



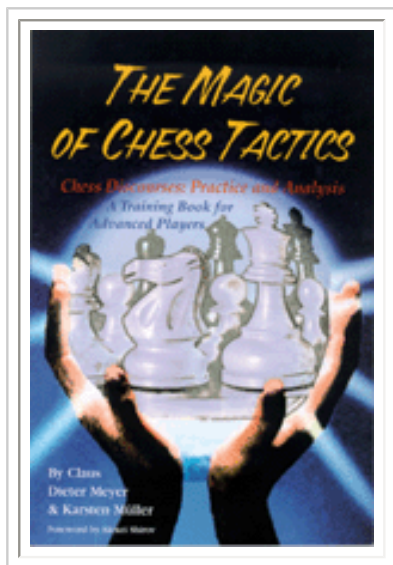
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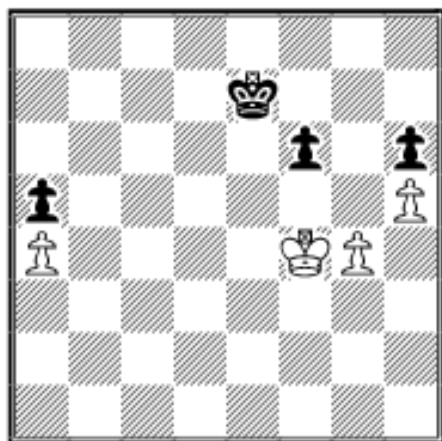
COLUMNISTS

Endgame Corner

Karsten Müller



The Mystical Sister Squares (Part 2)



There is, of course, much more to the general theory of corresponding squares than the examples of opposition and triangulation I dealt with last month. For instance, when the attacker has more squares behind him, triangulation is not the only way to prevail, but one must always watch out for possible triangulations.

39.01 Instructive Example

As is customary, we first determine the key squares for White's king. The f5-square is not sufficient, but squares g6 and e6 are obvious. A brief calculation proves that d5 does the job as well. Against Black's king on d7, White wins with 1.Kc5 Ke6 2.Kb5 etc. Let us start with the numbering near the key square g6: f5=f7=1, e4=e6=2, d4=d6=3, c4=c6=4, and f4=e7=5 follow quickly. Now White's backward moves should be considered. This is a very important counter-intuitive step! In such cases you should always consider moving backwards to win the fight for the correspondence, especially if your opponent has no strong counterplay. From e3, White can reach 2, 3 and 5, so d7=5 corresponds. But what about d3? It reaches 2, 3, 4 and 5 and so again d7 corresponds, which makes White's win clear:

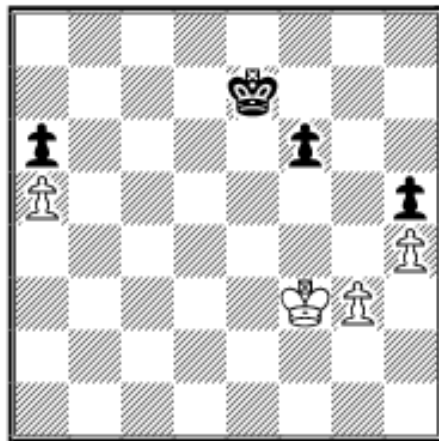
1.Ke3!

1.Kf5?! Kf7 2.Kf4 Ke7 3.Ke3!+-; 1.Ke4?! Ke6 2.Kf4!+-

1...Kd7 2.Kd3 and Black can't keep the correspondence 2...Ke6 3.Ke4 Ke7 4.Kd5 Kd7 5.Kc5 Ke6 6.Kb5 f5 7.gxf5+ Kxf5 8.Kxa5 Kg5 9.Kb6 Kxh5 10.a5+-

I was inspired by the following game:

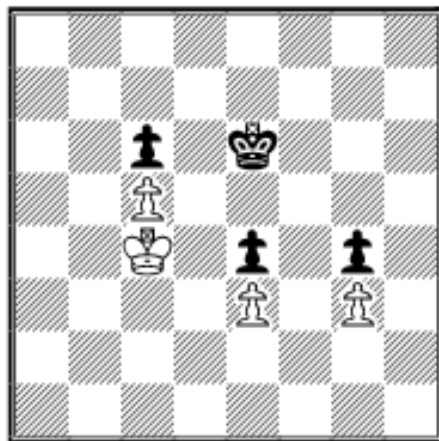
39.01A Z.Izoria (2569) - A.Sulypa (2492)
EU-ch 4th Istanbul 2003



50...f5! and a draw was agreed as **51.Ke3** is met by **51...Ke6!=**

Mined Squares

39.02 A.Gasthofer (2412) - D.Agaragimov (2245)
EYb18 Budva 2003



We could begin by calculating the key squares, which are a6, b6, and e4 (i.e. capturing Black's e4-pawn), but White's shortest path from a5 to d4 is three moves long, while Black's from b7 to f5 is four moves long. So it seems White wins easily, but this is not so! **First we must check if the theory is applicable or not.** The first condition is fulfilled: it is a maneuvering position, without spare tempi (pawn moves). But the second is not: Black has counterplay against the c5-pawn, and

maybe even against the e3-pawn. Therefore 1.Kb4?? would be a fatal blunder due to 1...Kd5—+. So be warned, in reality b4 and d5 are mined squares. White can only move to b4, when Black is at d5 and vice versa, therefore he must tiptoe around it.

48.Kc3

48.Kb3 works as well: 48...Kd7 49.Kb4 Kc7 50.Kc4+-

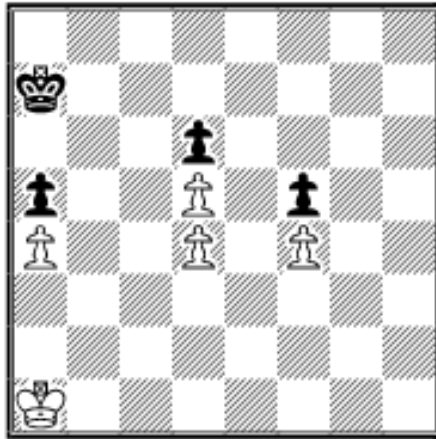
48...Ke5 49.Kb3 Ke6 50.Ka4 Ke5 (50...Kd5 51.Kb4 Ke6 52.Ka5 Kd5 53.Kb6+-) **51.Ka5 Kd5 52.Kb6 Kc4 53.Kxc6 Kd3 54.Kd5 Kxe3 55.c6 Kf3 56.c7 e3 57.c8Q e2 58.Qc1** and Black resigned due to **58...Kf2 59.Ke4 e1Q+**

60.Qxe1+ Kxe1 61.Kf4+-**A Complicated Case**

Very complicated correspondences almost never occur in practice, but the game of chess is so rich with possibilities that they are feasible:

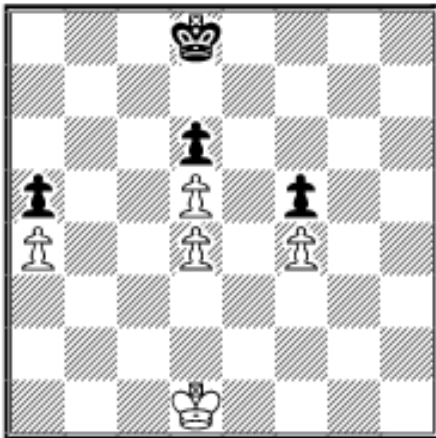
39.03 Em.Lasker and G.Reichhelm

Chicago Tribune 1901



The key squares are b5, g5, and h5. The shortest path for White is c4-d3-(e2, e3)-(f2, f3)-g3-h4 and for Black b6-c7-(d7, d8)-(e7, e8)-(f7, f6)-g6. As Black has a counterattack, when both kings are on the kingside we only number h4=g6=6. So White should only go to the kingside, when this wins and the distance to the kingside is important only for evaluating the system on the queenside. So it follows that the squares on the c-file for White, correspond to squares on the b-file for Black. Now you

can deduce: c4=1=b6, d3=b3=d1=b1=2=c7, c3=c1=3=b7, d2=b2=4=c8, c2=5=b8. So, for instance, 1.Ka2? can be met by 1...Kb7 and 1.Kb2? by 1...Ka8!!. There only remains: **1.Kb1!** now Black can't go to c7=1 **1...Kb7 2.Kc1! Kc7 3.Kd1! Kd8**



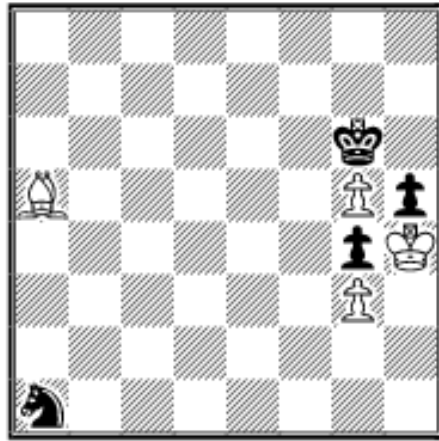
4.Kc2! White approaches the key squares (another important guideline) at just the right moment as Black can't get to b8.

4...Kc8 5.Kd2! Kd7 6.Kc3! Kc7 7.Kd3! Kb6 8.Ke3 Kc7 9.Kf3 Kd7 10.Kg3 Ke7 11.Kh4 Kf6 12.Kh5+-

Another complicated case could have arisen in the game Hans Ree vs. Lubomir Ftacnik (see Endgame Corner 10 in the [ChessCafe Archives](#)). And other resource material is listed at the end of this article.

Correspondence in Other Endgames

Jonathan Speelman analyses, in *Endgame Preparation*, the theory of corresponding squares in endgames with pieces. One example is:



39.04 F.Bondarenko 1946

White's king is almost mated so its bishop has to guard squares f5, f3 and g2 from the knight. Averbakh has derived the following list of correspondences in Bishop vs. Knight Endings:

Bishop	Knight
• f2	c2
• c3	d3,b3
• f4	e4,c4,f7
• f6	c6,e6
• c5	d5,b5
• e5	e8,d8,a5,c5
• d4	b4,c7
• d4,e7	a7
• d6,e3	c3

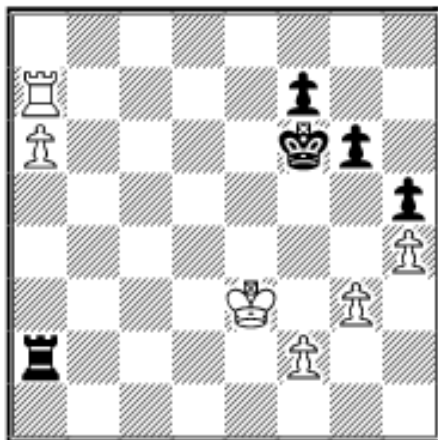
A quick inspection reveals that the knight can never move "inside one correspondence." Let's look at e5 for example: e8, d8, a5 and c5 are all more than one knight move away from each other, and that indicates that the position is drawn, indeed the mighty knight can't defeat the brave bishop.

1.Be1! Nb3 2.Bc3 Nc5 3.Be5 Ne4 (3...Ne6 is met by 4.Bf6) **4.Bf4 Nf2 5.Bd2 Nd3 6.Bc3** and Black can't make progress.

That was really complicated, wasn't it? One last exercise: without the g5-pawn, determine why example 39.04 is lost!

Addendum

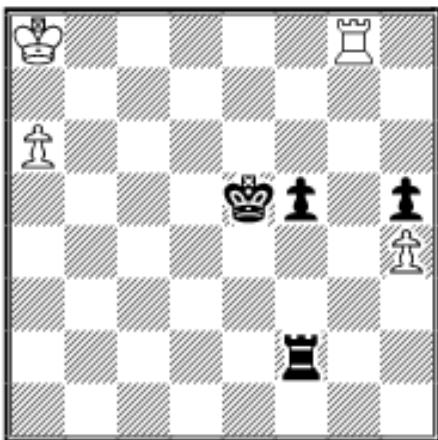
Mark Dvoretsky has sent me the following discoveries that expand on his November and December 2003 Instructor columns (see the [ChessCafe Archives](#)), and has given his kind permission to publish them here:



39.05

"I found some new improvements in the Kantorovich/Steckner position with Black to move after **1...g5!? 2.Kd4 gxh4 3.gxh4 Ke6!** (Anand, Dautov) **4.Kc5 Ke5 5.Ra8 Kf4 6.Kb6 Rb2+ 7.Ka7 f5! 8.Rg8!?** We can get the same position after 3...Ra5?! 4.Kc4 Ke5 5.Kb4 Ra2 if White plays 6.Kb5 (instead of 6.f4+!). Steckner demonstrated that 8...Kf3! leads to a draw. The move **8...Rxf2?!** was considered losing after

9.Ka8! but now I have my doubts. The race after 9...Rb2 10.a7 Ke3 is indeed lost for Black (I gave this analysis in my last column). I also suggested an unusual plan beginning with **9...Ke5!!**



The idea is to bring the king to the queenside to fight against the a-pawn. I demonstrated that 10.a7 Kd6 leads to a draw, so the immediate attack against the h5-pawn was analysed.

1) The move 10.Rg5?! which was analysed by Steckner and I, actually allows Black to change his plan: 10...Ke4! 11.Rxh5 Rb2! (or 10...Rb2! 11.Rxh5 Ke4). Steckner gave 12.a7 f4 13.Rh7! f3 14.h5 Rb5 15.Re8+

Re5 16.Kb8!+-. But Black can defend better: 14...f2! (instead of 14...Rb5?) 15.Rf7 Ke3 16.h6 Rb1 17.h7 Rh1 18.Kb8 R:h7 19.R:h7 f1Q 20.a8Q Qf8+ 21.Kb7 Qb4+ with a perpetual. And if 13.Rh8 (instead of 13.Rh7) 13...f3 14.h5, then 14...f2? loses due to 15.Rf8 Ke3 16.h6 Rb1 17.h7 Rh1 18.Kb8, but 14...Rb5! 15.Re8+ Re5 works.

2) Stronger is 10.Rh8 (instead of 10.Rg5) - White prevents this plan of defense (10...Rb2? or 10...Ke4? - 11.a7+-)

3) But after **10.Rh8 Kd6 11.Rxh5** Black still can make a draw by **11...Rh2!!** (we considered 11...Kc7 as the main line, but after 12.Ka7! White wins in a

very complicated line). 12.a7 Kc7 13.Rh7+ Kc8 is not dangerous. I considered **12.Kb7!? Rb2+ 13.Kc8 Rc2+ 14.Kd8 Ke5 15.a7 Ra2 16.Rh7 f4 17.h5 f3 18.h6 f2 19.Re7+ Kf5 20.h7 f1Q 21.h8Q** as a refutation, but missed the simple 17...Kf6! 18.h6 Kg6= or 18.Rb7 Kg5=."

Johannes Steckner now adds: "thank you for this new analysis on 8....Rxf2 9.Ka8! Ke5! In the line 10.Rg5, your resource 14....f2! indeed draws, as far as I see. And I also agree that, for this reason, your suggestion 10.Rh8 looks more accurate. But my impression is that, with the new improvements below, both rook moves still win:

1) 10.Rg5 Ke4! (or 10....Rb2! 11.Rxh5 Ke4!) 11.Rxh5 Rb2! 12.Rh8! (The h-pawn must run immediately! Not 12.a7, which is drawn as you have shown) 12....f4 (what else?) 13.h5! (But not 13.Rb8? Ra2 14.a7 f3 15.Rb1 (15.h5 f2 16.Rf8 Rd2!=) Kf4 16.Kb7 Kg4 17.Rb4+ Kg3=. Also not 13.a7? transposing to 12.a7 f4 13.Rh8, f3=) f3 14.h6 f2 (14....Rh2 15.a7+-; 14....Rb5 15.h7 f2 16.Rf8+-) 15.Rf8 Rb6 16.a7+-.

2) 10.Rh8! Kd6 11.Rxh5 (the same as 10.Rg5 Kd6 11.Rxh5) 11....Rh2! (11....Kc7 we have already looked at, but I need to refer to it below, 12.Ka7! f4 (12....Rh2 13.Rh7+ +-) 13.Rf5 Kd6 14.Kb7+-) 12.Ka7! (looks more logical than 12.Kb7!? Rb2+ 13.Ka7!? which is quite similar, but I have not exactly worked it out. I agree with you that 13.Kc8 Rc2+ 14.Kd8 Ke5! leads to a draw.)

Black is now in trouble, the threat is 13.Rxf5+-.

2a) 12....Kc7 transposes to 11....Kc7 12.Ka7 Rh2, 13.Rh7+ +-.

2b) 12....Kc6 13.Rh6+ Kc7 14.Rh7+ +- is the same.

2c) 12....Ke5!? 13.Kb7 Rb2+ 14.Ka8! transposes to the position 10.Rg5 Rb2 11.Rxh5, which is +- if line 1) is correct.

2d) 12....f4 13.Rf5! Rf2 (13....Rxh4?! 14.Kb6+-) and we have transposed to 11....Kc7 12.Ka7 f4 13.Rf5 Kd6, 14.Kb7+ +-.

2e) 12....Rf2 13.Rh6+ +-.

2f) 12....Ke6 13.Rh6+ and 14.Kb7+-"

Many thanks for these deep insights!

By the way: Helmut Conrady has written a very interesting article *Was find ich denn da - Teil 4. Endspielforschung mit den Tablebases* for the German magazine *Computer, Schach und Spiele* 1/04, p.42ff, which also explains the Troitzky rule in the endgame 2N vs. P (see Endgame Corner 36 in the [ChessCafe Archives](#)).

Sources

The Final Countdown, Willem Hajenius and Herman van Riemsdijk, Cadogan 1997

Secrets of Pawn Endings, Karsten Müller and Frank Lamprecht, Everyman 2000

Bauernendspiele, Yuri Averbakh, Sportverlag Berlin 1988

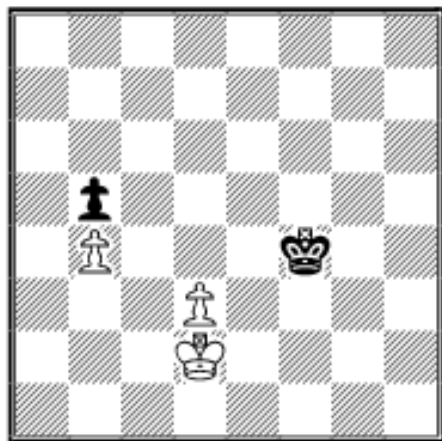
Bishop vs. Knight Endings, Averbakh, Batsford 1976

Endgame Preparation, Jonathan Speelman, Batsford 1981

Fundamental Chess Endings, Karsten Müller and Frank Lamprecht, GAMBIT 2001

ChessBase MEGABASE 2004

Solution to last month's exercise



E38.01 Grigoriev

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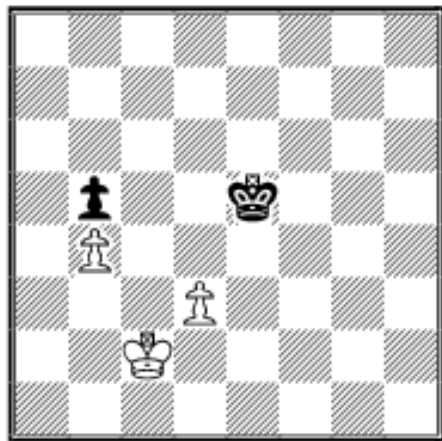
One key square is obviously d4, but it is not so easy to determine that e3 is also sufficient (for the proof see the line 1...Ke5?!). So f3=d2=1 to prevent White's Ke3 and c3=e3=2 to stop Kd4. From this it follows that c2=f4=3. But what about White's squares b3 and b2? From both squares his king can reach c3=2 and c2=3. Black's only available square to deal with

this is f3=1 and so he succumbs to a simple triangulation:

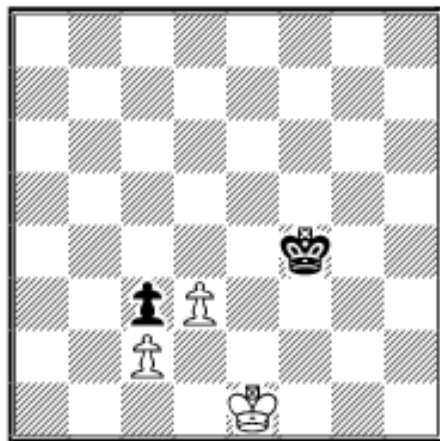
1...Kf3!?

1...Ke5?! 2.Ke3 Kd5 3.d4 Kc4 (3...Kd6 4.Ke4 Ke6 5.d5+ Kd6 6.Kd4+-) 4.Ke4 Kxb4 5.d5 Kc5 (5...Kc3 6.d6 b4 7.d7 b3 8.d8Q b2 9.Qd3+-) 6.Ke5 b4 7.d6 b3 8.d7 b2 9.d8Q b1Q 10.Qc7+ Kb4 11.Qb6+-

2.Kc2 Kf4 3.Kb2 Kf3 4.Kb3 and Black is in fatal zugzwang **4...Kf4 5.Kc2! Ke5**

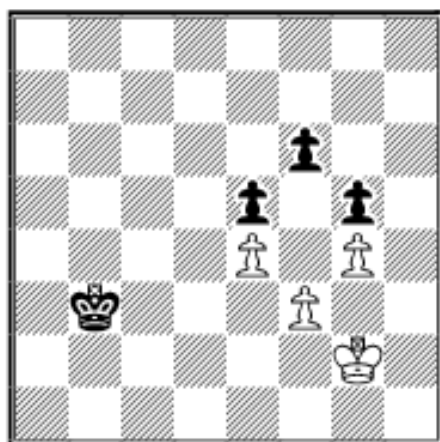


6.Kd1! sidestepping the mined square d2 (6.Kd2?! Kd4 7.Kc2 Ke5 forces White to find 8.Kd1!+-) **6...Kf5 7.Ke2 Kf4 8.Kf2 Ke5 9.Ke3+-** and White has reached a key square and so wins as in the line with 1...Ke5?! above.

**E38.02 Grigoriev***Izvestiya* 1921

The key squares are f2, e2 and b3, a3. As they are not connected the shortest route between them is of interest. For White this is e1–d1–c1–b1–a2 and for Black f3–e3–d4–c5–b4. As Black must start with **1...Kf3!** it is clear that these squares correspond to each other (f3=e1=1, e3=d1=2 etc.). The only remaining square behind White is the a1-square, which corresponds to b5. **2.Kd1**

Ke3 3.Kc1 Kd4 4.Kb1 Kc5 5.Ka1 Kb5 6.Ka2 Kb4=

E38.03 Instructive Example

First we search for the key squares. Black must capture the f3-pawn in order to win, so f3 and f2 are obviously key squares. After a brief examination it is also clear that the f1-square is sufficient as well. So e3=g3=1, e2=g2=2, and e1=g1=1 can all be numbered. Now the adjacent squares h3, h2, and h1 shall be scrutinized and we can number h3=d3=4, h2=d2=5, and h1=d1=6. As White can move on the key squares there are no more squares at his back, so only Black's back squares remain and we

find a3=c3=e3=g3, a2=c2=e2=g2. a1=c1=e1=g1, b3=d3=h3, b2=d2=h2, and b1=d1=h1. Hence, we have used the general method to find that this is a case of distant opposition!

1.Kh3!!

1.Kf2? Kb2 2.Ke3 Kc3 3.Ke2 Kc2 4.Ke3 Kd1 5.Kd3 Ke1 6.Kc4 Kf2 7.Kd5 Kxf3—+

1...Ka2 2.Kg2! Ka1 3.Kg1!

3.Kg3? Kb1 and White's king can't leave the third rank: 4.Kh3 Kc1 5. Kg3 Kd1 6.Kf2 Kd2 7.Kf1 Ke3 8.Kg2 Ke2 9.Kg3 Kf1 10.Kh3 Kf2—+

3...Kb2 4.Kh2! Kc3 5.Kg3! Kd3 6.Kh3! Kd2 7.Kh2! Ke2 8.Kg2!= and Black can't make progress.



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