

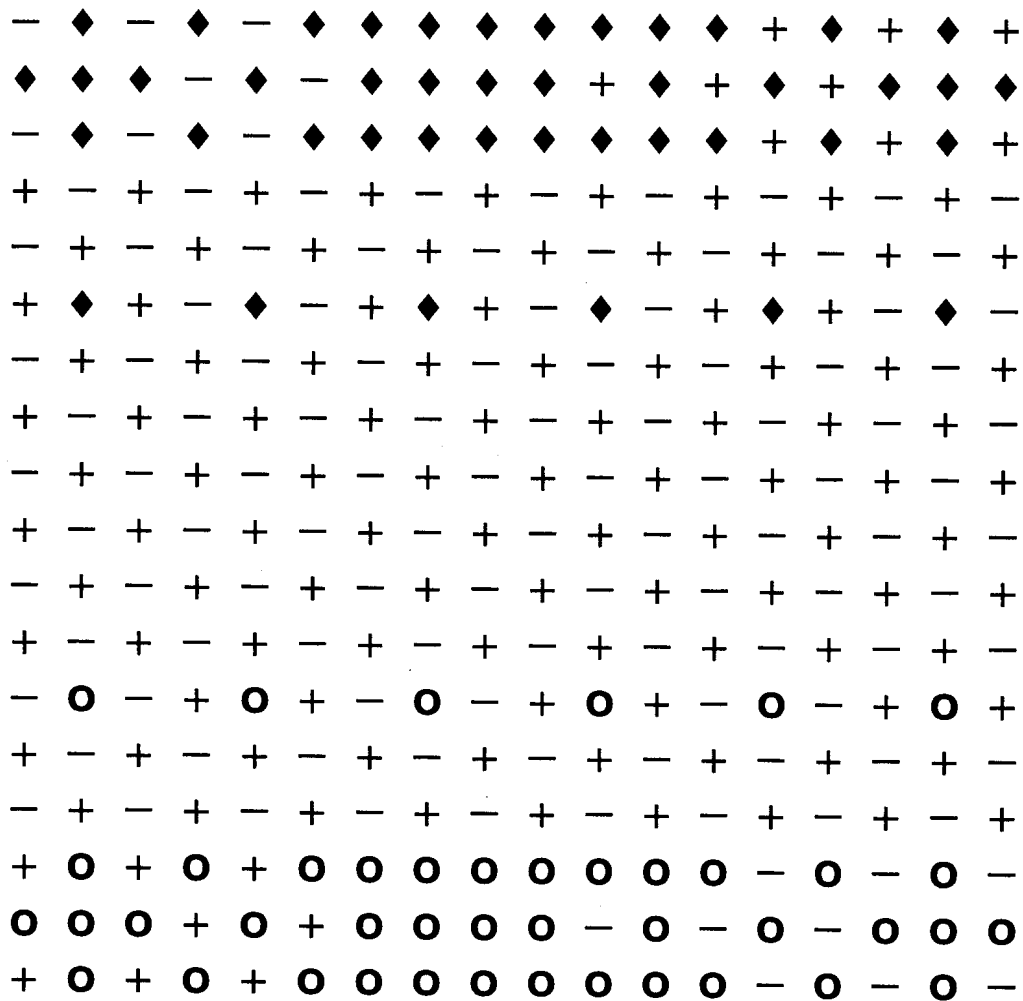
# Variant Chess

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## A Game of Continuous Mutation

Orphic Chess

King and Pawn in Kriegspiel

## THE ITALIAN MATE

material from Roberto Cassano

Roberto Cassano has responded to my comments on the "Italian rule" in Progressive Chess (giving check before the end of a series is prohibited) by sending two articles in which Mario Leoncini addressed the point. The first was from *Eterosacco* 46, 1989, page 5, "Scacchi Scozzesi (Progressive Chess?)"

'Dall'ottobre del 1988 all'aprile di quest'anno in Gran Bretagna si è svolto un torneo per corrispondenza (ed altri ne vengono annunciati) di "Progressive Chess" ma secondo le regole degli "Scottish Chess". Ciò suscita in noi piacere e timori.

'Piacere per l'internazionalizzazione sempre più spinta del nostro gioco, timore per la diversificazione delle regole che in futuro rischia di condurre a polemiche.

'In realtà i due giochi sono assai più simili di quanto verrebbe di pensare.

'La regola che li differenzia è la possibilità di dare scacco prima dell'ultima mossa della serie. Verrebbero sì meno tutti i matti per impossibilità di controscacco ma la sconfitta nel 90% e più dei casi sarebbe solo rimandata, perché che nei PR subisce tale matto negli Scozzesi alla serie successiva potrebbe giocare una sola mossa ed è difficile pensare che l'avversario non possa approfittarne.

'Sono dunque convinto che le convinzioni teoriche sulle aperture non risulterebbero modificate se non in rari casi. Se le cose stanno così sarebbe bene prendere gli accordi necessari con gli inglesi per giocare tutti un unico gioco.' (There was a final paragraph about notation which I have omitted.)

A version in English:

'From October 1988 until this April there was a postal Progressive Chess tournament in Great Britain, but under the rules of Scottish Chess. This gives rise both to pleasure and to fear.

'Pleasure because of the wider spreading abroad of our game, fear that the variety of rules might lead to arguments.

'But the two games are much closer than we might think.

'The main difference lies in the possibility of giving check before the last move of the turn. So no "mates" arise because of the impossibility of giving check. But in 90% and more of the cases, defeat is merely postponed. A player who suffers such a mate in our chess would play a forced move in Scottish Chess, and it is difficult to think that the opponent would not be able to take advantage.

'So I think opening theory is only rarely affected. In that case, we could come to an agreement with the English and all play the same game.'

The second was from *Eterosacco* 52, 1990, page 2, "Ancora sulla differenza scozzesi-progressivi":

'Sono rimasto sconcertato ad apprendere che i giocatori inglesi non partecipano ai nostri tornei perché preferiscono gli scacchi scozzesi. A mio avviso la differenza si basa sulla possibilità (negli scozzesi) di dare scacco interrompendo la serie.

'Ebbene, sgombriamo il campo dagli equivoci: questa differenza non muta di una virgola la strategia del gioco e sfido chiunque, nelle oltre 5.000 partite presenti nel PrBase, a trovare due partite in cui sarebbe stato opportuno giocare in modo diverso o in cui la vittoria per impossibilità di controscacco si sarebbe tramutata in sconfitta. Valga per tutti questo esempio: 1.e4 2.g5 Ch6 3.d4 Cf3 Ab5 4.g4 g:f3 f:g2 g:h1-D+ 5.!Rd2 Cc3 Cd5 Rc3 C:c7#.1-0

'Questa serie è la migliore sia a progressivi che a scozzesi. Negli scozzesi il matto sarebbe solo rimandato, infatti: 6.D:c7+ 7.Rd2 a4 Ta3 Tc3 T:c7... T:c8#.1-0

'Divertitevi a vincere continuando le partite di Scacchi Progressivi terminate con il matto per impossibilità di controscacco.

'A mio avviso la differenza tra i due giochi è più teorica che sostanziale e riguarda il modo di giocare una partita ogni diecimila.

'La teoria delle aperture, del centro partita e del finale è identica in tutto e per tutti nelle due varianti! Costringere l'avversario a giocare una sola mossa sarebbe, infatti, comunque vincente.

'Alla luce di quanto detto la nostra regola, diminuendo di una serie una partita comunque vinta e introducendo un tocco di spettacolarità, appare più che giustificata. Penso che queste cose andrebbero dette ai nostri amici stranieri.'

English version:

'I am surprised to hear that English players don't take part in our tournaments because they prefer Scottish chess. In my opinion the only difference lies in the possibility of giving premature check.

'Let us have no misunderstandings: this doesn't change the strategy of the game one jot, and I challenge anybody to find two games among the 5,000 in the "PrBase" database where the play would be different, or where victory is gained only because the giving of premature check is not allowed. Take this example: 1 e4 2 g5 Nh6 3 d4 Nf3 Bb5 4 g4 gxf3 fxg2 gxh1=Q+ 5 Kd2 Nc3 Nd5 Kc3 Nxc7 mate.

'This sequence is the best in both Progressive and Scottish Chess. In the latter, mate is only delayed: 6 Qxc7+ 7 Kd2 a4 Ra3 Rc3 Rxc7 ... Rxc8.

'Enjoy yourselves playing out the other games of Progressive Chess which end with mate because of the impossibility of giving check.

'In my opinion the difference between the two forms of the game is academic, and affects the play of one game in every 10,000.

'The theory of the openings, of the middle game and the endgame is the same throughout the two variants! To force the opponent to play a single-move sequence is in effect to win.

'So our rule gives a touch of the spectacular by shortening a won game by one series, and it seems to me justified. I think we should advertise it to our friends abroad.'

I personally remain of the opinion that the "Scottish" or to us traditional rule (giving check before the end of a sequence is allowed but terminates the sequence) is the more natural and therefore should be adopted whenever it is hoped to attract participants new to the game, but I am happy to have printed the contrary view. I hope Italian-speaking readers will think the English versions fair.

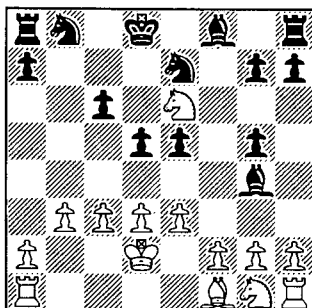
# PROGRESSIVE ORTHODOX CHESS

Fred Galvin has drawn my attention to an e-mail tournament that was held in 1997-98 in the then recent invention "Progressive Orthodox Chess" of João Pedro Neto and Bill Taylor. The results suggested that Black had a winning advantage (which makes a change) and an alteration to the rules was proposed to avoid this next time, but for now let's look at it as it was.

The basic rule is that White plays one move, Black two, White three, and so on as in ordinary Progressive, but all the odd moves are made by White men and all the even moves by Black men. So White starts by moving a White man. Black replies by moving a Black man and then a White. White's series 3 moves BWB, Black's 4 WBWB, White's 5 WBWBW, and so on. All moves must be legal for the side on whose behalf they are made, and each series must be played in full unless mate intervenes. The reason for the name is apparently that the resulting game score is a legal orthodox game, but that is about as far as the orthodoxy stretches.

The tournament attracted eight players, all apart from the inventors apparently new to the game. Despite this, neither of the inventors made the top pool for the second round, and the eventual result was a tie between Fred Galvin and Norbert Geissler. Blunders were not absent and several games ended in variations of Fool's Mate, but there were more some amusing mistakes as well. Bill Taylor gave Gabriele Cornacchini a neat opportunity in the following game (square brackets show moves made by the opponent, "/" the end of a series) :

- 1 b2-b3 / b7-b5
- 2 [c2-c3] / [f7-f6]
- 3 d2-d3 [c7-c6] /
- 4 [Bc1-g5] f6xg5
- 5 [Ke1-d2] e7-e5 /
- 6 Nb1-a3 [Qd8-c7]
- 7 Na3xb5 [Ng8-e7]
- 8 Nb5xc7+ / Ke8-d8
- 9 [e2-e3] d7-d5
- 10 [Qd1-g4] Bc8xg4
- 11 [Nc7-e6+] ? /



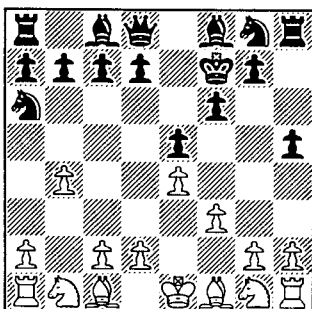
White now played

- 11 ... [Kd8-e8]
- 12 Ne6xg5 [Nb8-d7]
- 13 Ng5-e4 [Ra8-d8]
- 14 Ne4-d6 mate

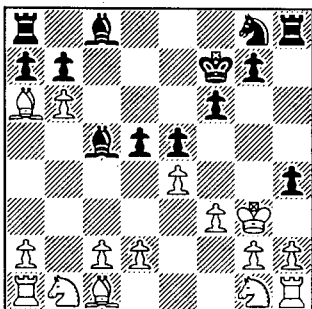
and Bill went AAAAAAARGGHH!!! in the tourney report.

Norbert Geisler set a successful trap in the following game. Play started

- 1 b2-b4 / h7-h5
- 2 [f2-f3] / [f7-f6]
- 3 e2-e4 [Ke8-f7] /
- 4 [Qd1-e2] e7-e5
- 5 [Qe2-a6] Nb8xa6 /



Black hoped that White would be unable to resist grabbing material by 6 Bxa6 [c5] 7 bxc5 [Qb6] 8 cxb6, and he had a mate ready in 8...d5 9 [Kf2] Bc5+ 10 [Kg3] h4 :



White's actual grab

- 6 Bf1xa6 [Qd8-e7]
- 7 Ba6-e2 [Qc7-c5]
- 8 b4xc5 /

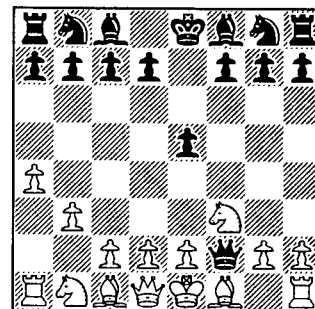
differed, but allowed the same mate.

Another oversight allowed a trick which several players were to exploit in one form or another. The opening

- 1 a2-a4 / e7-e5
- 2 [b2-b3] ? /

seemed harmless enough, but it led to

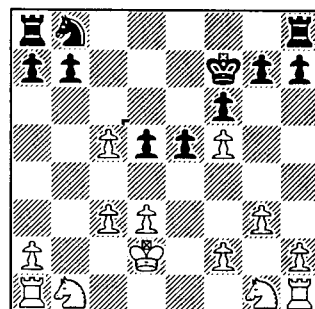
- 2 ... [Qd8-h4]
- 3 Ng1-f3 [Qh4xf2+] /



Black's compulsory "White" move now takes his own queen! He tried 4 [Kxf2] e4 5 [Ne1] e3+, but 6 dxe3 [Kd8] 7 Qd6 [a6] 8 Qxf8 killed him.

But of course the standard play is to drag the opponent's king into a mate. Bill's opponent was very complimentary about this pawn mate.

- 1 b2-b4 / e7-e5
- 2 [c2-c3] / [Ke8-e7]
- 3 g2-g3 [f7-f6] /
- 4 [Qd1-a4] d7-d5
- 5 [Qa4-d7+] Bc8xd7 /
- 6 Bf1-h3 [Qd8-e8]
- 7 Bh3xd7 [Ke7-d6]
- 8 Bd7xe8 / Kd6-e7
- 9 [d2-d3] Ke7xe8
- 10 [Bc1-h6] Ng8xh6
- 11 Ke1-d2 / [Bf8-c5]
- 12 e2-e4 [Nh6-f5]
- 13 e4xf5 [Ke8-f7]
- 14 b4xc5 [c7-c6] /



- 15 [Kd2-e2] g7-g5
- 16 [Ke2-f3] Kf7-e8
- 17 [Kf3-g4] e5-e4
- 18 [h2-h3] h7-h5!

More next time.

# GESS - A GAME OF CONTINUOUS MUTATION

One of the most imaginative of the new games which I found in the text for the second edition of David's *Encyclopedia* is Gess (pronounced "guess"), which might be described as a continuously mutating version of chess played on a go board. It was developed by students at Cambridge in 1994, was written up by Paul Bolchover in issue 53 of their journal *Eureka*, and was picked up and reported in Ian Stewart's recreational mathematics column in the November 1994 issue of *Scientific American*, but it appears to have received little attention since.

The pieces of Gess are made up from go stones, but they are not fixed; instead, *any* 3x3 square which contains at least one of a player's own stones and none of his opponent's can be regarded as hosting a piece, and these stones can be moved by their owner as a group. The stones in the eight outside cells give the permitted directions of movement, orthogonal and diagonal, and occupancy of the central cell indicates whether a "long" move (as far as the player likes provided that the road is clear) or merely a "short" move (up to three steps only) is permitted.

All this is conveniently illustrated by looking at the opening position.

19	-	♦	-	♦	-	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	+	♦	+	♦	+
18	♦	♦	♦	-	♦	-	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
17	-	♦	-	♦	-	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
16	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
15	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
14	+	♦	+	-	♦	-	+	♦	+	-	♦	-	+	♦	+	-	♦	-	♦	-
13	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
12	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
11	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
10	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
9	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
8	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
7	-	○	-	+	○	-	+	○	-	+	○	-	+	○	-	+	○	-	+	○
6	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
5	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
4	+	○	+	○	+	○	○	○	○	○	○	○	○	○	○	-	○	-	○	-
3	○	○	○	+	○	+	○	○	○	○	○	-	○	-	○	-	○	-	○	○
2	+	○	+	○	+	○	○	○	○	○	○	○	○	○	-	○	-	○	-	○
		b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	

It's the squares of the board that are used, not its intersections, so the playing area is 18x18, and we'll explain the apparently curious numbering in a moment. Each player starts with 43 stones as shown (the plus and minus signs are there only to chequer the board, and have no effect on the play). Now consider the 3x3 square centred on c3. This "piece" is allowed to move in any of the four orthogonal directions but not in any of the diagonal directions, and the fact that its central cell is occupied means that it can make a "long" move: all right, it's a rook. By the same token, the piece centred on f3 is a

bishop, that on i3 is a queen, and that on l3, which is allowed only a "short" move, is a king (there isn't a knight). But there are other pieces as well. The configuration centred on e3 is a perfectly valid piece, and can be moved quite independently of the "rook" and "bishop" of which it is temporarily a part. It can make a "short" move in any of the four orthogonal directions, so it is what we normally call a wazir. The piece centred on g3 can make a short move in any of the four orthogonal directions, and also NE and SE; it's like a shogi gold general lying on its side. And so it goes on. The piece centred on c6 has only a short move forwards, so it's a pawn (though it captures with its ordinary move, as we shall see in a moment). However, the *stone* at c7 can be moved diagonally forward by regarding it as part of a piece centred on b6 or d6, and for that matter we can regard it as part of a piece centred on any of the other cells surrounding it and thus move it sideways or backwards.

So what do we mean by "as long as the road is clear"? The action of a move is to pick up the entire 3x3 pattern, unoccupied cells as well as occupied, and to plonk it down as a unit one step at a time in the direction of movement. But the move stops as soon as a non-empty resting point is reached, even if the only occupied cells in the area of landing correspond to empty cells in the moving piece. From the initial array, suppose White decides to play e3-e6. This moves the contents of the 3x3 square centred on e3 successively to the 3x3 squares centred on e4, e5, and finally e6 where they settle, wiping out the stone already on f7 (you are allowed to take your own men), and the move would have had to stop there even had the central cell e3 been occupied and a long move been permitted. Or consider the "rook" centred on c3. At present, its forward move will be halted at c6 by the stone at c7, but if White plays a preliminary b6-d8, moving this stone to e9, it will be able to charge down to c13 and take the stone at c14.

There is one other subtlety: the central cell of a piece may be off the board. This is why the numbering starts from b2. Suppose White men on b10 and b11 with White to move and nothing else nearby. He can regard these men as part of a piece centred on the off-board cell a10 and move them up to three steps E or NE (it can only be a short move since the central cell is necessarily unoccupied), or as part of a piece centred on on a11 and move them up to three steps E or SE; or, if he wants, he can regard b10 as part of a piece centred on a9 and move it one step NE, whereupon the man on b11 gets wiped out and the move has to stop. And a move (long or short) may take part of a piece off the board, but not all of it.

And the object of the game? It's a chess game, so the object is to leave him without a king. However, a "king" is defined as a ring of eight occupied cells with an empty centre, such as surrounds l3 in the initial array, and kings can mutate just as everything else can; you can create new ones and dissolve the old, and you can have more than one on the board at a time. However, you cannot break up your last remaining king or kings to smash his; it is the player who has just moved whose position is examined first.

Eureka gives a complete sample game, which is instructive even though it is marred by an unfortunate oversight. White was Paul Bolchover, Black R. Michaels. Notes in quotation marks are verbatim from the article, and most of the others owe more than a little to it.

1 f6-f7 p15-m12
2 e3-e6 p18-p15

Chessboard diagram showing a game state with pieces represented by diamonds and circles on an 18x18 grid.

An interesting difference of approach. White has given himself a long-range diagonal piece centred on e7, Black has preferred to stake a claim in the centre. Black's apparently long-range diagonal pieces centred on p16 and q15 cannot as yet advance because they will be stopped by the stones on p14 and o15 respectively.

3 b3-e3 e15-h12
4 m6-17

Chessboard diagram showing a game state with pieces represented by diamonds and circles on an 18x18 grid.

4 ... m12-j9 (xk8)

Black decides to make the exchange, even though it leaves

his stone on l14 pinned against his king. White has already given himself a second king (by 3 b3-e3); Black can do the same by s18-p18 and soon will, but White's two kings are separated whereas Black will have a double king. Notice that the stone on k8 is captured even though no Black stone replaces it; it's the entire 3x3 configuration that is plonked down, not just the cells that are occupied.

5 i6-i7 (xi8)

h6-i7(xi8) or j6-k7(xi8) were alternative recaptures.

5 ... h15-k12
6 i7-i10 (xi11)

Chessboard diagram showing a game state with pieces represented by diamonds and circles on an 18x18 grid.

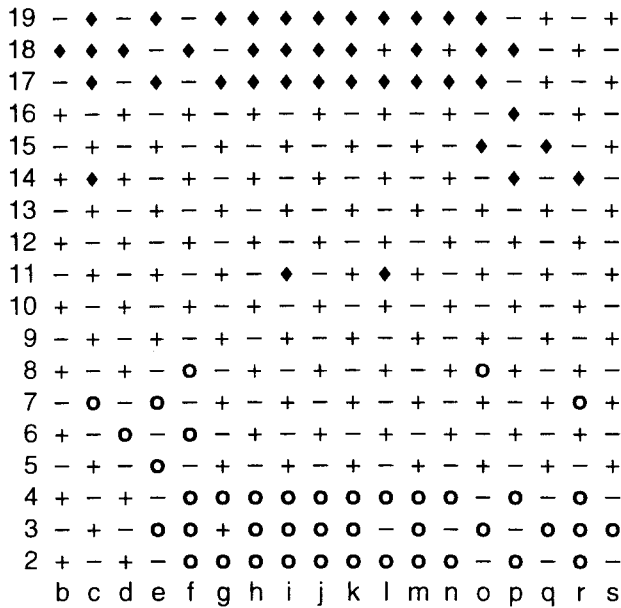
"Opens up the centre for both players. It is unclear who has the advantage. Overall, the move is probably bad, as it exposes White's second king."

6 ... m15-j12 (xi11)

"The Black pawns are starting to look slightly too far advanced."

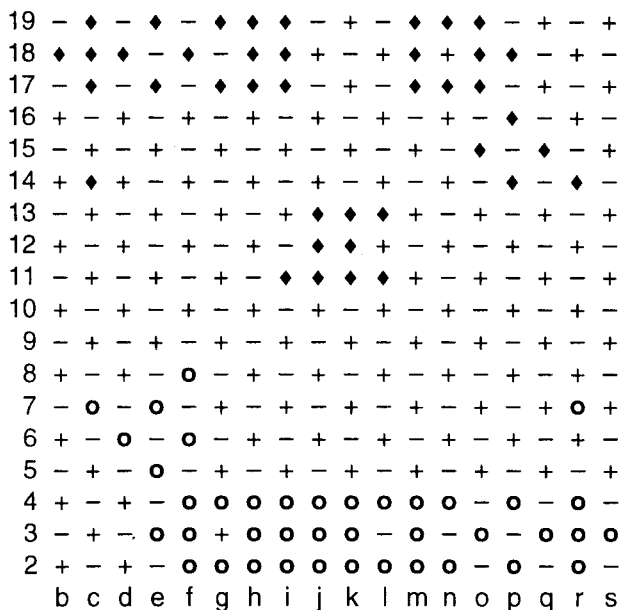
7 o6-o7 s18-p18

Chessboard diagram showing a game state with pieces represented by diamonds and circles on an 18x18 grid.



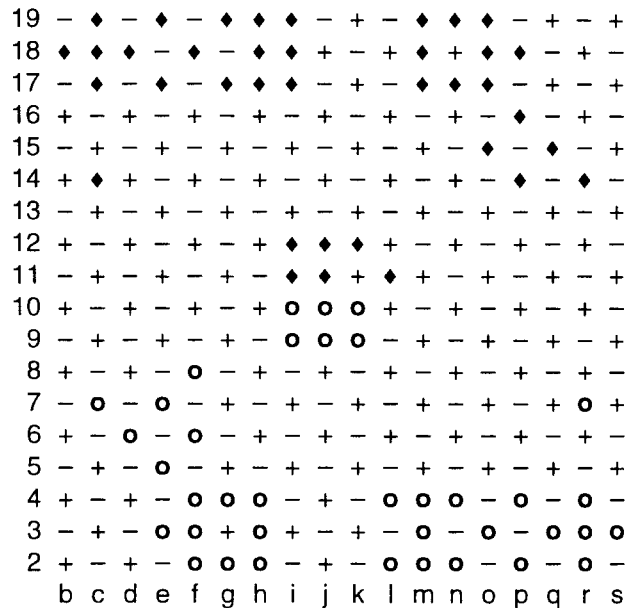
White attacks Black's pinned stone, and Black responds by forming a double king. Had this situation persisted, it is a very interesting question as to whether Black's double king would have been weaker or stronger than White's two separated kings. To win, Black would have had to attack on two separate fronts, which takes time; on the other hand, he would have had only 13 stones tied up in his kings instead of 16, and the rest of his forces would have been free to range elsewhere. However, the matter soon becomes academic, because both sides voluntarily dissolve their original kings in order to use some of the stones in them for attack.

8 p7-m10 (x111)  
8 ... k18-k12 (x111)



9 j3-j10 (xi11, j11, k11)  
Both sides are now relying on their second kings.  
9 ... k13-j12 (xi11, j11, k11)

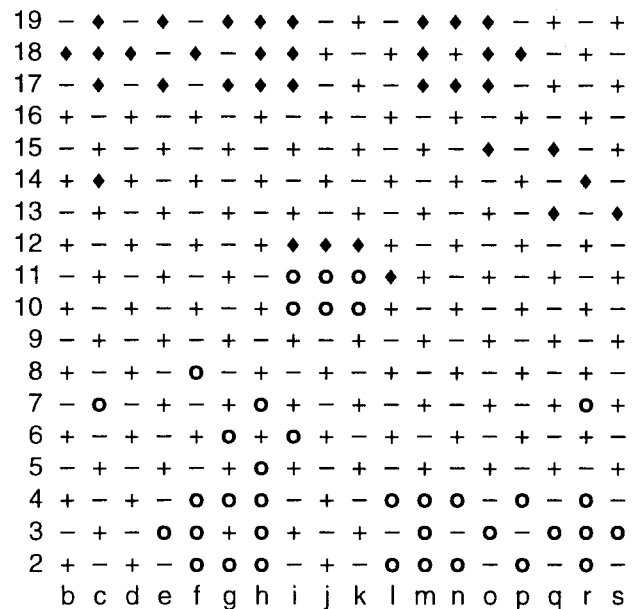
Again a White stone (this time k11) is wiped out even though no Black stone replaces it.



10 j9-j10 (xi11, j11)  
10 ... q15-r14

Stepping out from behind the obstructing stone on o15, and making a direct attack on White's remaining king.

11 e6-h6



Blocking the attack, and also interposing some useful obstacles in the way of possible attacks from above.

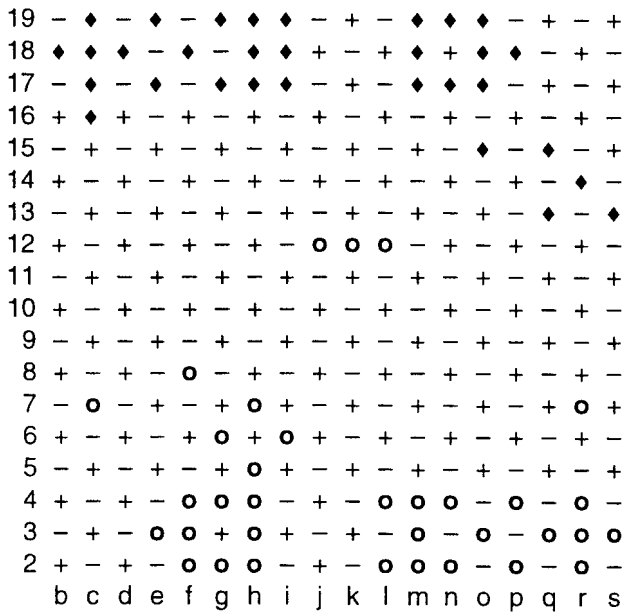
11 ... j13-j12 (xi11, j11, k11)  
12 j9-j10 (xi11, j11, k11)  
12 ... c13-c15

This is one way of clearing a line for a rook - or at least for most of it.

13 j10-k11 (x112)

These three central stones are not as weak as they might

seem. Black can only knock one of them out, and White's piece centred on m3 is poised to take revenge. They are also within two moves of Black's king.



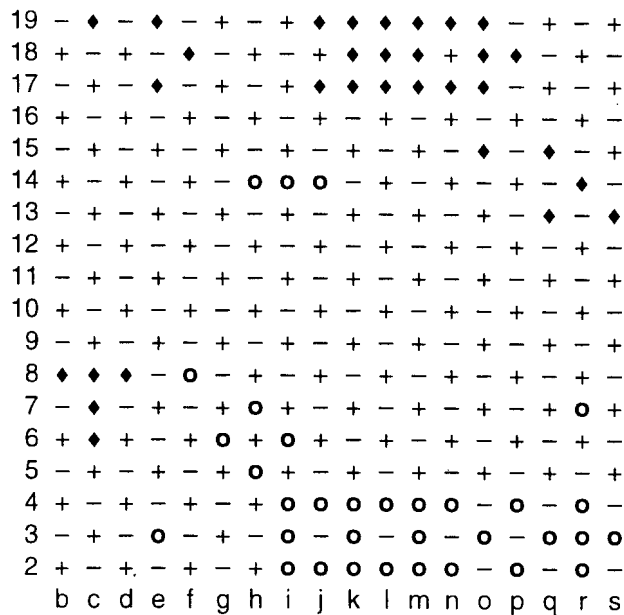
13 ... c17-c7(xc7)??

Oh dear. "This move is illegal, since the piece can only move as far as c8, but neither player noticed it at the time and so the move stands." By making possible Black's 16th move, it may have made quite a difference.

14 g3-j3

White creates a double king for extra protection.

14 ... h18-k18  
15 k11-i13

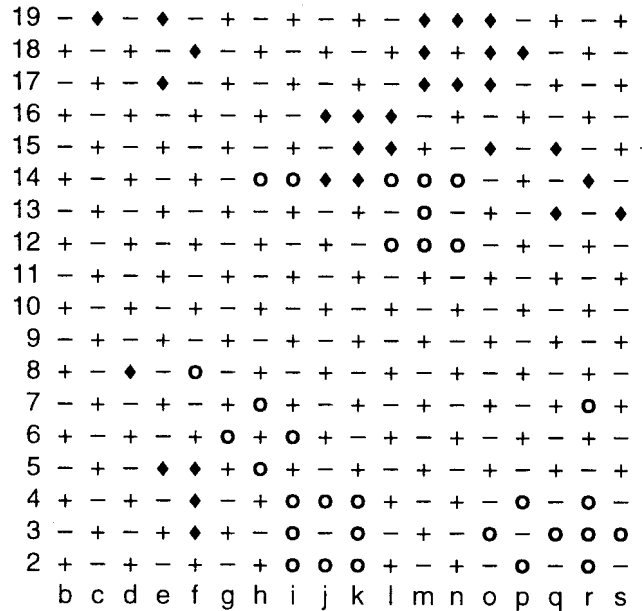


Black could smash down with l18-l5(xk4,l4,m4) and destroy both White's kings, but he would also disrupt his own and it is the mover's own position that is examined first. In contrast, White's m3-m16(xl17,m17,n17) is a definite threat which Black promptly blocks.

15 ... k18-k15(xj14)  
16 m3-m13(xl14)

Knocking out the first obstructing stone, but it isn't check and so Black has time to resume his own attack.

16 ... b7-e4(xe3)



17 j3-m3

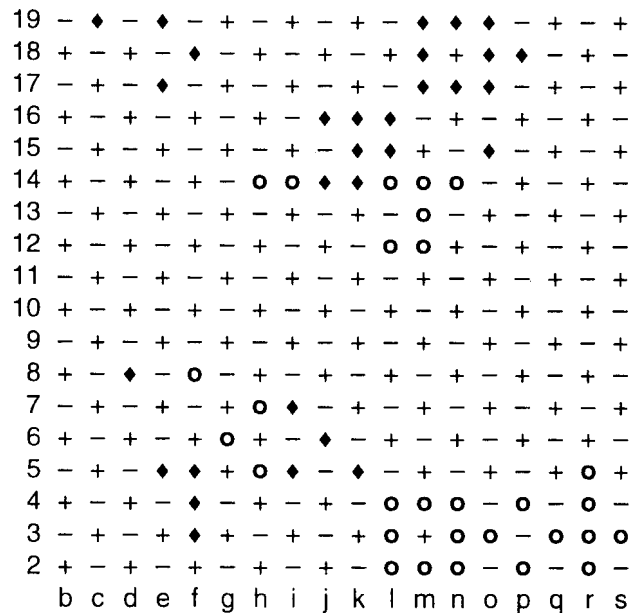
Black threatened e3-h3.

17 ... r14-o11(xn12)

White merely sees this as disabling his piece centred on m13, but there is more to it.

18 r8-r6? o11-j6(xi6)

Mate.



A remarkable game, quite unlike anything I have seen before. Yet it is interesting to see how the standard strategical tenets of chess - development, control of the centre, open lines - seem to be just as important here as they are in more conventional games.

# SWEDISH RHAPSODIES

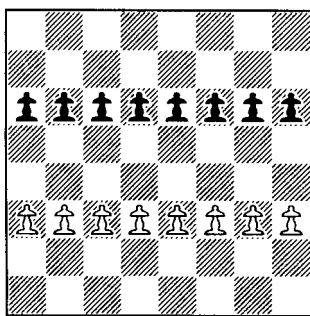
material from Mats Winther

Mats Winther has sent me two interesting new games, and unlike many inventors he has included annotated examples to show how the games actually work out.

He calls the first game **Swedish Chess** in honour of his country, and he tells me that it was inspired by Burmese Chess (described in VC 43). It is a "set up your own array" game of a kind which in itself is not uncommon (the new edition of the *Encyclopedia* will contain some thirty examples), but it has some novel features.

The basic idea is that the pawns are arrayed on the third rank, and the pieces dropped either behind or on top of them. In the latter case, the displaced pawn must be relocated to an empty square on the second rank. Rooks may only be dropped on the first rank (no restriction on queens), bishops must be dropped on opposite colours. The players take it in turns to drop, White first, and after the dropping is complete it is ordinary chess with two restrictions: no pawn-two, even if a pawn has been relocated to the second rank, and no castling.

Mats gives the following illustrative example. Notes in quotes '...' are verbatim from his e-mail.



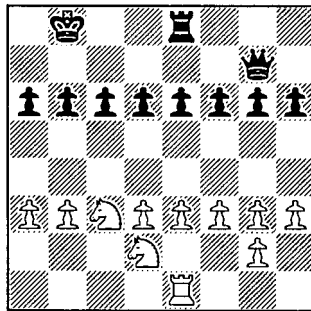
- 1 R\*e1 R\*e8
- 2 N\*d2 K\*b8

'It's perhaps a little too early to reveal the king position.'

- 3 N\*c3, Pc3-g2

A change of location for the pawn on c3. 'Strengthening the pawn chain as the king is to be dropped here.'

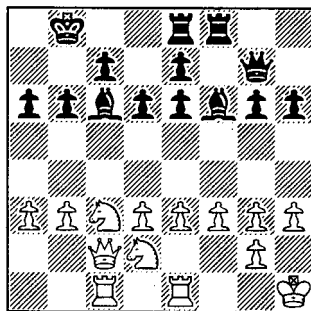
- 3 ... Q\*g7



- 4 R\*c1 R\*f8
- 5 Q\*c2

'Putting pressure on the half open file.'

- 5 ... B\*c6, Pc6-c7
- 6 K\*h1 B\*f6, Pf6-e7



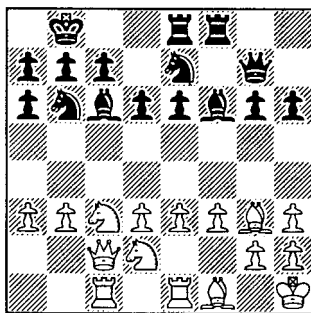
- 7 B\*g3, Pg3-h2
- N\*e7, Pe7-b7

It is permitted to relocate an already relocated pawn in this way.

- 8 B\*f1

'Pointing at the weakness at a6.'

- 8 ... N\*b6, Pb6-a7



The dropping has finished, and to my inexpert eye White has obtained rather the better of it. Mats himself comments as follows:

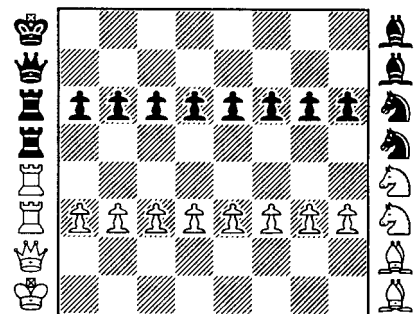
'Both parties have acquired secure king positions. Black has forfeited his strong pawns on c6 and f6, which supported the centre, and placed bishops there instead. This could be good but could also backfire. He no longer has an f-pawn to support his

centre pawns. Moreover, a pawn storm on the king's wing is less likely to succeed, as white has a majority 4 to 2 there. Likewise, white has relocated the good pawn on c3, to place a knight there instead. If the pawn had been left on c3, then he could seize the centre in the next move by e3-e4. On the other hand, he has acquired an half-open line, and a finely placed knight.

'This example, although hardly perfect, exemplifies some of the strategical problems in the opening. It is costly to trade in pawn positions on the third rank for good piece positions. For example, if the pawn is relocated to the same file (on the second rank), this implies that it takes two moves longer to activate this pawn. First the piece must move away. Secondly, unlike orthodox chess, it takes two moves to reach the fourth rank.'

Mats later developed this into **Orphic Chess**, which is much more radical. Here, pieces other than the king may be dropped on to any empty square or friendly pawn, and a displaced pawn may be relocated to any empty square on rank 2, 3, or 4. If the king is the last piece to be dropped, it too may be placed anywhere, otherwise it must be placed on the first rank. Furthermore, a piece or pawn already on the board may be moved, but, until its owner's king has been dropped, it may move only to capture.

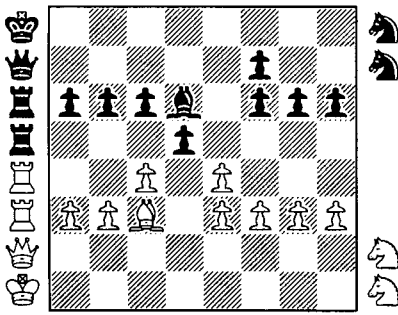
Mats gives a specimen game where he plays badly and loses. Pieces still in hand are shown to the side of the board (there is no significance in which side is used).



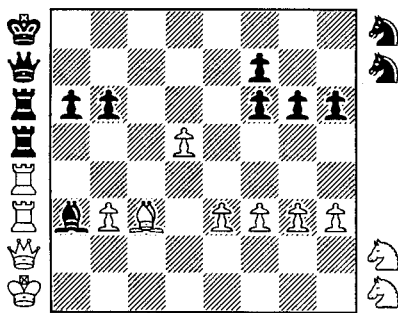
- 1 B\*c3, Pc3-e4
- B\*e6, Pe6-f7
- 2 B\*c4 Be6xc4



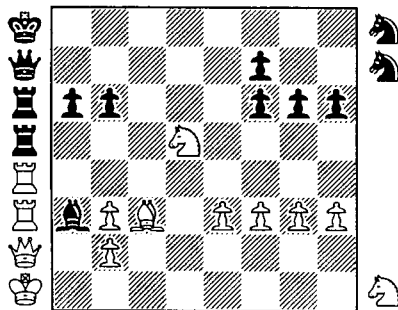
3 d3xc4 B\*d6, Pd6-d5



4 c4xd5 c6xd5  
5 e4xd5 Bd6xa3

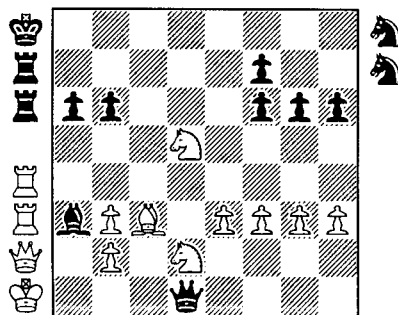


6 N\*d5, Pd5-b2



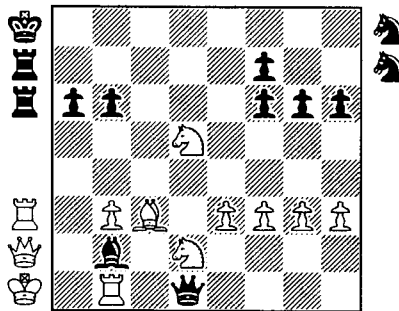
Cleverly winning a piece (the bishop, being able only to capture, cannot retreat out of danger), but with hindsight White probably wishes he had kept the knight back to hunt larger quarry.

6 ... Q\*d1  
7 N\*d2



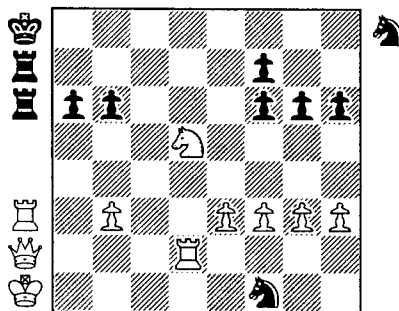
'The knight now guards both pawns. As the black queen has no capture moves left it is in danger.' But the bishop on c3 is now overloaded...

7 ... Ba3xb2  
8 R\*b1



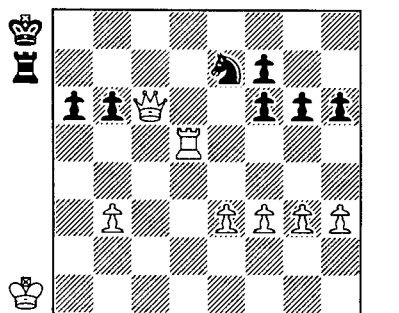
White duly wins the queen, but at a cost.

8 ... Bb2xc3  
9 Rb1xd1 Bc3xd2  
10 Rd1xd2 N\*f1



'The white rooks will fall victim to the black knights.'

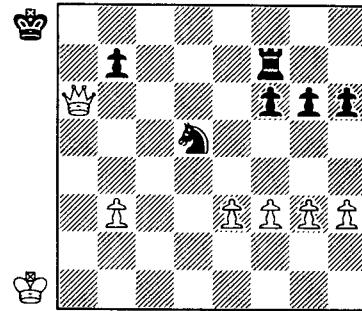
11 R\*f2 Nf1xd2  
12 Rf2xd2 R\*d7  
13 Q\*c6 Rd7xd5  
14 Rd2xd5 N\*e7



Ouch!

15 Qc6xb6  
Hindsight prefers 15 Qxf6 Nxd5 16 Qxf7. The queen won't be safe on a6.

15 ... Ne7xd5  
16 Qb6xa6 R\*f7, Pf7-b7



'The queen is lost and white resigns.'

I leave the strategical summary to Mats.

'As long as the King has not entered the board, the pieces are very vulnerable. On the other hand, it is very risky to drop the King on the first rank, and it disposes of the final powerful drop move, with which the King can be placed anywhere.' You are not allowed to use a pawn-relocation to block a check.

'The prohibition of non-capture moves, as long as the King is not dropped, causes perplexing problems. Although one would want to drop the heavy pieces immediately, because they have so many capture moves, this could be a risky strategy. Sooner or later the heavy piece might be attacked by light pieces, or relocated pawns, with a resultant loss of material. This could happen if the heavy piece has no good capture moves available. On the other hand, it is often possible to sacrifice a Queen, or Rook, for a light piece because the remaining pieces in the reserve have so many move freedoms. As a result there are many attacking possibilities. It's often a good idea to let a Knight remain in the reserve as it is ideal for attacking heavy pieces. The Knights are more dangerous in this variant than in regular chess.'

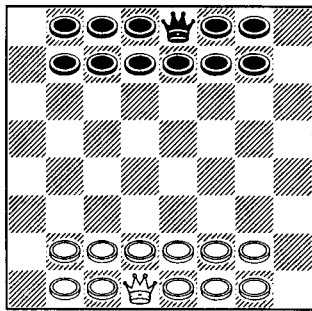
'Orphic', derived from Orpheus, means mystic, oracular, fascinating, entrancing. Matt feels this an apt description of the game. 'It is hard to come to grips with. This game is very tactical, and fast. It is also attractive to endgame lovers, because interesting endgame positions, of great variation, are likely to occur already after 15-20 moves.' A game quickly yielding endings certainly has my own support!

## MILLER'S DAUGHTER CHESS : "CASTLING" AND FORTRESSES

material from Andrew Perkis

Shortly after "Winning the Miller's Daughter" appeared in VC 52, Andrew took on all comers at the Cambridge Mind Sports event. This, and a few e-mail games, has given him a bit more insight into at least some fundamental aspects of what he calls 'this hair-raising game'.

A brief reminder of the rules. Each player has a Miller's Daughter and eleven Princes :

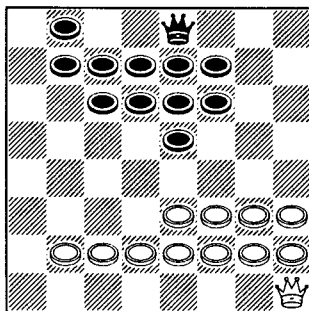


The moves are step moves (any piece may move one step as a chess king) and jump moves (any piece may jump an orthogonally or diagonally adjacent piece of either colour). Sequences of jumps are allowed, but in the case of a Prince the overall effect must be towards the opponent's back line. Additionally, an MD must always have a "liberty", namely an empty square to which she has a step move. The player's first move must give her this liberty, and each later move must preserve it or give another in its place. A prince cannot be captured; an MD can, by moving a prince to her square, and this is the normal way of winning the game. In addition, a player can win by surrounding his MD with a fortress which the opponent can never penetrate, and he can draw by moving his MD to a square adjacent to the opponent's MD and declaring an "alliance".

Andrew suggests that a good descriptive name for MDC would be "Halma Chess", and it is the

combination of Halma dynamics with a Chess objective that gives the game its distinctive flavour. On the one hand, the play is very fast and dangerous. This stems largely from the fact that a single "layer" of Princes around a player's MD usually results in her being more vulnerable to capture by jump. On the other hand, it is possible for a player to set up an impenetrable defence - a feature which stops play dead, and is normally regarded by games designers as a fatal technical flaw.

These fortress possibilities may have deterred anyone who may have tried to develop a Halma Chess previously. However, having already tried his hand at sorting out a similar problem in Halma itself, Andrew wasn't prepared to be put off that easily, and fortunately the fortress problem in Miller's Daughter Chess was not that hard to sort out. The requirement to give and maintain a "liberty" for one's MD has proved to be a straightforward way of making the construction of a fortress virtually impossible in a game between 'clued-in and alert' players. Although Andrew did pull off one such win at Cambridge, this was a very rapid game against 'an opponent whose Backgammon tournament resumed about one second after he resigned'. This game went **1 MDd1-f3-h1 f8-f6 2 f1-h3 g8-e6 3 b1-d1-f3 d8-d6 4 e1-g3 g7-e5 5 g1-h2 c8-c6 6 c1-e3 :**



Play continued **6...b8-b6? 7 e2-f1** and Black resigned (8 d2-e1 will complete the fortress, leaving Black with no way of approaching either g1 or h1). But even at the last moment Black could have stayed in the game with **6...e5-d4** threatening to penetrate by **d7-d5-d3-f1** or **e7-e5-c3-e1**, and he would probably have had a won game

if this had been played one move earlier. 'The problem (or rather the blessing, because it makes the game playable) is that at a certain stage of trying to construct a fortress a player's MD will become much less mobile. All testing so far seems to suggest that a fortress-building strategy will always backfire against an alert opponent.'

The requirement to create a liberty, together with the issue of MD safety, combine to influence first move choices. 'Clearly the mobility of the MD is an important factor in trying to keep her relatively safe, and tucking her away at h1 is a natural first move. We could call this "castling long". At first sight it looks like the safest option, yet a very sharp game results if both players do this immediately, due to the MDs thus arriving at different sides of the board.'

At Cambridge, Andrew played **1 MD-f3-h1** in all his games as White. He says he has to admit that this was part of a 'pragmatic' strategy of 'playing safe' and then waiting to pounce if his opponent crossed the very low blunder threshold. This worked well, since 'I won all these game bar one, that one being against Alain Dekker, who, on this occasion was not distracted by almost needing to exercise a feat of bilocation due to the imminent resumption of the Backgammon tournament!'

As yet, says Andrew, it is too early to have a clue about the best "castling" options in any wider sense. One discovery, however, is that if White eschews an early removal of his MD to the side, then it is unwise (or at least reckless) for Black not to follow suit. It was the impact of his last game at Cambridge, against event organiser Aubrey de Grey, that first made him suspect the folly of thus 'castling into it' - but before looking at this spectacular and 'peccable' draw, here are two positions from subsequent e-mail games which provide similar evidence.

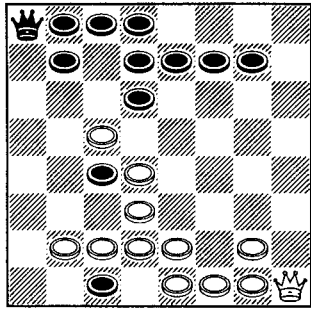
The first of these games (Andrew had White against Dan Troyka) ran

- |          |              |                   |
|----------|--------------|-------------------|
| <b>1</b> | <b>c1-e3</b> | <b>MDe8-c6-a8</b> |
| <b>2</b> | <b>f2-d4</b> | <b>g8-e8-c6</b>   |
| <b>3</b> | <b>b1-d3</b> | <b>f8-d6</b>      |

4 e3-c5 c7-e5-c3-c1  
5 MDd1-f3-h1

'Note that White only removed his MD to h1 after the possibly premature c7-c1.'

5 ... c6-c4

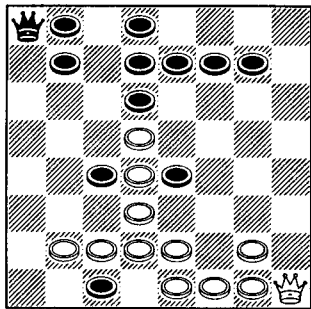


This is check (Black threatens to play d7-d5-b3-d1-f3xh1). White's reply

6 c5-d5

parries it and gives a check in return (the threat is now c2-e4-c6xa8).

6 ... c8-e6-c6-e4



'It may already be too late to save the game but 6...c8-e6-c6 probably offered better chance to construct a defence. White would continue as in the game (not 7 e1-c3-e5-c7-a7 MD-c8-e8-g6-g8). The move chosen threatens 7...e4-f3 and perpetual check.'

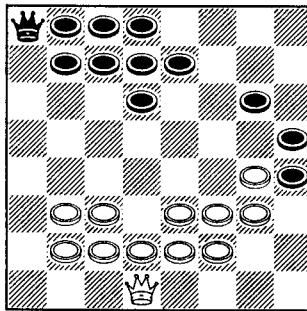
7 e2-f3

'White prevents any immediate attack on his MD and releases the Prince on d5. The threat of d5-c6 is now overwhelming.' It will give check by c6-a8 and c6-e8-c8-a8, when ...b7-c8 will allow d3-d5-b7 and if Black tries ...MDa7 then e1-c3-e5-c7xa7 will catch her. Black has no good answer (e.g. 7...d7-c6 8 d5-e6 d8-c7 9 d3-d7 b8-c8 10 e1-c5 with an unstoppable attack). The game actually finished

7 ... b7-c7

8 d5-c6

and Black resigned.



Above is a position from the return game. Black (Andrew) has just played 6...MDe8-c8-a8, but...

7 b2-b4

'My whole strategy had depended on my last move, removing my MD to what I thought was relative safety. This turned out to be very bad judgement. After 7 b2-b4, it was soon clear that White had a winning attack.' The game ended 7...e7-c5-a3 8 b4-b5 a3-a4 9 g4-f5 b7-b6 (9...c8-e6 lasts longer but is equally hopeless) 10 c3-a3-a5-c5-a7 MDa8-a6-c6-e8 11 e2-g4-e6-c6xMD.

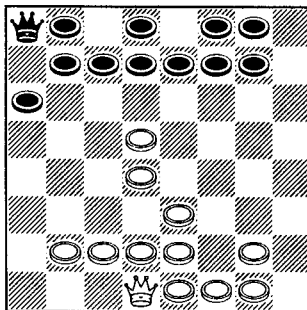
Now back to Cambridge, and a game in which Andrew 'nearly got my just deserts'. Aubrey de Grey was White.

1 c1-e3 MDe8-c6-a8

2 f2-d4 c8-a6

'Aiming to set up a semi-fortress before developing in the centre. This "spider and fly" strategy (waiting to pounce on errors) might be just a bad habit when playing White, here it is soon revealed as completely unsound.'

3 b1-d3-d5!



3 ... b7-c8

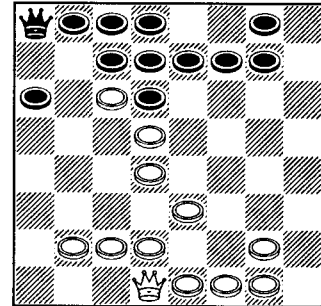
'The only occasion in the game when I found the best move, helped along by the fact that it was more or less forced (if 3...d7-c6, then 4 d4-b6 wins quickly).'

4 e2-e4-c6?!

'Despite White's superior position,

finding the right attacking move is no easy task. This move is aggressive but opens up approaches to his own MD. Probably best was 4 d4-c5, intending a safe and steady advance on Black's MD.'

4 ... f8-d6



'We started with just 15 mins each on the clock and here I withheld both c7-c5-e5-c3-c1 and g8-e6-c4-e4-e2 as threats - to give Aubrey more to think about. However, 4...g8-e2 is really the best move here. I'm very close to being certain that White has nothing better than 5 MDd1-f3-h1 e2-f3 6 MDh1-h2 f3-g3 etc with a draw by repetition.

'At first glance the move played seems equally good. 5 d5-b7 now loses immediately (e7-e5-e3xMD) and White seems in a certain amount of danger himself. So I was not surprised by 5 c6-b7 which forces 5 MDa8-c6-e4-e2 and a draw by alliance.

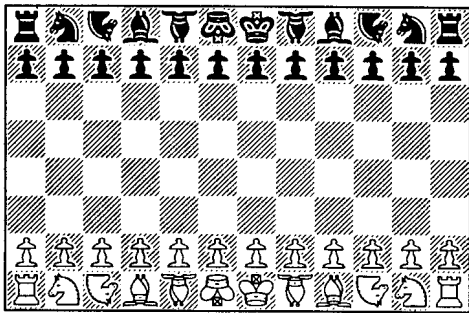
'Over the board it seemed that White must have a win but that it would also probably be quite tricky, or even risky, to find...' Some time later, he found one: 5 d4-d3!! This unpins d5, creating the devastating threat d5-b7, and stops Black's access to ranks 1 and 3 so 5...g8-e6-c4-e2 can be met by 6 MDd1-b3-b1. Black can wriggle, 6...MDa8-a7, but 7 c6-b6 MDa7-a8 8 b6-a7 mops up.

*On the present evidence, this game strikes me as well worth further examination, but as one who comes from a chess rather than a halma background I do question the desirability of allowing the successful construction of a fortress to count as a win. If in practice it is impossible between two 'clued-in and alert' players, why not let it be a draw in the natural way? - JDB*

## THE COURIER GAME RECONSIDERED

by Paul Byway

Modern Courier Chess (MCC) will be well known to readers of Variant Chess. I developed this variant from the ancient Courier Game - which first appeared in literature in 1202 AD. Since the death of the Courier Game wasn't reported until the early 19th century it stood out from the vast majority of chess variants and clearly contained the elements of vitality. One of my goals in designing MCC was to make it as 'chess-like' as possible - Chess-PLUS as it were. But here I want to strike out on a different path: I aim for a coherent and logical design without slavishly following the rules of Chess - which have resulted from a series of historical accidents.



The arrangement of the pieces is the same as for MCC except that the queen has been replaced by a 'Mann': this piece has the same move as a king. It is by far the biggest change and will alter the whole feel of the game: a powerful and highly mobile tactical strike force disappears and is replaced by a more subtle and strategic piece (value = 4). The other changes are minor in comparison and so the game will have the rhythm and tempo of the original 'Courier Game'. This also employed a 'Mann' but there it was off-centre.

In the original, along with king and mann the central section of four squares contained a fers (moves one square diagonally) and a wazir (one square orthogonally); these are replaced by a fers of each colour, flanking king and mann. This arrangement has more symmetry and the second fers is slightly more mobile than the wazir it replaces.

Courier and bishop are the same as in MCC. Note that the names have been swapped: the courier game was originally named for the powerful new piece it contained - the one we now call a bishop. Not to have swapped the names would, I think, have been too confusing for a present day audience. The courier as we have it now (two squares orthogonally or diagonally, leaping the intervening square) is more than twice as powerful as the alfil it replaces (two squares diagonally only). Each courier covers a quarter of the board and so we need all four for complete coverage. Only a courier created by promotion

can be exchanged for an opposing courier. The bishop can hardly be on another square without ruining the structure of the game.

The following pieces can move only one square: king, mann, fers and pawn. In order to speed up the introductory play we have the following special rule. While unmoved, each of these pieces has the right to make two normal moves in one turn. Sometimes there is more than one route from A to B and the player is assumed to have taken a capture-free route. If there isn't one the opponent, by way of balance, can capture the piece as if it had made only the first 'half'. This isn't quite the *en-passant* rule, for a pawn can be captured by anything. For example, following this rule in Chess would allow 1 e4 a5 2 Bxa6. This double move option also replaces castling by the 'king's leap'. As usual the king can not move out of, into or through check. Note that the leap Kg1-g1 is possible: the position is not unchanged because a second leap is not allowed - the king having moved. I'm working to the principle that 'it's allowed unless it's forbidden'. The definition 'normal moves' excludes captures, by the way. Pawn promotion is to the master piece of the file on which it stands at the time, and to a mann on files f and g.

There are three ways of winning the game: checkmate, stalemate and bare king. The first two are familiar; the third applies when the opponent is reduced to king only. Exception: if the newly bared Black king can inevitably capture White's last piece the game is a draw. The value of these wins is to be 6-0, 5-1, 4-2 and 3-3 for a draw. The interest here is less that such a score might be reached, than that it might be offered and agreed during play; this would lead to the need to constantly judge and revalue your chances during time trouble. That would be fun! There is a 60-move rule as a cut off.

The author would welcome any comments on the rules given here.

*Let me use editorial privilege to start the ball rolling: I like it. When playing MCC, I find the queen a somewhat unnatural intruder, and I am not sorry to see her go. Without her, the game becomes much more homogeneous.*

*Paul wonders about also reintroducing the pawn's 'joy-leaps' back to the second rank before promoting (see Murray, page 392, or VC 37, page 86). On reaching the 8th rank a pawn becomes untouchable but has no action itself, except to leap back to the 6th, 4th and 2nd rank on the same file. This need not take place on consecutive moves and the pawn remains untouchable until it reaches the second rank - when it instantly promotes and becomes capturable. During a 'joy-leap' the pawn can leap over a piece of either colour on ranks 7,5,3 but may not land on an occupied square. I have to say that this strikes me as adding nothing but complication, but perhaps it is a quirk worth trying: what do others think?*

*Incidentally the idea of reduced 'win' points for stalemate was suggested by no less than Réti, though without a definite scale: see Modern Ideas In Chess, page 178.*

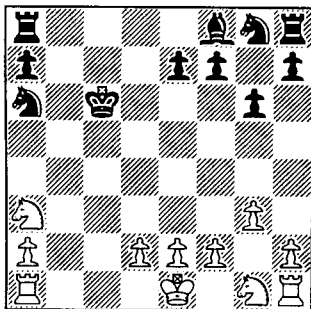
*Views of others welcomed. - JDB*

# LOSING CHESS

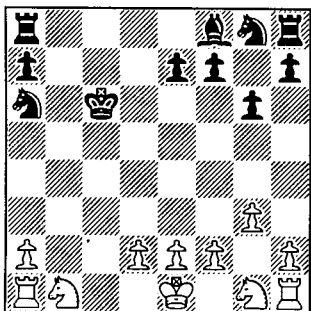
This time's material has included an unusually large helping of exotica, so here is a page of more traditional fare. I see from the advertisements that Fritz 9 offers a Losing Chess engine, but I have had no opportunity to try it and for the moment I am continuing to rely on Stan Goldovski's *Giveaway Wizard*.

Our selections from the 2001 "First Unofficial Losing Chess World Championship" have concentrated on the longer and harder games, but there were interesting moments in some of the quick wins as well.

Won by Lenny Taelman. 1 c4 c5 2 g3 b5 3 cxb5 Ba6 4 bxa6 Nxa6 5 b4 cxb4 6 Ba3 bxa3 7 Nxa3 g6 8 Bh3 Qc8 9 Bxd7 Kxd7 10 Qa4 Qc6 (the king being a valuable piece at Losing Chess, saving it is almost second nature) 11 Qxc6 Kxc6 :

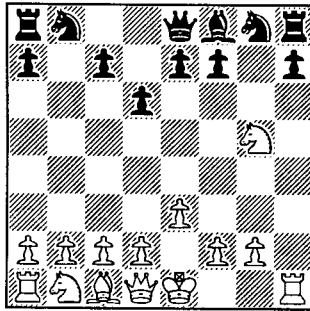


Now 12 d4 lost off-hand to 12...Kb5 etc, and in fact the only move not to concede a forced win within my computer's horizon is 12 Nb5. Moves like 12 Nc4 and 12 Nc2 allow mass giveaways, but what about 12 Nb1?

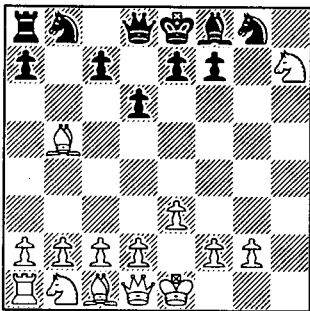


Ah, 12...Rb8, threatening to capture on b1 and turn White's rook loose on the b-file. If 13 Nc3 then 13...Rb3 etc; if 13 Na3 then 13...Rb3 14 axb3 Kb5.

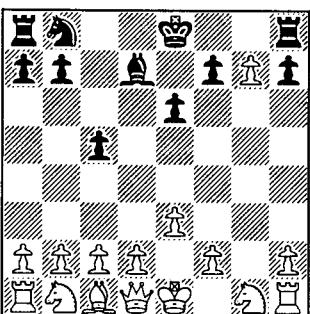
Won by Dirk Kraaijpoel against myself. 1 h3 d6 2 e3 Bxh3 3 Nxh3 b5 4 Bxb5 g5 (I had expected 4...Nd7 or 4...Qg7 saving the king, but Black had worked out that he could afford to let me take it) 5 Bxe8? Qxe8 6 Nxc5 :



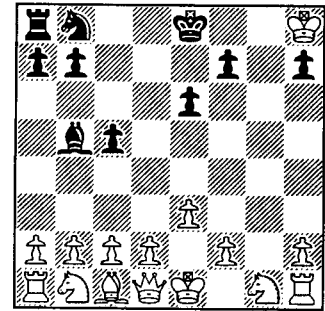
Play continued 6...f5 (6...f6 also leads to a forced win) 7 Nxh7 Rxh7 8 Rxh7 e5 9 Rxc7 Qa4 10 Rxa7 Qxa2 and White retreated to the bar. Nor would 7 Rxh7 Rxh7 8 Nxh7 have helped: 8...Qb4 9 Nxf8 Qxb2 10 Bxb2, and with the queen out of the way the rest is easy. However, had I played 5 Nxc5 instead of grabbing the king, I could have indeed have met 5...f5 by 6 Rxh7 Rxh7 7 Nxh7, and there would have been no immediate forced win.



Won by Marten Wortel. 1 e3 c5 2 Bb5 e6 3 Bxd7 Bxd7 4 g3? Qh4 5 gxh4 g5 6 hxg5 Nf6 7 gxf6 Bg7 8 fxg7. The last few moves have been straightforward, but now Black must allow for all possible promotions :

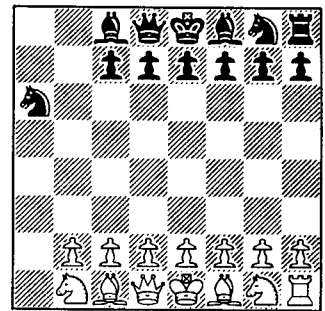


No problem, since *thirteen* moves now win: Kd8, Ke7, Bc8, Bb5, Na6, Nc6, a6, a5, b6, b5, c4, e5, f6! This shows just how easy it can sometimes be to cope with any promotion. The actual conclusion was 8...Bb5 9 gxh8Q Kd8 10 Qxh7 a5 11 Qxf7 Bf1 12 Qxe6 Bc4 and White gave up. And if White tries 9 gxh8K,

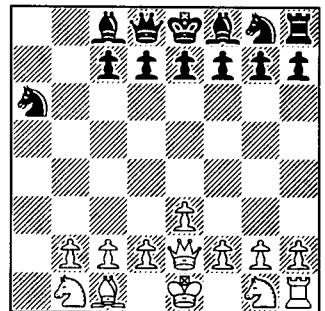


simplest is probably 9... Ba4 10 Kxh7 Bxc2 letting the queen do the rest.

Won by Fredrik Sandstrom. 1 a4 b5 2 axb5 a6 3 Rxa6 Rxa6 4 bxa6 and now 4...Nxa6? was fatal :



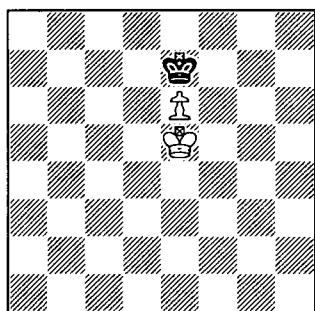
The simple 5 e3! threatened to give Black a rampant bishop. He tried 5...Nc5 (if 5...Nb4 then 6 Qf3 Nxc2 7 Qxf7 Nxe1 8 Qxg8 with 8...Nxc2 9 Bxg2 Rxg8 10 Bb7 or 8...Rxg8 9 Be2 Nxc2 10 Ba6), but 6 Ba6 Nxa6 7 Qe2 reinstated the threat :



Black tried 7...Nb4, and resigned after 8 e4 Nxc2 9 Qa6 Nxe1 10 Qxc8.

## KRIEGSPIEL : KING AND CENTRAL PAWN AGAINST KING

The received wisdom regarding king and central pawn against king in Kriegspiel is very simple: in practice, it's always a win, and it doesn't normally take long. Suppose White has a supported pawn on the sixth :



He tries say Kd6, and if No he waits by Kd5 and tries again. Black, forced to retreat, naturally plays his normal drawing move Ke8, but after White's advance to d6 he must guess between Kd8 and Kf8, and half the time he will get it wrong. White, having advanced to d6, probes by Kd7, and wins at once if Black got it wrong; if Black got it right, he simply retreats, chooses again between d6 and f6 at random, and repeats the process. Black's chance of surviving each trial in turn is one in two and they are independent, so his chance of surviving ten successive trials appears to be less than one in a thousand, his chance of surviving twenty appears to be less than one in a million, and the average number of trials needed is only two.

But now let us suppose that Black *doesn't* play the normal drawing move Ke8 when he is forced to retreat, but instead picks one of the normally losing moves Kd8 and Kf8. White advances by say Kd6 as before, but now Black can reply Ke8, and White's probe will always get No. White can certainly retreat and try again, but the same thing will happen again, and again, and yet again. Black's chances of surviving twenty trials, far from being less than one in a

million, suddenly seem to have become quite reasonable. To beat this defence, White, sooner or later, must plump for the pawn advance Pe7 instead of going back and trying again, and if Black happens to have chosen this particular moment to make the normal drawing retreat Ke8 White finds he has forfeited the win.

So, for White, when should he plump for Pe7, and when should he go back and try again; for Black, being forced to retreat, when should he play the normal drawing move Ke8, and when should he risk one of the normally losing moves Kd8 and Kf8; and what is the true probability that White will win?

To analyse these possibilities without infinite calculation, we need to assume a rule whereby a game which is still unfinished after some suitably large number of moves is abandoned as a draw. Let us suppose such a rule to be in existence, and let us further suppose that the players have calculated that it will allow White  $n$  more trials before the game is abandoned. For the moment, let us assume that they have both calculated  $n$  correctly. We'll look later at what happens if they have got it wrong.

The easiest case to analyse is the final one,  $n = 1$ . This is White's last chance, so he must plump for the advance Pe7 if his probe fails, and there is no point for Black in risking the normally losing move Kd8 or Kf8. In detail, we have the following strategy for White, where the fraction gives the probability with which he should take the given action :

Kd6, try Kd7, if No play Pe7	1/2
Kd6, try Kd7, if No retreat	0
Kf6, try Kf7, if No play Pe7	1/2
Kf6, try Kf7, if No retreat	0,

and for Black :

Retreat Ke8, play Kd8	1/2
Retreat Ke8, play Kf8	1/2
Retreat Kd8/Kf8, play Ke8	0.

Assuming that both players choose at random, this duly gives Black a 1/2 chance of survival. Indeed, we can say more: if White chooses at random, he has a 1/2 chance of winning whatever Black does, and if Black chooses at random he has a 1/2 chance of surviving whatever White does.

Now let us look at  $n = 2$ . This time, if White's probe fails, he can retreat, with a 1/2 chance of succeeding next time. So all four actions come into consideration for White, all three come into consideration for Black, and optimal strategies turn out to be as follows. For White :

Kd6, try Kd7, if No play Pe7	1/6
Kd6, try Kd7, if No retreat	1/3
Kf6, try Kf7, if No play Pe7	1/6
Kf6, try Kf7, if No retreat	1/3,

and for Black :

Retreat Ke8, play Kd8	1/3
Retreat Ke8, play Kf8	1/3
Retreat Kd8/Kf8, play Ke8	1/3.

Given that a retreat will give White a 1/2 chance of succeeding next time, if he chooses at random with these probabilities he has a 2/3 chance of eventually succeeding whatever Black may do, and if Black does the same he has a 1/3 chance of eventually surviving whatever White may do.

The case  $n = 3$  can be analysed similarly, and optimal strategies turn out to be as follows. For White :

Kd6, try Kd7, if No play Pe7	1/8
Kd6, try Kd7, if No retreat	3/8
Kf6, try Kf7, if No play Pe7	1/8
Kf6, try Kf7, if No retreat	3/8,

and for Black :

Retreat Ke8, play Kd8	1/4
Retreat Ke8, play Kf8	1/4
Retreat Kd8/Kf8, play Ke8	1/2.

Given that a retreat will give White a 2/3 chance of succeeding sometime in the future, these probabilities give White a 3/4 chance of eventually succeeding whatever Black may do, and Black a 1/4 chance of eventually surviving whatever White may do.

Further calculation discloses a pattern. Except when  $n = 1$ , White should choose in the ratio

Kd6, try Kd7, if No play Pe7	1
Kd6, try Kd7, if No retreat	$n$
Kf6, try Kf7, if No play Pe7	1
Kf6, try Kf7, if No retreat	$n,$

and Black should always choose in the ratio

Retreat Ke8, play Kd8	1
Retreat Ke8, play Kf8	1
Retreat Kd8/Kf8, play Ke8	$n-1.$

The use of these probabilities guarantees White a chance  $n/(n+1)$  of eventual victory, and Black a chance  $1/(n+1)$  of eventual survival, whatever the opponent may do.

We can now see what should really happen if White is allowed to try twenty times. If Black adopts his best strategy, his chance of survival, far from being less than one in a million, is in fact no worse than 1 in 21. He chooses at random from among his options in the ratio 1:1:19, then 1:1:18, and so on down to 1:1:0, being careful to give no clue as to what he is doing, and there is nothing White can do except hope that Black's resulting 1/21 chance of escape will not in fact turn up.

In practice, of course, the players' knowledge is unlikely to be as precise as this (unless the umpire puts his foot down and insists that the game finishes before the pub shuts). So what happens if the players get it wrong?

Let us assume that White thinks he still has  $w$  trials in hand, whereas Black thinks White has  $b$  trials in hand, and that they both play on this basis. Suppose first that  $w \leq b$ . It can now be shown that after  $t < w$  trials, there is a probability

$$t(w+b+1-t)/(w+1)(b+1)$$

that the game has terminated in White's favour (either because a probe by Kd7 or Kf7 was successful, or because he pushed the pawn and found that Black had made a diagonal retreat),

$$t/(w+1)(b+1)$$

that the game has terminated in Black's favour (because White pushed the pawn and found that Black had retreated straight back), and

$$(w+1-t)(b+1-t)/(w+1)(b+1)$$

that White has retreated every time and play is still in progress. At what he thinks is his final trial, White will push the pawn anyway, and this can be shown to give a final probability of

$$w/(w+1)$$

that the game terminates in White's favour and

$$1/(w+1)$$

that it terminates in Black's.

This gives us a complete answer for the case  $w \leq b$ . If  $w > b$ , it is the final probabilities  $w/(w+1)$  for White and  $1/(w+1)$  for Black which count, because White has ensured that the game terminates before the umpire pulls the plug (we notice that the case  $w = n$  agrees with the probabilities

$n/(n+1)$  and  $1/(n+1)$  we had before). If  $n < w$ , the umpire will pull the plug after  $n$  trials, so we look up the results for  $t = n$  and count the games "still in progress" as escapes by Black.

If  $b < w$ , the previous analysis is still fine as long as the number of trials  $t$  does not exceed  $b$ . However, if  $b$  trials have elapsed without the umpire pulling the plug, we find we have probabilities

$$b/(b+1)$$

that the game has terminated in White's favour,

$$b/(w+1)(b+1)$$

that it has terminated in Black's, and

$$(w-b+1)/(w+1)(b+1)$$

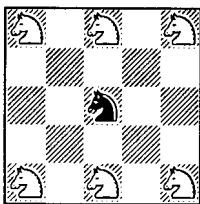
that it is still in progress. At this point, Black is faced with a possibility for which he did not allow, and there is no rule saying what he should do next. All he can do is make a fresh estimate of how many trials still remain, and proceed on this new basis.

But the case of greatest interest is where the players know how many trials remain and hence exactly what the task is, and the key result is very simple: **if  $n$  trials remain, Black can play to give himself a  $1/(n+1)$  chance of survival, and not the miserable  $(1/2)$ " which received wisdom implies.** I hardly imagine that this analysis is new, but I haven't seen it in print; can any reader point me to a reference?

## EXCAVATIONS

**Burglar and Policemen** (UK patent 514 of 1890)

This curious little game is one of several which David mentions within a general entry "Patents". Board 5x5, all pieces move as knights, initial setup as below :



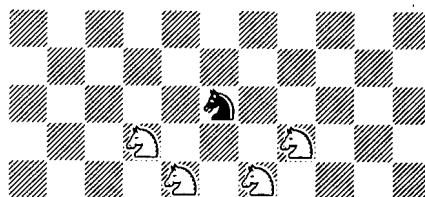
The burglar moves first; no capturing; the burglar loses if he cannot move, and in his text for the new edition

David added a note "How did he win?"

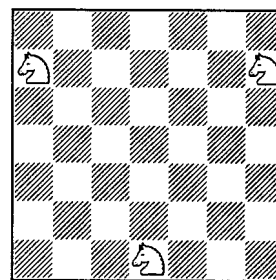
The answer had to be that he couldn't, and it turned out to be not too difficult to prove that if the policemen played properly they could always trap him. But there seemed to be some redundancy among the policemen in the final stages, and further analysis produced a stronger result: the policemen can play to trap the burglar even if there are only five of them, whatever the starting position and whoever has first move.

It makes a pleasant exercise. One way of proving it can be found on page 147.

This got me thinking: what happens if we allow all the policemen to move at once? The case with four policemen is trivial, because they can half-surround the burglar and eventually force him back against the wall :



So we reduce the policemen to three, and now we find a triviality of a different kind: if the board is 8x8 or larger, the burglar can be trapped only if he is already on the edge and within two squares of a corner. However, three policemen on a 7x7 board make an interesting game which can perhaps be posed in the following general form. Supposing that the policemen are spread out as below



and the burglar has first move; is there any dark square away from the edge from which he *cannot* succeed in running indefinitely?

Answer on page 147.

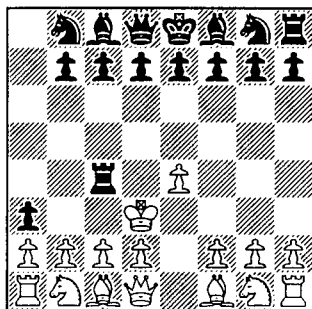


# PROOF GAMES

by Peter Fayers

I have received an original for this column! It is from Michael Grushko, and features Köko - each move must end adjacent to another piece.

## 41 Michael Grushko, Original

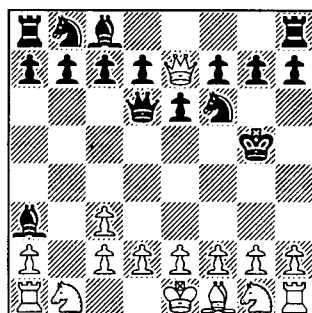


After Black's 7th, Köko

Both the black and white Pawns needed escorting to get where they are, and White uses his four spare moves with switchbacks of two different pieces to accomplish this. A nice easy starter for this month.

I am grateful to Mark Ridley for drawing my attention to various VPGs in magazines that I don't normally see (there are only so many days in a week!) and one that particularly attracted me was 42, using Pocket Bishops (each player has a spare Bishop in his pocket, which he may place on the board instead of moving). 42 very cleverly forces the placement of the pB, its move to another square, and its eventual capture.

## 42 Manfred Rittirsch and Franz Pachtl 2nd Prize, Pocket Pieces TT, 2002



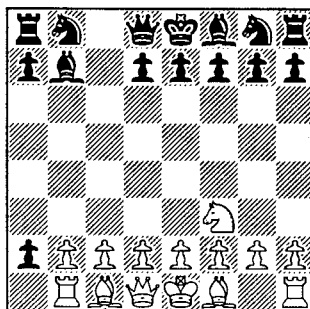
After Black's 9th, Pocket Bishops

White needs to lose two tempi, including one on his first move, and this can't be done with the Knights: a3 and c3 being blocked prevents the b1N, and the position of the bK stops us using the g1N. So, the tempi have to come from the placement, and subsequent move, of the Pocket Bishop. Interplay between W & B dictates that these must have happened on White's 1st and 8th moves. See if you can take it from there.

I see our editor threw down the gauntlet with his Isolated Pawns last time. The only variant I could get a proof game from was Mirror Chess. At first glance it seemed very similar to Full Belt chess (VC 51), but there is a subtle distinction - you may not reflect any square that was reflected last time. So we cannot reflect the entire c-file followed by the 2nd-rank: the square c2 is common to both.

Nevertheless, I managed to get one idea out of it:

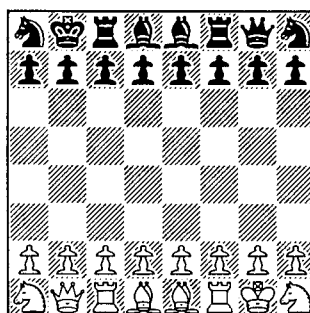
## 43 Peter Fayers, Original



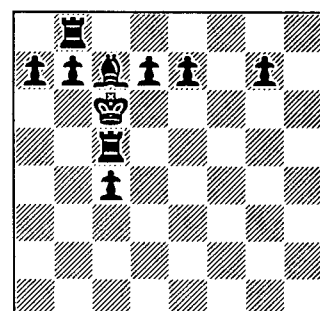
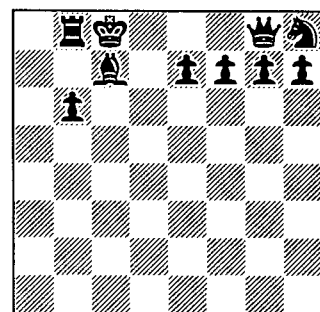
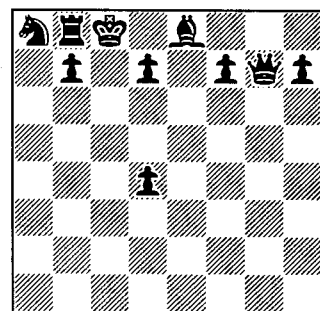
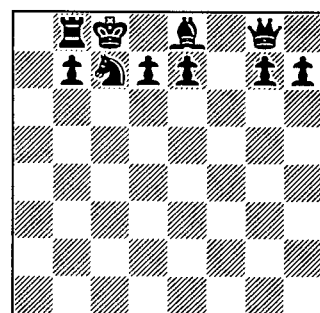
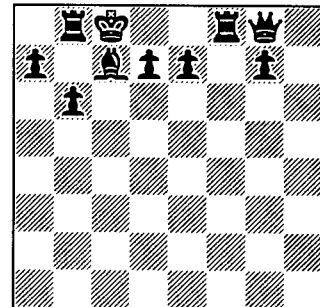
After Black's 2nd, Mirror Chess

Clue: it doesn't feature Turbulent Priests.

More Editorial Nightmares from George, this time featuring Grauniad Chess, the other setup with every unit guarded. Opening position as follows: no castling, otherwise normal rules.



44-48 All problems GPJ original, After Black's 7th, Grauniad Chess. The damage is done by P, N, B, R and Q, but not necessarily in that order.



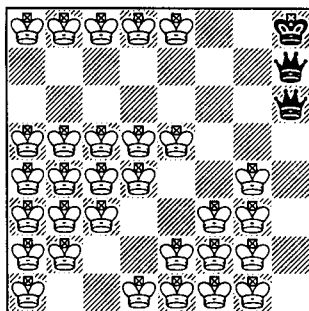


# KING AND TWO QUEENS IN THE KING AND PAWNS GAME

In the King and Pawns game, White starts with king and pawns only but has two moves at each turn. In VC 51, I remarked with some surprise that the authorities seemed to give only K+Q+2R as a mating force for Black against a bare king, although a systematic and fairly straightforward win with K+2Q appeared to be available. No reader commented, but the point subsequently occurred to me: there are two forms of this game, depending on whether the White king is allowed to put himself in check to the Black on the first move and take it on his second, and the analysis in VC 51 is valid only if he cannot. Might this have been the explanation, that the old authorities were assuming the other form of the game?

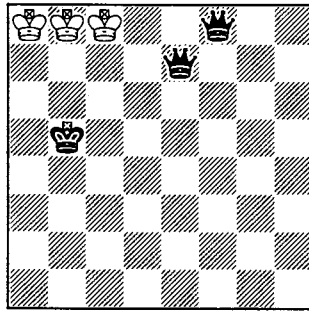
But in fact there is a systematic win even in the harder form of the game, where the Black king can never afford to come within two squares of the White, and it is even simpler than that expounded in VC 51.

Let us suppose that Black has successfully kept his king away from the White, perhaps by playing to a position such as that below :

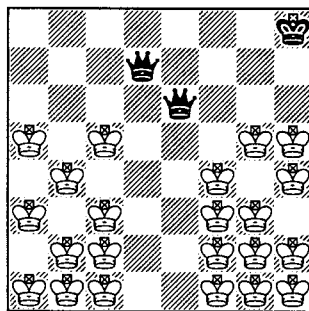


If White has plumped for the eighth rank, things are easy: Q7g7, Q6g6 (restricting White to a8-d8), Q7f7, Q6f6 (restricting White to a8-c8), Q7e7, K round to b5, Qff8 and it's mate (diagram at top of next column).

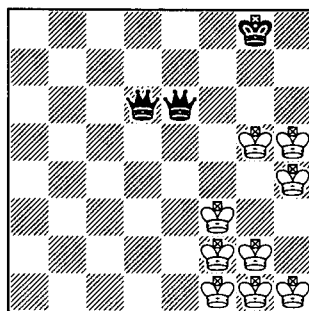
So let us assume that White has gone for the open spaces. The winning procedure now starts Q6g6, Q7g7, Q6f6, Q7f7, Q6e6, Q7d7 (quickest),



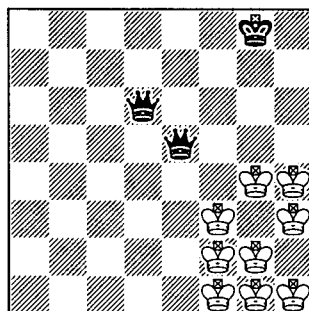
and White must decide which side to go:



We shall need to come back to this position, so let us call it A. Suppose first that White has chosen the right. Black puts his king on g8 (to relieve the queens from the duty of guarding f7), and plays Qdd6:

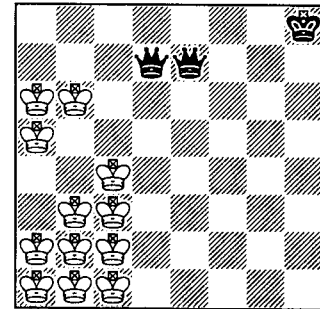


Now Qee5 pushes White down a rank:

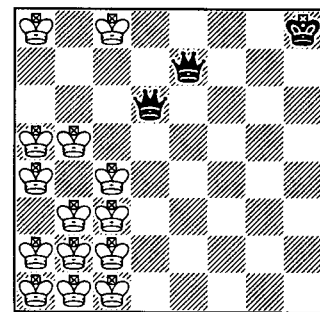


and Black can play Kg7 and repeat the process.

If White prefers the left at A, Black plays Qee7:



and then Qdd6:



If White chooses the eighth rank, Black has the simple mate which we have already seen (K round to b5, Q6f6, Qff8). If instead White keeps to the fifth rank or below, we have the same position on the left as previously we had on the right, and Black plays his king across to b8 and drives White downwards as before.

I am always reluctant to accuse previous generations of overlooking something which now seems really rather straightforward, and one possibility that occurred to me was that the first analysts to look at the game might have been working under the "single box of men" rule in which promotion is possible only to replace a man which has been captured. This rule had considerable currency until quite late in the 19th century (Murray says that it could be found in editions of Hoyle from 1775 to 1866, though it is explicitly negated in my 1821 edition of Philidor). However, the primary source for this game appears to have been Twiss's book of 1787, and David Levy tells me that this mentions promotion only to queen.

So it's a mystery. Has anyone seen this analysis in print before?

# THE END IS NIGH !

by Paul Byway

## Solutions to competition 27

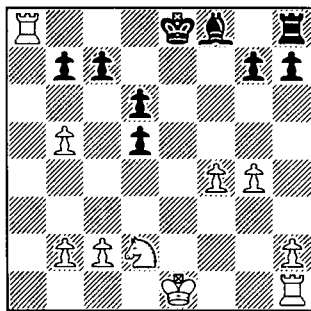
#167 8 Kd6 f5 f4 Nf6 Ba6 Rb8 Rx1 Nxe4 mate; #168 8 Kd6 Ke5 d6 Bf5 Be4 Rc8 Rxc2 Ng4 mate; #169 8 f5 fxg4 g3 g2 gxh1=Q Kd6 Bf5 Re8 mate; #170 6 Kc7 Ne5 Nc4 Nd2 Bxc3 Nf3 mate; #171 8 Kd6 h4 h3 hxg2 g1=N Rxh2 Rxh1 Nf3 mate; #172 9 f5 f6 fxe7 Rf1 Rf7 Rxg7 Nd2 Ne4 Nf6 mate; #173 1 Cd2+ Cd4 2 Pe8+ Kd9 3 Ge2+ Ce4+ 4 Kd1! He5 5 Gd3+ Cd4 6 Cxd4 Hxd3 7 Ce4 Kd10 8 Pe9 stalemate.

Fred Galvin gave six extra solutions - and Ian Richardson gave a comprehensive exposition of #173.

The current scores:- FG 120, IR 101, PW 35, JB 35, RC 27, CL 24, RT 19, NE 2.

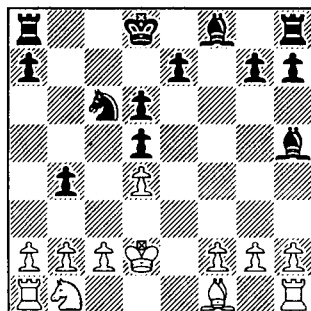
## Competition 29

#175 Rallo - Lantillo (1990)



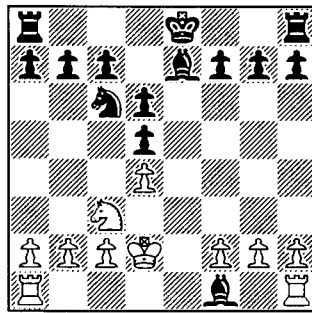
Black wins (series 8)

#176 Sala - Mapelli (1989)



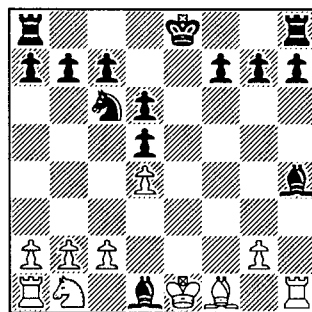
White wins (series 7)

#177 Biagini - Mapelli (1989)



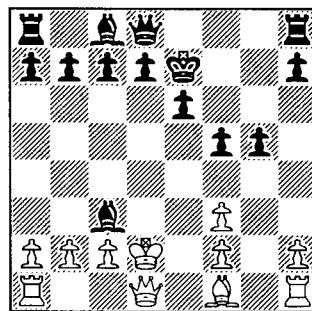
White wins (series 7)

#178 Miliunas - Woronowicz (1991)



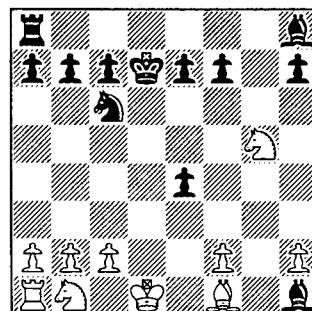
White wins (series 7)

#179 Benedetto - Buccoliero (1991)



White wins (series 7)

#180 Sarale - Scovero (1989)



White wins (series 7)

#181 Cannon + Pawn #4

10	.	.	.	.	:	n	g	.	.	.	.
9	.	.	.	.	:	k	:	.	.	.	.
8	.	.	.	.	:	P	:	g	.	.	.
7	.	.	.	.	:	.	:	P	.	.	.
6	.	.	.	.	:	.	:	.	.	.	.
5	.	.	.	.	:	.	:	.	.	.	.
4	.	.	.	.	:	.	:	.	.	.	.
3	.	.	C	:	:	:	:	.	.	.	.
2	.	.	P	:	:	p	:	.	.	.	.
1	.	.	.	:	:	K	:	:	.	.	.

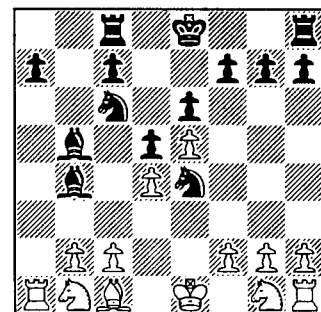
XiangQi : Red to play and win

#182 Cannon + Pawn #9

10	r	.	e	:	k	g	.	.	.	.
9	.	.	.	:	P	g	:	.	.	.
8	e	.	.	:	:	g	:	.	.	.
7	.	.	.	:	.	.	:	.	.	.
6	.	.	.	:	.	.	:	.	.	.
5	.	.	.	:	.	.	:	.	.	.
4	.	.	.	:	.	.	:	.	.	.
3	.	.	C	:	:	:	:	p	.	.
2	.	.	.	:	:	.	:	.	.	.
1	c	.	.	:	:	K	:	.	.	.

XiangQi : Red to play and win

Note by JDB. Paul has asked me to add something about the **Brodie-Elkies** game from VC 49, when play started 1 d4 2 d5 Nf6 3 e4 e5 Bb5+ 4 Nc6 Bg4 Bxd1 Qc8 and Fred Galvin suggested 5 a4 a5 a6 axb7 bxc8Q+ (VC 52 page 128). Fred and I have been looking at this, he unaided and I with the help of Steve Dyson's problem solving program Kalulu, and it was looking good for White. However, Paul has now come up with 6 Rxc8 Be2 Bxb5 e6 Ne4 Bb4+ (see below), after which my computer says "no mate". "If there's no mate, it must be tough times for White" (FG).



Is anything good for White?

# SOLUTIONS

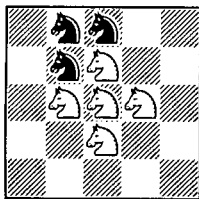
**VC 52 proof games.** 37 1 e4 Na6  
2 Bxa6\$ Rb8\$ 3 e5 Rxa6\$Pc7 4 e6\$  
Nf6 5 \$Pxd8B Nh5 6 \$Be6 Kd8\$  
7 Bh3 \$Kc6 8 d4\$+ Kd6 9 \$Pe2.

38 1 Nc3 d6 2 Nd5 Bh3 3 Nxe7  
Bxe7\$ 4 Nxb3 \$Bc8 5 Ng1.

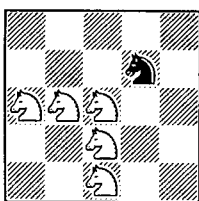
39 1 Na3 d5 2 Nc4 dxc4\$ 3 Nf3  
Pc4xb2\$Qd1 4 \$Qc3 b1Q\$ (by taking  
the spirit from wQ, this avoids check  
next move) 5 Qxc7 \$Qb6 6 Qxd8  
\$Qxd8.

40 1 Nc3 Nf6 2 Ne4 Nxe4\$ 3 Nh3!  
(the only switchback tempo move that  
works - the other possibilities interfere  
with the spirit) Nxd2\$Bf1 4 \$Bxd2 h6  
5 Bxb6\$Pf7 \$Pxb6 6 Ng1.

**Burglars and policemen** (page 143).  
With five policemen, White plays to  
c4/b3/c3/d3/c2, and after Black has  
moved there are three cases :

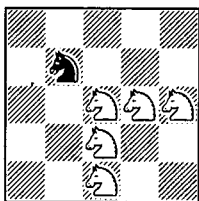


(a) Black on b5. White plays N4a3,  
Black can only go to d4, and Ndc1  
gives a position we shall see again :



Black can only move to b5 or e2, and  
White plays to d4 and shuts him in.

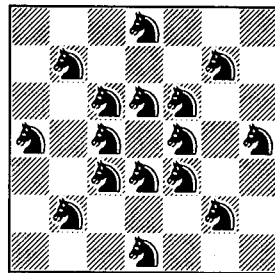
(b) Black on b4. White plays N4e3  
and Nbc1, Black goes to d5/a2 and  
back to b4, and it's much the same :



It's White's move, but no matter;  
White plays say Ned5, Black goes to  
a2, and Nb4 shuts him in.

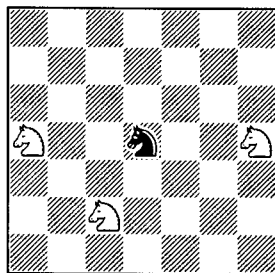
(c) Black on c5. Simplest is N2a3.  
If Black goes to e4, Ndc5 forces him  
to d2, and we have the same pattern  
yet again. If Black goes to a4 it takes  
a little longer, but Nbc5 forces him to  
b2, and Nc2 followed by N2e3 once  
again sets up the familiar pattern.

Three policemen moving at once can  
catch a burglar starting in the centre,  
but from any other non-corner square  
the burglar can run for ever. He moves  
to one of the squares shown below :

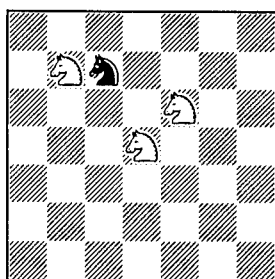


Now he always has four options, and  
the policemen can only block three.

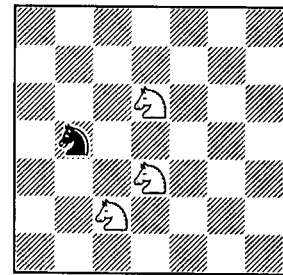
However, if he starts in the central  
square d4, he cannot reach this group.  
His first move can threaten only one  
square, c5, e5, c3, or e3, and White  
goes to c5, e5, and c3 or e3 as needed.  
Black holds out longest by returning  
to d4, and White plays to a4/g4 plus a  
square which threatens d4, say c2 :



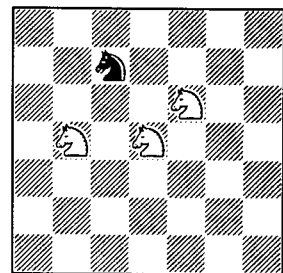
There are now two cases. Suppose  
first that Black keeps away from the  
the side policemen, say by going to  
c6. The policemen play to b6/e5/d4 :



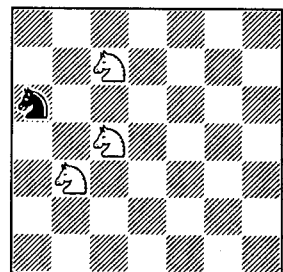
There follows b4 (holds out longest),  
d5/d3/c2 :



c6 (holds out longest), b4/e5/d4 :

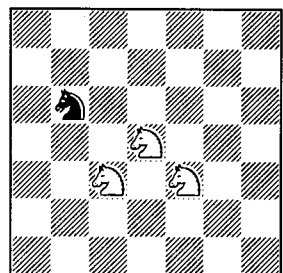


a5, c6/c4/b3 (or e7, d5/c6/f5 with an  
equivalent position) :



b7, a5/d6/c5 and he's caught.

If from the position d4, a4/g4/c2  
alongside the burglar had tried a  
square adjacent to one of the side  
policemen, say b5, the policemen play  
to c3/e3/d4 :



Now d6 (which holds out longest) can  
be met by e4/c4/f5, and we have a  
diagonal reflection of the position at  
the top of the column.

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Sadly, no member came forward to edit an interim issue (there is another invitation below, and we mean it), but at least we have a 20-page issue to reward your patience. My thanks to all who have contributed.

Work on **David's Encyclopedia** is going well, but I shall not be able to devote further time to VC before March and **the invitation is again open to any member** either to edit an interim issue or to contribute a one-off pamphlet to fill the gap. For myself, contributors' copy date for VC 54 will be **March 1**, and publication will be scheduled for April.

Our web site is now recording the latest issue of VC to be distributed, the planned date of the next issue, and the copy date for contributors. Peter sends our copies out last, and Sue updates the site when we receive them. So if you think you should have received an issue and haven't, please check on the web site to see when we received ours, and this will tell you if you appear to have suffered a non-delivery for some reason.

## BCVS NOTICES

To nobody's surprise, the 2006 AGM approved the resolution that the office of President be left vacant for a year in honour of David. There have been suggestions that there should be some more lasting recognition, such as a trophy to be competed for annually, but we are a widely scattered group and the practicalities of ensuring safe return each year are not too clear. For the moment, we are not pursuing this.

We do however have a certain amount of **money in the bank**, and Peter and I have been wondering what best to do with it. The subscription income is sufficient to fund one or two 20-page issues per year, but the editorial effort to produce them has not been available, and by December 31 the disposable surplus had grown to almost two-thirds of a year's income (I'm talking about money we can do as we like with, not about subscription receipts banked against future production expenses). This is perhaps a little too high. The fall-back position is that we provide an issue or two without charge and if no better idea is put forward this is what we shall do, but all suggestions will be welcomed. The only condition is that the use be of benefit to all members, not just to a conveniently located few.

**AGM 2007.** There may not be another issue of VC until April, so I remind members now: nominations for office, and any resolutions for the AGM, should reach me as secretary by **March 1**. To the best of my knowledge, the existing officers are willing to continue, but if anyone else would like to join the team we shall be delighted to explain what is involved.

## EVENTS

Mike Adams and Mike Gunn organized a **variants tournament in David's memory** at the British Championship at Swansea, and attracted 22 participants. Ankush Khandelwal won with 5½/6, ahead of Jonathan Lai with 5 and Akash Jain and Simon Fowler with 4½. The prizes were awarded by last year's winner, Jack Rudd. The prizewinners were all juniors, a most encouraging sign. The six variants played were Progressive, Losing, Avalanche, Triplets, Three-Check, and Extinction.

Mike and Mike are hoping to do the same at **Hastings**, and they are also continuing the annual tournament which David used to run at the **Guildford** club on the last club night before Christmas. I am sure VC readers will be welcome at both. Contact Mike Adams

<mike@guildfordchess.fsnet.co.uk>  
for details.

I couldn't get to the **Circular Chess Championship** at Lincoln this year, but George Jelliss showed our flag and reported the result. A four-round Swiss failed to produce an outright winner, but **Herman Kok** then beat six-times winner Francis Bowers in a play-off. He thus repeated his 2000 victory, and moved to second place behind Francis in the all-time list. The event was held in Lincoln Castle, a very pleasant venue which we had in 1999 (see VC 32). The Circular Chess web site <www.circularchess.co.uk> has full results.

And **Eteroscacco** has reinvented itself as a web site : <www.eteroscacco.it>.

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The **Presidency** has been left vacant for 2006-07 in honour of David Pritchard

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