g6, so White must go to a square which gives access to either d5 or g4, to either f5 or f3, and to g6. There are three candidates, e4, f5 (because the capture ...♘xf5 would be stalemate) and h5, but only h5 is accessible in the diagram. White's first move must therefore be

1 ♗f7-h5!

This has done the hard work, but to complete the solution we must specify a reply for each subsequent Black move. It is possible to continue the analysis above and obtain a complete list of the squares which White can occupy for each position of the Black knight, but this tells us more than we need. All we need is a single square for White corresponding to each square that Black can occupy, and **13.3e** provides it. Once the bishop occupies a drawing square, it can meet any knight move by moving to another drawing square, or by capturing the knight.
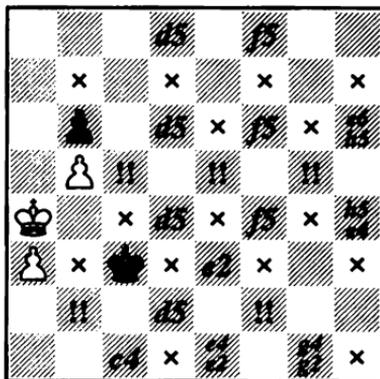
13.3c   Squares White must occupy (stage 1)
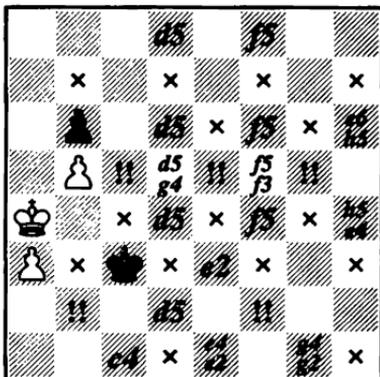
13.3d   Squares White must occupy (stage 2)
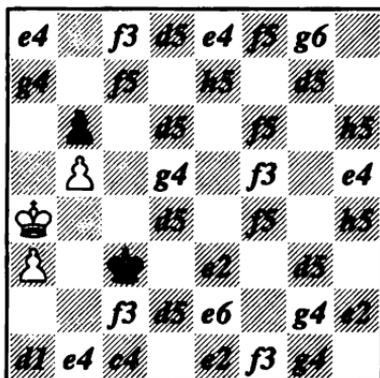
13.3e   How White can draw

13.4   Win

13.4a   Squares Black must
               occupy (stage 1)

13.4b   Squares Black must
               occupy (stage 2)
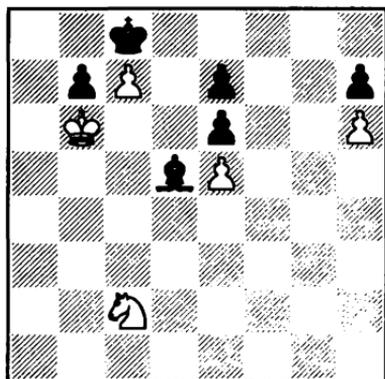
13.4 (H. A. Adamson, 1924) shows the other side of the coin. Black must prevent ♘a7+ and ♘xe7+, so he must keep the knight away from b5 and g6 (the latter because ...hxg6 can be met by h7 unless the bishop is on g8). Furthermore, Black cannot afford to lose any pawn; White's extra freedom if c6, d6, d5, or f5 becomes available will be decisive.

So there are five light squares that Black must defend (b5, g6, and the pawns on b7, e6, and h7), and occupation of the squares shown in **13.4a** is soon seen to be necessary. For example, if White is on d4, he attacks b5 and e6, and Black must occupy c4; if he tries d7 instead, White plays to f3 and g5, attacking e6 and h7, and Black cannot reach f5 or g8 in time.
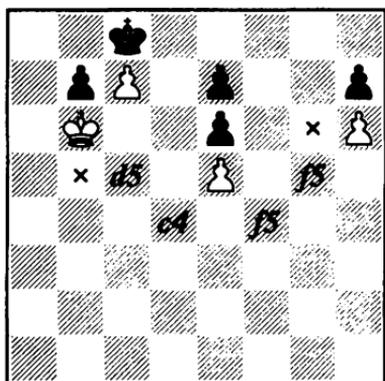
The next step is to look again at the light squares. On e4, White threatens c5 and g5, so Black must have access to d5 and f5, and the only square giving such access is e4 itself. Hence e4 is another square from which White must be kept away. Similarly, on e2, White threatens d4 and f4, so Black must go either to e2 itself or to the only square (d3) giving access to both c4 and f5. This is illustrated in **13.4b**, and it follows that if White is on c3, Black must be on d3 (**13.4c**).
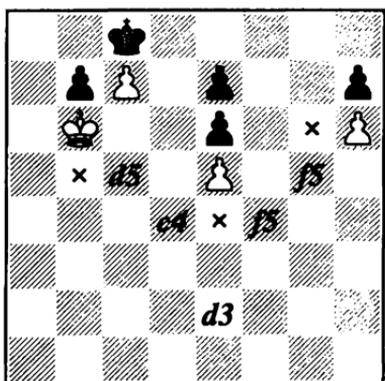
Now let us reconsider f4. We have seen that Black must be on f5. But from f4, White can play to e2, and Black must answer by playing to d3; and from e2, White can play to c3, and Black cannot answer by playing to d3 since he is already there. So if White can reach f4, he will win. Black can avoid immediate loss by occupying f5, but he cannot hold out indefinitely.

If we repeat these arguments, we eventually arrive at **13.4d.** Apart from a few unimportant alternatives if White is on the edge, this gives a complete list of the squares which Black must occupy to hold the draw. We note that c5, c3, and e2, like f4, are marked in 13.4c but not in 13.4d. Black can postpone defeat by occupying the squares shown in 13.4c, but he cannot avoid it altogether.

The play from 13.4 is now clear. The bishop is not on e2, so White can win, but his only good move is

1 ♘c2-a3.

Black's best reply is

1 ...   ♗d5-c6,

keeping the knight out of b5, and the optimal play for both sides is

2 ♘a3-b1   ♗c6-e4
3 ♘b1-c3   ♗e4-d3

(**13.4e**). Black is now on his best square, but there follows

4 ♘c3-a4!   ♗d3-e4
5 ♘a4-c5   ♗e4-d5!
6 ♘c5-d3!   ♗d5-e4
7 ♘d3-f4   ♗e4-f5!
8 ♘f4-e2!   ♗f5-d3
9 ♘e2-c3

leading back to 13.4e but with Black to move. Black must now abandon his good square, say by playing

9 ...   ♗d3-c4,

and the reply

10 ♘c3-e4

soon leads to the capture of a pawn.

The play between White's fourth and ninth moves is worthy of particular note, because White, using only a knight, has contrived to transfer the move to his opponent! A knight cannot lose a move by itself, but sometimes it can persuade its opponent to do so.
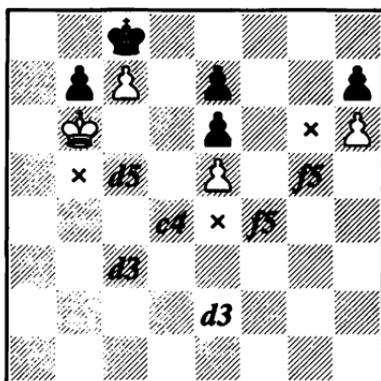
13.4c   Squares Black must occupy (stage 3)
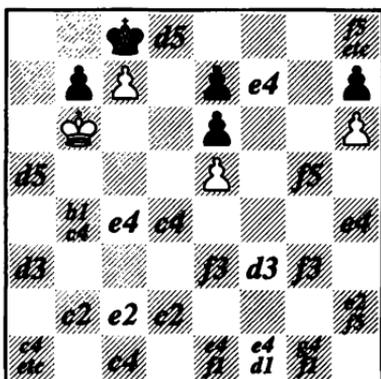
13.4d   Squares Black must occupy (final map)
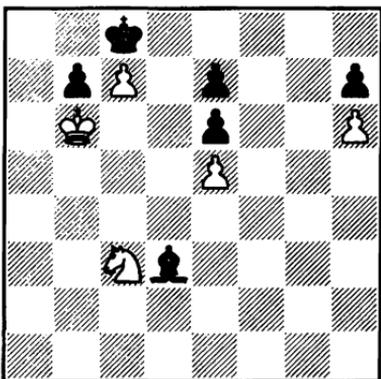
13.4e   After 3...♗e4-d3
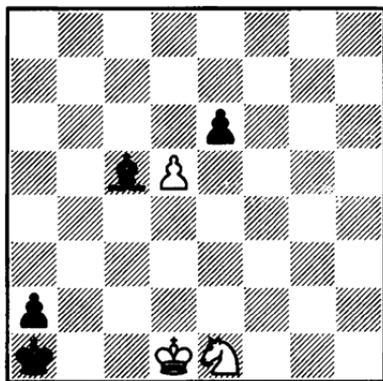
13.5   Win
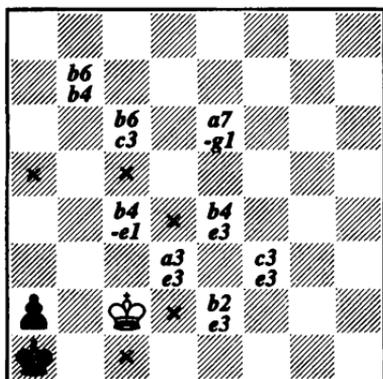
13.5a   Squares Black
                         must occupy
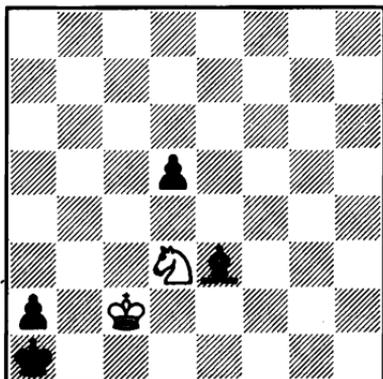
13.5b   After 3 ♘e1-d3

13.5 (H. Rinck, 1906) may provide light relief. White cannot afford to play 1 dxe6 because the Black king will escape, so his only hope is to put his king on c2 and to try to mate on b3. So Black must keep the knight away from a5, c5, d4, d2, and c1, which leads to the table of squares shown in **13.5a.** (Where "a7-g1" or "b4-e1" is shown, the bishop may be on any safe square on the given diagonal.) This table can be extended to cover the rest of the board, as we have done with previous examples, but there is little point; after 1 ♔c2 exd5, Black can draw without great difficulty. However, if White plays

1   ♔d1-c1!

he forces the Black bishop to check while Black has still to spend a move capturing the pawn, and this disturbs Black's equilibrium. If Black plays 1...♗a3+, there follows 2 ♔c2 exd5 3 ♘f3, and the knight will go to d2 or d4 next move. So Black does better to play

1   ...   ♗c5-e3+,

keeping the bishop on the diagonal b6-e3 and guarding d2 and d4. However, the sequel

2   ♔c1-c2   e6xd5
3   ♘e1-d3

puts the bishop in zugzwang (**13.5b**), and there is no good answer. True, after

3   ...   d5-d4
4   ♘d3-c5,

the check

4   ...   d4-d3+

gives Black a respite, but it is only temporary because the capture

5   ♘c5xd3

restores the zugzwang.

14 Echoes and repetitions

We have looked at the overall objectives of play, and we have looked at some of the tactics by which these objectives are achieved. We now stand back and look at studies as a whole, and we start with some which feature echoed or repeated manoeuvres.

14.1 (F. J. Prokop, 1925) shows a duplication of the stalemate shown in 4.2. White must save his rook and stop the d-pawn, and 1 ♖g8+ followed by 2 ♗e1 can be shown not to work. The way to proceed is by playing

1	♗f2-h4	♗f6xh4
2	♖g7xg4	

(**14.1a**). Black must now lose a bishop, and his only hope is to promote his pawn before White can catch it. One possibility is

2	...	♗h4-f2,

shielding the pawn after the capture on g2, but

3	♖g4xg2	d3-d2
4	♖g2-g5!	d2-d1♕
5	♖g5-d5+	♕d1xd5
		stalemate

gives a position similar to the one we saw in 4.2b. The alternative is

2	...	♗g2-f1,

setting up a discovered check, but

3	♖g4xh4	d3-d2+
4	♔a6-a5	d2-d1♕
5	♖h4-d4+	♕d1xd4
		stalemate

gives the same finish one rank lower. This repetition on squares of different colour is known as a "chameleon echo".
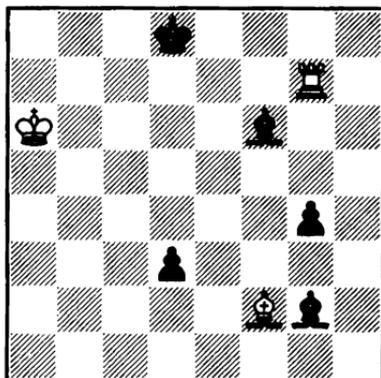
14.1   Draw
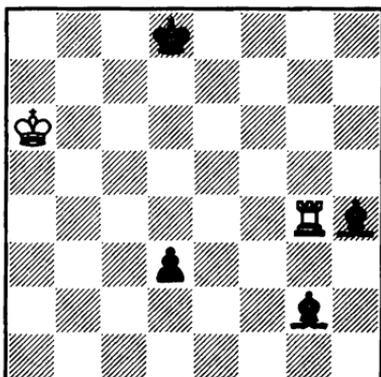
14.1a   After 2 ♖g7xg4
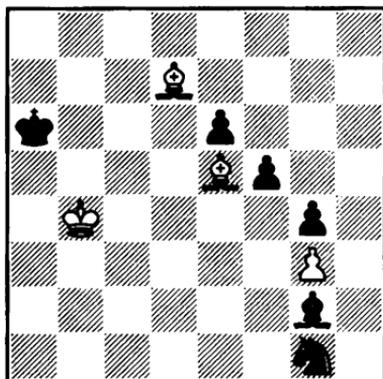
14.2   Win
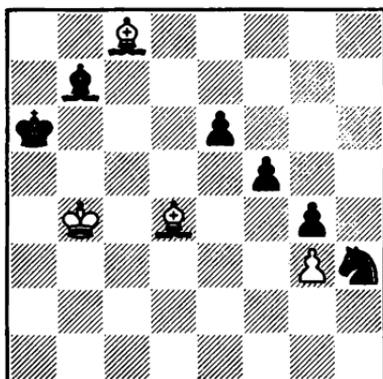
14.2a   After 2...♗g2-b7
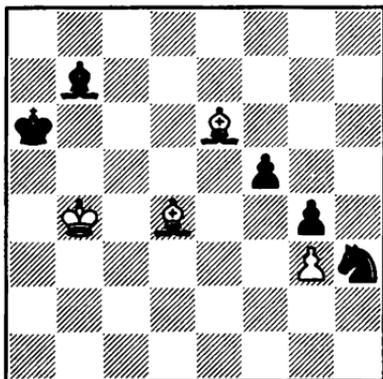
14.2b   After 3 ♗c8xe6

14.2 (M. A. Aizenshtat, 1931) shows a manoeuvre which appears frequently in textbooks and occasionally in play. As so often, however, the composed study shows play more subtle than occurs in real life; a typical textbook example is based on a discovered check, whereas the study composer can display similar play without.

The opening move

 1   ♗e5-d4

forces the Black knight to run,

 1   ...   ♘g1-h3,

and

 2   ♗d7-c8+

forces the Black bishop to interpose:

 2   ...   ♗g2-b7

(**14.2a**). Now

 3   ♗c8xe6

threatens mate (**14.2b**), so the bishop must vacate b7:

 3   ...   ♗b7-e4.

But now, of course, White can force it back again, and we have the "trombone" theme. White goes back and forth, and eventually accumulates a decisive material advantage:

4	♗e6-c8+	♗e4-b7
5	♗c8xf5	♗b7-f3
6	♗f5-c8+	♗f3-b7
7	♗c8xg4	♗b7-g2
8	♗g4-c8+	♗g2-b7
9	♗c8xh3.	

Another familiar repetitive man-
oeuvre is the staircase movement by
the queen, and many studies make
use of it. **14.3** (V. Kalandadze, 1982)
shows a staircase with a sequel. The
opening moves

1	b6-b7	g3-g2
2	&c7-h2!	&h1xh2
3	b7-b8&+	&h2-h1

are easily understood, and if there
were no Black bishop White would
now be able to win by means of 4
&xh3 g1& 5 &b7+. The bishop is an
obstacle, however, because Black can
play ...&f5+ before promoting. So
the White queen must advance:

  4 &b8-b7.

Now 4...h2 is clearly bad (5 &g3 &f1
6 &f2 &-- 7 &xg2 mate), so we have

  4 ... &h1-h2,

and the queen zigzags in:

5	&b7-c7+	&h2-h1
6	&c7-c6	&h1-h2
7	&c6-d6+	&h2-h1
8	&d6-d5.	

This gives **14.3a**, and now 8...&h2 9
&e5+ &h1 10 &xh3 does lead to a
win because the White queen controls
f5. But Black has another defence:

  8 ... &d3-c4!

To capture will concede an
immediate draw, but

  9 &d5-c6!

controls e6 and renews the threat, and
Black again has nothing better than

  9 ... &c4-b5.

There follows

10	&c6-b7	&b5-a6
11	&b7-a8	

and Black has nothing left (**14.3b**).
The queen has laboriously worked its
way down the board, only to find that
its task is but half done; to clinch the
win, it must run away again.
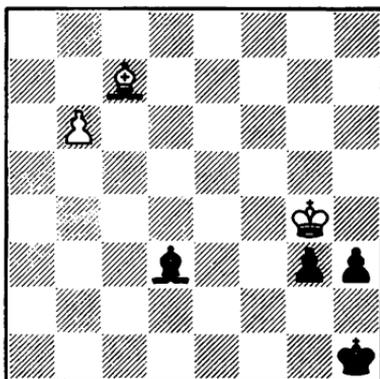
14.3   Win
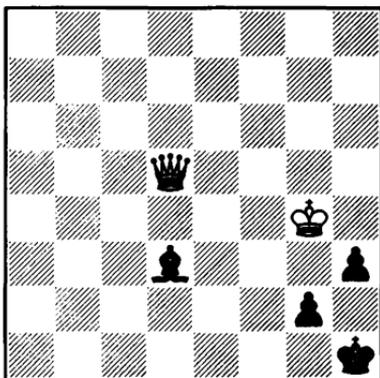
14.3a   After 8 &d6-d5
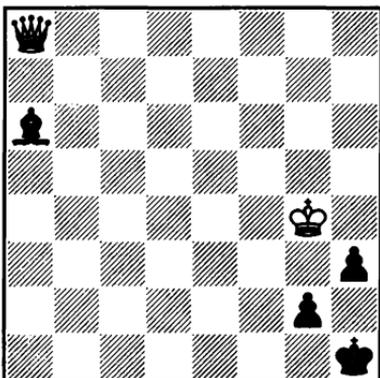
14.3b   After 11 &b7-a8
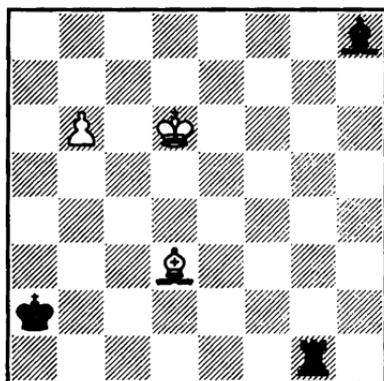
14.4   Draw
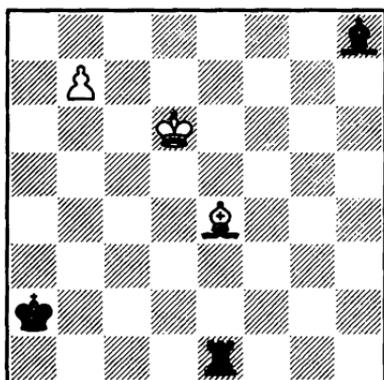
14.4a   Line 1...♖g1-e1
               After 2 ♗d3-e4
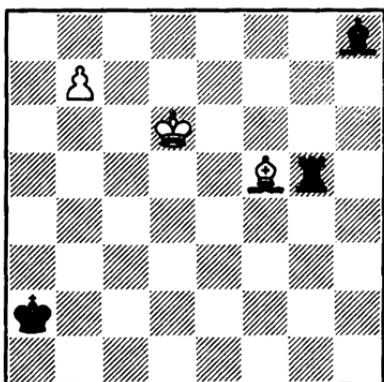
14.4b   Line 1...♖g1-g5
               After 2 ♗d3-f5

The next three studies show the echoing of a different tactic. The story starts with **14.4** (A. Wotawa, 1948). White advances his pawn,

    1   b6-b7,

and Black cannot get control of b8 (1...♖g8 2 ♗c4+). However, he can play to guard e5, after which he will be able to meet 2 b8♕ with a spear check. He has two moves which guard e5, 1...♖e1 and 1...♖g5, but if he plays

    1   ...   ♖g1-e1,

White can make the obstructive reply

    2   ♗d3-e4!

(**14.4a**). This lures the rook forward,

    2   ...   ♖e1xe4,

and now the spear check can be answered by a counterattack:

    3   b7-b8♕   ♗h8-e5+
    4   ♔d6-d5.

Alternatively, if he plays

    1   ...   ♖g1-g5,

White obstructs the rook by

    2   ♗d3-f5!

(**14.4b**) and the sequel is similar:

    2   ...   ♖g5xf5
    3   b7-b8♕   ♗h8-e5+
    4   ♔d6-e6.

14.5 (J. E. Peckover, 1959) shows a repetition of this decoy within a single line of play. Play starts with

| 1 | ♔c8-d8 | ♖b6-d6+ |
| 2 | ♔d8-e7, | |

and now 2...♖e6+ 3 ♔d8 ♖d6+ 4 ♔e7 merely repeats the position. So Black must try

| 2 | ... | ♖d6-c6, |

and

| 3 | ♔e7-d7 | ♖c6-h6 |

produces **14.5a**. Now

| 4 | ♗h4-f6! | |

lures the rook towards the king as before. This time, however, the lure need not be accepted, since

| 4 | ... | ♗a2-b1 |

prepares to check on f5 instead of e6. The natural sequel is

| 5 | ♔d7-e6 | ♖h6-h5, |

whereupon the second offer

| 6 | ♗f6-g5! | |

blunts the attack once again. Black has nothing better than 6...♖h8, and 7 ♗d8 ♖h5 8 ♗g5 gives a draw by repetition.
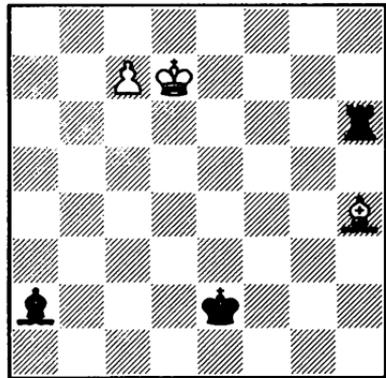
14.6 (I. Vandecasteele, 1976, refining a study by A. P. Grin) combines Peckover's repetition with Wotawa's echo. After

| 1 | a6-a7, | |

there are two Peckover lines:

1	...	♖h1-d1
2	♗c3-d4!	♗g8-h7
3	♔c6-d5	♖d1-e1
4	♗d4-e3+!	

and

1	...	♖h1-h5
2	♗c3-e5!	♗g8-h7
3	♔c6-d5	♖h5-h4
4	♗e5-f4+!	

In the first line, 2...♖c1+ 3 ♔d7 ♗d5 can be met by 4 ♗e3+.

14.5   Draw

14.5a   After 3...♖c6-h6

14.6   Draw

14.7   Win

14.7a   After 6 ♕g5-e5

14.7b   After 10 ♕g3-g5
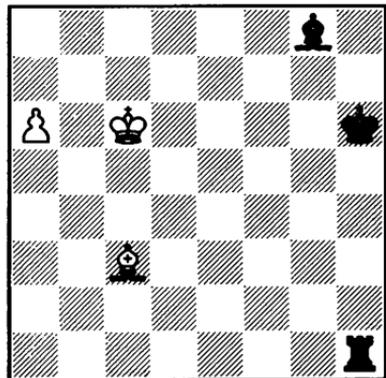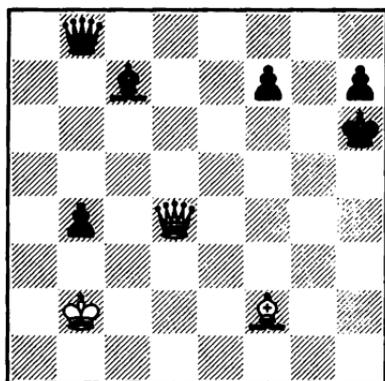
14.7 (A. A. Troitsky, 1930) shows a repeated manoeuvre of a different kind. The play starts with a straightforward king hunt,

1	♕d4-f6+	♔h6-h5
2	♕f6-f5+	♔h5-h6
3	♗f2-e3+	♔h6-g7
4	♕f5-g5+	♔g7-f8
5	♗e3-c5+,	

and now 5...♔e8 will allow immediate mate. Black must therefore interpose his bishop,

| 5 | ... | ♗c7-d6, |

and White wins it by the elegant cross-pin

| 6 | ♕g5-e5! | |

(**14.7a**). Winning the bishop does not win the game, of course, but ♗xd6+ threatens to win the queen as well. So Black responds with

| 6 | ... | ♔f8-g8, |

but after

| 7 | ♗c5xd6 | |

White is not only attacking the queen but also threatening to pursue the king by 8 ♕g5+ and 9 ♗e5+. Black's best defence is

| 7 | ... | ♕b8-d8, |

but it proves inadequate; White's continuing attack

| 8 | ♕e5-g3+ | ♔g8-h8 |
| 9 | ♗d6-e5+ | |

forces Black to interpose the pawn,

| 9 | ... | f7-f6, |

and the second cross-pin

| 10 | ♕g3-g5! | |

clinches matters (**14.7b**).
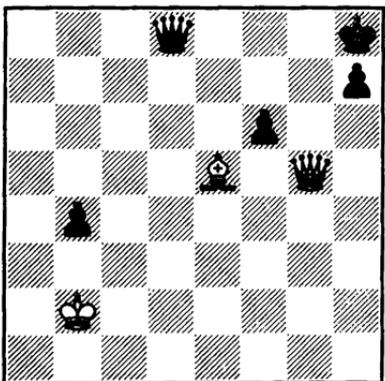
White's decisive weapon in **14.8** (V. Nestorescu, 1982) will surely be his a-pawn, but an immediate 1 a7 leads to 1...♖b5+ 2 ♖c5 ♗g8+, leaving him with nothing better than 3 ♔d6 or 3 ♔e4, after which Black can play 3...♖b6(b4)+ and 4...♖a6(a4). So White makes the preliminary move

    1   ♗f6-e7+

in order to guard c5 with his bishop. We shall see in due course that

    1   ...   ♔a3-a2

is the best reply, and there follows

    2   a6-a7   ♖b3-b5+
    3   ♖c8-c5

(**14.8a**). Now Black wants to chase the White king into the open, and we have the amusing sequence

    3   ...   ♗h7-g8+
    4   ♔d5-e5   ♗c1-b2+
    5   ♔e5-f5   ♗g8-h7+
    6   ♔f5-g5   ♗b2-c1+
    7   ♔g5-h5,

giving **14.8b**. All this shows why Black moved his king to a2: on b2 it would have obstructed his bishop, and on a4 it would have prevented ...♖a4 and allowed White to escape to the fourth rank. Furthermore, if Black deviates from the sequence at any point, White can find somewhere to hide. (A typical example is given by the line 3...♗e4+ 4 ♔e5 ♗b2+ 5 ♔f4 ♗c1+ 6 ♔g4.) Now, however,

    7   ...   ♗h7-g6+

seems finally to drive White into the open; but it turns out to be of no avail, because there follows

    8   ♔h5xg6   ♖b5-b6+
    9   ♗e7-f6   ♖b6-a6
    10 ♖c5xc1

with a decisive spear check on a1. Even a2 has proved to have a crucial disadvantage.
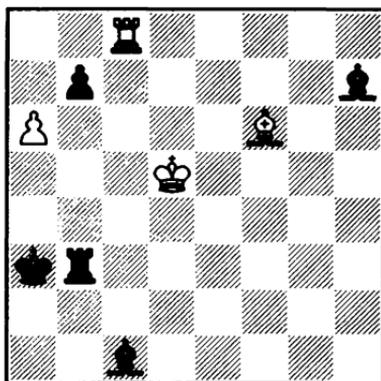
14.8   Win
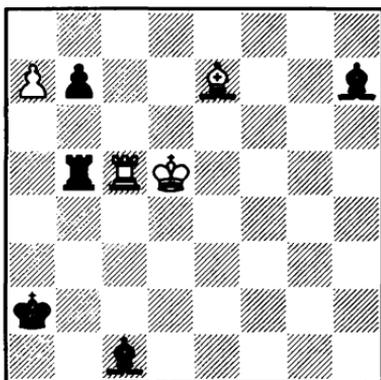
14.8a   After 3 ♖c8-c5
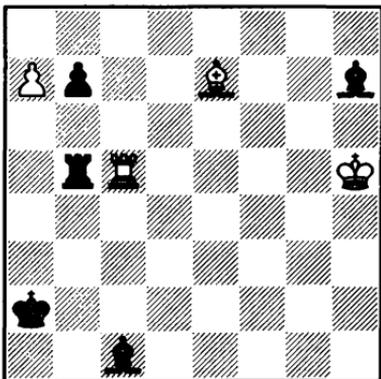
14.8b   After 7 ♔g5-h5
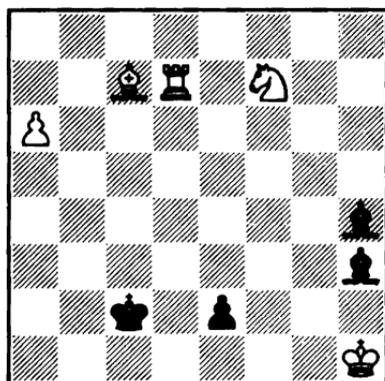
14.9   Win
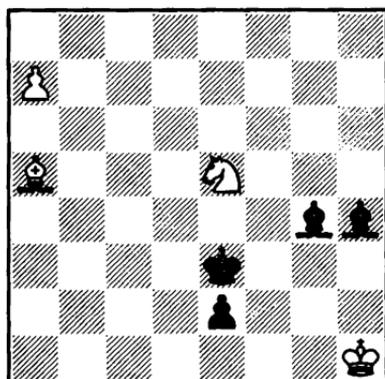
14.9a   After 4 ♘f7-e5
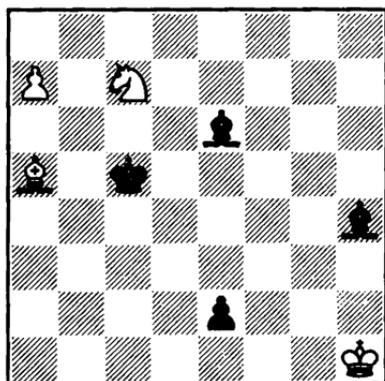
14.9b   After 8 ♘b5-c7

The next two studies also show repeated manoeuvres in which Black eventually runs out of steam. **14.9** (J. Fritz, 1984) starts with measures to stop the Black pawn:

1	**♖d7-d2+**	**♔c2xd2**
2	**♗c7-a5+.**	

White now threatens a7 and a8♕, to which Black's only answer will be to fork the king and queen from a guarded square on the long diagonal. A line such as 2...♔d3 3 a7 ♗f5 is plainly insufficient; 4 ♘d6 hounds the bishop to another square, and the pawn will be promoted next move. So it is better for Black to play

2	...	**♔d2-e3,**

guarding f3 as well as e4. There follows

3	**a6-a7**	**♗h3-g4**
4	**♘f7-e5,**	

and we have **14.9a.** Now comes a systematic manoeuvre in which Black tries to create a foothold on the long diagonal and White fights to hold him off:

4	...	**♗g4-f5**
5	**♘e5-c4+**	**♔e3-d4**
6	**♘c4-d6**	**♗f5-e6**
7	**♘d6-b5+**	**♔d4-c5**
8	**♘b5-c7**	

(**14.9b**). Now 8...♗d7 fails (9 ♘a6+ ♔b5 10 ♘b8) and Black must play

8	...	**e2-e1♕+**

in order to free b6 for his king. However, it proves of no avail; the dance can continue a little further,

9	**♗a5xe1**	**♗e6-d7**
10	**♘c7-a6+**	**♔c5-b6,**

but the sequel

11	**a7-a8♕**	**♗d7-c6+**
12	**♕a8xc6+**	**♔b6xc6**
13	**♗e1xh4**	

gives White an elementary win.

In **14.10** (A. G. Kuznetsov and O. V. Pervakov, 1987), the White knight must undertake an even longer tour before Black is subdued.   White would like to win a piece, and

1   ♗c2-b3

makes a good way to start;   the natural reply 1...♗b7 fails against 2 ♘f4. So Black must try

1   ...   ♚f7-e6,

and brave the resulting fork

2   ♘g2-f4+.

An immediate 2...♚e5 now fails against 3 ♘xg6+;   White's extra g-pawns will be enough to win. More dangerous, however, is

2   ...   ♚e6-d6.

Now 3 ♘xg6 leads only to a draw (see Appendix B). If White plays 3 ♘xd5 the pin 3...♗b7 will regain the piece, and the counterattack after

3   ♗b3xd5   ♚d6-e5

bids fair to do the same **(14.10a)**. There follows a chase in which White defends the bishop either directly or by the threat of a knight fork:

4   ♘f4-e6!   ♗a6-c8
5   ♘e6-c7   ♚e5-d6
6   ♘c7-a8!   ♗c8xg4

If the White bishop now moves on the diagonal b3-g8, 7...♗f3+ will win the knight, and if it retreats on the long diagonal, 7...♗e6 will win the a-pawn.   So the bishop must stand firm, and the chase continues:

7   ♘a8-b6   ♚d6-c5
8   ♘b6-c4!   ♗g4-e2
9   ♘c4-e3   ♚c5-d4
10   ♘e3-g2!

Black has now nothing further to offer **(14.10b)**, and after

10   ...   ♚d4xd5
11   ♘g2-f4+

White will soon wrap up the ending.
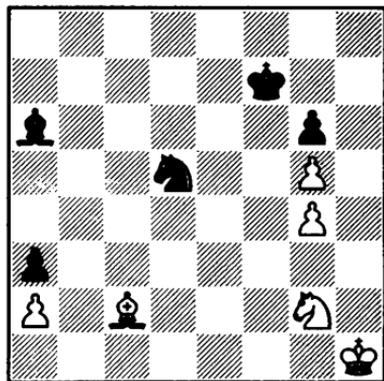
14.10   Win
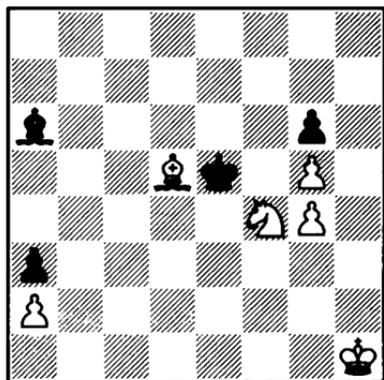
14.10a   After 3...♚d6-e5
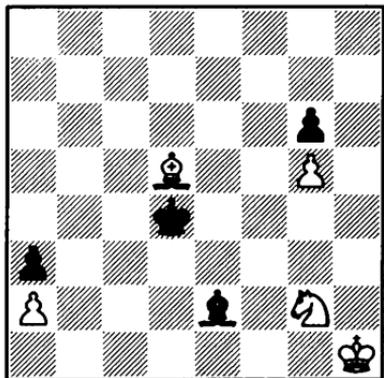
14.10b   After 10 ♘e3-g2

14.11   Draw

14.11a   After 3 ♗h5xe2

14.11b   See text

14.11 (N. A. Macleod, 1987) will feature variations leading to the same position by subtly different means. Black's present material advantage is not enough to win, but White cannot afford further loss. The introduction

1   ♖h2-d2+   ♔d3-c3
2   ♘d4-e2+   ♘f4xe2
3   ♗h5xe2

is simple enough, and we have **14.11a**. Black must now check on the first rank, and White must be careful. If Black checks on the a-file,

3   ...   ♖a5-a1+,

White must interpose the *bishop*,

4   ♗e2-d1,

and there follows

4   ...   ♖b4-e4+
5   ♖d2-e2   ♖e4xe2+
6   ♔e1xe2,

which gives a well-known position of reciprocal zugzwang (**14.11b**). In this position, White to move would lose quickly (for example, 7 ♔e1 ♔d3) but it is actually Black to move and he cannot maintain the pressure. However, had White interposed the rook by playing 4 ♖d1, the line 4...♖xd1+ 5 ♗xd1 ♖b1 6 ♔e2 ♖a1 would have led to position 14.11b with White to move.

Alternatively, Black can check on the b-file:

3   ...   ♖b4-b1+.

This time, White must interpose the *rook*, giving

4   ♖d2-d1   ♖b1xd1+
5   ♗e2xd1   ♖a5-a1
6   ♔e1-e2

and reaching **14.11b** as before. Had White interposed the bishop, 4 ♗d1, the line 4...♖e5+ 5 ♖e2 ♖xe2+ 6 ♔xe2 ♖a1 would again have produced 14.11b with White to move.
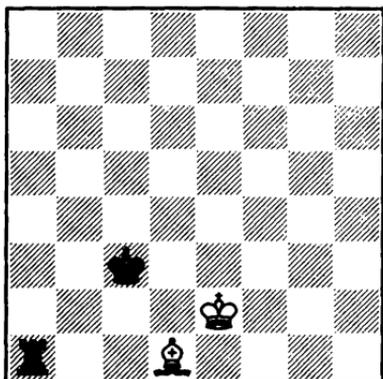
To finish the chapter, we look at a quite different kind of repeated manoeuvre. White can win from **14.12** (A. Ivanov, 1972) only by playing for mate, and the opening move

    1   ♗b4-c3

sets up a discovered check. Direct defensive measures do not help Black (for example, 1...♖a4+ 2 ♖e4+ ♔g6 3 ♖xa4 b1♕ 4 ♖a6+ f6 5 ♖xf6+ ♔g7 6 ♖b6+, or 1...♔g6 2 ♖g5+ and 3 ♗g7 mate), and he has no better reply than

    1   ...   b2-b1♕.

There follows

    2   ♖e5-e8+   ♔f6-g6
    3   ♖e8-g8+   ♔g6-h6
    4   ♗c3-g7+   ♔h6-g6

(**14.12a**). The bishop can now pick up the Black rook,

    5   ♗g7xa1+,

and the sequel

    5   ...   ♔g6-h6
    6   ♗a1-g7+   ♔h6-g6
    7   ♗g7-d4+   ♔g6-h6
    8   ♗d4-e3

threatens a discovered mate by the White king (**14.12b**). Black must now free h5 without allowing White's king to come to g4, and

    8   ...   ♗h5xf3

seems good enough because 9 ♔xf3+ ♔h5 10 ♖g5+ ♔h4 leaves White with no pressure. But a stronger line is

    9   ♔f4-g3+   ♔h6-h5
   10   ♖g8-g5+   ♔h5-h6
   11   ♖g5-b5+,

and this final discovered check by the rook picks up the queen. Within eleven moves, White has discovered check by rook from bishop, by bishop from rook twice, by king from bishop, and by rook from bishop again; and he had only these three pieces to start with!
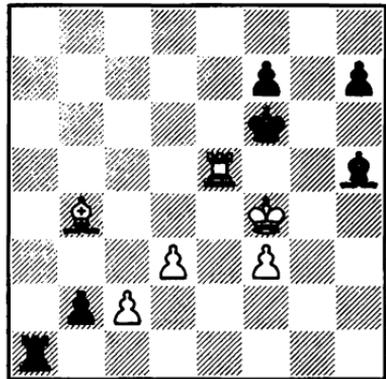
14.12   Win
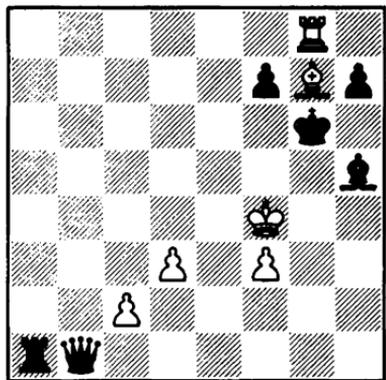
14.12a   After 4...♔h6-g6
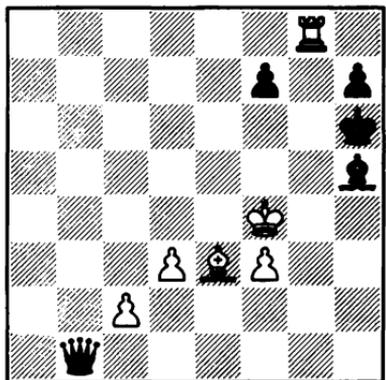
14.12b   After 8 ♗d4-e3

15 Cut and thrust

The good moves in a study are not always reserved to White. In the present chapter, Black contributes his fair share to the entertainment; pungent play from one side is met by pungent play from the other.

15.1   Draw

15.1a   After 4 d6-d7
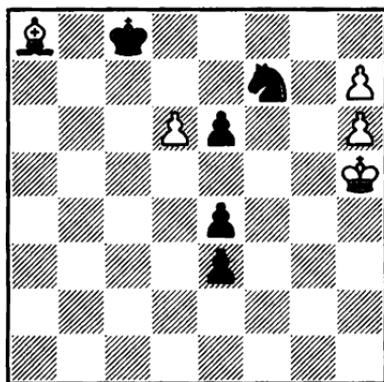
15.1 (R. N. Alexandrov, 1929) shows a simple example. White's opening move

| 1 | ♗a8-b7+ |

threatens 2 ♗a6 and forces

| 1 | ... | ♚c8xb7, |

and straightforward play

2	♚h5-g6	♘f7-h8+
3	♚g6-f6	e3-e2
4	d6-d7	

leads to **15.1a**. Black can now promote a pawn and answer White's promotion by a spear check, but unfortunately 4...e1♛ 5 d8♛ ♛h4+ 6 ♚g7 ♛xd8 gives White a draw by stalemate. But we all know the answer to this:

| 4 | ... | e2-e1♗! |

Fair enough, but White doesn't have to make a queen either; the knight promotion

| 5 | d7-d8♘+!! |

gains time by giving check, and Black's remaining pawns can be stopped.
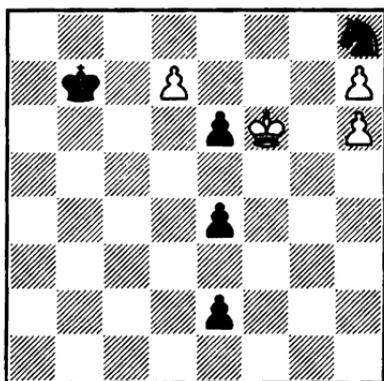
15.2 (H. Mattison, 1931, perhaps developed from a 1928 study by H. Cohn) shows how a fine study can be based even on the elementary ending of king and pawn against king; such is the subtle nature of chess. Initially, the threats of ...♕xf3+ and ...♗xf3+ demand action:

    1   ♕f1-b5+   ♗b7-d5
    2   ♕b5xd5+   e6xd5.

Now White can safely play

    3   ♖f3-g3!

(**15.2a**) since 3...♕xg3 will be stalemate. A king move such as 3...♔f4 leads to 4 ♖xg4+ ♔xg4 5 ♔g2 with a standard draw, so Black must advance the pawn:

    3   ...   d5-d4!

Now the exchange on g4 will favour Black: 4 ♖xg4+ ♔xg4 5 ♔g2 (or 5 ♔g1 ♔g3) d3 6 ♔f2 ♔f4 7 ♔f1 (or 7 ♔e1 ♔e3) ♔f3 8 ♔e1 ♔e3 9 ♔d1 d2. So White must defend his rook by playing

    4   ♔h1-g2.

This renews the threat of ♖xg4+, and the exchange on g3 will also lead to a standard draw (4...♕xg3+ 5 ♔xg3). So Black pushes the pawn again,

    4   ...   d4-d3.

We now have **15.2b,** and White is in difficulty; Black threatens 5...♕xg3+ 6 ♔xg3 d2, and if White steps in first by exchanging on g4, Black again obtains a winning position. There is only one answer:

    5   ♔g2-f1!

This invites

    5   ...   ♕g4xg3
                     stalemate,

and if Black plays anything else, White will exchange on g4 and then stop the pawn.
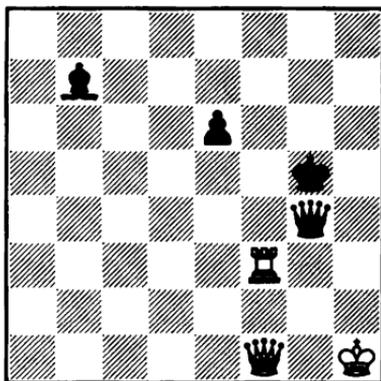
15.2   Draw
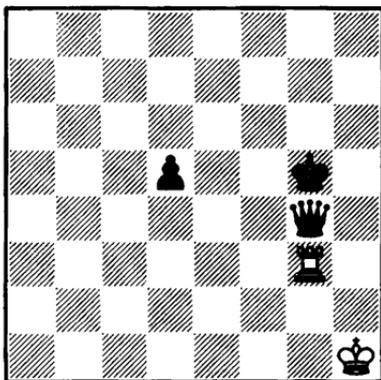
15.2a   After 3 ♖f3-g3
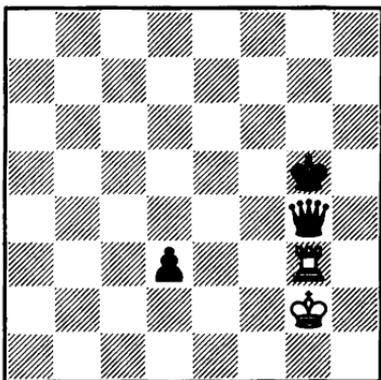
15.2b   After 4...d4-d3

15.3   Win

15.3a   After 2 b6-b7

15.3b   After 3...c7-c5+

15.3 (J. Moravec, 1937) shows another fight over a tempo. The exchange 1 bxc7 ♔xc7 leads to a dead draw, and 1 b7 ♔c6 also enables Black to draw, a possible line being 2 ♔b3 ♔b6 3 a4 ♔a7. But the sparkling sacrifice

    1   ♖b8-d8+!

gets the rook out of the way, after which

    1   ...   ♔d7xd8
    2   b6-b7

leaves Black under pressure (**15.3a**). His reply is to sacrifice some men of his own:

    2   ...   ♖d4-b4!
    3   ♔a3xb4   c7-c5+!

(**15.3b**). White had no alternative but to accept the rook, and if he accepts the pawn as well then Black has his draw (4 ♔xc5 ♔c7). But White can decline the pawn:

    4   ♔b4-b5(a5)!

This leads naturally to

    4   ...   ♔d8-c7
    5   ♔b5-a6   ♔c7-b8,

and now

    6   ♔a6-b6

seals in the Black king and leads to a decisive finish:

    6   ...   c5-c4
    7   a2-a4   c4-c3
    8   a4-a5   c3-c2
    9   a5-a6   c2-c1♛
    10   a6-a7 mate.

There are some minor alternatives in the play after 15.3b (in addition to the alternative square b5/a5 at move 4, White can postpone ♔b6 until the a-pawn has reached a5) but the opening position is so natural, and the play so incisive, that the study has become accepted as a classic in spite of them.
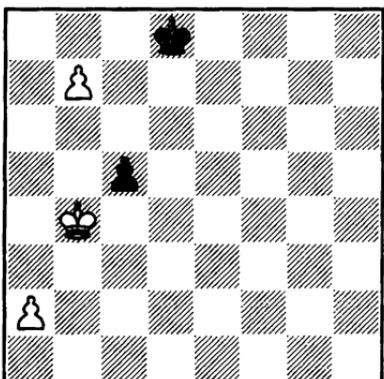
15.4 (V. A. Korolkov, 1964) provides a witty tailpiece to the studies by Wotawa, Peckover, and Vandecasteele in Chapter 14. The start is now familiar,

| 1 | e4-e5 | ♗c7xe5+ |
| 2 | ♔b2-a2 | ♗e5-d4, |

and White cannot accept the offer (**15.4a**) because 3 ♖xd4 h1♕ 4 ♗e4+ ♔e3 5 ♗xh1 ♔xd4 is only a draw (White having the wrong bishop to accompany his h-pawn). So play must continue with

| 3 | ♗c2-b3 | ♔f3-e4 |
| 4 | ♖a4-a5, | |

but the second decoy offer

| 4 | ... | ♗d4-c5 |

is just as unacceptable. And after

| 5 | ♗b3-a4 | ♔e4-d5 |
| 6 | ♖a5-a6, | |

does not the third decoy

| 6 | ... | ♗c5-b6 |

lead to the same thing (**15.4b**)? No, it does not, because White can now afford to accept the offer:

7	♖a6xb6	h2-h1♕
8	♗a4-c6+	♔d5-c5
9	♗c6xh1	♔c5xb6.

The Black king has been lured too far away from the pawn, and

| 10 | h3-h4 | |

wins easily.
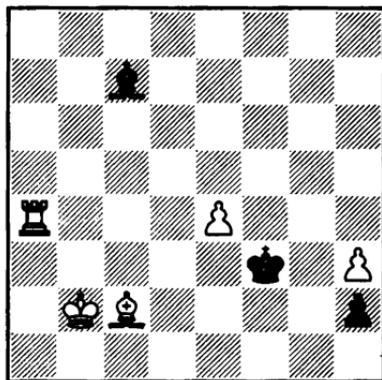
15.4   Win
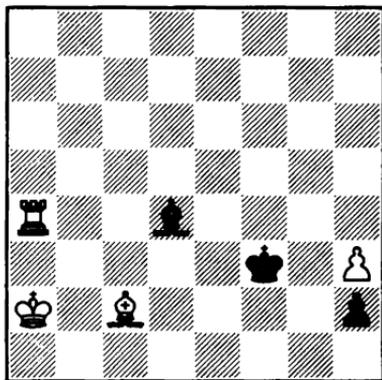
15.4a   After 2...♗e5-d4

15.4b   After 6...♗c5-b6

15.5   Win

15.5a   After 1...♛a1-b2

15.5b   After 2 ♛b1-c2
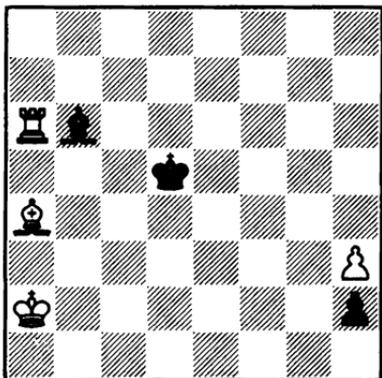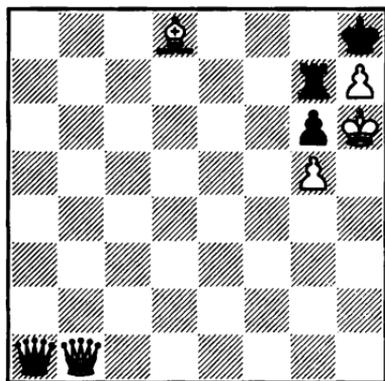
Our next two studies, both by A. I. Kotov, feature extremely sharp combat. In **15.5** (1977), the Black queen is safe from capture because ♛xa1 will give stalemate. However, by playing

    1   ♗d8-f6,

White threatens immediate mate by ♛b8 and also stands ready to meet the capture of his own queen by ♗xg7 mate. Black's reply is startling:

    1   ...   ♛a1-b2!

(**15.5a**). This prevents White's mate and threatens a mate of his own, and the queen is still safe from capture. But two can play at this game:

    2   ♛b1-c2!

(**15.5b**). This stops Black's mate and reinstates White's threat. There follows a progressive dance

    2   ...   ♛b2-c3!
    3   ♛c2-d3!   ♛c3-d4!
    4   ♛d3-e4!   ♛d4-e5!

but now White breaks off and plays

    5   ♛e4-a8+

to clinch the win.
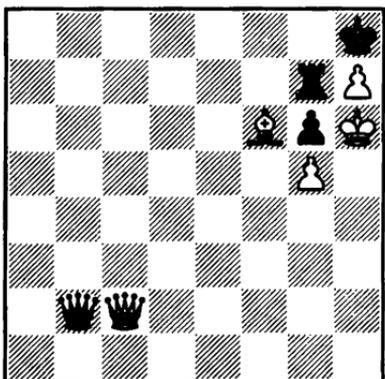
The play resulting from 15.5 featured queen against queen; in **15.6** (Kotov, 1973, version) White's leading actor is his rook. The initial check

    1   g5-g6+

effectively forces

    1   ...   ♔h7-g8

since 1...♔h8 2 ♗c3+ ♘g7+ 3 ♗xg7+ ♔g8 4 ♗e5 is hopeless for Black. There follows

    2   h6-h7+   ♔g8-h8
    3   ♗b4-c3+   ♘e8-g7+
    4   ♔h5-h6,

giving **15.6a**, and White now threatens ♜b8+ with mate next move. Again, the rook is safe from capture because the Black queen is tied to the defence of g7; but again, Black can play

    4   ...   ♕a7-b7!

preventing White's mate and threatening 5...♕h1+ with various possibilities to follow (for example, 6 ♔g5 ♕h4+ 7 ♔xh4 stalemate). The subsequent dance is along the rank,

    5   ♜b6-c6!   ♕b7-c7!
    6   ♜c6-d6!   ♕c7-d7!
    7   ♜d6-e6!   ♕d7-e7!

and it seems as if Black has escaped (**15.6b**); he threatens both 8...♕h4 giving mate and 8...♕g5+ forcing stalemate, and 8 ♜f6 can be met by 8...♕xf6, or better still by 8...♕e3+. However, White has another string to his bow:

    8   ♗c3-f6!

Black must continue to defend g7, say by playing

    8   ...   ♕e7-f7,

and

    9   ♜e6-e8+

forces mate after all.
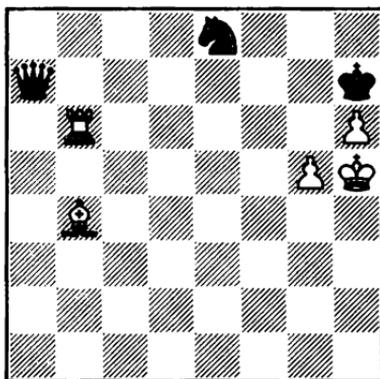
15.6   Win
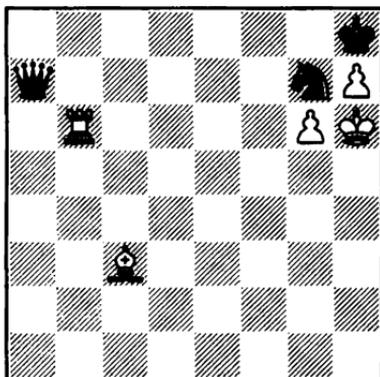
15.6a   After 4 ♔h5-h6
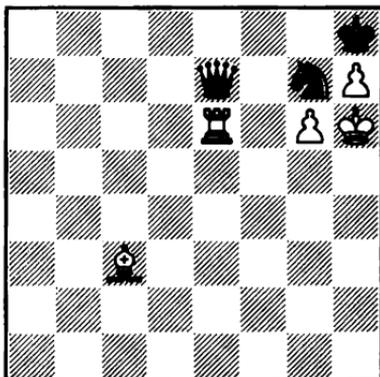
15.6b   After 7...♕d7-e7

15.7   Win

15.7a   After 6...a2-a1♛

15.7b   After 10 ♛e5-h8

15.7 (D. Joseph, 1921, version) shows another manoeuvre to outwit a stalemate defence. White has little initial choice, because 1 bxa6 b5 wins for Black and 1 h4 axb5 gives Black at least a draw; only

1	b5-b6+

offers hope. There follows

1	...	♚a7-b8!
2	h2-h4	a6-a5
3	h4-h5	a5-a4
4	h5-h6	a4-a3
5	h6-h7	a3-a2
6	h7-h8♛	a2-a1♛

(15.7a), and now we see why Black went to b8 on the first move; 7 ♛xa1 will be stalemate. So White plays

7	♛h8-g8!

threatening to discover mate, but

7	...	♛a1-a2!

repeats the defence. There follows

8	♛g8-e8!	♛a2-a4!

similarly, but now White has another resource; the check

9	♛e8-e5+!

forces

9	...	♚b8-a8,

after which

10	♛e5-h8

is unanswerable (**15.7b**) because Black can no longer offer his queen for stalemate.

Why must White play precisely 7 ♛g8 and 8 ♛e8? If White plays ♛e8 while the Black queen is still on a1, Black can counter by ...♛g7; if White tries ♛f8 at any stage, Black plays ...♛a3, with the prospect of ...♛d6+ to follow.
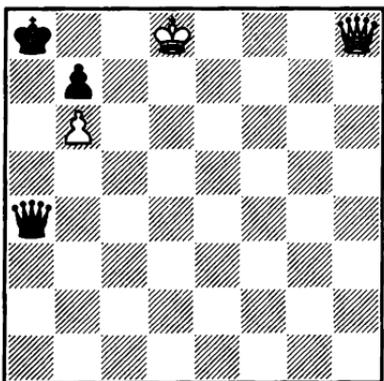
15.8 (S. Tkachenko, 1986) introduces an engagement full of incident. A line such as 1 b8♕ e1♕+ 2 ♔xf3 b1♕ will leave White without hope, so he must try for mate:

    1   ♗g5-d2.

Black can hold him off by playing

    1   ...   e2-e1♕+
    2   ♗d2xe1   ♗c3xe1+
    3   ♔f2-f1   b2-b1♕,

because 4 ♖h5+ is now met by 4...♗h4 mate, but

    4   b7-b8♕

produces the extremely tense **15.8a**. The position after 4...♕xb8 5 ♖h5+ ♕h2 will occur in the main line, and if Black tries 4...♗b4+, the move 5 ♔f2 threatens mate once more, and 5...♗e1+ 6 ♔f1 returns to the diagram. Most testing, therefore, is

    4   ...   ♕b1-a1!

with a counter to almost all replies (for example, 5 ♕a8 ♗a5+ 6 ♔f2 ♗b6+, or 5 ♕a7 ♗a5+ 6 ♔f2 ♕g1+, or 5 ♕b3 ♗d2+ 6 ♔f2 ♕g1+, or 5 ♖a5 ♕d1, or 5 ♖d1 ♕a6+). White's one good move is

    5   ♕b8-b2!

which leads to

    5   ...   ♕a1xb2
    6   ♖d5-h5+   ♕b2-h2
    7   ♖h5-h4!

(**15.8b**). This is a position of reciprocal zugzwang; any White move would lose, but 7...♕xh4 gives stalemate and 7...♗g3 8 ♖xh2+ also leads to a quick draw. There remains only

    7   ...   f3-f2,

after which

    8   ♖h4-h5!

gives another reciprocal zugzwang, offering Black nothing better than

    8   ...   ♕h2xh5
                      stalemate.
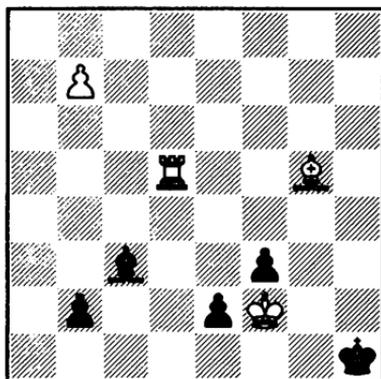
15.8   Draw
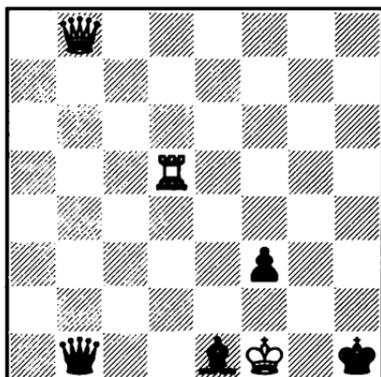
15.8a   After 4 b7-b8♕
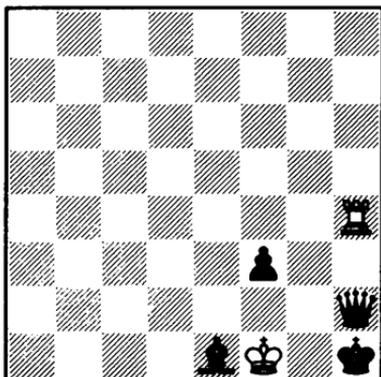
15.8b   After 7 ♖h5-h4
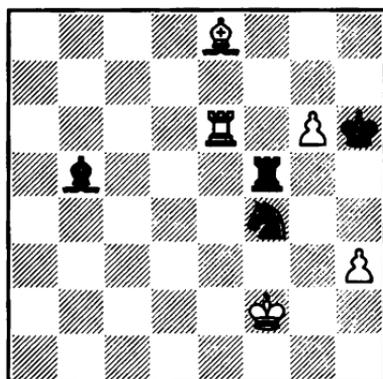
15.9   Draw
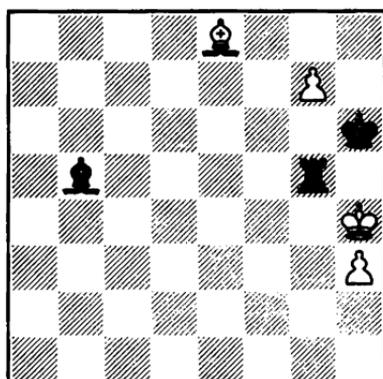
15.9a   After 6 ♔g3-h4
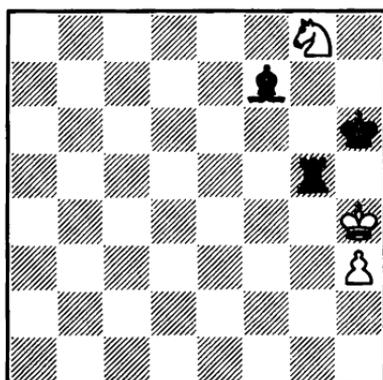
15.9b   After 8 g7-g8♘+

White must avoid material loss in **15.9** (M. Matouš, 1987), and his only safe move is

1   ♖e6-e4.

Black's best reply is

1   ...   ♘f4-d5+

heading for f6; if Black tries 1...♘h5+ instead, White plays 2 ♔e3, and 2...♘f6 3 ♗xb5 ♘xe4 4 ♗d3 leads to a comfortable draw. After 1...♘d5+, however, there is a real dogfight,

2	♔f2-g3	♘d5-f6
3	♖e4-h4+	♘f6-h5+
4	♖h4xh5+	♖f5xh5
5	g6-g7	♖h5-g5+
6	♔g3-h4,	

which leads to **15.9a**. The smoke having cleared, we see that 6...♗xe8 7 g8♕ ♖xg8 will give stalemate, so Black's obvious line of attack is

6   ...   ♗b5-c4;

the alternative move 6...♗d3, heading for h7, leads to the same position (7 ♗g6! ♗c4 etc). There follows

7   ♗e8-f7   ♗c4xf7,

and now 8 g8♕ does not lead to stalemate because Black can play 8...♖h5+ and then capture with the bishop. However, the knight promotion

8   g7-g8♘+

removes this possibility (**15.9b**) and sets in motion a perpetual check:

8	...	♔h6-g6
9	♘g8-e7+	♔g6-f6
10	♘e7-g8+	♔f6-f5
11	♘g8-e7+	♔f5-f4
12	♘e7-d5+	♔f4-f5
13	♘d5-e7+	♔f5-f6
14	♘e7-g8+.	

The Black king is tied to the defence of its rook, and the knight cannot be taken without giving stalemate.

White can discover check in **15.10** (B. A. Sakharov and A. G. Kuznetsov, 1958), but 1 ♖h5+ is not the check to choose; Black can play 1...♔c7 and draw in comfort. A better move is

    1   ♖d5-d6+,

after which two of Black's three moves lose quickly: 1...♔c7 2 cxb6+ ♔xd6 3 bxa7, or 1...♔xc5 2 ♖d5+ ♔c6 3 ♖a5+. This leaves

    1   ...   ♔c6-b5,

after which

    2   c5xb6

is strong (**15.10a**); if 2...♖a1, then 3 b7 ♔a5 4 ♔b2 wins. However, Black has

    2   ...   ♗h3-e6+,

which puts White in a tight spot; 3 ♔c3 invites 3...♖a3+, and 3 ♔b2 allows 3...♖a2+ followed by ...♖h2 and ...♖h8. So White's only move is

    3   ♖d6xe6,

and Black has the delightful resource

    3   ...   ♖a7-b7!

(**15.10b**). If White captures this rook, Black captures White's, and the pawn goes next move. And if White rescues his rook,

    4   ♖e6-e5+,

Black can play

    4   ...   d7-d5,

and 5 ♖xd5+ only draws (5...♔xb6 6 ♖d6+ ♔c7). Black has escaped, then? It would not be undeserved. But there is more in store:

    5   ♗f3xd5

forces

    5   ...   ♖b7xb6

if Black is not to lose on material, and

    6   ♗d5-b7 mate

provides a splendid finish.
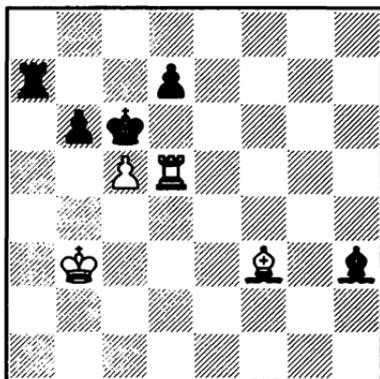
15.10   Win
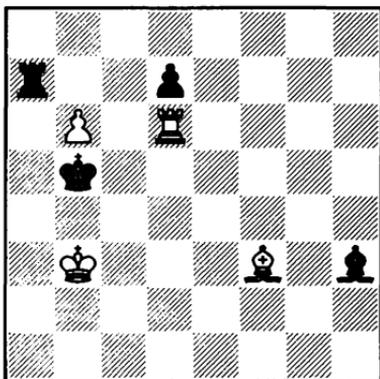
15.10a   After 2 c5xb6
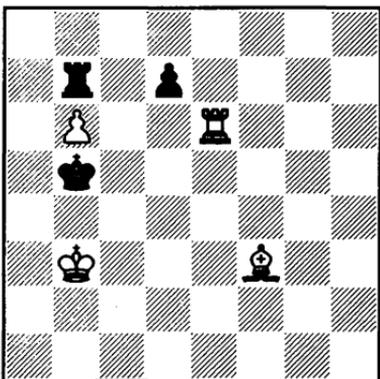
15.10b   After 3...♖a7-b7

15.11   Win

15.11a   After 3 ♗b6-d4

15.11b   After 6 ♕g1-g7

15.11 (O. V. Pervakov, 1986) will demand a mate, and White goes straight for the jugular vein by playing

    1   ♗c5-d4.

The desired mate will soon follow either 1...♕c6+ 2 ♔b4+ ♔b1 3 ♕b3+ or 1...♕d6 2 ♕c4. So Black strikes back with

    1   ...   ♕h6-b6,

after which

    2   ♗d4xb6   h2-h1♕

    3   ♗b6-d4

gives **15.11a**. Now 3...♕c1+ leads to the loss of the queen after 4 ♔b4+, and White can duly force a win. Black must therefore try

    3   ...   ♕h1-d1,

after which it is White's turn to sacrifice his queen:

    4   ♕g8-g1!

The sacrifice is clearly unacceptable, but does not

    4   ...   e3-e2

consolidate Black's position and leave White no hope? Not quite. Black does not actually threaten 5...e1♕+, because 6 ♕xe1 ♕xe1+ 7 ♔c2+ would follow. So White has time to play

    5   ♗d4-h8!

which allows 5...♔b1 to be met by 6 ♕b6+; and although

    5   ...   f3-f2

forces the White queen from the first rank, the retreat of the bishop has cleared the long diagonal, and

    6   ♕g1-g7

will soon lead to mate on a1 or b2 **(15.11b).**
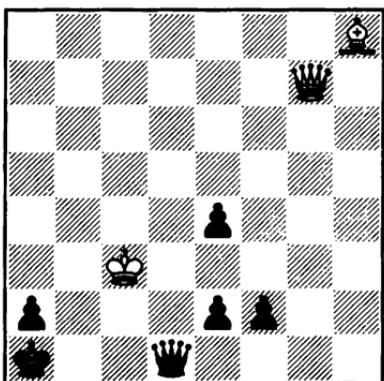
15.12 (Y. V. Bazlov, 1991) will show intense play of a different kind. The opening moves

    1   ♖c8-g8+   ♘e5-g6+
    2   ♔h8-h7

are straightforward enough, but now

    2   ...   ♕g1-h1

is very strong for Black (for example, 3 e8♕ ♗xe2+ 4 ♔g7 ♕h6+ 5 ♔f7 ♗c4+ 6 ♕e6 ♗xe6+). To relieve the pressure, White must attack the Black king,

    3   ♖e2-e5+   ♔g5-f6

(15.12a), and now comes a remarkable sequence indeed:

    4   ♖g8-f8+   ♘g6xf8+
    5   e7xf8♕+   ♗h5-f7+
    6   ♕f8-h6+   ♗f7-g6+.

Six checks in a row! The last of them drives White's king away from his queen, which seems to clinch matters for Black, but it is to no avail; White can play

    7   ♔h7-g8!

(15.12b) and the capture of the queen will lead to stalemate or perpetual check on the fifth rank (7...♕xh6 8 ♖f5+ etc). So Black must try

    7   ...   ♕h1-a8+,

but the sequel

    8   ♕h6-f8+   ♗g6-f7+
    9   ♔g8-h7

produces an equivalent position. Now the capture of the queen will lead to perpetual check on the e-file (9...♕xf8 10 ♖e6+ etc); and

    9   ...   ♕a8-h1+
    10   ♕f8-h6+   ♗f7-g6+
    11   ♔h7-g8

brings us back to position 15.12b.
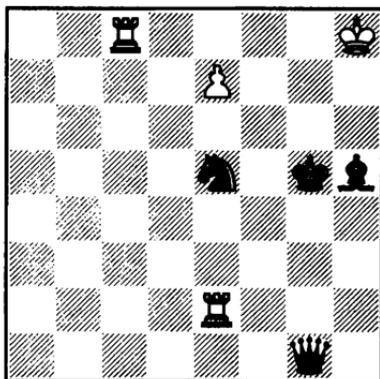
15.12   Draw
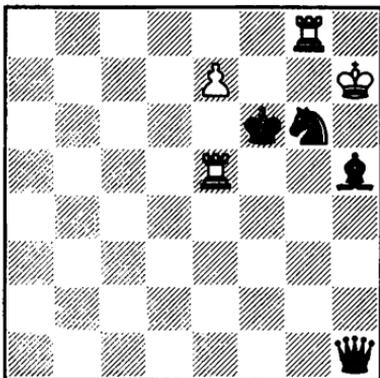
15.12a   After 3...♔g5-f6

15.12b   After 7 ♔h7-g8

16 Frolics and fantasies

We remarked at the start of this book that an endgame study is the chess equivalent of a short story. A minor but significant branch of literature is the fantasy story, and such things occur in chess as well.

16.1   Draw

16.2   Draw

Studies of this type have always been popular, and the ideas behind 16.1 and 16.2 date from medieval times. The original settings, which used the old "firzan" and "fil", can be found in Appendix B, but the present versions substitute modern men without changing anything of importance. In each case, White is hopelessly behind on material, and his only hope is to hound the Black king by perpetual check. In **16.1** ("The Ellipse", H. F. L. Meyer, 1882), we have

1	♘h4-f5+	♚e7-d7
2	♘g4-e5+	♚d7-c8
3	♘f5-e7+	

etc, repeating the play after sixteen moves by the Black king (d7, c8, b8, a7, a6, b5, b4, c3, d3, e2, f2, g3, g4, f5, f6, and back to e7). In **16.2** ("The Square", Meyer, version), we have

1	♖a7-a8+	♚e8-f7
2	♖a8-f8+	♚f7-g6
3	♖f8-f6+	

etc, repeating after twelve moves (f7, g6, h5, g4, f3, e2, d3, c4, b5, c6, d7, e8); or, if Black prefers, he can play

1	...	♚e8-d7

and be driven round the other way.

16.3 (G. A. Nadareishvili and V. V. Smyslov, 1986) shows a study called "The Chess Clock" which is said to have been inspired by an incident from a game. White naturally starts by pushing his pawns as far as he can:

1	b3-b4	♚c6-b5
2	b2-b3	♚b5-b6
3	a3-a4	♚b6-c6
4	b4-b5+	♚c6-c5
5	b3-b4+	♚c5-b6.

White must now move his king (**16.3a**), and it becomes Black's turn to advance:

6	♚g5-g4	h7-h6
7	♚g4-f4	g6-g5+
8	♚f4-f5	g7-g6+
9	♚f5-g4.	

Tick (**16.3b**) ...

9	...	♚b6-b7
10	a4-a5	♚b7-c7
11	b5-b6+	♚c7-c6
12	b4-b5+	♚c6-b7

...tock...

13	♚g4-g3	h6-h5
14	♚g3-f3	g5-g4+
15	♚f3-f4	g6-g5+
16	♚f4-g3	

...tick...

16	...	♚b7-b8
17	a5-a6	♚b8-c8
18	b6-b7+	♚c8-c7
19	b5-b6+	♚c7-b8

...tock...

20	♚g3-g2	h5-h4
21	♚g2-f2	g4-g3+
22	♚f2-f3	g5-g4+
23	♚f3-g2	

...and Black's flag falls (23...h3+ 24 ♚xg3 h2 25 a7+ ♚xb7 26 ♚xh2).
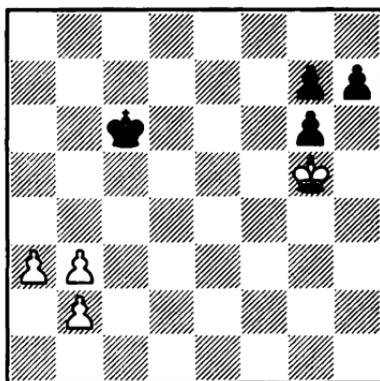
16.3   Win
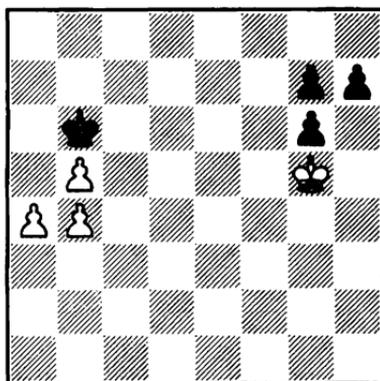
16.3a   After 5...♚c5-b6

16.3b   After 9 ♚f5-g4

16.4   Win

16.4a   After 9 ♘d1-f2

16.4b   After 18 c4-c5

Composers also delight in exotic mates and stalemates. The mate resulting from **16.4** (C. M. Bent, 1965) will show the Black king blocked by its own pawns: an ancient theme, picturesque and easy to follow. An extended but straightforward introduction

1	♘b3-d2+	♚e4-e5
2	♘d2-f3+	♚e5-e6 (or e4)
3	♘f3-g5+	♚e6-e5
4	♗e7-f6+	g7xf6
5	♖f7-e7+	♛g8-e6
6	♖e7xe6+	d7xe6
7	♘g5-f3+	♚e5-e4
8	♘f3-d2+	♚e4-e5
9	♘d1-f2	

leads to **16.4a,** and now Black must play

9	...	e2-e1♘

to prevent the threatened mates on d3 and f3. White now plays

10	♚h5-h4	

to meet ...f3 with ♚g3, and the rest is again straightforward:

10	...	d4-d3
11	c2-c3	♘e1-g2+
12	♚h4-h3	♘g2-e1
13	♚h3-h2	f4-f3
14	♚h2-g3	f5-f4+
15	♚g3-g4	d5-d4
16	c3-c4	f6-f5+
17	♚g4-g5	d6-d5
18	c4-c5	

with mate next move (**16.4b**). And, once again, every man has moved into place during the play.

16.5 (J. Rusinek, 1977) will lead to an exotic stalemate. The reason for the opening sacrifice

1   e4-e5   ♗c3xe5

will appear only at the end, but the next move

2   d6-d7

is simple enough;   it threatens 3 ♗g5+ and 4 d8♕, and

2   ...   ♖e6-d6

is the only reasonable reply (**16.5a**). (If Black tries 2...♗f6 instead, White plays 3 ♗xf6, and draws easily after 3...♖xf6+ 4 ♔e7.)   If White now defends the d-pawn by ♔e7 or ♔e8, Black will play ...♔g7, and his rook, bishop, and knight will eventually overwhelm White's defence.   White does better first to sacrifice the g-pawn, freeing his light bishop and making Black's bishop obstruct his king:

3   g6-g7!   ♗e5xg7+
4   ♔f8-e8.

If Black does not capture the light bishop immediately, White will obtain a draw in a straightforward manner, for the d-pawn will soon cost Black some material.   So

4   ...   ♔h6xh7

is effectively forced.   White now plays

5   ♗d8-e7,

threatening to promote, and Black's only counter is to drive the king away and capture the pawn;   and

5   ...   ♘b5-c7+
6   ♔e8-f7   ♖d6xd7
                  stalemate

leaves the pieces neatly in a line (**16.5b**).
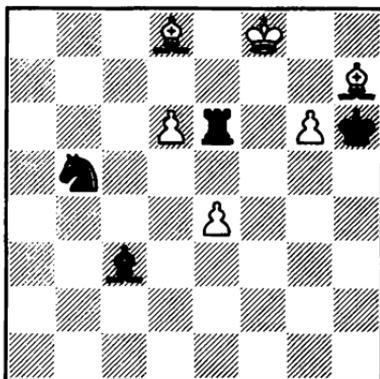
16.5   Draw
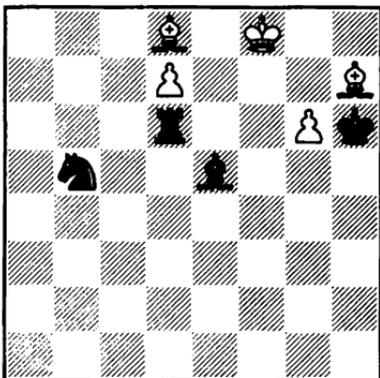
16.5a   After 2...♖e6-d6
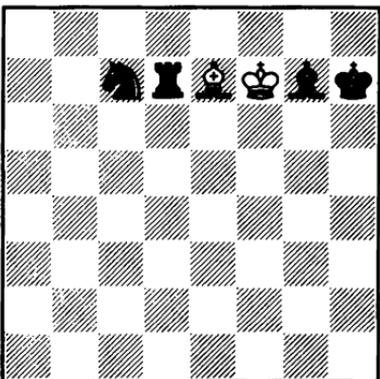
16.5b   6...♖d6xd7 stalemate
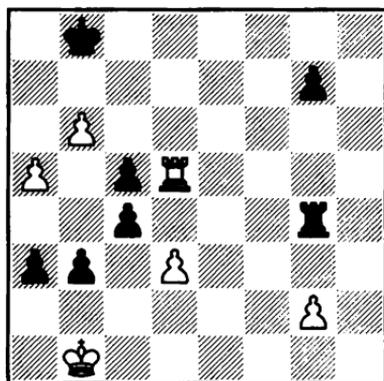
16.6 Win
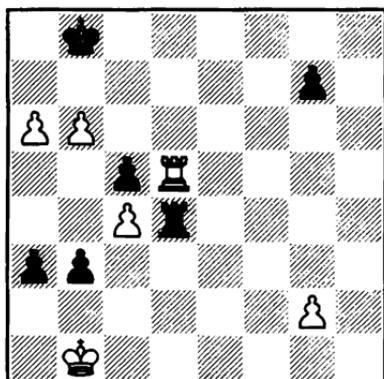
16.6a After 2 d3xc4
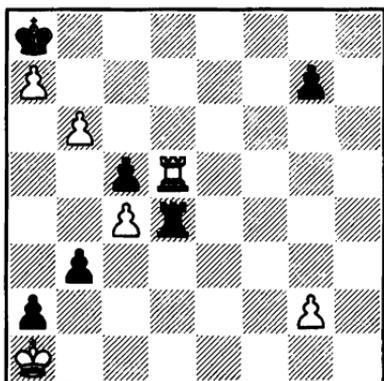
16.6b After 4 ♔b1-a1

16.6 (V. A. Korolkov, 1973) shows a mixture of the fanciful and the subtle. The play starts simply enough:

>1   a5-a6   ♖g4-d4.

Now 2 a7+ seems to be the natural move, but we shall see in due course that it actually loses, and the correct move is

>2   d3xc4.

This gives **16.6a**, a curious symmetrical arrangement which proves to be a position of reciprocal zugzwang. Black has nothing better than

>2   ...   ♔b8-a8,

and the sequel

>3   a6-a7   a3-a2+
>4   ♔b1-a1!

gives **16.6b**, which is another position of reciprocal zugzwang. The moves of the g-pawns soon run out,

>4   ...   g7-g6
>5   g2-g3   g6-g5
>6   g3-g4,

and now the player to move must play his king to the b-file:

>6   ...   ♔a8-b7.

This exposes his king to check from the opposing c-pawn, and allows his opponent to exchange rooks and win:

>7   ♖d5xd4   c5xd4
>8   c4-c5   d4-d3
>9   c5-c6+   ♔b7-a8
>10   c6-c7.

The objection to 2 a7+ now becomes clear. Black can play 2...♔b7 in reply, and the sequel 3 dxc4 a2+ 4 ♔a1 (or 4 ♔b2 ♖xd5) ♔a8 leads to 16.6b but with White to move; and it will be White who first has to put his king on the b-file.

The names of V. A. Korolkov and L. A. Mitrofanov usually indicate that something strange is about to happen, and **16.7** (1962) will prove no exception. White must disentangle his men without losing too much material, and

    1   Ra2-a1

is a natural start. Now 1...fxg5+ causes little difficulty (2 Rxg5+ Wxg5+ 3 &xg5 c2 4 &f4 &f2 5 &e4 &e2 6 &d4 &d2 7 &c4), but

    1   ...   Wg7-g6

is more dangerous. There follows

    2   Rh5-h2+   &g2xh2
    3   &g5-f3+   &h2-h3
    4   Ra1-h1+   &h3-g2.

Now 5 Rg1+ fails (5...&f2 6 Rxg6 fxg6 7 bxc3 g5+ 8 &e4(g4) f5+ 9 &-- &xf3), but White can play

    5   Rh1-h2+   &g2-f1
    6   &f4-e3!

threatening mate on f2 (**16.7a**). The natural 6...Wg3 loses (7 Rh1+ &g2 8 Rg1+ &h3 9 Rxg3+ &xg3 10 bxc3) and the only good defence is

    6   ...   Wg6-c2.

Now 7 Rxc2 is suicidal, but

    7   Rh2-h1+   &f1-g2
    8   Rh1-g1+   &g2-h3
    9   &e3-f4!

creates a threat of mate on g3 instead (**16.7b**) and 9...Wf2 10 Rh1+ &g2 11 Rh2+ &f1 12 Rxf2+ &xf2 13 bxc3 is a draw. However, Black can play

    9   ...   Wc2-g6;

he wins after 10 Rxg6 fxg6 11 bxc3 b2 12 &d2 g5+ (for example, 13-15 &c2 g2 16 &f3 &g4 17 &g1 f5 18-20 c6 f2 21 c7 b1W+ 22 &xb1 fxg1W+). But the answer is simple:

    10   Rg1-h1+   &h3-g2
    11   Rh1-h2+   &g2-f1
    12   &f4-e3,

taking us back to 16.7a.
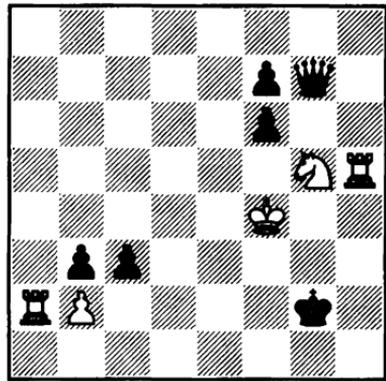
16.7   Draw
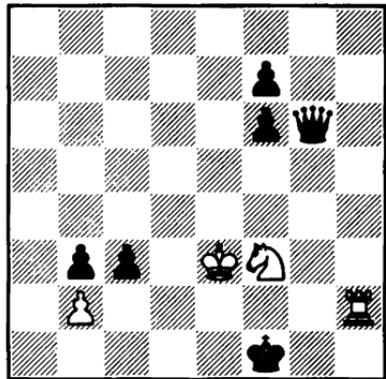
16.7a   After 6 &f4-e3
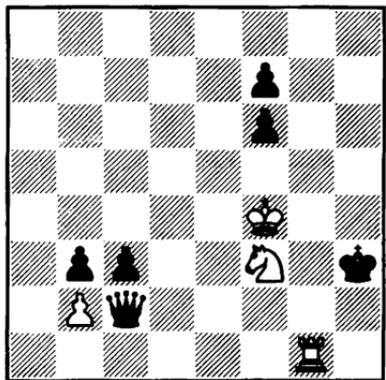
16.7b   After 9 &e3-f4
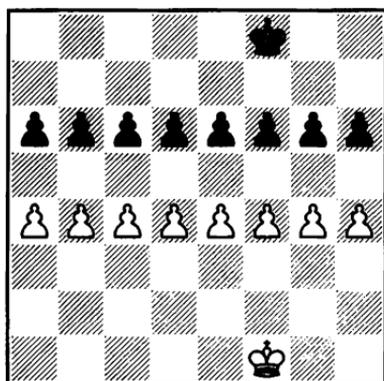
16.8 (repeats 1.4)   Win
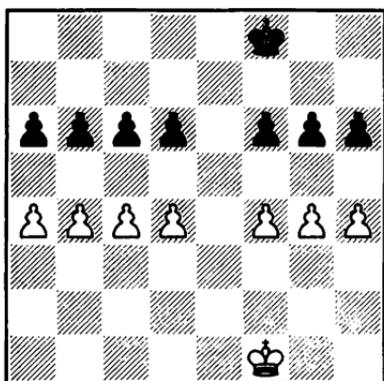
16.8a   See text

16.8 (P. A. Cathignol, 1981, repeating 1.4) would merit a place in this chapter for its opening position alone, but in fact this is by no means its only point of interest. The apparently featureless pawn rows are amenable to some instructive analysis.

Suppose for a moment that there are no e-pawns (**16.8a**). By sacrificing, White can now break through on either side, but he would like to do so on as distant a file as possible. If he tries 1 a5, there follows 1...bxa5 2 d5 axb4! 3 dxc6, and Black has confined the break to the c-file. The same is true after 1 b5 cxb5! 2 a5 bxa5 3 c5, while 1 c5 dxc5! 2 b5 cxb5 3 axb5 axb5 4 d5 is even less promising for White because the break is confined to the d-file. This leaves 1 d5, after which 1...a5 2 dxc6 still appears to confine the break to the c-file, but there is an important difference: Black must play 2...♔e7(e8) to stop the pawn, and 3 b5 gives White a protected passed pawn and an easy win. So Black must meet 1 d5 with either 1...cxd5 or 1...c5, and now 2 a5 forces a pawn through on the b-file (for example, after 2...bxa5 3 b5 axb5 4 cxb5).

On the right, the position is simpler. White can break through only by playing 1 g5, and the line 1...fxg5! 2 h5 gxh5 3 f5 confines the break to the f-file. Such a break is clearly harmless at present, though it

may become dangerous once the Black king has been forced to catch a fleeing b-pawn.

Now let us return to 16.8. The e-pawns make no real difference; White's best move is again

| 1 | d4-d5! |

because anything else will enable Black to confine the break to the c-file. Black must exchange the e-pawns, because dxe6 is no more tolerable than dxc6, so we have

| 1 | ... | e6xd5 |
| 2 | e4xd5, | |

and the line

2	...	c6xd5 (c6-c5)
3	a4-a5	b6xa5
4	b4-b5	a6xb5
5	c4xb5	

follows as before (**16.8b**). The Black king must now deal with the b-pawn,

5	...	♚f8-e7
6	b5-b6	♚e7-d7
7	b6-b7	♚d7-c7

(**16.8c**), and it is time for White to break through on the right as well:

8	g4-g5!	f6xg5
9	h4-h5	g6xh5
10	f4-f5	

(**16.8d**). This leaves Black nothing better than

10	...	a5-a4
11	f5-f6	a4-a3
12	f6-f7	a3-a2,

and a little care ensures that White promotes with check:

| 13 | b7-b8♕+ | ♚c7xb8 |
| 14 | f7-f8♕+. | |
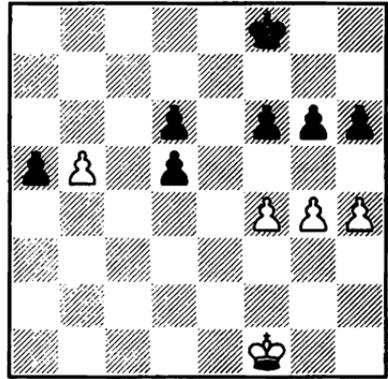
16.8b   After 5 c4xb5
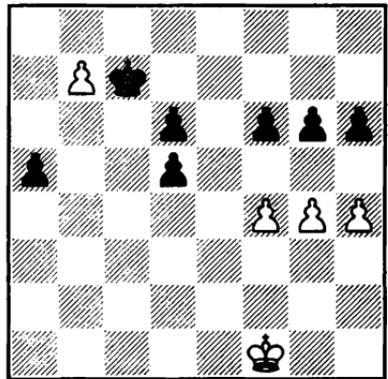
16.8c   After 7...♚d7-c7
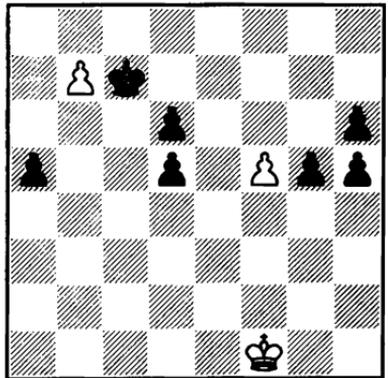
16.8d   After 10 f4-f5
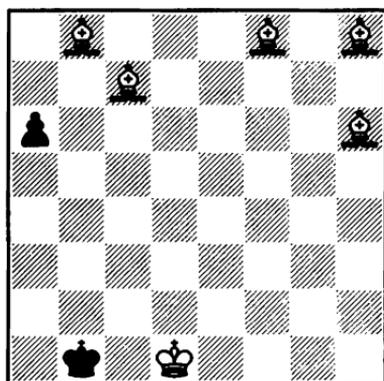
16.9   Win
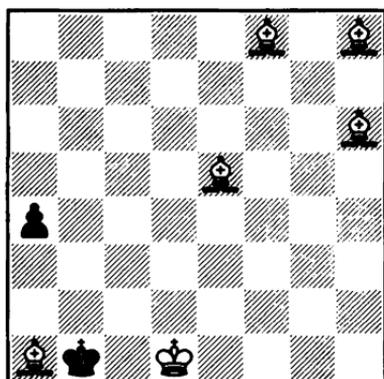
16.9a   After 3 ♗b8-e5
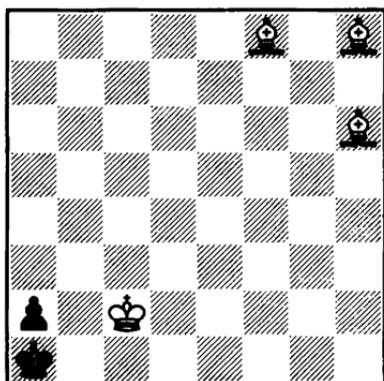
16.9b   9 ♚c3-c2 mate

16.9 (A. A. Troitsky, 1905) shows the most fantastic conception of all. At first sight, White cannot hope to win, because he has only dark bishops; how can he cover the light squares? The task calls for some cunning play. White must put a bishop on a1, defend it by a second bishop between d4 and h8, leave a third bishop guarding c1, wait for Black to move his pawn down to a2, and then play ♚c3. This will cut off the guard from a1, forcing ...♚xa1, and ♚c2 will then give mate by discovery.

So White starts with

1   ♗c7-e5,

and it is sufficient to consider the reply

1   ...   a6-a5

since the line 1...♚a2 2 ♚c2 a5 3 ♗a1 a4 4 ♗be5 a3 5 ♚c3 leads to the same position. There follows

2   ♗e5-a1   a5-a4
3   ♗b8-e5,

giving **16.9a**, and now 3...a3 4 ♚d2 ♚a2 5 ♚c3 ♚b1 6 ♚b3 a2 7 ♚c3 will produce the denouement that White has envisaged. A better line for Black is therefore

3   ...   ♚b1-a2
4   ♚d1-c2   a4-a3,

because the bishop on a1 must now be sacrificed prematurely in order to avoid stalemate:

5   ♚c2-c3   ♚a2xa1.

Fortunately, White has some bishops in hand (he does in fact need all five) and the sequel

6   ♚c3-b3+   ♚a1-b1
7   ♗e5-a1   a3-a2
8   ♚b3-c3   ♚b1xa1
9   ♚c3-c2 **mate**

achieves what at first seemed utterly impossible (**16.9b**).

17 The grand manner

Finally, we present a dozen masterpieces of the composer's art, in which finesse follows finesse in breathtaking manner.

Such a study need not start from a complicated position, as **17.1** (H. F. Blandford, 1949) demonstrates. At first sight, White seems to have no chance of a win, because his pawn is blocked on its first square and Black can draw at any time by capturing it. However, the first move

    1   ♗c3-d4+

frees the pawn and commands e3, and the knight will always be one move too late to catch the pawn. But Black can tuck his king away in the corner,

    1   ...   ♔a7-a8,

and after

2	c2-c4	♘f1-d2
3	c4-c5	♘d2-b3
4	c5-c6	♘b3-a5
5	c6-c7,	

he can play

    5   ...   ♘a5-c6!

(**17.1a**). Now 6 ♔xc6 will give stalemate, another stalemate will follow 6 c8♕+ ♘b8+, and a bishop move such as 6 ♗c5 will allow a draw starting with 6...♘b8+. So White must take a rook:

    6   c7-c8♖+!!

17.1   Win

17.1a   After 5...♘a5-c6

"Baby studies" using no more than five men have a special appeal, but few can equal this. White's last pawn must advance under hostile fire from its first rank to its last; and when it has finally reached its goal, it has to promote to a rook.
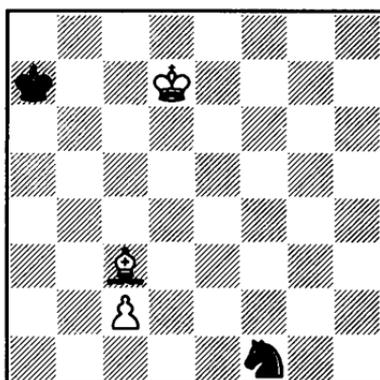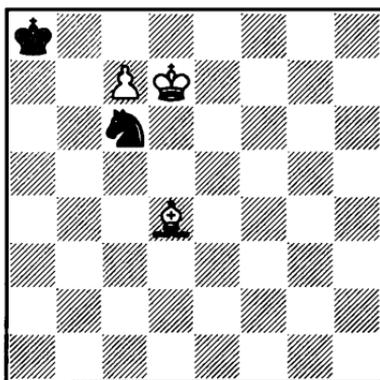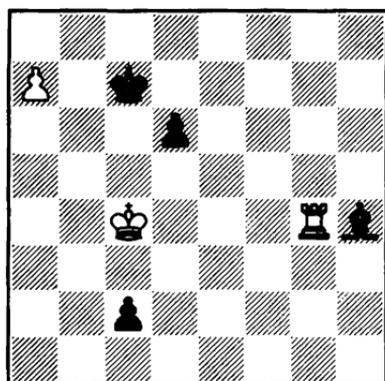
17.2   Win
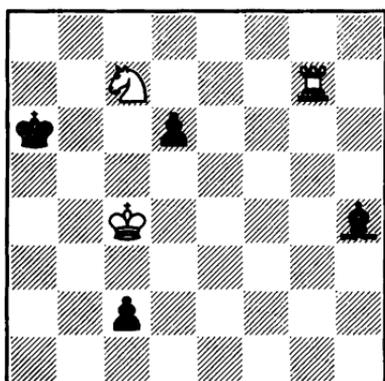
17.2a   After 3 ♘a8-c7+
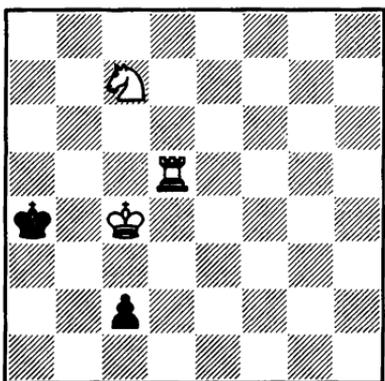
17.2b   After 6...♔a5-a4

If White tries to stop Black's advanced pawn in **17.2** (Z. M. Birnov, 1947, extending an idea previously shown by G. M. Kasparian), he will lose his own. He must therefore try to promote with check, but after

    1   **♖g4-g7+**   **♔c7-b6**

he must settle for a knight:

    2   **a7-a8♘+.**

However, 2...♔a5 or 2...♔c6 will allow immediate mate, so

    2   ...   **♔b6-a6**

is forced, and

    3   **♘a8-c7+**

again makes Black tread carefully (**17.2a**). 3...♔-7 allows 4 ♘e6+ and 5 ♖g1, since the knight now prevents 5...♗g5, and 3...♔b6 allows 4 ♘d5+ followed either by mate or by the capture of the pawn. So only

    3   ...   **♔a6-a5**

offers serious resistance. There follows

    4   **♖g7-g1,**

and it is Black's turn to play some good moves, sacrificing two men to ensure the promotion of his pawn:

    4   ...   **♗h4-g5!**
    5   **♖g1xg5+**   **d6-d5+!**
    6   **♖g5xd5+**   **♔a5-a4**

(**17.2b**). However, all is to no avail; the new queen will block its own king, and

    7   **♘c7-b5**   **c2-c1♕+**
    8   **♘b5-c3+**   **♔a4-a3**
    9   **♖d5-a5+**   **♔a3-b2**
    10   **♖a5-a2 mate**

provides a classic finish.

White cannot usefully capture the Black b-pawn in **17.3** (M. S. Liburkin, 1932, doubling a theme shown by K. A. L. Kubbel), because 1 ♖xb2 can be answered by 1...♔b7 with a simple win for Black. So White must enlist his king, but 1 ♔c7 is insufficient because it allows the reply 1...♗g3+; the bishop now controls b8, and a typical sequel is 2 ♔c8 ♗d1 3 b7+ ♔a7 4 b8♕+ ♗xb8 5 ♖xb8 ♗b3! 6 ♖xb3 d2. This leaves

    1   ♔d8-c8,

threatening both mate on the a-file and promotion of the b-pawn. Black has only two replies. If he plays

    1   ...   ♗e2-g4+,

there follows

2	**♖b4xg4**	**♗f2xb6**
3	**♖g4-a4+**	**♗b6-a7**
4	**♖a4-b4**	**d3-d2,**

and now

5	**♖b4xb2!**	**d2-d1♕**
6	**♖b2-b8+!**	

induces

6	**...**	**♗a7xb8**
		stalemate

(**17.3a**). Alternatively, if Black plays

    1   ...   ♗f2xb6,

there follows

2	**♖b4xb6**	**d3-d2**
3	**♖b6xb2!**	

and the new threat of mate forces

    3   ...   ♗e2-a6+;

and now the stalemate occurs one rank lower:

4	**♔c8-c7**	**d2-d1♕**
5	**♖b2-b8+**	**♔a8-a7**
6	**♖b8-b7+**	**♗a6xb7**
		stalemate

(**17.3b**). It was studies like this, published in his late teens and early twenties, that made Liburkin's reputation.
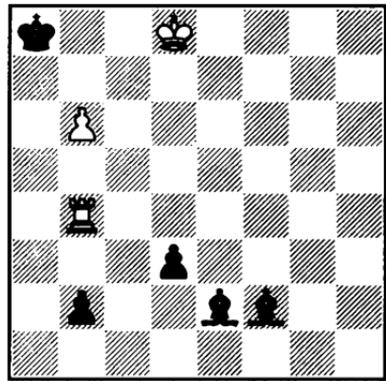
17.3   Draw
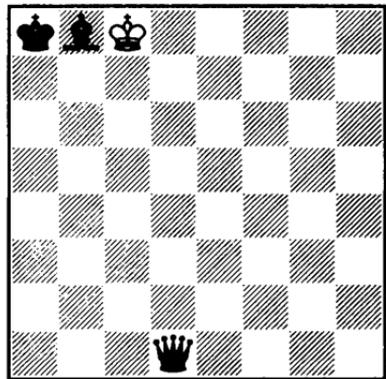
17.3a   Line 1...♗e2-g4+
           6...♗a7xb8 stalemate
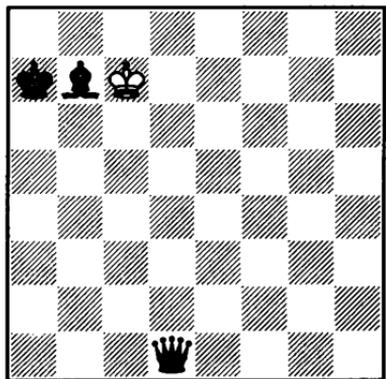
17.3b   Line 1...♗f2xb6
           6...♗a6xb7 stalemate
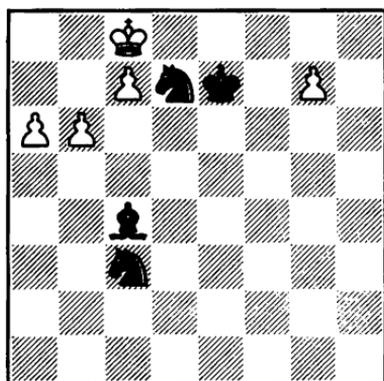
17.4   Draw
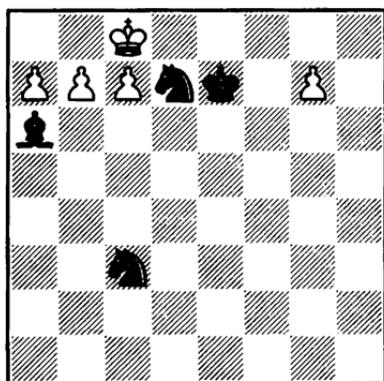
17.4a   After 2 b6-b7
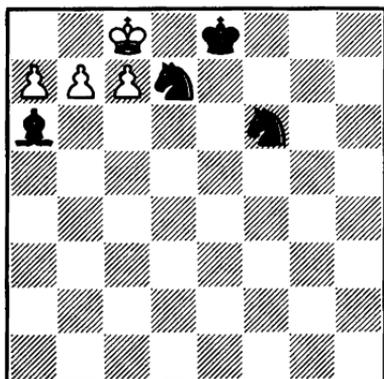
17.4b   After 4...♘e4xf6

White's first move in **17.4** (J. Rusinek, 1971) must be
> **1   a6-a7** ↖

because anything else allows mate in five moves at the most. Now Black must prevent the White king from escaping via b7, and 1...♗d5 is bad; the sequel would be 2 g8♘+ ♚e8 3 ♘f6+ ♘xf6 4 a8♕ ♗xa8 5 b7. The alternative move
> **1   ...   ♗c4-a6+,**

is better, and
> **2   b6-b7**

brings us to **17.4a.** Black must still play for mate, and 2...♘b5, although not his best move, is instructive. White must reply with 3 g8♘+ followed by the sacrifice of his new knight, but this is quite sufficient; he escapes after 3...♚e8 4 ♘f6+ ♘xf6 5 a8♕. So Black does better to play
> **2   ...   ♘c3-e4.**

It forces the same underpromotion and sacrifice,
> **3   g7-g8♘+   ♚e7-e8**
> **4   ♘g8-f6+,**

but now Black's other knight can capture,
> **4   ...   ♘e4xf6,**

and this gives **17.4b,** where 5 a8♕ can be met by 5...♘d5 and 6...♘e7 mate. All right, so White makes a bishop:
> **5   a7-a8♗!**

This creates a stalemate which Black must relieve (**17.4c**), so he has no time for ...♘d5. However, he can play
> **5   ...   ♘d7-e5,**

after which

 6 **♔c8-b8** **♘e5-c6+**
 7 **♔b8-c8** **♗a6-f1**

produces a very interesting position
(**17.4d**). If White plays 8 b8♕, there
follows 8...♗a6+ 9 ♕b7 (or ♗b7)
♘e4 with mate on d6; 8 b8♗ leads
to the same; and 8 b8♘ allows
8...♘e7+ 9 ♔b7 ♗g2+ and either 10
♔a7 ♘c8+ 11 ♔a6 ♗xa8 or 10 ♘c6
♗xc6+ 11 ♔a7 ♗d7, with a slow but
sure win in each case. This leaves
only

 8 **b7-b8♖!**

making White's third under-
promotion; and

 8 **...** **♗f1-a6+**
 9 **♖b8-b7**

now creates a stalemate (**17.4e**) which
gives Black no time for ...♘e4.

A technical point may be made here.
It is quite easy to construct a position
in which White must promote to rook
or bishop in order to *avoid* giving
stalemate. We saw several examples
in Chapter 9. It is much more
difficult to construct a position in
which White must underpromote to
create a stalemate, and the present
problem, in which White must
underpromote to three different
pieces in order to draw, represents a
very much greater feat of
composition than might at first
appear. That it was accomplished
with the use of only nine men adds
still more to the composer's
achievement.
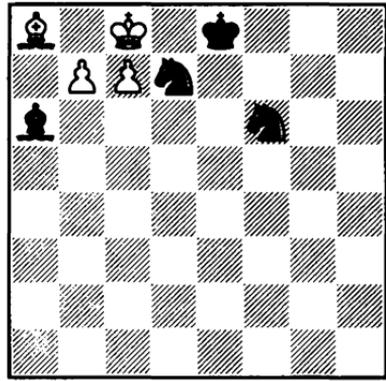
17.4c   After 5 a7-a8♗
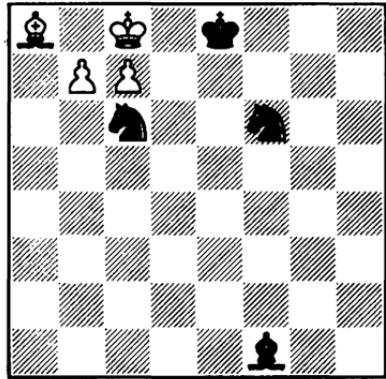
17.4d   After 7...♗a6-f1
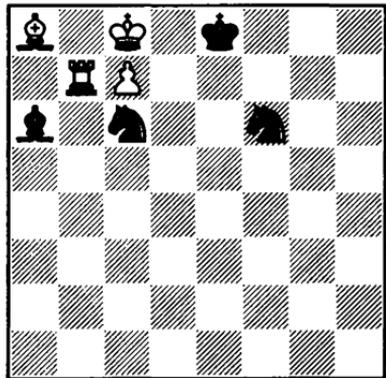
17.4e   After 9 ♖b8-b7

17.5   Draw

17.5a   After 3 ♕f7-f2+

17.5b   After 6...♕g2-b2

In **17.5** (D. Gurgenidze, 1972), White may expect to profit from the confined position of the Black king. His first task, however, is to save his knight, and the only way is by playing

    1   **♕c7-f7+.**

Now 1...♔xb1 allows immediate mate by 2 ♕b3. Black must therefore play

    1   ...   **♔a2-b2,**

and the sequel

    2   **♖g8-g2+!**   **♕e4xg2**

    3   **♕f7-f2+!**

keeps up the pressure (**17.5a**) because 3...♕xf2 will be stalemate. So Black must play

    3   ...   **♔b2-b3,**

and he must meet

    4   **♕f2xb6+**

by the retreat

    4   ...   **♔b3-a2**

because an advance into open country would allow White either to give perpetual check or to capture the rook. Now the White knight can no longer be saved, and

    5   **♕b6-e6+**   **♔a2xb1**

    6   **♕e6-b3+**   **♕g2-b2**

brings us to the heart of the study (**17.5b**). Black has a winning material advantage, and the
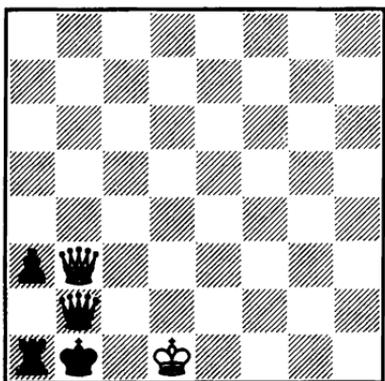
slightest relaxation by White will
unleash a crushing attack; but
Black's position is very cramped, and
he is even in some danger of mate.
White's next move

  7   ♕b3-c4!

gives us **17.5c**, and now 7...a2 allows
mate in two, moves such as
7...♕a2(b6,e5) allow mate in one,
and 7...♕f2 leads to 8 ♕b3+ ♔b2 9
♕c4 repeating the position. Only

  7   ...   ♖a1-a2

offers Black a hope of progress. But
what about

  8   ♕c4-b4!

(**17.5d**)? To capture the queen will
give stalemate, and 8...♖a1 9 ♕c4
will repeat position 17.5c. This
leaves only

  8   ...   ♔b1-a1,

which White can counter by

  9   ♕b4-c3!

(**17.5e**). Again, to capture the queen
will give stalemate, so Black has
nothing better than

  9   ...   ♔a1-b1,

and after

  10   ♕c3-b4   ♖a2-a1
  11   ♕b4-c4

we are back at position 17.5c.
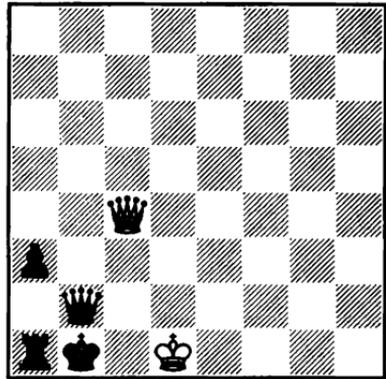
17.5c   After 7 ♕b3-c4
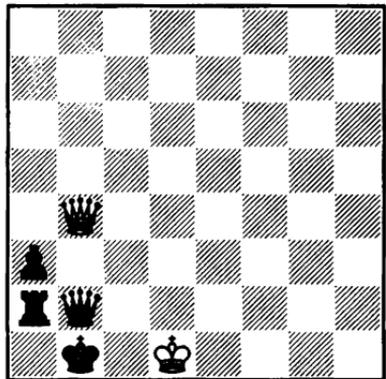
17.5d   After 8 ♕c4-b4
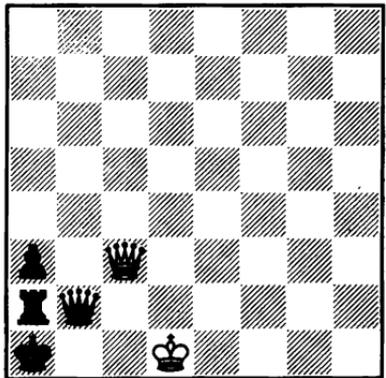
17.5e   After 9 ♕b4-c3
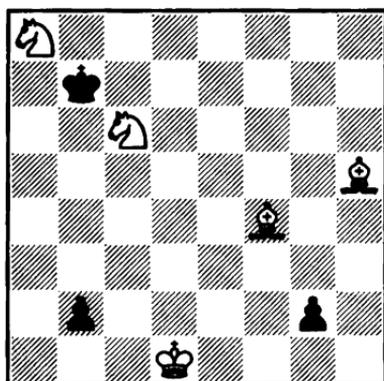
17.6   Win
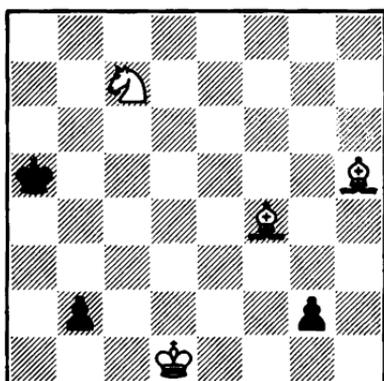
17.6a   After 2...♔a6xa5
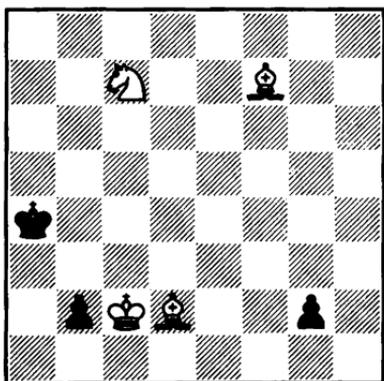
17.6b   After 6 ♔d1-c2

White's immediate task in **17.6** (V. A. Bron, 1965, version) is to stop the Black pawns, and the simple move

1   ♘c6-a5+

gives Black more trouble than might be expected. 1...♔a7 can be met by 2 ♗e3+ and 3 ♔c2, 1...♔xa8 leads to the same thing after 2 ♗f3+ ♔a7, and 1...♔c8 allows 2 ♘b6+ with mate next move. This leaves only

1   ...   ♔b7-a6.

If White now tries 2 ♗e2+, Black will reply with 2...♔xa5, and White will quickly run out of steam (3 ♗c7+ ♔b4 4 ♗d6+ ♔b3, or 3 ♗d2+ ♔a4 4 ♘b6+ ♔b3 5 ♗c4+ ♔a3). So White must check with the knight,

2   ♘a8-c7+,

and after

2   ...   ♔a6xa5

he will win if he can pick up the pawns at the cost of at most one more piece (**17.6a**). However, careful play by Black avoids this; after

3   ♗f4-d2+   ♔a5-a4
4   ♗h5-e8+   ♔a4-b3
5   ♗e8-f7+   ♔b3-a4,

the only move which prevents immediate promotion is 6 ♗e8+, and this repeats a previous position. But

6   ♔d1-c2!

threatens mate in two (**17.6b**), and this forces the sacrifice of one pawn to divert the White king. There follows

6   ...   b2-b1♕+
7   ♔c2xb1   g2-g1♕+
8   ♔b1-a2,

and we have **17.6c**. White now threatens two mates, ♗b3 and ♗e8, and the only defence is the

spectacular pin

8 ... Wg1-g8!

The Black queen is safe from capture because stalemate is in the offing, but the White bishop is not at all secure, and only &e6 or &d5 will bring it to safety. If White tries 9 &e6, however, the reply 9...Wf7, threatening the knight, leaves White with nothing but a draw. White must therefore play

9 &f7-d5!

and after

9 ... Wg8-f7

10 ∆c7-e6!

it is Black's turn to feel the pressure (**17.6d**). White is threatening both &c6 mate and ∆c5+, and the line 10...We8 11 &b3+ &b5 12 ∆c7+ is also crushing. So Black tries once more for stalemate, but after

10 ... &a4-b5

11 ∆e6-d4+ &b5-a4,

White avoids it by playing

12 &d5-b3+!

(**17.6e**).

This study provides an interesting example of the way in which composers are never satisfied. It was originally published in the form that appears in 17.6a, and in this form it won second prize in the prestigious FIDE tourney of 1963-5. Not content with this achievement, the composer worked on for his own satisfaction, and eventually produced the extended version given here: the "grand manner" made even grander than before!
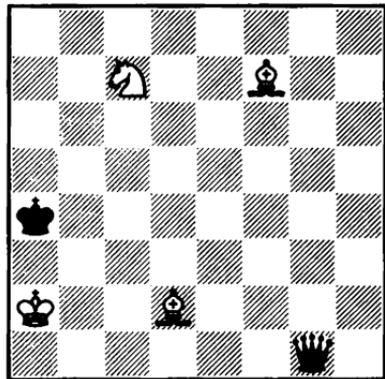
17.6c   After 8 &b1-a2
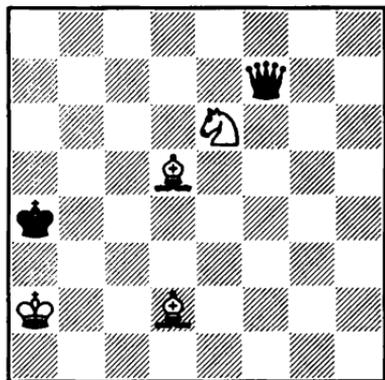
17.6d   After 10 ∆c7-e6
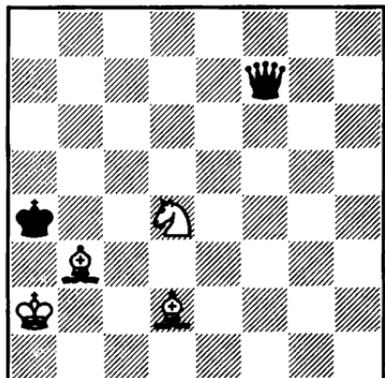
17.6e   After 12 &d5-b3+

17.7   Draw

17.7a   White draws

17.7b   Black wins
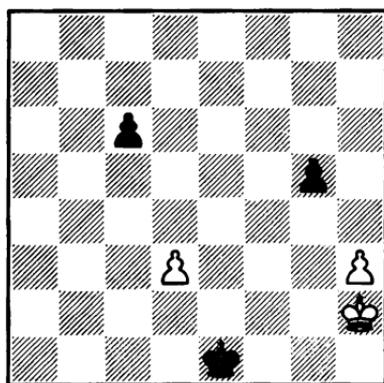
No chapter on the grand manner can be complete without a first-rank pawn study, but the choice of the apparently simple **17.7** (N. D. Grigoriev, 1931) may seem curious. White has only to draw, the material is already equal, and only the position of his king gives Black reason to hope for a win. Yet this position, so straightforward at first sight, conceals subtle possibilities for both sides, and in the main line White can hold the draw only by marching his king straight through the field of battle, looking neither to the left nor to the right, until it reaches the distant square e7!
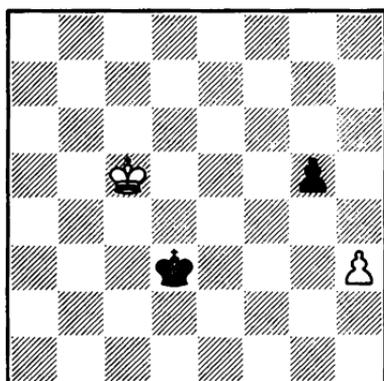
The reasons are instructive. Black, if allowed, will play ...c5, leaving Black pawns on c5 and g5 and White pawns on d3 and h3. If the kings now capture on the same side, as in **17.7a,** White can hold the draw; he will shadow the Black king's every subsequent move, and meet a capture on h3 by one on g5. However, if the kings capture on opposite sides, as in **17.7b** and **17.7c,** Black can win. In 17.7b, he will promote with check while White's pawn is still on d7; in 17.7c, he will again promote with check, White will have no better move than ♔g6, and Black will play ...♕c3 and bring his queen to h8.
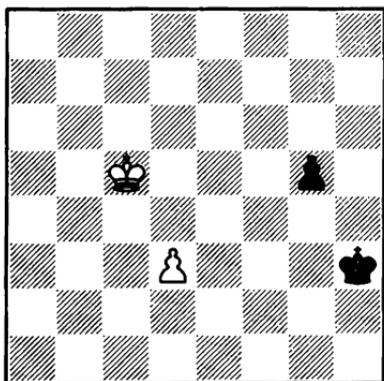
There is one more preliminary remark. If White can play his pawn to d4, as in the line 1 ♔g3 ♔e2 2 d4 **(17.7d),** he can then go for the Black g-pawn. The continuation 2...♔e3 3 ♔g4 ♔xd4 4 ♔xg5 c5 gives 17.7c but with the Black king on d4. Now, after 5-8 h7 c1♕+ 9 ♔g6, the long diagonal is blocked, the move ...♕c3 does not work, and White has the standard draw with a pawn on h7.

We can now examine the play. White cannot start with 1 d4, because the reply 1...♔f2 would force a quick win. He must play

1   ♔h2-g3,

and Black must reply with

1   ...   c6-c5!

to prevent 2 d4. If White now goes for the g-pawn, Black will go for the d-pawn and win; the line 2 ♔g4 ♔d2 3 ♔xg5 ♔xd3 leads straight to position 17.7c. So White must play

2   ♔g3-f3!

and keep his options open. If Black now goes for the d-pawn, White will go for the c-pawn; the line 2...♔d2 3 ♔e4 ♔c3 4 ♔d5 ♔xd3 5 ♔xc5 produces position 17.7a, and 4...♔b4 5 ♔c6 c4 6 dxc4 ♔xc4 is no better for Black. So Black must keep his options open as well:

2   ...   ♔e1-f1!

White cannot now play 3 ♔e3, because Black will reply with 3...♔g2 and win quickly, so he must play

3   ♔f3-e4!

The pattern is now clear. If White strays to one side, Black will go to the opposite side and win; if Black strays, White will go to the same side and clinch the draw. So both sides must go straight down the middle:

3   ...   ♔f1-f2!
4   ♔e4-e5!   ♔f2-f3!
5   ♔e5-e6!   ♔f3-f4!
6   ♔e6-e7!!

This brings us to **17.7e**, and 6...♔f5 would lose touch with the h-pawn and allow White to draw by 7 ♔d6 and 8 ♔xc5. So Black must retreat,

6   ...   ♔f4-f3,

and

7   ♔e7-e6

gives a draw by repetition.
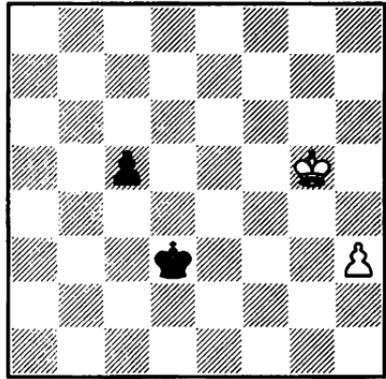
17.7c   Black wins
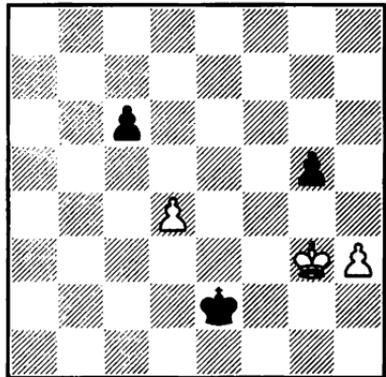
17.7d   After 1 ♔g3 ♔e2 2 d4
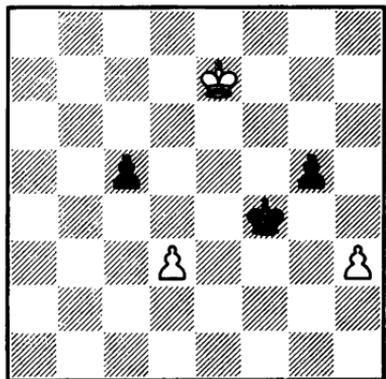
17.7e   Main line
After 6 ♔e6-e7

17.8   Draw

17.8a   After 4 ♘c4-e5+

17.8b   Line 6 ♘xb8
               After 6...♗xb8

White is a rook down in **17.8** (O. Mazur and G. A. Umnov, 1981) and has no time to lose. Hence play starts with the fork
    1   ♘d2-c4.
Black must extricate his rook with check,
    1   ...   ♖a3xb3+,
and the reply
    2   ♔b1-a2!
maintains the pressure. The reason for going to a2, rather than to c2, will become apparent later in the play. There is now a straightforward continuation
    2   ...   ♗b6xa7
    3   d6-d7   ♖b3-b8
    4   ♘c4-e5+,
giving **17.8a**. White will now play ♘c6, threatening both ♘xb8 and d8♕, and Black's counter is subtle: to answer 5 ♘c6 by capturing the pawn, 5...♘xd7, and to meet the subsequent 6 ♘xb8 by playing 6...♗xb8 and capturing the other knight before it can escape. To do this, Black must move his king to f4, because on f5 or g5 it will be exposed to an embarrassing check (4...♔f5 5 ♘c6 ♘xd7 6 ♘d6+ etc, 4...♔g5 5 d8♕+ ♖xd8 6 ♘f7+) and on any other square it will be too far away to help with the attack (4...♔g3 5 ♘c6 ♘xd7 6 ♘xb8 ♗xb8 7 ♘g7). Hence we have
    4   ...   ♔g4-f4!
    5   ♘e5-c6   ♘c5xd7
and now the exchange 6 ♘xb8 ♗xb8 would indeed lose (**17.8b**). (If the

knight runs at once, we have 7 ♘g7 ♘f8 8 ♘h5+ ♚g5 9 ♘g7 ♚g6 10 ♘e8 ♚f7; if White tries 7 ♚b3, hoping for 7...♗e5 8 ♚b4! ♚e4 9 ♚c4 with a draw, there follows 7...♚e4! 8 ♚b4 ♚d5 9 ♘g7 ♗e5 10 ♘f5 ♚e4 11 ♘h6 ♗d6+ 12 ♚c3 ♘e5 13 ♘g8 ♚f5 14 ♚d4 ♘f7 15 ♚d5 ♗f8 16 ♚c6 ♚e6 etc.) But White can play

    6   ♘e8-c7!!

(**17.8c**). His knight is now out of danger, and he threatens both bishop and rook; Black can fight on only by playing ...♖b7 or ...♖c8. But

    6   ...   ♖b8-b7

allows

    7   ♘c6-d8!

(**17.8d**), and Black's only safe move is to return to b8; and after

    7   ...   ♖b7-b8
    8   ♘d8-c6   ♖b8-c8,

we have

    9   ♘c6-e7!

similarly (**17.8e**). Black must again return to b8, and White draws by repetition:

    9   ...   ♖c8-b8
    10   ♘e7-c6.

And now we see why White played 2 ♚a2, not 2 ♚c2. If the White king were on c2 in position 17.8d, Black could play 7...♖xc7+.

In this astonishing finale f4 turns out to be an unlucky square for the Black king, but on the fourth move it looked much the best: a triumph of composition.
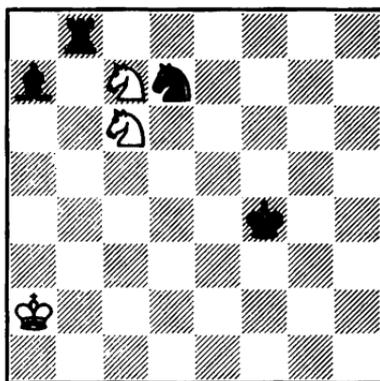
17.8c   Main line
After 6 ♘e8-c7
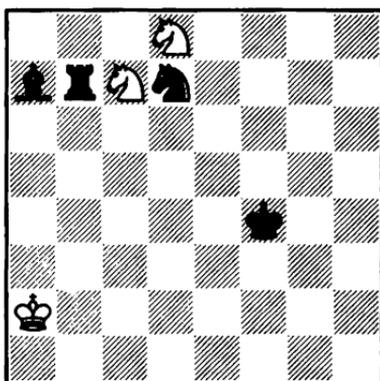
17.8d   After 7 ♘c6-d8
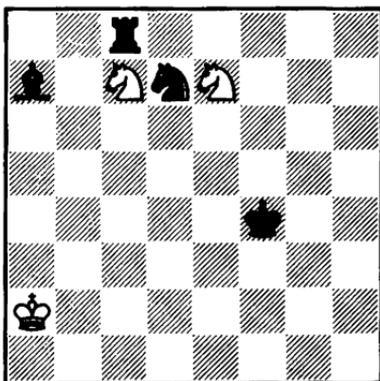
17.8e   After 9 ♘c6-e7

17.9   Win

17.9a   After 4...♚d4-c4

17.9b   After 7 ♖d3-d8

17.9 (L. A. Olmutsky, 1963) presents us with a simple-looking position, but an imaginative leap will be needed to find White's route to victory. The first steps, however, are clear enough: the rooks must be posted behind the pawns. The opening checks

    1   ♖c3-a3+   ♚a5-b4
    2   ♖a3-b3+

drive Black to the c-file. He shuns 2...♚a5 because of the sequel 3 ♖xb2 d1♛ 4 ♖a3+, and 2...♚a4 leads to 3 ♖bg3 d1♛ 4 ♖h4+, after which Black must eventually sacrifice his queen or concede a mate on the eighth rank. So

    2   ...   ♚b4-c4

is the move, and after

    3   ♖h3-c3+   ♚c4-d4
    4   ♖c3-d3+   ♚d4-c4,

we have **17.9a.** So far so good, but Black is threatening to promote a pawn and then to capture one of the rooks, for his remaining pawn will be strong enough to secure a draw against the other rook. So White is in a tight spot, and if his king were on, say, h1 or g2, instead of h2, he would indeed have to settle for a draw. As it is, however, we see a remarkable winning manoeuvre unfold:

    5   ♖b3-c3+   ♚c4-b4
    6   ♖c3-c7!   b2-b1♛
    7   ♖d3-d8!!

(**17.9b**). Black has no useful check and can do no better than to play

    7   ...   d2-d1♛,

whereupon

    8   ♖d8-b8+   ♚b4-a3
    9   ♖c7-a7+   ♛d1-a4
    10   ♖a7xa4+   ♚a3xa4
    11   ♖b8xb1

leaves White with a rook to nothing.
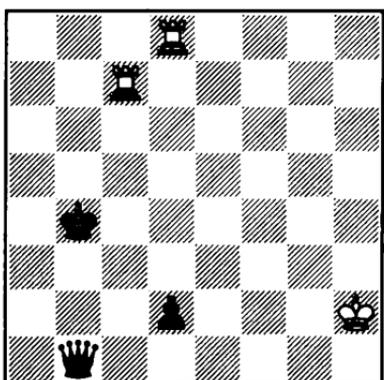
Black threatens mate in two in **17.10** (G. Grzeban, 1960), so White must guard a1:

1	d4-d5+	♚e6xd5
2	h7-h8♕.	

There follows a brisk duel:

2	...	♝h2-b8+
3	♕h8xb8	♘a3-b5+
4	♚a7-a8	♜h1-a1+
5	♕b8-a7	♜a1xa7+
6	b6xa7	♘b5-c7+
7	♚a8-b8	♘c7-a6+
8	♚b8-a8	

17.10   Draw

and we have reached the heart of the study (**17.10a**). White appears to threaten 9 b8♕ and the pin 8...♝c6 leads to stalemate (9 c4+ ♚-- 10 c5 etc), while 8...♚c6 allows 9 b8♘+ and 10 ♘xd7. However, the threat is illusory. Black can play

8	...	♝d7-a4!

and after 9 b8♕ there would follow 9...♝c6+ 10 ♕b7 ♚d6! 11 c4 (or 11 c3 ♚d5 12 c4+) ♚c5 12 ♕xc6+ ♚xc6 and Black mates with the knight. Nor does 9 b8♘ help (9...♝c6+ 10 ♘xc6 ♚xc6 and again the knight gives mate), nor 9 c4+ (9...♚c6! 10 b8♘+ ♚c7 11 ♘xa6+ ♚c8 12 ♘b4 ♝e8 and a bishop mate soon follows), nor even 9 c3 (9...♚c6 10 c4 ♝d1 11 c5 ♝f3 etc). One feels Black really deserves to win! However, White has one last resource:

9	b7-b8♜!!	

17.10a   After 8 ♚b8-a8

This leads to

9	...	♝a4-c6+
10	♜b8-b7	♚d5-d6
11	c2-c4	

and White is safe (**17.10b**). Stalemate looms, and although it may be avoided by 11...♝e4 (say) 12 c5+ ♚c6, Black still cannot win. It is a very honourable draw indeed.
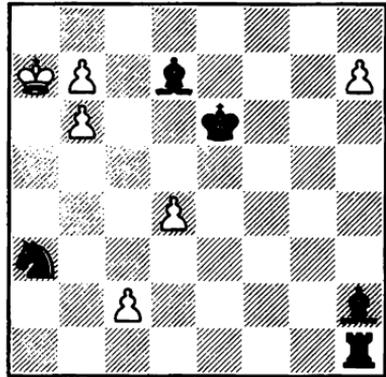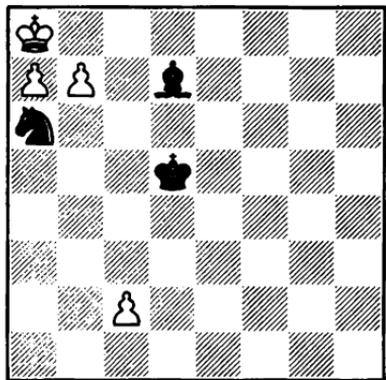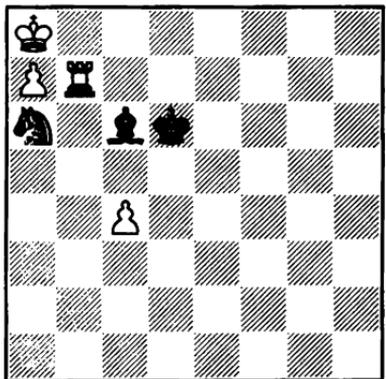
17.10b   After 11 c2-c4
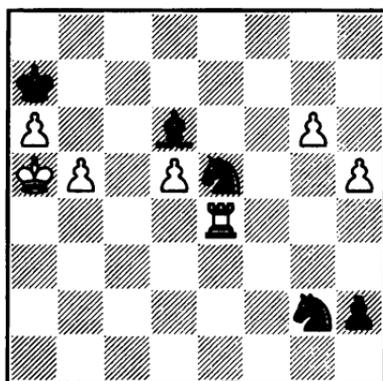
17.11   Win
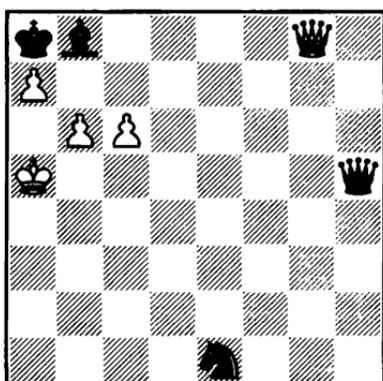
17.11a   After 6...♕h1xh5+
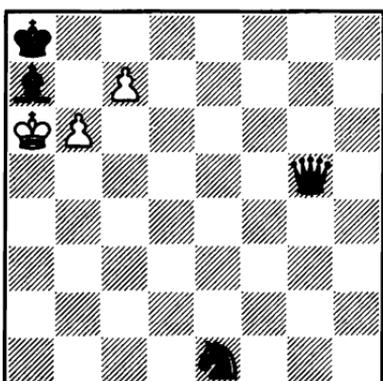
17.11b   After 9 c6-c7

In Chapter 11, we remarked that a king could often be shielded from a queen which was six files and one rank away. **17.11** (L. A. Mitrofanov, 1967, version) shows perhaps the most striking of the many studies which have exploited this fact.

The opening move
    1   b5-b6+
is best met by
    1   ...   ♔a7-a8,
leaving b8 free for the bishop. Now comes the first surprise:
    2   ♖e4-e1!
White must make this sacrifice to obstruct the first rank, because Black would escape after 2 g7 h1♕ 3 g8♕+ ♗b8 4 a7 ♕a1+. Now, after
    2   ...   ♘g2xe1
    3   g6-g7   h2-h1♕
    4   g7-g8♕+   ♗d6-b8
    5   a6-a7,
Black is under pressure, and must sacrifice to avoid a quick mate:
    5   ...   ♘e5-c6+
    6   d5xc6   ♕h1xh5+
(**17.11a**). He hopes for 7 ♔a6 ♕e2+ with a draw, but he is trumped by
    7   ♕g8-g5!!
The only possible reply is
    7   ...   ♕h5xg5+,
after which
    8   ♔a5-a6
reveals the "six files, one rank" motif at its clearest. White threatens mate quite safely; Black can defend by
    8   ...   ♗b8xa7,
but
    9   c6-c7!
leaves him helpless (**17.11b**). White has only two pawns, but they are poised to give mate, and even 9...♕a5+ 10 ♔xa5 ♔b7 11 bxa7 leaves White with a win.

Our final study has a complex history. The concluding play first appeared in a study published by the Dutch composer John Selman in 1940. However, that was a war year, the magazine which should have contained the solution did not appear, and Selman published an extended version in 1949 that rightly became famous. Two years later, the Russian Vladimir Korolkov, unaware of Selman's work, published his own version, and this became even more famous. Such coincidences are not uncommon; the chessmen impose their own logic, and if two composers happen on a theme independently and try to achieve the best possible setting, it is quite likely that they will produce very similar results.

Let us therefore start with Selman's 1940 setting, which is **17.12**. It is essentially a fight over White's pawn, which advances at once to the seventh rank:

    1   f6-f7.

Black can stop this pawn only by playing

1	**...**	**♝g2-h3+**
2	**♔g4-g5**	**♜h1-g1+**
3	**♔g5-h6**	**♜g1-g8,**

and White piles on the pressure with

    4   ♘f5-e7

(**17.12a**). If the Black rook moves along the rank, White will mate on g6, so the only realistic defence is

4	**...**	**♝h3-e6.**

This leads to a spectacular finish:

5	**f7xg8♕+!**	**♝e6xg8**
6	**♘e7-g6 mate**	

(**17.12b**).

Although its solution is quite short,
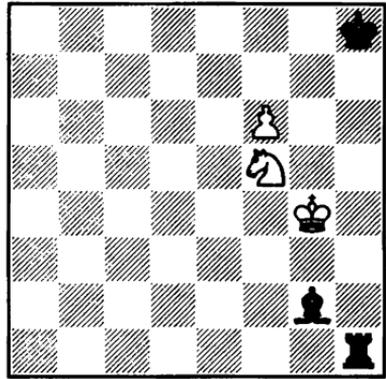
17.12   Win
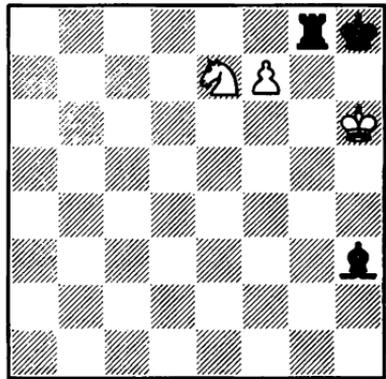
17.12a   After 4 ♘f5-e7
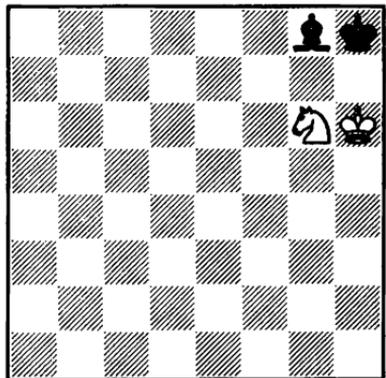
17.12b   6 ♘e7-g6 mate

17.12c   Win

17.12d   After 3...♖a1-a2+

17.12e   Win

17.12 is an excellent study in its own right, but Selman worked on it further, and **17.12c** shows his 1949 setting. White's attack along the long diagonal explains the opening moves

    1   ♘d4-f5!   ♖e3-e1+,

and now the White king must find its way to h6 without allowing a check from Black's bishop. (After Black's inevitable ...♖xa1, the bishop will obstruct the back rank, and White wants to keep it there.) So we have

    2   ♔c1-d2!   ♖e1xa1
    3   f6-f7   ♖a1-a2+,

giving **17.12d**, and 4 ♔e3 ♖a3+ would now leave White in trouble; he could stand neither 5 ♔d2(d4) ♖d3+! nor 5 ♔f2(f4) ♖f3+. So White must play

    4   ♔d2-e1!

after which

    4   ...   ♖a2-a1+
    5   ♔e1-f2   g4-g3+!
    6   ♔f2-e3!   ♖a1-a3+
    7   ♔e3-f4   ♖a3-a4+
    8   ♔f4-g5   ♖a4-g4+
    9   ♔g5-h6   ♖g4-g8

leads to familiar ground, and the moves

    10   ♘f5-e7   ♗c8-e6
    11   f7xg8♕+   ♗e6xg8
    12   ♘e7-g6 mate

produce the same finish.
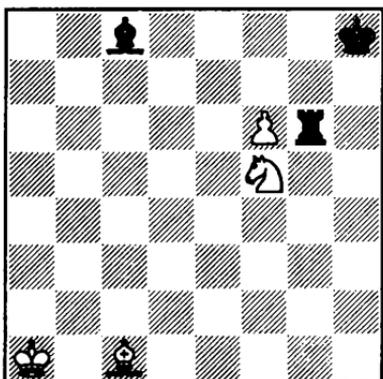
17.12e shows Korolkov's setting. The opening move

    1   f6-f7

puts Black in trouble, since the obvious move 1...♖f6 would allow a pin by 2 ♗b2; but the reply

    1   ...   ♖g6-a6+

transfers the problem to White, since the only safe king move 2 ♔b2 would obstruct the bishop. So White must

give up the bishop to decoy the rook:

| 2 | &c1-a3! |

Now

| 2 | ... | &a6xa3+ |
| 3 | &a1-b2 | &a3-a2+! |

forces White to tread carefully (see
17.12f) because 4 &c3 opens the way
to a draw; after 4...&c2+, the d-file is
poisoned (5 &d4 &d2+ and 6...&d8)
and so is the seventh rank (5 &b4
&b2+ 6 &c5 &c2+ 7 &b6 &b2+ 8
&c7 &b7+). So White must play

| 4 | &b2-c1! |

and the rest is broadly as before:

4	...	&a2-a1+
5	&c1-d2	&a1-a2+
6	&d2-e3	&a2-a3+
7	&e3-f4	&a3-a4+
8	&f4-g5	&a4-g4+
9	&g5-h6	&g4-g8
10	&f5-e7	&c8-e6
11	f7xg8&+	&e6xg8
12	&e7-g6 mate.	
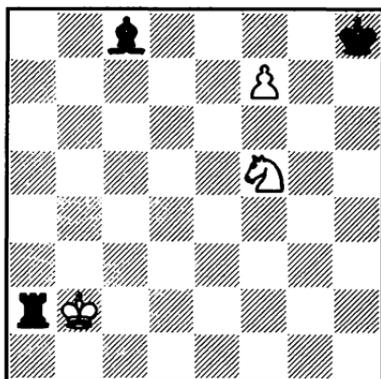
17.12f   After 3...&a3-a2+

There can be no doubt that Korolkov's setting of this superb idea has
unfairly distracted attention from Selman's. Perhaps it is a trifle the
superior; the bishop offers itself instead of being captured on its initial
square, and there is no idle pawn at the end. On the other hand, this pawn
of Selman's pulls its full weight earlier, and Korolkov himself has
remarked that the move of the knight to the vital square f5 during play is a
point which enhances the value of the Selman setting. In a more recent
coincidence in which two composers arrived independently at the same
position, they agreed to regard the study as a joint composition even
though they had not actually co-operated. Perhaps justice is best served if
we do the same here, and refer to 17.12e as the "Selman-Korolkov" study.

There is no "finest study of all time". There is no criterion by which we
can determine such a thing, and the answer would not matter if we could.
Nevertheless, when we were looking for a suitable study with which to
finish this book, we soon realized that we need look no further. This study
has everything: a simple initial position, a solution packed with subtlety
and incident, and a stunning climax.

In the words of Harold Lommer, it warms the heart.

Appendix A A summary of endgame theory

All play for material advantage relies on "endgame theory": the knowledge which we owe to generations of analysts who have proved either that the possessor of a certain advantage can force an eventual win or that the defender can hold out. This appendix lists the most important elements of this theory. Only the results are given here; readers who are interested in detailed procedures for each side will find them either in David Hooper's book *A Pocket Guide to Chess Endgames* (London, 1986) or in the five volumes of *Comprehensive Chess Endings* edited by Yuri Averbakh (Oxford, 1983-7). Except where otherwise stated, it is assumed that the position is "typical": in other words, that both sides have organized their forces to reasonable advantage and that neither king is trapped against the side of the board.

King and queen, king and rook, king and two bishops, and **king, bishop, and knight** can each force a win against a bare king. However, **king and two knights** cannot force mate against a bare king, and many studies make use of this; the attacker has king, two knights, and another man, and the defender tries to capture the other man.

King and one minor piece cannot win against a bare king. **King, minor piece, and pawn** usually win easily, but there are exceptions with a rook's pawn and the most important involves the "wrong bishop": if the attacker has a bishop and the squares on which it runs do not include the promotion square, the defender can draw by occupying the corner in front of the pawn.

Positions with **kings and pawns only** cannot easily be summarized, because the locations of the kings and of any advanced pawns are more important than the mere numbers of pawns on each side. Where a study in this book depends on the result of a pawn ending, the implications are made clear in the text.

Queen against pawn is usually a win, but a bishop's or rook's pawn on the seventh rank draws if the attacker's king is remote because the defender can play for a stalemate with his king in the corner.

Rook against pawn is usually a win, but the defender may be able to draw if his king is close and his opponent's king is remote.

Bishop against pawn and **knight against pawn** are usually drawn, but a rook's pawn on the seventh rank wins against a knight if its own king is close and the opponent's king is remote, because the knight can be trapped in the corner. Conversely, it has been known since medieval times that king and knight can sometimes win against king and rook's pawn by

trapping the defending king in front of the pawn.

Although two knights cannot force mate against a bare king, they fail only because the defender has a stalemate resource, and a win is possible with **two knights against pawn** if the pawn is not too far advanced. While one knight blocks the pawn, the defender's king is driven towards a corner. Then the blocking knight joins the attack, the release of the pawn precluding stalemate. The analysis is largely due to Troitsky.

Queen against rook is a win. **Queen against rook and pawn** cannot be summarized simply; the defender generally tries to construct a fortress, but the attacker may be able to destroy it with the aid of a squeeze, and the conditions determining success or failure are complicated. No study in this book demands knowledge of them.

Queen against one minor piece is a win. **Queen against two knights** has been shown by computer analysis to be typically a draw, though many positions can be won if the defending army can be caught near to the edge. However, **queen against two bishops** and **queen against bishop and knight** are wins unless the defender can keep the opposing king at bay by constructing a barrier or fortress.

Queen against two rooks is a draw, as is **queen against rook and minor piece.** Computer-generated summaries may suggest that the queen can win the latter ending more often than not, but most of the wins result from the immediate capture of unguarded men and these are not "typical" positions in our sense. If the defender is given a breathing space, he can construct a fortress.

Two queens against one is a win, as is **queen and rook against queen,** but **queen and one minor piece against queen** is only a draw in the absence of pawns because the stronger side cannot afford to exchange queens. Typically, the weaker side starts checking, and his opponent can find nowhere to hide. The weaker side may also be able to draw by perpetual check with queen against queen and rook, or even against two queens, if the stronger side's pieces are badly placed.

Queen and pawn against queen has been definitively analysed by computer, but the resulting mass of data has yet (early 1996) to be crystallized into a concise and intelligible set of rules. The result is usually a draw if the defender can get his king in front of the pawn; if he cannot, it appears that the attacker can quite often win, but the winning procedures are far from straightforward and up to seventy moves may be needed before the pawn can be advanced even one square. No study in this book demands knowledge of the details.

Rook against knight is usually a draw, but the attacker wins if he can crowd the defender's men into a corner and force mate or win of material, or if he can catch the knight at a distance from its king and prevent it from regaining contact. This ending has the longest history of all. The earliest known analyst was Rabrab, who was active early in the ninth century, and

the job was finished by computer in 1970. **Rook against bishop** is also a draw in general. The attacker may be able to win if he can catch his opponent's king against the edge of the board, but there are fewer winning positions than with rook against knight, and the defender can usually set up a fortress by playing his king to a corner not of the same colour as the bishop.

Two minor pieces against rook is a draw. **Two knights and bishop against rook** is also generally accepted as a draw, on the ground that the rook cannot be prevented from sacrificing itself for the bishop, but **two bishops and knight against rook** is a win.

Two rooks against two minor pieces is a win. **Rook and one minor piece against two minor pieces** is usually a draw, but the particular case of **rook and bishop against two knights** has been the subject of controversy. Computer analysis (Stiller, 1991) appears to support the view that it is a win, but the data have yet to be fully digested.

Rook and pawn against one minor piece is usually a win, but the defender may be able to force a draw by tying his opponent's men to the defence of the pawn. **Two bishops and pawn against rook** and **bishop, knight, and pawn against rook** are also wins, but **two knights and pawn against rook** is only a draw because the rook can sacrifice itself for the pawn.

Two rooks against one is a win, but **rook and minor piece against rook** is only a draw in the absence of pawns.

Rook and pawn against rook has been definitively analysed by computer, and a digest in practical form can be found in John Nunn's book *Secrets of Rook Endings* (London, 1992). However, some of the analysis is difficult, and no study in this book requires knowledge of the details.

In the absence of pawns, **two minor pieces against one** is usually a draw, but the special case of **two bishops against knight** has been proved by computer to be a win.

Endings with **minor piece and pawn against minor piece** are usually drawn. The defender has two possible strategies, either to get his king in front of the pawn or to sacrifice his piece for it, and only rarely can the attacker avoid both.

More complicated positions can usually be evaluated by ignoring pairs of like pieces. Thus **three minor pieces against one** is a win, but **three minor pieces against two** is only a draw in the absence of pawns (except in the case of two bishops and knight against two knights). However, the weaker side does not always find it easy to force a desired exchange, and there is one particularly important class of exceptions to the general rule: **three knights against one, bishop and two knights against bishop, rook and two knights against rook,** and **queen and two knights against queen** are all accepted as wins even in the absence of pawns. The attacker, having collected his force, drives his opponent slowly back, and

if the defender offers an exchange he finds either that it can be avoided or that the knights can drive his king away and leave his man to be taken for nothing.

Finally, an **advantage of one minor piece** merits a special note. If each side has several pawns, an extra minor piece leads to a simple win because the stronger side can use his extra piece to win pawns. The same often applies even when the stronger side has only one pawn. However, an extra minor piece is usually insufficient to win if the stronger side has no pawns at all (except in the special case of two bishops against knight), and many studies revolve around attempts by the weaker side to capture or exchange the stronger side's last pawn.

Appendix B Sources and technical notes

The composer of a study usually submits it either to a magazine or newspaper or to a competitive tourney, though these are often the same because many magazines conduct tourneys for the work that they publish. The list that follows includes tourney awards where we know them: Pr: Prize; HM: Honourable Mention; Comm: Commendation; Sp Pr: Special Prize; Pl: Place; Ty: Tourney; Ch: Championship; I (II) after a date: award for first (second) half year. For studies honoured in tourneys, the dates given refer to the tourneys; in some cases, actual publication occurred later. As this list will demonstrate, however, not every fine study has won a tourney honour. Sometimes, a study fails to catch a judge's eye, or is thought too small an advance on what has already been discovered to win an award in its own right; and many composers have been content to entertain, not caring whether the magazine or newspaper that published their work was conducting a tourney at all.

1.1: R. Réti, *Kölnische Volkszeitung* 1928, modified by H. Rinck, *Bohemia* 1935. Réti had the rook on e5, intending the line 1 ♗f5+ ♔d8 2 ♗d3 e1♕ 3 ♗b5; Mandler pointed out the spectacular alternative 2 ♗d7 when editing Réti's studies after his death; and Rinck altered the setting so that this alternative became a necessary part of the solution. **1.2:** see 5.2. **1.3:** see 9.1. **1.4:** see 16.8.

2.1: H. Rinck, *Els Escacs a Catalunya* 1935. **2.2:** V. Halberstadt, *L'Italia Scacchistica* 1951.

2.3: see text. This study allows a complicated alternative win by 1 ♔d6 etc, but it deserves attention all the same. The different rules for ending the game, and the different moves of the firzan and fil, mean that only the simplest of ancient studies can be quoted in a modern introduction, and this gives a very distorted impression. H. J. R. Murray, in *A History of Chess* (Oxford, 1913), quotes over five hundred studies, and remarks that the collation has given him a high regard for the skill of the players responsible; and anybody who reads Murray in detail, and sets up the many positions that he gives only in notation, will come to the same conclusion.

2.4: G. N. Zakhodiakin, 1 Pr *64* 1931/I. **2.5:** J. Fritz, *Československý Šach* 1951. **2.6:** N. Littlewood, 3 Pr *Theme Ty of Schach-Echo* 1966. To qualify for this tourney, a study had to show a Black bishop blocked by two Black knights on squares adjacent to the bishop, the knights having moved to these squares during the course of play. For another study honoured in this tourney, see 11.6. **2.7:** H. H. Grondijs, 1 HM *Schakend*

Nederland 1981. The final position goes back to a study by A. O. Herbstman, *64* 1933, version: White ♔d1, ♖c3, ♘a1, Black ♔f1, ♖a8, ♘a2/b1, play 1 ♖f3+ ♔g2 2 ♖b3 ♘ac3+ 3 ♔c1 ♖xa1 4 ♖b2+ ♔-- 5 ♖a2 ♘xa2+ 6 ♔b2. **2.8:** H. M. Lommer, *National-Zeitung* 1947. **2.9:** V. S. Kovalenko, 2 HM *Shakhmaty v SSSR* 1972. **2.10:** A. M. Belenky, 3 Pr *Shakhmaty v SSSR* 1976. **2.11:** V. Nestorescu and P. Joiţa, 2 HM *Postsjakk* 1986.

3.1: A. and K. Sarychev, 3 Pr *Vecherniaia Moskva* 1930. **3.2:** L. Silaev, 3 HM *Shakhmaty v SSSR* 1980. **3.3:** Y. M. Makletsov, 3 Pr *Szachy* 1980. **3.4:** A. A. Troitsky, *Novoye Vremia* 1895, version 1902. The position reached after Black's second move represents the original setting. The actual mate had been shown in a four-move problem by Auguste d'Orville in his 1842 book *Problèmes d'échecs* (White ♔e7, ♗b8/b5, Black ♔c8, △a7/d7, play 1 ♗a6+ etc), but it undoubtedly shows to better advantage in an endgame study. **3.5:** J. Gunst, *Das Illustrierte Blatt* 1922.

3.6: T. B. Gorgiev, 1 HM *VTsSPS Chess Club Ty* 1938, version. This is the version that the composer included in his own collection, published in 1959. The position that was honoured in the tourney had the bishop on e7 and the Black knight on b1, and the solution began with 1 ♗f8 ♘d2. The judge, S. M. Kaminer, remarked that the study would undoubtedly have won a prize, had it not already appeared in a different form in *64*.

3.7: E. L. Pogosiants, *Azerbaijan Open Ch* 1979. For this championship, composers submitted sets of works; individual compositions scored points but were not separately honoured. **3.8:** E. N. Somov-Nasimovich, Comm *Shakhmaty v SSSR* 1937. **3.9:** A. Mouterde, *La Stratégie* 1922. **3.10:** G. M. Kasparian, 1 Pr *Tidskrift för Schack* 1961. **3.11:** O. J. Carlsson, *Ajedrez* 1976, version. In the original setting, the White bishop started on f8.

4.1: K. A. L. Kubbel, *Tidskrift för Schack* 1916. **4.2:** V. and M. Platov, *Deutsche Schachzeitung* 1907. **4.3:** V. Neidze, *Metsniereba da tekhnika* 1981. **4.4:** J. Sehwers, 2 Pr *Rigaer Tageblatt* 1905.

4.5 has been derived from two published studies: F. Lazard, *American Chess Bulletin* 1916, and S. G. Zhigis, Comm *64* 1930/I. The Zhigis study is unsound but can easily be corrected, and as corrected is effectively a development of the Lazard. Our version shortens the solution by one move in order to highlight the fact that 4.5a is a position of reciprocal zugzwang. In our setting, the try 1 ♔e4 can be met only by 1...♔c8 2 ♔e5 ♔c7, reaching position 4.5a with White to move; in the corrected Zhigis setting, which has the kings on d2 and a8, the equivalent try 1 ♔d3(e3) and 2 ♔e4 can be met by playing 1...♔b7 and either 2...♔c8 or 2...♔b6.

4.6: H. Ginninger, 3 Pr *Československý Šach* 1930, corrected by V. Nestorescu, *Shakhmaty v SSSR* 1988. Ginninger had White ♔b4, ♗h8, △h6/d2/e2, Black ♔b7, ♗a2/g1, ♘g3/f2, intending 1 h7 ♗b1 2 d3 ♘xe2 3 ♗a1 ♘xd3+ 4 ♔a3 ♗c5+ 5 ♔b3 etc, but the line 4...♗c2 5 h8♕ ♗c5+ 6

♔a2 ♘ec1 mate frustrates the intention. In the amended version, the line 4...♗c2 5 c5+ ♔xc5 6 h8♕ ♗d6 7 ♗b2 yields a draw. **4.7:** A. P. Guliaev, 4 HM *Akhalgazrda komunisti* 1955. **4.8:** S. Rumiantsev, 3 Pr *64* 1972. **4.9:** A. Lewandowski, *Razem* 1986, 1 Pr *Polish Ring Ty* 1985-6. A ring tourney embraces works published in magazines and newspapers which do not conduct tourneys of their own. **4.10:** L. B. Zalkind, 1 Pr *64* 1928/I. This study has been quoted in anthologies with the White king on c4, in which form it can be solved by 1 ♔b4 or 1 ♗h7 or 1 ♘d7(e6) as well as by 1 ♗d2. The composer himself made no mistake: the position was correctly printed when it first appeared. **4.11:** H. Mattison, *Atputa* 1930. It is generally accepted that Mattison was born on 28 December 1894; curiously, his tombstone in Riga records the year as 1896. **4.12:** A. O. Herbstman and K. A. L. Kubbel, 1 Pr *Leningrad Chess Section Ty in honour of A. A. Troitsky* 1937. By this time, Karl Artur Leonid Kubbel was using the forenames Leonid Ivanovich; hence the name L. I. Kubbel, under which his compositions generally appeared during his later years.

   5.1: R. Réti, *Deutschösterreichische Tages-Zeitung* 1921 (11 September, page 13). We owe this attribution, which we believe definitive, to Ken Whyld in the *British Chess Magazine* for February and June 1990, the latter issue quoting research in Vienna by Michael Ehn. The position was originally published anonymously, but Réti laid claim to it on page 171 of *Kagan's Neueste Schachnachrichten* 1922 (where it was shown with the Black pawn on h6 and with Black to move). He said that he had not published it himself at the time, although he had shown it in Viennese chess circles, because it was not enough that a study should have an interesting combination, it should also be difficult to solve. Be that as it may, the stunning simplicity of this position has made as many friends for endgame studies as any other composition. It was inspired by a position in a game, Schlechter–Marco 1893, White ♔b7, △a3, Black ♔c4, △d5, when White drew by 57 a4 ♔b4 58 ♔b6.

   5.2: Réti, composed in 1928 but apparently unpublished until Mandler's 1931 edition of Réti's studies. **5.3:** Réti, *Národní Listy* 1928. **5.4:** A. and K. Sarychev, Comm *Shakhmatny Listok* 1928/II, version. In its original form, the study included some introductory play: White ♔e8, △b6/c6/f4, Black ♔f3, ♗g8/d6, △b7, play 1 ♔d7 ♗xf4 2 c7 ♗xc7 3 bxc7 ♗h7 etc. **5.5:** L. A. Mitrofanov, 1 Sp Pr *Sports Gazette (Ukraine)* 1976. **5.6:** O. Duras, *Národní Listy* 1905. **5.7:** A. Mandler, *Národní Osvobození* 1938. A comparable study by N. D. Grigoriev appeared in *Izvestia* 1928: White ♔d3, △f2, Black ♔a4, △b6, play 1 ♔d4 b5 2 f4 b4 3 f5 b3 4 ♔c3 etc, or 1...♔b5 2 ♔d5 ♔a6 3 f4 ♔b7 4 f5 ♔c7 5 ♔e6 ♔d8 6 ♔f7 b5 7 ♔g7. **5.8:** N. D. Grigoriev, 3 Pr *Shakhmaty* 1928/I. **5.9:** M. S. Liburkin, HM *Shakhmaty v SSSR* 1940. **5.10:** A. A. Troitsky, 2 Pr *Shakhmaty v SSSR* 1935. **5.11:** V. A. Korolkov, 3 Pr *4th FIDE Ty* 1963-5, version. This amended version, made by the composer in 1970, was printed in *EG* in

1971. **5.12**: N. I. Kralin, Sp Pr (for a reworking of known ideas) *Chavchavadze Memorial Ty* 1987.

6.1: F. Lazard, 2 HM *Shakhmatnoye Obozreniye* 1910. The studies honoured in this tourney were actually published in *Deutsches Wochenschach* in January 1911, following the closure of the Russian magazine that had promoted the tourney. **6.2**: V. Halberstadt, *Československý Šach* 1930. **6.3**: L. Prokeš, 1/2 Pr *Šachové Studie* 1941. **6.4**: N. D. Grigoriev, *Shakhmaty v SSSR* 1932. **6.5**: H. Mattison, *Latvis* 1923, version. The original setting, with the rook on f4, gave White the opportunity to win by means of 1 ♔e5 etc. The revised version, published in 1924, was quoted in *La Stratégie* in August 1925. **6.6**: P. Heuäcker, *Wiener Neueste Nachrichten* 1930. The Mouterde study, 4 Pr *Sydsvenska Dagbladet Snällposten* 1914, employs extra material for additional play: White ♔c1, ♗b4, ♙h5/a3/f2, Black ♔b7, ♗b6, ♙a5/e5/h4, play 1 h6 ♗d4 2 ♗c5 ♗a1 3 ♔b1 ♗c3 4 ♔c2 ♗a1 5 ♗d4 etc., or 1...♗d8 2 h7 ♗f6 3 ♗e7 ♗g7 4 ♗xh4 a4 (4...♔c6 5 a4 ♔c5 6 ♗e7+ ♔c4 7 ♔c2 ♗h8 8 ♗a3 ♔d4 9 f4) 5 ♔d2 ♔c6 6 ♔d3 ♔d5 7 f3 ♗h8 8 ♗e1 ♗g7 9 ♗c3 ♗h8 10 f4 etc. **6.7**: L. van Vliet, *Deutsche Schachzeitung* 1888. **6.8**: V. Kalandadze, 4 HM *Spartak Ty (Kurgan)* 1984. From the seventh move onwards, the solution follows that of a famous study by Emanuel Lasker, *Deutsches Wochenschach* 1890: White ♔c8, ♖h7, ♙c7, Black ♔a5, ♖c2, ♙h2, play 1 ♔b7 ♖b2+ 2 ♔a7 ♖c2 3 ♖h5+ ♔a4 4 ♔b7 ♖b2+ 5 ♔a6 etc. Slightly different settings of Lasker's study have appeared in print; this one comes from the original source. **6.9**: M. S. Liburkin, 3 HM *Shakhmaty v SSSR* 1949. **6.10**: P. Heuäcker, *Deutsche Schachblätter* 1937. There is a similar study by J. Fritz, 1 Pr *Svobodné Slovo* 1961, presumably composed in ignorance: White ♔h5, ♗a8, ♙a7/a6, Black ♔a5, ♖a1, ♙h2, play 1 ♗h1 ♖xh1 2 a8♕ ♖d1 3 ♕h1 ♖xh1 4 a7.

7.1: A. Salvio, 1604, quoted by G. M. Kasparian in *2500 Finales* (Buenos Aires, 1963). **7.2**: V. V. Yakimchik, 1 Pr *Shakhmaty v SSSR* 1957/II. **7.3**: V. Shoshorin, 5 HM *Shakhmaty v SSSR* 1970.

7.4: C. M. Bent, 4 HM *Harman Memorial Ty (EG)* 1988, version. The original setting, with a Black pawn on g7, allowed alternative draws by 3 ♕d7 and 4 ♘e6. Richard Harman (1905-86) was one of the endgame study's minor heroes. A patent officer by profession, he devoted his retirement to the collection and indexing of every study he could find, identifying their technical content in a manner similar to that used by the British Patent Office to classify inventions. The resulting index has helped composers to decide whether a certain field is likely to be worth exploring, told editors and tourney judges to what extent a certain study has been anticipated, and even unmasked an occasional plagiarist.

7.5: S. Kozłowski, *Świat Szachowy* 1931. **7.6**: V. A. Korolkov and L. A. Mitrofanov, 1 Pr *2nd FIDE Ty* 1958-9. **7.7**: D. Gurgenidze, 3 Comm *Sénéca Memorial Ty* 1978. **7.8**: V. A. Evreinov, *Československý Šach*

1969.   **7.9:** K. A. L. Kubbel, 2 Pr *Schackvärlden* 1937/I.   **7.10:** F. S. Bondarenko and A. S. Kakovin, 3 HM *SVTVS Ty (Československý Šach)* 1954.   **7.11:** A. Maksimovskikh and V. Shanshin, 2/3 Pr *All-Union Ty of Sovetskoye Zauralye* 1983-4.   **7.12:** F. J. Prokop, 2 Pr *International Ty of the All-Union Chess Section* 1925-6.

8.1: A. P. Guliaev, *Izvestia* 1929.   **8.3:** V. Halberstadt, *Tijdschrift van de KNSB* 1949.   **8.4:** D. Gurgenidze, 5 Pr *Shakhmaty v SSSR* 1980.   **8.5:** V. Balanovsky, 3 Pr *14th Theme Ty of Shakhmaty v SSSR* 1985.   This tourney for pawn endings marked the 90th anniversary of the birth of N. D. Grigoriev.   **8.6:** J. Hašek, *Deutsche Schachzeitung* 1928.   **8.7:** B. Neuenschwander, 1 HM *Schweizerische Schachzeitung* 1985-6.   The study was published in November 1985.

8.8: The original manuscript of as-Suli has been lost, and the surviving analysis attributed to him takes the solution no further than "1...♔d5 2 ♔b4".   For fuller details, see the second edition of *The Oxford Companion to Chess* (D. V. Hooper and K. Whyld, Oxford, 1992).   The computer analysis underlying the present exposition was performed by one of us (JDB).   Averbakh's analysis appeared in a paper *The secret of as-Souli* which was published in association with the Dubai Olympiad of 1986. Did as-Suli really discover the need to drive the Black king to the far side of the board and back?   Averbakh thought so, and so do we.

9.1: A. O. Herbstman, 2 Pr *Työväen Shakki* 1934.   **9.2, 9.3:** F. Sackmann, *Op de Hoogte* 1913.   **9.4:** J. Fritz, *České Slovo* 1933. **9.5:** H. G. M. Weenink, *Op de Hoogte* 1918.   **9.6:** G. E. Barbier and F. Saavedra, *Glasgow Weekly Citizen* 1895 (the position being given with the White pawn on c7 and Black to move).   Barbier gave the position on 4 May as a draw with his own stalemate solution, and on 18 May as a win with Saavedra's underpromotion.   The game was played between Fenton and Potter in 1875, and there are two further twists to the tale: Barbier quoted the position wrongly, and White agreed a draw when in fact he had a win!   For the full story, see *Test Tube Chess* (A. J. Roycroft, London, 1972;   revised edition issued as *The Chess Endgame Study*, New York, 1981).   **9.7:** V. S. Kovalenko, Comm *14th Theme Ty of Shakhmaty v SSSR* 1985.   **9.8:** E. L. Pogosiants, 1 HM *Schakend Nederland* 1975.   For the Liburkin study, see No. 380 in Sutherland and Lommer's anthology *1234 Modern End-Game Studies* (New York, 1968).

10.1: G. Greco, 1619, quoted by F. S. Bondarenko in *Origins of the Chess Study* (Kiev, 1980).   **10.2:** S. M. Kaminer, 2 Pr *Shakhmatny Listok* 1927/II.   **10.3:** M. A. Zinar, *Shakhmaty v SSSR* 1985.   **10.4:** A. P. Grin, *Diagrammes* 1993.   The composer originally put the knight on b3, but Guy Bacqué, the study columnist of *Diagrammes*, spotted the unwanted alternative solution 1 ♘d2 etc and suggested the correction.   "Grin" was the name adopted by A. P. Guliaev when he resumed composition in 1961. **10.5:** K. A. L. Kubbel, *Rigaer Tageblatt* 1914.   **10.6:** H. Rinck, *Deutsche*

Schachzeitung 1908, version. Originally, the composer put the White queen on h3, but he changed the setting later. **10.7:** W. Korn, 1 Pr *Bohemia* 1933. **10.8:** A. Sochniev, 5 Sp Pr *October-70 Ty (Tbilisi)* 1987.

11.1: R. Bianchetti, *L'Italia Scacchistica* 1925. **11.2:** J. Gázonyi, *Československý Šach* 1934. **11.3:** S. Chimedtzeren, 2 Pr *L'Italia Scacchistica* 1975. **11.4:** H. Mattison, *Rigasche Rundschau* 1914. **11.5:** J. A. J. Drewitt, *The Falkirk Herald* 1917. **11.6:** E. Paoli, 3 HM *Theme Ty of Schach-Echo* 1966. For details of this tourney, see 2.6. **11.7:** F. S. Bondarenko and M. S. Liburkin, 2 Pr *All-Union Sports Committee Ty* 1950. **11.8:** S. Kozłowski, *Świat Szachowy* 1931. If a demonstration is thought necessary that 1 g7 ♖a8 2 ♖h1 does not win, see analysis by Walter Veitch in *Test Tube Chess*.

12.1: J. Hašek, *Československý Šach* 1937. **12.2:** M. V. Tronov, *Shakhmatny Vestnik* 1913, corrected in the *British Chess Magazine* 1995. **12.3:** Y. I. Zemliansky, 1 Pr *Leninskaia smena* 1964-5. **12.4:** G. N. Zakhodiakin, 1 Pr *Shakhmatny Listok* 1930. **12.5:** C. J. de Feijter, *Tijdschrift van den NSB* 1941. **12.6:** A. G. Kuznetsov, 3 Pr *Shakhmaty v SSSR* 1964. **12.7:** N. D. Grigoriev, *64* 1931. **12.8:** B. M. Sevitov, HM *Shakhmaty v SSSR* 1940.

13.1: N. D. Grigoriev included this position in an article on king and pawn endings which he contributed to *Shakhmaty* in 1922. He said that he had borrowed the position from C. Sanson's edition of *Analyse du jeu des échecs* by A. D. Philidor. Sanson's edition came out in 1868. However, the king and pawn endings that made up the final part of the book were not Philidor's; Sanson had taken them from a collection made by Jean Preti, which had appeared in 1856. The ending in question (No. 40 in Preti's collection, No. 86 in Sanson's) showed the kings initially on b6 and d8. We do not know who originally devised this ending.

13.2: K. Ébersz, *Magyar Sakkvilág* 1930. **13.3:** A. Mandler, *Wiener Schach-Zeitung* 1924. **13.4:** H. A. Adamson, *The Chess Amateur* 1924. Some authorities cite this as from 1923, but it did not appear until January 1924. **13.5:** H. Rinck, 1 Pr (with four others) *Bohemia* 1906. In this tourney, prizes were awarded for sets of studies.

14.1: F. J. Prokop, 3/4 Pr *Shakhmatny Listok* 1925. **14.2:** M. A. Aizenshtat, Comm *64* 1931/I. **14.3:** V. Kalandadze, 2 Pr *Fritz Jubilee Ty* 1982. **14.4:** A. Wotawa, *Schach-Magazin* 1948. **14.5:** J. E. Peckover, 1 Pr *Problem* 1958-9. **14.6:** I. Vandecasteele, *EG* 1976. The study by Grin, 4 HM *Vecherny Leningrad* 1965, corrected 1969, uses two extra pawns: White ♔b7, ♗a3, △a7/h5, Black ♔g7, ♖h1, ♗g8, △a6, play 1 ♗b2+ ♔h6 2 ♔c6 etc. **14.7:** A. A. Troitsky, *L'Echiquier* 1930. **14.8:** V. Nestorescu, 3/4 Pr *Revista Română de Şah* 1982. **14.9:** J. Fritz, 4/5 Pr *Schakend Nederland* 1984. **14.10:** A. G. Kuznetsov and O. V. Pervakov, 1 Pr *October-70 Ty (Bulletin of the Central Chess Club of the USSR)* 1987. In respect of 3 ♘xg6, the original source gives 3...♘e3 4 ♘f4 ♔e5 5 g6

♘xg4 6 g7 ♘h6 7 ♘g2 ♗b7 8 g8♕ ♘xg8 9 ♗xg8 ♗d5 10 ♗xd5 ♔xd5
11 ♔g1 ♔d4 12 ♔f2 ♔c3 13 ♔e2 ♔b2 14 ♔d2 ♔xa2 15 ♔c2 ♔a1 and
16...a2 with stalemate.   **14.11:** N. A. Macleod, Sp HM *Szachy* 1987.
14.12: A. Ivanov, 4/5 HM *Shakhmaty v SSSR* 1972.

15.1: R. N. Alexandrov, 1/2 Pr *Ty in honour of A. A. Troitsky (Zadachi i
etyudy)* 1929. **15.2:** H. Mattison, *Wiener Neueste Nachrichten* 1931. The
study by Cohn, HM *Morgenzeitung* 1928, has White ♔g3, ♖e3, Black
♔e5, ♕e4, △b5, with main line 1 ♔f2 b4 2 ♔e2 b3 3 ♔d1 ♔d4 4 ♖xe4+
♔xe4 5 ♔c1.   **15.3:** J. Moravec, *Leipziger Neueste Nachrichten* 1937.
15.4: V. A. Korolkov, 4 Pr *Shakhmaty v SSSR* 1964.   **15.5:** A. I. Kotov,
Shakhmaty v SSSR 1977.   In a short article in the April issue, Kotov
presented this finale, which he had composed in 1960, and showed how he
had developed the idea in other studies, one of which we give next. **15.6:**
Kotov, 1 Pr *64* 1973, version *Shakhmaty v SSSR* 1977.

15.7: According to *Test Tube Chess*, this anonymous version of Joseph's
study was published in *Československá Republika* in 1923.   Originally,
Joseph had White ♔d8, ♗e1, △h6/a5, Black ♔a7, ♖a6, △b7/a4, play 1
♗f2+ ♔b8 2 ♗b6 ♖xb6 3 axb6 a3 4 h7 a2 and so on. This appeared in
the *Sunday Express* at the end of 1921. Soon afterwards the setting was
simplified by cutting out the first few moves of the solution. In this
refined form the study went round the world. It is often cited with the two
free pawns already on their seventh ranks.

15.8: S. Tkachenko, 4 Pr *Shakhmaty v SSSR* 1986. **15.9:** M. Matouš, 4
HM *Shakhmaty v SSSR* 1987.   **15.10:** B. A. Sakharov and A. G.
Kuznetsov, 1 Pl (on its board) *2nd All-Union Team Composing Ch* 1957-8.
On this board, studies had to show a model mate by discovery, following
at least five moves of introductory play. **15.11:** O. V. Pervakov, 1 Pl (on its
board) *12th All-Union Team Composing Ch* 1985-6. The requirement for
studies competing on this board of the championship was that at some
stage of the solution the play must involve queen and bishop against
queen, with or without pawns. **15.12:** Y. V. Bazlov, 1 Pr *Shakhmaty v
SSSR* 1991. There is some analysis which we have omitted, most notably
to refute 3 ♖e1: 3...♕h2 4 ♖e5+ ♔f6 5 ♖f8+ ♘xf8+ 6 exf8♕+ ♗f7+ 7
♕h6+ ♗g6+ 8 ♔g8 ♕a2+! with mate to follow.

16.1: H. F. L. Meyer, in *A Complete Guide to the Game of Chess*
(London, 1882). After the sixteen moves of the loop, one of the White
knights stands on g3 instead of h4, and the study is sometimes quoted with
it on this square at the start. A minor variation in the play is possible at the
end: instead of playing 16...♔e7 to complete the loop, Black can play
16...♔g6, but this is unimportant because 17 ♘e5+ then brings immediate
repetition. The earliest known setting of the theme in its original Arabic
form comes from the "Alfonso" manuscript of 1283 and is quoted in
Murray's *History*:   White ♔a1, ♕g8/b7/e5, ♖h1, ♗b1/c1, ♘h4/g3,
△h7/a6/d5/f4/h3/a2, Black ♔g7, ♕a3, ♖a7/b2, ♗c8, ♘d8/b4,

♗e7/d6/h6/a5/c5/c2/f2/g2, with play 1 ♘gf5(h5)+ ♔f8 2 ♘g6+ ♔e8 3 ♘g7+ ♔d7 4 ♘f8+ etc. The firzan (♕) moves one square diagonally, the fil (♗) two squares diagonally with power to leap over an intervening man. By modern standards this position is unsound (it could not have arisen in a legal game and there are alternatives for White in the play) but it deserves credit as the pioneer.

The Meyer setting of **16.2** is quoted, without source or date, in *The Chess Amateur* for May 1915, but its date is given as "before 1890" in *Figuren-Rundläufe im Schachproblem* (W. Karsch and W. Hagemann, Hamburg, 1952). It allows the Black king several alternatives in the play, whereas in the present version any deviation is met by immediate mate. The earliest known setting in Arabic form comes from the manuscript of Abu 'l-fath (11th or 12th century) and is quoted in the first edition of *The Oxford Companion to Chess* (D. V. Hooper and K. Whyld, Oxford, 1984): White ♔c1, ♕g3, ♖g7, ♗e3/h3, ♘f5, ♗e7/c5/g5/c3/b2, Black ♔e8, ♕e6/h1, ♖c7/a2, ♗a6, ♘a5/e1, ♙b7/h7/d5/e4/g2, with play 1 ♖g8+ ♔d7 2 ♖d8+ etc., or 1...♔f7 2 ♖f8+. The position needs an additional Black firzan on h8 to stop White meeting 1...♔f7 with 2 ♖g7+, forcing Black back into the first line.

16.3: G. A. Nadareishvili and V. V. Smyslov, Comm *64-Shakhmatnoye obozreniye* 1986. Yes, this is the same Smyslov; he was publishing endgame studies even before he leapt to fame as a player. **16.4:** C. M. Bent, 1 Pr *Joseph Jubilee Ty (EG)* 1965. **16.5:** J. Rusinek, 3 Pr *Tidskrift för Schack* 1977. **16.6:** V. A. Korolkov, 1/2 HM *Komunisti* 1973. **16.7:** V. A. Korolkov and L. A. Mitrofanov, 1 Pr *3rd FIDE Ty* 1960-2. **16.8:** P. A. Cathignol, Comm *Thèmes-64* 1981. **16.9:** A. A. Troitsky, 1905, quoted by P. I. Savin and N. M. Plaksin in *The Art of Chess Composition* (Kishinev, 1987).

17.1: H. F. Blandford, 1 Pr *Springaren* 1949. **17.2:** Z. M. Birnov, 2 Pr *Trud* 1947. The Kasparian study appeared in *Shakhmaty v SSSR* 1936: White ♔f4, ♖e7, ♘d8, ♙h4, Black ♔g6, ♙f2, play 1 h5+ ♔h6 2 ♘f7+ ♔xh5 3 ♖e5+ etc. **17.3:** M. S. Liburkin, 1 Pr *64* 1932/I. The study by Kubbel, 2 HM *Rigaer Tageblatt* 1909, offers a single line of play: White ♔c8, ♖g4, ♗e2, ♙c4, Black ♔a8, ♗f2, ♗e4/b2, play 1 ♗d3 exd3 2 c5 ♗xc5 3 ♖a4+ ♗a7 4 ♖b4 etc. **17.4:** J. Rusinek, 1 Pr *New Statesman* 1971. **17.5:** D. Gurgenidze, 1 Pr *Problem* 1971-3. The study actually appeared in November 1972. **17.6:** V. A. Bron, 2 Pr *4th FIDE Ty* 1963-5, version. This improved version was included in the collection of the composer's works which came out in 1969. **17.7:** N. D. Grigoriev, 1931, quoted by M. A. Zinar and V. M. Archakov in *Harmony of the Pawn Study* (Kiev, 1990). **17.8:** O. Mazur and G. A. Umnov, 1 Pr *Chess and Draughts in the Belorussian Republic* 1980-1. **17.9:** L. A. Olmutsky, 1 Pr *Socialist Kharkov* 1963. **17.10:** G. Grzeban, 1 Pr *Peris Memorial Ty* 1960. "Grzeban" was the name adopted for composition by G. Bagdasarian.

17.11: L. A. Mitrofanov, 1 Pr *Rustaveli Memorial Ty (Vecherny Tbilisi)* 1967, version. Originally one of the Black knights was on f3 instead of g2, but in 1970 A. Kuindzhi showed this setting to be faulty: 2...♘c4+ leads to a difficult draw. According to John Nunn's book *Tactical Chess Endings* (London, 1981), the present version was published in *Vecherny Leningrad* 1971. Other versions have also appeared in print, apparently with the composer's full authority.

17.12: J. Selman, *Revista Română de Şah* 1940 (17.12); Selman, 1 Pr *Tijdschrift van de KNSB* 1949 (17.12c); V. A. Korolkov, 1 Pr *Lelo* 1951 (17.12e).

Index of composers

This index covers both the diagrammed studies and the works mentioned in Appendix B. "*" indicates a joint composition, "v" a version.

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John Beasley is the Studies columnist for the *British Chess Magazine*. He was a member of the British team in the World Solving Championship in 1977 and 1978, and was a director of the same event in 1994. He is a computer specialist, and author of two successful books about recreational mathematics.

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