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## 2 Studies I

In this chapter we enter a world halfway between problems and over-the-board play, the world of endgame studies. Like problems, these are composed positions, but the aim is not to force mate in a particular number of moves but to force a win or draw. The number of moves required is left unspecified since there is usually no definite point at which the win becomes obvious; what is obvious to one solver may be less obvious to another. Most endgame studies have positions which could plausibly arise in practical play and, indeed, solving a study is similar to solving a tactical puzzle from an over-the-board game.

Despite these connections to the competitive game, many of the principles applying to problems also hold for studies. The principle of economy must be observed; every piece has a purpose and the composer won't use two where one will do just as well. The composer's idea will involve some unusual behaviour on the part of the chessmen, perhaps a surprising tactical point or maybe an exception to one of the usual rules of endgame play. It is usually much harder to guess the composer's intention from the diagram with a study, because there may be several introductory moves before the hidden point comes to light, and in the course of these moves the position may have changed radically. Study solvers face another difficulty. Many compositions involve analysis of considerable complexity, taxing enough for a strong tournament player and doubly so for those whose main interest is in problems. However, those who turn their back on studies are missing a good deal of pleasure. One of the aims of chess composition is to extract the maximum effect from the minimum material, and studies are better able to fulfil this objective than any other form of composition. Look at Diagrams 34 and 45, for example, to see how much play can be extracted from a position of king and pawn vs

king and pawn. The over-the-board player also has much to gain from taking an interest in endgame composition, since many study ideas are applicable to practical play. Would you see how to win in Diagrams 35 and 42, if you had not seen the ideas before in these positions by Speelman and Mattison, strong over-the-board players of different eras?

In this chapter we will examine studies which do not involve too much difficult analysis, while Chapter 5 deals with more complex positions.

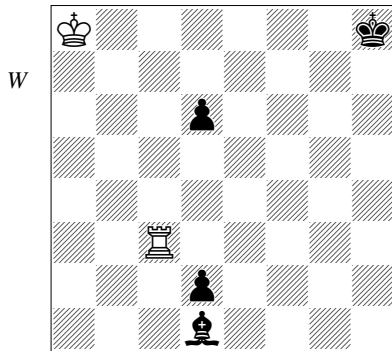
Before the mid-nineteenth century there was no clear distinction between endgames composed for artistic purposes, i.e. studies, and didactic positions intended to advance endgame theory. Consequently studies are of fairly recent origin, dating mainly from the start of the 20th century. Two composers of this period, Rinck and Troitsky, laid the foundations for the rapid development occurring in the last century. The period 1905-35 was perhaps the Golden Age of the study and many of the lightweight positions considered classics today were composed in this period. The territory was largely unexplored and new discoveries came thick and fast. We start with three famous studies from the Golden Age.

In Diagram 30, The first consideration is to identify Black's threats. Here any move of Black's bishop will win the white rook in return for the d2-pawn, but it is particularly urgent to do something to counter ...♙f3+. Only three first moves by White come into consideration, namely 1 ♖d3, 1 ♖c8+ and 1 ♖h3+. The first fails after 1 ♖d3? ♙f3+ 2 ♚a7 d1♙ 3 ♖xd1 ♙xd1 4 ♚b6 d5 5 ♚c5 ♙f3, while the second is pointless as Black easily evades the checks by 1 ♖c8+? ♚g7 2 ♖c7+ ♚f6.

**1 ♖h3+**

Even though we may have no idea yet why this move is correct, a process of elimination is often the best way to arrive at the solution.

30 V. and M. Platov,  
*Deutsche Schachzeitung*, 1907



Draw

1...♔g7

The situation has not substantially changed, so the same logic as above implies that White must check again.

2 ♖g3+

Now it is possible to see some point in White's checks, in that if Black moves to the f-file White can reply ♖d3 winning the d2-pawn, for ...♙f3+ can be taken with check.

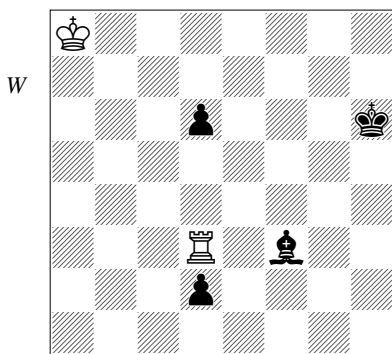
2...♙h6

At some point White will have to stop checking, for otherwise Black brings the king up to the rook and White will be finished, so at each move White should look at ♖d3 to see if the position of Black's king can be exploited.

3 ♖d3!

In fact the crucial point is that Black's king is on his third rank, so 2...♙h7 3 ♖h3+ ♙g6 would also have been met by ♖d3.

3...♙f3+ (D)



4 ♙a7! d1♖

If Black plays 4...d1♖ 5 ♖xf3 d5 White draws by 6 ♙b6 d4 7 ♙c5 since Black's king is cut off by the rook and cannot support the d-pawn.

5 ♖xd6+

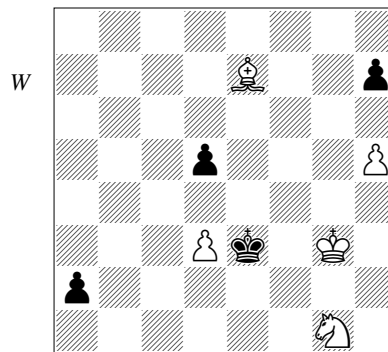
This only works because it is check. Now if Black moves his king White just takes the queen.

5...♙xd6

White is stalemated thanks to his accurate fourth move.

Although the introductory moves of a study can often be found by straightforward analysis, there usually comes a moment when none of the available moves seem to offer a chance of success and the solver needs a flash of inspiration to make further progress. The next study provides a good example.

31 V. and M. Platov, 1st Prize  
*Rigaer Tageblatt*, 1909



Win

Black's pawn is about to promote so White's choice is limited. 1 ♙g5+? just forces Black to take a useful white pawn, so the first move is easy.

1 ♙f6 d4

Now it seems that the only way to counter Black's promotion is by 2 ♘f3, in order to win the new queen by ♙xd4+. Unfortunately 2 ♘f3 a1♖ 3 ♙xd4+ ♖xd4 4 ♘xd4 ♙xd4 5 ♙f4 ♙xd3 6 ♙g5 ♙e4 7 ♙h6 ♙f5 8 ♙xh7 ♙f6 is manifestly a draw after 9 h6 ♙f7 or 9 ♙g8 ♙g5. Another problem is that if this were the right line then 2 ♘e2 would work just as well,

for 2...♙xe2 3 ♘xd4 ♙xd3 4 ♘a1 wins for White (if Black goes to win the bishop White is much too quick taking the h-pawn, while otherwise White's bishop is the right colour for the h-pawn). The solution can only be discovered when one has the idea that Black's queen does not have to be won immediately, provided White can generate a mate threat.

**2 ♖e2! a1♙ 3 ♖c1!!**

A superb move threatening 4 ♘g5# and preventing Black's queen delivering check at e1 or g1. Of course, 3 ♘xd4+ repeats the above draw.

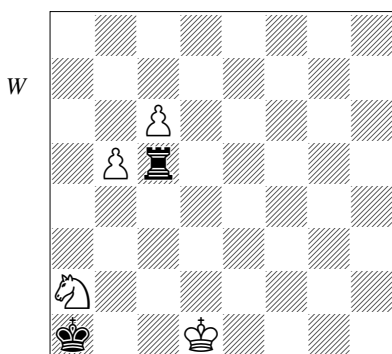
**3...♙a5**

3...♙xc1 4 ♘g5+, 3...♙d2 4 ♖b3+ and 3...h6 4 ♘e5! are also lost for Black.

**4 ♘xd4+!**

The final point. Black cannot avoid a knight fork by ♖b3+ winning the queen and keeping an extra piece.

### 32 M. Liburkin, 2nd Prize Shakhmaty v SSSR, 1931



**Win**

White's passed pawns are dangerous but Black threatens both 1...♙xb5 and 1...♙xa2. Since 1 ♖b4? ♙xb5 leads to nothing White's first move is forced.

**1 ♖c1 ♙xb5**

Black has other moves to meet the threat of 2 ♖b3+:

1) 1...♙b1 2 ♖b3 ♙c3 (2...♙xb5 3 c7 ♙d5+ 4 ♖d2+ or 2...♙c4 3 ♖d2+) 3 ♖a5 followed by b6 wins.

2) 1...♙c3 (or c4) 2 ♖b3+! ♙b2 3 ♖a5, or 2...♙xb3 3 c7 ♙c3 4 b6 promoting a pawn.

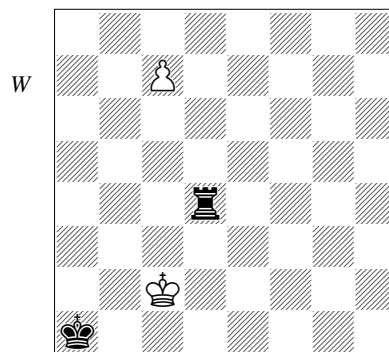
3) **1...♙d5+ 2 ♙c2** (2 ♙e2? ♙xb5 3 c7 ♙e5+ and ...♙e8 draws, or 2 ♖d3? ♙xd3+ 3 ♙c2 ♙d5 and White loses a pawn) **2...♙c5+** (2...♙xb5 3 ♖b3+ and c7) and now White must be careful. 3 ♙d2? ♙xb5 4 c7 (4 ♖b3+ ♙xb3 5 c7 ♙b2+ draws; indeed, White must even take care not to lose by 6 ♙c3? ♙b1) 4...♙b2+ 5 ♙d1 ♙c2! draws since 6 ♙xc2 is stalemate and 6 ♖b3+ ♙b2 wins the pawn. The correct line is **3 ♙d3! ♙xb5** (or 3...♙xc1 4 ♙d4 and the pawns win easily after ♙d5 followed by b6) **4 c7 ♙b8! 5 cxb8♙!** (promoting to ♙ and ♙ gives stalemate, while ♖ reaches a ♙+2♖ vs ♙ draw) and wins.

**2 c7 ♙d5+ 3 ♖d3!**

3 ♙e2? ♙e5+ and ...♙e8 draws.

**3...♙xd3+ 4 ♙c2 ♙d4! (D)**

Black can't stop the pawn promoting so he sets the trap 5 c8♙? ♙c4+! 6 ♙xc4 stalemate. 5 ♙c3 ♙d1 6 ♙c2 ♙d4 just repeats the position, so how does White win?



**5 c8♙!**

Threatening 6 ♙a8 mate. Black has only one defence.

**5...♙a4 6 ♙b3!**

and wins, as Black must lose his rook in order to prevent mate by ♙c1. Some readers may recognise the position after White's fourth move as being the Saavedra position, so-called because the winning underpromotion was found by the Revd. F. Saavedra in May 1895. Liburkin's contribution was to add the bishop underpromotion after 1...♙d5+.

After the Second World War, composers found more and more difficulty composing



*David Gurgenzidze (1953-), one of many first-rate Georgian study composers*

such elegant lightweight studies, since most had already been discovered. Consequently there has been a trend towards greater analytical complexity even in positions with few pieces. Often the uniqueness of White's moves can only be proved by deep and lengthy variations, so some composers have followed a different path. They have turned towards heavier positions with a marked middle-game character. In this way they have been able to compose studies with clear-cut variations not requiring much supporting analysis, but at the cost of less natural positions.

In the 21st century, the introduction of computers has brought another change to the endgame study world. Using powerful analytical engines, composers can now far more easily introduce complex tactical sequences into their studies, especially in the introductory play. They then verify the correctness of the moves by computer. This has led to studies becoming heavier and heavier, but often the excess material is simply hacked off during the introductory play and

plays no part in the main content of the study. The second major development has been the increasing use of endgame tablebases, which can currently evaluate with 100% accuracy all positions with seven men or fewer (including the kings). While this has led to some delightful and intriguing discoveries, it has also led to the composition of studies which are extremely difficult, if not impossible, to understand.

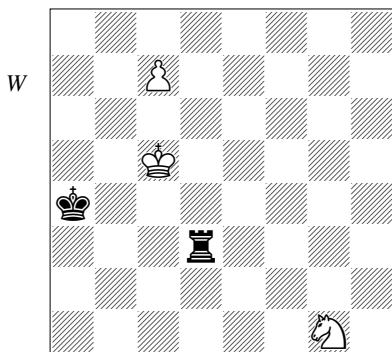
Happily some composers have persevered with light positions and made discoveries overlooked by previous generations.

Gurgenzidze's Diagram 33 forms a companion to Liburkin's composition. White can't promote immediately and after 1 ♔c4? ♚d2 2 ♔c3 (2 ♘e2? ♚xe2) 2...♚d5! White has nothing better than 3 ♔c4 repeating the position, since 3 c8♙ ♚c5+! 4 ♙xc5 is stalemate rather as in Liburkin's study. In practice, White might very well try 3 c8♚ but in a study one always assumes that Black will play perfectly.

**1 ♘e2 ♔a5!**

1...♚d2 2 ♘c3+ ♔b3 3 c8♙ wins.

**33 D. Gurgenidze, 3rd Prize**  
Mhkedruli, 1976



**Win**

**2 ♖c4!**

White must once again avoid promotion as 2 c8♞? ♜c3+ 3 ♘xc3 is another stalemate, while 2 c8♞? ♖a6 (but not 2...♖a4? 3 ♖c4 and wins) is drawn.

**2...♞d6!**

Black's tricks still aren't exhausted and now he is aiming for 3 c8♞? ♜c6+ 4 ♞xc6 stalemate.

**3 ♘d4! ♜c6+ 4 ♘xc6+ ♖b6**

Black cannot prevent the pawn advancing any longer, so he sets one last trap.

**5 c8♞!**

The only move to win as 5 c8♞? is once again stalemate. White had to sidestep four different stalemate traps in this short but sharp promotion battle.

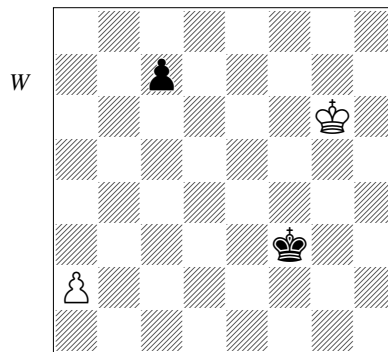
The complexity of apparently simple end-game positions is familiar to over-the-board players and study composers have thoroughly explored such endings as ♖+♙ vs ♖+♙, often uncovering surprising finesses. The Soviet composer Grigoriev (1895-1938) was a great master of the pawn ending, producing over 150 king and pawn studies.

In Diagram 34, Black's king is within the square of White's pawn so 1 a4? ♖e4 is no good, while after 1 ♖f6? ♖e4 2 ♖e6 c5 both sides promote.

**1 ♖f5! ♖e3**

1...c5 2 ♖e5 ♖e3 3 ♖d5 and 1...c6 2 a4 are easy wins for White.

**34 N. Grigoriev,**  
*Shakhmaty v SSSR, 1932*



**Win**

**2 ♖e5 c6!**

2...♖d3 3 ♖d5 ♖c3 (or 3...c6+ 4 ♖c5) 4 ♖c5 followed by a4 wins.

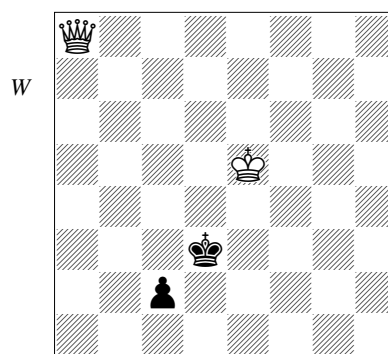
**3 a4**

There is nothing better as 3 ♖d6? ♖d4 4 a4 (4 ♖xc6 ♖c4 wins the a-pawn) 4...c5 is a sure draw.

**3...♖d3**

Black has to waste a vital tempo before he can push his own pawn.

**4 a5 c5 5 a6 c4 6 a7 c3 7 a8♞ c2 (D)**



The introduction is over and the main content of the study lies in the next two moves. Normally ♞ vs c-pawn on the seventh is a draw because Black has a stalemate defence; when his king is on b1 and White plays ♞b3+ Black can avoid obstructing his pawn by playing ...♖a1. The pawn is invulnerable and Black threatens to promote, so White has nothing