

# DVORETSKY'S



# ENDGAME M A N U A L

**5th  
Edition**

**Revised by  
Karsten Müller**

**Foreword to the Fifth Edition by Vladimir Kramnik**

# **Dvoretsky's Endgame Manual**

**by  
Mark Dvoretsky**

***Fifth Edition***

**Revised by Karsten Müller**

**Foreword by Vladimir Kramnik**



**2020  
Russell Enterprises, Inc.  
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Dvoretzky's Endgame Manual

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Mark Dvoretzky

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## Foreword

There are many chess endgame books, and some of them are very instructive and undoubtedly are worth careful study. But in my view, *Dvoretsky's Endgame Manual* can be called the Bible among them because the material in it is very well structured and explained.

There are many existing theoretical endgames and it is impossible to remember them all. It is therefore necessary to select those which have a “basic structural value.” I think Dvoretsky succeeded in doing this very well, making outstanding and painstaking efforts to select the “endgame knowledge base” for a chess player. The book contains all that you NEED to know and sets aside everything superfluous, or more precisely, what is not so necessary to remember.

Although of course I had fully mastered this material when the book first came out, I always had it close at hand. Before my world championship matches and candidates' tournaments, I always refreshed and reinforced these endings in my memory by glancing through this book.

Indeed, modern chess has changed a lot, and very often you have to make critical decisions with little time on the clock. A player is often faced with calculating in the seventh hour of play, trying to find the best move, for which there is often simply neither time nor energy. To handle a situation like that, it is crucial to have markers – beacons in this vast ocean of possibilities in the endgame – to know well which endings are winning and which are not, and to have at least a rough idea of how to play them.

While it is impossible to remember everything, if a chessplayer has at his command the assessment and the core criteria of play in theoretical endings, the benefits will be obvious.

Of course, it does not often happen that a precise position from the book appears on the board. But your endgame technique is certain to improve, as well as your defensive abilities. The fact is, if you know which theoretical endings you should enter and which you should not, depending on the result you are trying to achieve, this is a tremendous help in making the correct decisions in many other endgames not covered here.

I think that all chessplayers should express their gratitude to Mark Dvoretsky for undertaking such work, synthesizing in a practical format and in a condensed and well-explained form, the most important endgame knowledge which every chessplayer must possess.

Naturally, in today's world, everyone has gotten used to working with computers, and you can pull up a tablebase and see how a theoretical endgame is evaluated, what correct moves should be made. But it is impossible to attain real endgame mastery by just working with a computer. An explanation of why an endgame is winning, and how to win (or save) it from a human point of view, described in words and in language that a person understands (as opposed to computer variations), is needed.

In short, I consider *Dvoretsky's Endgame Manual* an absolute must for every chess professional, and no less important even for a club player. Learn the endgame principles in this book well, refresh them in your memory from time to time, and your rating and your tournament performances will surely improve.

I often get questions from both chess amateurs and professionals about which books to study to improve their play. The list is short, but have no doubt – I always recommend this book for everyone.

I consider it to be one of the very best chess books published in recent times and I am very pleased with the new enhanced edition that has come out.

Vladimir Kramnik  
14th World Champion  
April 2020

## Chapter 6

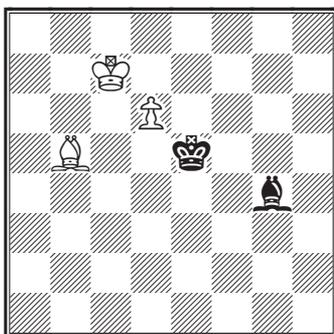
### Bishops of the Same Color

#### Minimal Material

#### Bishop and Pawn vs. Bishop

These endgames were first subjected to thorough analysis in the mid-19th century by the Italian player Centurini. Later, significant additions to the theory were made by GM Averbakh.

6-1



White to move wins, by *driving off* the enemy bishop from one diagonal, and then *interfering* along the other diagonal.

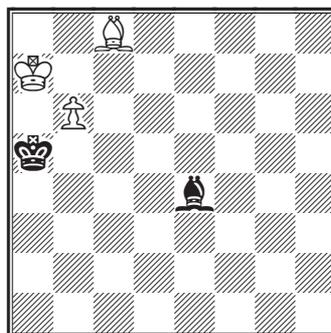
1  $\text{Qd7}$   $\text{Qd1}$  2  $\text{Qh3}$   $\text{Qa4}$  3  $\text{Qg2}$   $\Delta$  4  $\text{Qc6+}$

Can this plan be prevented? Yes, it can – provided Black's king can get to c5, preventing White's bishop from interfering along the diagonal. Black to move draws:

1...  $\text{Kd4!}$  (but not 1...  $\text{Kd5?}$  2  $\text{Qd7}$   $\text{Qd1}$  3  $\text{Qc6+}$  and 4  $\text{d7}$ ) 2  $\text{Qd7}$   $\text{Qd1}$  3  $\text{Qh3}$   $\text{Qa4}$  4  $\text{Qg2}$   $\text{Kc5!}$  = Thus, if the weaker side's king cannot get in front of the pawn, then the basic defensive principle becomes: *king behind the king!*

*The short diagonal:* even with the "right" king position, the draw is impossible if one of the diagonals along which the bishop will restrain the pawn proves too short.

6-2



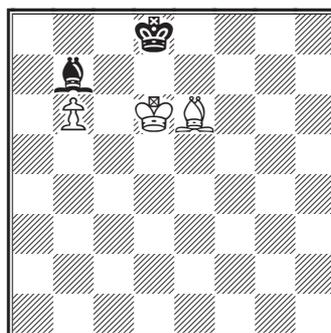
W

1  $\text{Qb7}$   $\text{Qf5}$  2  $\text{Qf3}$   $\text{Qc8}$  3  $\text{Qe2}$   $\text{O+}$

All the squares on the c8-a6 diagonal, except c8, are under the control of White pieces – that is why we get zugzwang. Now, if we were to move the entire position down one rank, the bishop would get another free square, and White could no longer win.

The following position of reciprocal zugzwang has some practical significance.

6-3



S

White to move only draws. 1  $\text{Qd5}$   $\text{Kc8}$  (or 1...  $\text{Qa6}$ ) is useless. On 1  $\text{Qf5}$ , there follows 1...  $\text{Qf3}$  2  $\text{Qe6}$   $\Delta$  3  $\text{Qd5+-}$  2...  $\text{Qb7!}$  3  $\text{Kc5}$   $\text{Qf3}$  (3...  $\text{Ke7?}$  4  $\text{Qd5}$ ) 4  $\text{Qd5}$   $\text{Qe2}$  ( $\Delta$   $\text{Kc8}$ ) 5  $\text{Qb7}$   $\text{Kd7}$  =

But what is Black to do if it is his move? Any bishop retreat along the h1-a8 diagonal is refuted by 2  $\text{Qd5}$ ; therefore, he must play 1...  $\text{Qa6}$ . By the way

(here's a tragicomedy!), in this won position, Botvinnik accepted a draw against Model in the 1931 Leningrad Championship.

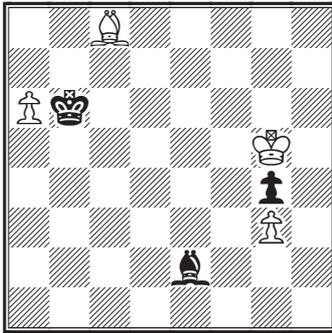
The path to victory is not complicated: 2 ♖c6! ♙c8 3 ♙c4! ♚ ♙g4 4 ♖b7! ♙f3+ 5 ♖a7 ♠ ♙a6-b7+–

**Transpositions to Positions  
with One Pawn**

**Charushin – Rosenholz**  
cr 1986

6-4

W?



A typical situation: White can take the g4-pawn only at the cost of his a6-pawn. The question is whether the enemy king can get back in time.

1 ♖f4! ♚

Excellently played! White improves his own king's position (now it no longer stands in the path of its pawn) while simultaneously using zugzwang to force the enemy king further away from the kingside. The hasty 1 ♙xg4? ♙xa6 2 ♖f4 ♖c7 3 ♙f3 ♖d6 4 g4 ♖e7 leads only to a draw.

1... ♖a7 ♚ (1... ♖c7 2 a7 ♙f3 3 ♙xg4) 2 ♙xg4 ♙xa6 3 ♙f3 ♖b6

No better is 3... ♙c8 4 ♙e4 ♖b6 5 ♙f5.

4 g4 ♖c5 5 g5 ♖d6 6 g6 ♖e6

Nothing is changed by 6... ♖e7 7 ♖g5 ♖f8 8 ♖h6 ♙c4 9 g7+ ♖g8 10 ♙e4 ♠ 11 ♙h7+.

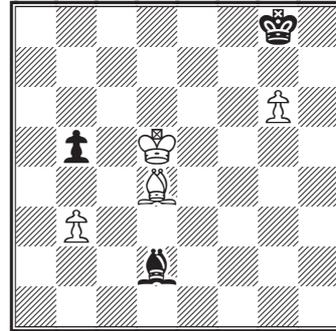
7 ♖g5 ♙c4 8 g7

Black resigned, in view of 8... ♖f7 9 ♖h6 ♖f6 10 ♖h7 ♖g5 11 ♖h8 ♖h6 12 ♙e4, followed by ♙h7-g8 (the h7-g8 diagonal, where the black bishop must move, is too short).

**Capablanca – Janowsky**  
New York 1916

6-5

W



White has nothing to play for, other than to pick up the b-pawn in exchange for his g6-pawn. Unfortunately, this plan would not be enough to win. I present the main variation: 1 ♖c5 b4 2 ♖c4 ♙e1 3 ♙c5 ♖g7 4 ♙xb4 ♙g3! (Averbakh's analysis shows that 4... ♙f2 also draws, but that 4... ♙h4? loses) 5 ♙c3+ ♖xg6 6 b4 ♖f7 7 b5 ♙c7! 8 ♖d5 ♖e7 9 ♖c6 ♖d8 10 ♖b7 ♖d7=

1 ♖e4

Capablanca is in no hurry to force matters – he maneuvers, hoping for a mistake by his opponent.

1... b4

By no means forced (1... ♙e1 2 ♖d3 ♙b4 3 ♙c3 ♙e7 is not bad); but, on the other hand, it does not spoil anything.

2 ♙e3 ♙c3 3 ♖d3 ♙e1 4 ♙d2 ♙f2 5 ♖e4 (5 ♙xb4 ♖g7=) 5... ♙c5?

And here is the mistake! Now White captures the b4-pawn, with a tempo ahead of the other variations. First Black had to lure the king away from the queenside: 5... ♖g7! 6 ♖f5, and now he can defend the pawn (6... ♙c5 7 ♙f4 ♙f2 8 ♙e5+ ♖g8=).

6 ♖d5! ♙e7

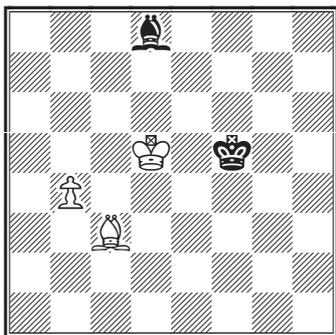
Still worse is 6... ♙f2 7 ♙xb4 ♖g7 8 ♙c3+ ♖xg6 9 b4 ♖f7 10 ♙d4 ♙g3 11 b5 ♙c7 12 ♖c6 ♙a5 13 ♙e5 ♠ ♙c7+–

7 ♖c4 ♖g7 8 ♙xb4 ♙d8 9 ♙c3+?

White errs in return – although it is not at all obvious. The win was 9 ♙d2! – a variation we shall examine later.

9... ♖xg6 10 b4 ♖f5 11 ♖d5

6-6



B?  
Play

In this position, Janowsky resigned. And wrongly so – as Averbakh has shown. Black could get a draw by employing the basic defensive plan of “king behind king.”

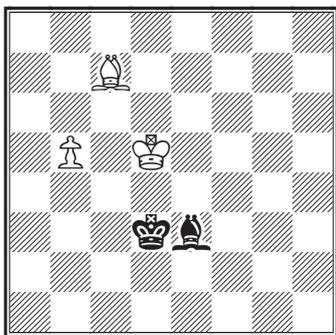
Since White is going to put his king on c6, Black must hurry his king over to c4:

**11...♟f4! 12 ♖d4** (12 ♖e5+ ♜e3 13 b5 ♜d3 14 ♜c6 ♜c4=) **12...♟f3! 13 b5** (13 ♖c5 ♜e2 14 ♜c6 ♜d3 15 ♜d7 ♖g5 16 b5 ♜c4) **13...♟e2! 14 ♟c6 ♟d3 15 ♖b6 ♖g5 16 ♖c7 ♖e3**

After 17 ♖d6 ♜c4, Black prevents the interference along the diagonal at c5 just in time. But the struggle is not over yet.

**17 ♟d5!**

6-7



B?

The most dangerous continuation, as pointed out by Issler. If Black now plays 17...♜c3? then 18 ♖d6 ♖b6 (18...♜b3 19 ♖c5 ♜a4 20 ♜c6) 19 ♜c6. Black has no time to play ♜c4 – White is ready to reply with either 20 ♖c7 or ♖c5, depending on where Black’s bishop retreats.

Black is saved by a tactic, which is very useful to remember: it is a typical trick in bishop endgames.

**17...♖d2!!**

On 18 b6, the *pin* 18...♖a5 saves him.

**18 ♖d8 ♖e3!**

Now the threat of 19 b6 ♖a5 20 b7 forces Black to retreat. That is fine – White’s bishop stands worse on d8 than it did on c7, and there is no longer any danger in 19 ♖e7 (Δ 20 ♖c5) 19...♖b6! 20 ♜c6 ♖a5! (White no longer has 21 ♖c7) 21 ♖d6 ♜c4=

White has just one final trap:

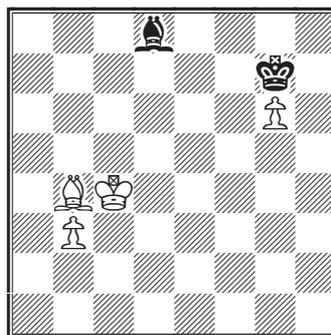
**19 ♖c7 ♖d2! 20 ♟c6 ♖e3! 21 ♟b7!** (21 ♖d6 ♜c4=) **21...♟c4 22 ♟a6 ♟b3!!**

Once again, the same technique of “king behind king”: the black king heads for a4. He would lose after 22...♖f2? 23 ♖b6 ♖h4 24 ♖e3 ♖d8 25 ♖d2 Δ ♖a5+- And 22...♟b4? 23 ♖b6 ♖g5 24 ♖a5+ and 25 b6+- is wrong too.

**23 ♖b6 ♖g5 24 ♖f2 ♖d8 25 ♖e1 ♟a4=**

All that is left for us to see is what would have happened, had Capablanca played more precisely on his ninth move.

6-8



W?

9 ♖d2! ♟xg6 10 b4 ♟f5 11 ♜d5

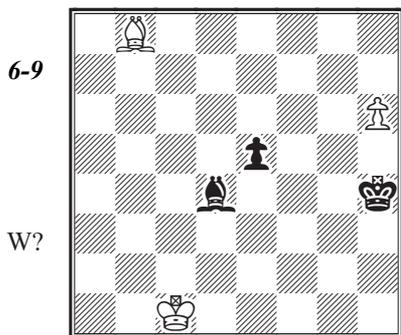
Now we are looking at the position from the next-to-last diagram, but with the bishop on d2 (instead of c3). Here Black’s king is unable to get behind White’s.

11...♟g4 12 b5 ♟f3 13 ♜c6 ♜e4 14 ♟b7!! ♟d3 15 ♖e1! ♜c4 16 ♟a6 ♟b3 17 ♖a5 ♖g5 18 b6+-

### Interference

We know that interference is the primary instrument by which the stronger side secures (or attempts to secure) the queening of its pawn. In all the examples we have looked at thus far, the bishop has done this work. But sometimes (although certainly not nearly as often), interference is carried out with the aid of the pawns. For instance, there is the following spectacular study.

P. Heuäcker 1930

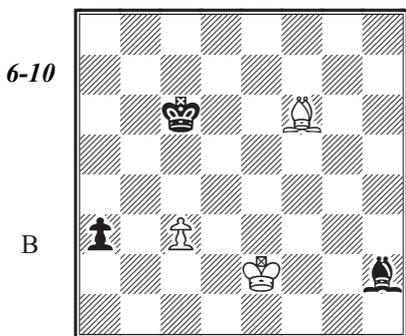


1 ♖a7! (1 h7? e4=) 1... ♙a1 2 ♜b1 ♙c3 3 ♜c2 ♙a1 4 ♙d4!! ♙x♙d4 (4...ed 5 ♜d3+-) 5 ♜d3 ♙b2 6 ♜e4+-

### Tragicomedies

We have already seen the tragicomedies that occurred in the games Botvinnik-Model and Capablanca-Janowsky. I will add one more example.

Savchenko – Krivosov  
USSR 1989

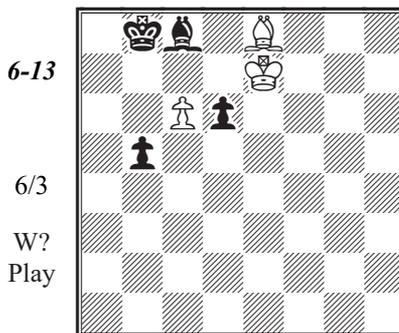
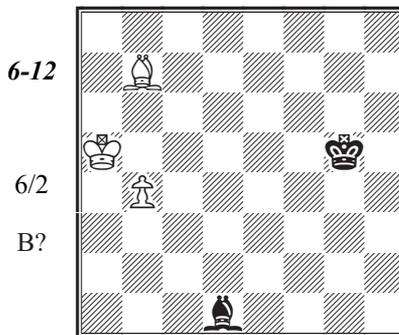
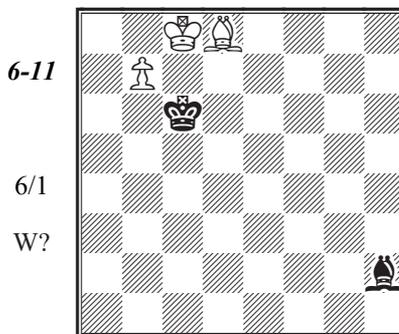


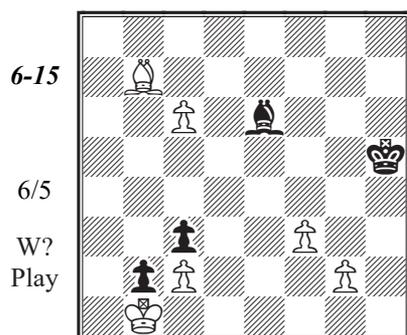
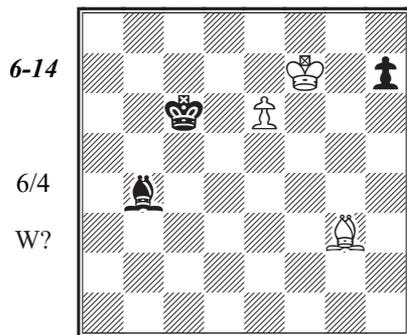
1... ♙e5?? 2 ♙x♙e5 ♜d5 3 ♙g7?? ♜c4!, and Black won.

The same tactical idea of interference as in the Heuäcker study brought Black success here. However, this occurred only as a result of his opponent's gross blunder. After 3 ♜d3! ♜x♙e5 (3...a2? 4 ♙g7+-) 4 ♜c2, the king is in the square of the a-pawn.

Black should have carried out his interference in a more primitive form, by preparing ...♙e5. This could have been achieved either by 1... ♜d5 2 ♜d3! ♜e6! (but not 2...a2? 3 c4+) 3 ♙d4 a2 4 c4 ♙e5, or by 1... ♜d6 2 c4 ♙e5 (2...a2; 2... ♜e6) 3 c5+ ♜e6! +- (3... ♜d5? is a mistake, because of 4 c6=).

### Exercises





### The Bad Bishop

A vital principle of chess strategy (which is certainly applicable to more than just the endgame) requires us *not to place our pawns on the same color squares as our own bishop*.

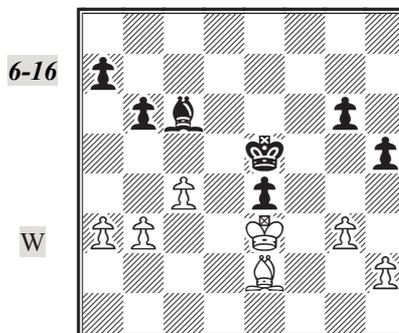
In the first place, pawns that are fixed on the same color squares as the bishop limit its mobility – this is why such a bishop is called “bad.”

In the second place, a bad bishop is unable to attack the enemy pawns (which are usually placed on the opposite color squares), which dooms it to passive defense of its own pawns.

And third, since both pawns and bishop control only one color of squares, there will be “holes” in between those squares that the enemy pieces will occupy.

### Fixing Pawns

Averbakh – Veresov  
Moscow 1947



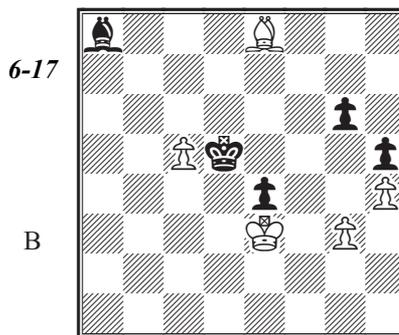
#### 1 h4!

The experienced player makes such moves – fixing the enemy pawns on the same color squares as his bishop – without thinking.

White has a great positional advantage. After the necessary preparations, he will create an outside passed pawn on the queenside, which will divert the enemy forces, allowing White to fall upon the king-side pawns.

1...d7 2 Qf1 a5 3 Qg2 Qc6 (3...Qf5 4 Qh1 ☹) 4 Qh3!

The bishop aims for d7, where it will support the queenside pawn advance while at the same time be ready to attack the pawn at g6. For example: 4...Qa8 5 Qd7 Qb7 6 b4 ab 7 ab Qa8 8 c5 bc 9 bc Qd5 10 Qe8



10...g5! (10...Qxc5 11 Qxg6 Qd6 12 Qxh5 Qe5 13 Qg6 Qc6 14 g4+-) 11 hg Qxc5 12 Qg6! Qd5 13 Qxe4 Qg8 14 Qf4 Qd6 15 Qf5 Qe7 16 Qg6+-

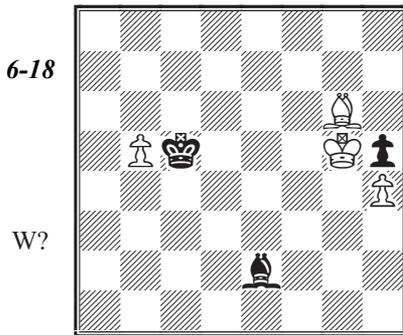
4...b5 6 cb Qxb5 6 Qc8 Qc6 7 b4 ab 8 ab Qb5 9 Qb7 g5!

On 9...♖d3, 10 ♖c6 ♜f5 11 b5 (11 ♖d7+) 11...♜g4 (11...♖xb5 12 ♖xb5 ♜g4 13 ♜f2 e3+ 14 ♜g2+-) 12 b6 ♖a6 13 ♜f2 e3+ 14 ♜g2 is decisive.

**10 ♖xe4 gh 11 gh ♖a4**

11...♖e8 loses also: 12 ♖f3 ♜f5 13 ♖e2! (but not 13 ♜d4? ♜f4 and 14...♜g3) 13...♜e5 14 ♖d3!○ ♖d7 (14...♜d5 15 ♜f4 ♜d4 16 ♖e2+-) 15 ♖g6 ♜d5 16 ♖xh5 ♜c4 17 ♖e2+ ♜xb4 18 h5 ♖f5 19 ♖d3 ♖e6 20 h6 ♖g8 21 ♜d4+-

**12 ♖g6 ♖d1 13 b5 ♜d5 14 ♜f4 ♜c5 15 ♜g5 ♖e2!** (15...♜xb5 16 ♖xh5 ♖c2 17 ♖e8+ ♜c5 18 h5 ♜d6 19 ♜f6!+-)



**16 ♖e8!○**

We know this technique from the ending Charushin-Rosenholz (diagram 6-4). Before taking the pawn, it is important to drive the black king back to b6 – as far as possible from the kingside. The hasty 16 ♖xh5? ♖xb5 17 ♖g4 ♖e8 18 ♖f5 ♜d6 19 ♖g6 ♜e7! leads only to a draw.

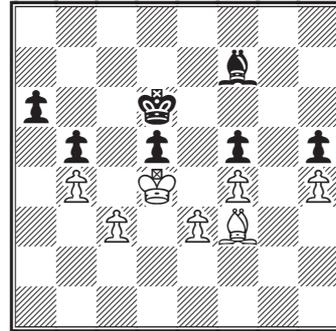
**16...♜b6 17 ♖xh5 ♖xb5 18 ♖g4 ♖e8 19 ♖f5 ♜c7 20 ♖g6 ♜d8 21 ♜f6!** Black resigned (analysis by Averbakh).

### Zugzwang

With a bad bishop, the weaker side's defensive hopes often are destroyed through zugzwang. Here is the simplest example:

### Y.Averbakh 1954

6-19



The correspondence between the f3- and f7-squares is obvious – to win, it is necessary only to give Black the move. If you like, you can also find other pairs of corresponding squares (for example, the f1- and b3-squares also correspond to f7), but there is no real need.

**1 ♖e2 ♖e8**

If 1...♖g6, then 2 ♖d3 ♖h7 3 ♖f1! ♖g6 (3...♖g8 4 ♖e2 ♖f7 5 ♖f3○) 4 ♖g2 ♖f7 5 ♖f3○

**2 ♖d3 ♖g6**

2...♖d7 3 ♖c2 ♖e6 4 ♖d1 ♖f7 5 ♖f3○

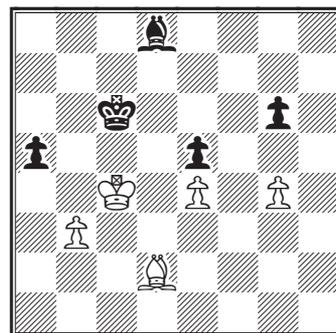
**3 ♖c2 ♖h7 4 ♖b3! ♖g8 5 ♖d1 ♖f7 5 ♖f3+-**

Now, let's look at a considerably more complex endgame.

### Shabalov – Varavin

Moscow 1986

6-20



**1 ♖e1 ♖b6**

On 1...♖c7? 2 ♖c3, Black is in zugzwang, and must put another pawn on the same color as his bishop, making his opponent's winning task that much simpler. For example, 2...g5 3 ♖b2 ♖d6 4

♖c1 ♗e7 5 ♗e3 ♗f6 (5...♗d8 6 ♗d2) 6 ♗c5 ♗d8 7 ♗a3 ♗b6 (7...♗f6 8 ♗b2 ♗ ♗c3) 8 ♗b2 ♗c7 9 ♗c3 ♗ White's bishop maneuvers here in roughly the same way as it did in the preceding example.

**2 ♗h4! ♗e3**

The c7-square turns out to correspond, not just to the c3-square, but also to g3. 2...♗c7? would be bad: 3 ♗g3! ♗b8 4 ♗e1 ♗c7 5 ♗c3. And on 2...♗d4? 3 ♗d8 decides.

**3 ♗g3 ♗d4**

After 3...♗f4? 4 ♗e1, Black must defend the a5-pawn with his king, and allow the enemy king to enter. This does not bode well for Black: 4...♗b6 5 ♗d5 ♗b5 6 ♗c3 g5 7 ♗xe5 ♗xe5 8 ♗xe5 ♗b4 9 ♗d5 ♗xb3 10 e5 a4 11 e6 a3 12 e7 a2 13 e8 ♗ a1 ♗ 14 ♗e3+ ♗c2 15 ♗e2+ forcing the exchange of queens.

**4 ♗h2! ♗b2**

4...♗a1? loses to 5 ♗g1 ♗b2 6 ♗f2 ♗ ♗e1+-

**5 ♗g1 ♗a3!**

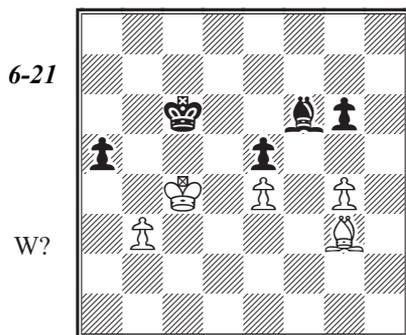
On 5...♗c1?, White wins with 6 ♗c5 ♗d2 7 ♗a3 ♗g5 8 ♗b2+-

**6 ♗f2 ♗e7!**

Otherwise, we get the basic zugzwang position: 6...♗d6? 7 ♗e1 ♗c7 8 ♗c3 ♗ or 6...♗b4? 7 ♗g3 ♗d6 8 ♗e1, etc.

**7 ♗g3! ♗f6**

By means of a series of accurate maneuvers, Shabalov has achieved his aim – the bishop has been deflected onto a poor diagonal. On the other hand, there was no longer any choice: 7...♗d6? 8 ♗e1 ♗c7 9 ♗c3 ♗+-



**8 ♗h2 ♗g7 9 g5!**

White “breaks the rule,” by moving a pawn onto a square the same color as his own bishop – in order to restrict the enemy bishop’s mobility still further. There is no other way to make any progress.

**9...♗f8**

9...♗h8? 10 ♗g3 ♗g7 11 ♗e1 is hopeless.

**10 ♗xe5 ♗e7 11 ♗f6 ♗b4?**

The decisive error. After the accurate 11...♗c5 12 ♗c3 (12 ♗d8 ♗b4 13 ♗d4 ♗d6) 12...♗b6 (shown by Aczel) realizing the extra pawn is evidently not possible.

**12 ♗c3!**

Advancing the e-pawn does nothing for White: 12 e5 ♗d2 13 e6 ♗d6 14 e7 ♗d7. So he takes the a5-pawn in exchange for the g5-pawn.

**12...♗e7 13 ♗xa5 ♗xg5 14 b4 ♗f4 15 b5+ ♗d6 16 ♗c3! g5 17 e5+ ♗c7**

17...♗xe5 18 ♗xe5+ ♗xe5 19 b6! (but not 19 ♗c5? ♗e6) 19...♗d6 20 ♗b5 g4 21 ♗a6+-

**18 ♗a5+ ♗c8 19 ♗d5 g4 20 e6 g3 21 ♗c6! ♗g5** (22 e7 was threatened) **22 b6** Black resigned.

### Pawns Which Do Not “Play by the Rules”

In chess, there are no absolute laws. Even so important and generally useful an axiom as the unprofitability of placing one’s pawns on the same color squares as one’s bishop must occasionally be broken. Here are the possible reasons for doing so:

- To restrict the mobility of the enemy bishop using one’s own pawns (as occurred in the preceding example);
- The need to undermine the enemy pawn chain; and
- The attempt to create an impregnable fortress around a “bad bishop.”

The first and third points are illustrated by the following case:

Wojtkiewicz – Khalifman  
Rakvere 1993

