

THE PUZZLING SIDE OF CHESS

Jeff Coakley

TEN YEARS AFTER

Smorgasbord XXXIII

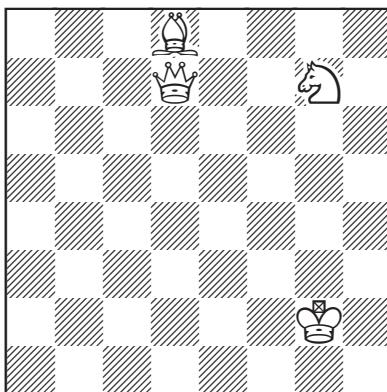
number 212

June 23, 2022

This collection of eight problems marks the tenth anniversary of the *Puzzling Side of Chess*. The first column appeared in June 2012. As it began there, so it begins here, with a triple loyd.



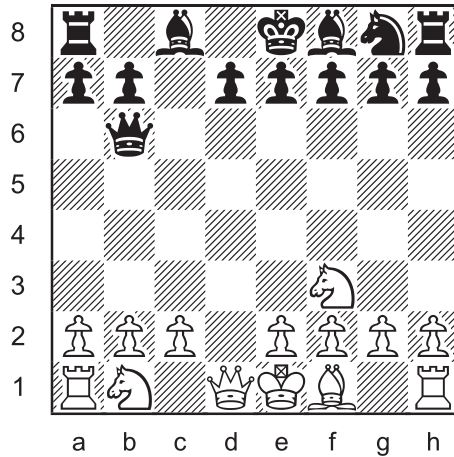
Triple Loyd 87



Place the black king on the board so that:

- A. Black is in checkmate.
- B. Black is in stalemate.
- C. White has mate in 1.

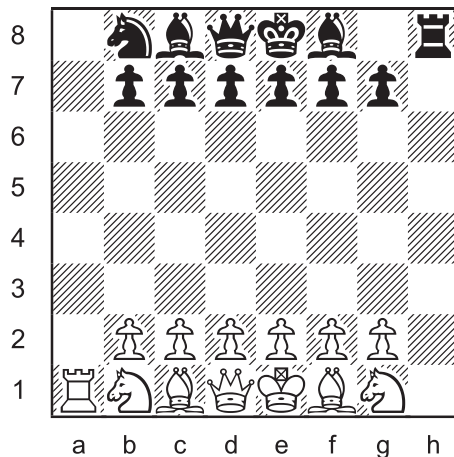
Longer Proof Game 99 (5.0 moves)



This position was reached in a game after each player made exactly five moves. What were the moves?



Longer Proof Game 100 (6.5 moves)

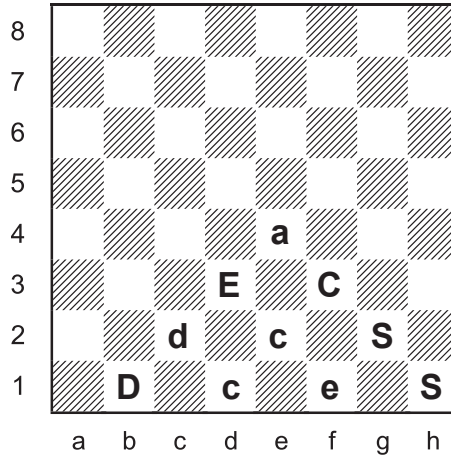


This position was reached in a game after White's 7th turn. What were the moves?

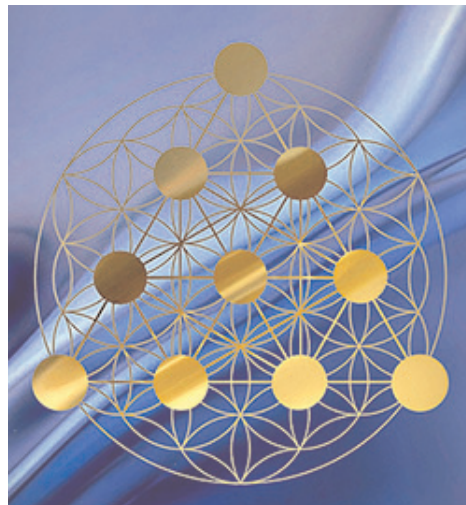
Ten fingers, ten toes, ten dimes in a dollar. Ten years in a decade, ten points in the tetractys, ten pieces in the rebus below.

Rebus 84

“decades”



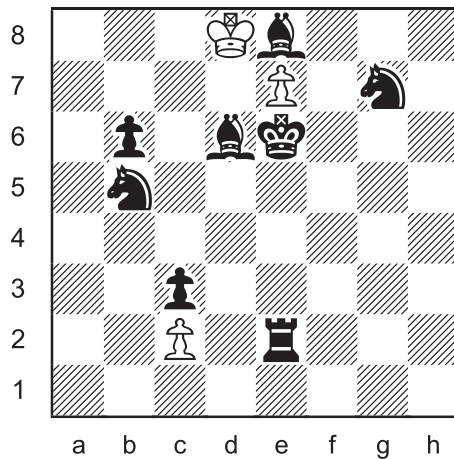
Each letter represents a different type of piece.
 Uppercase is one colour, lowercase is the other.
 Determine the position and, if possible, the last move.



TETRACTYS

The Greek philosopher Pythagoras (570-495 BC) and his followers believe that everything in the universe is composed of numbers, that numbers are the fundamental element of all reality. One of their most sacred symbols is the tetractys, a triangular arrangement of ten points. For Pythagoreans, the four rows of 1, 2, 3, and 4 points are full of mystical and geometric significance. Above all other numbers, they hold 10 to be the most perfect.

Multi-Wham 58



series-mate in 29

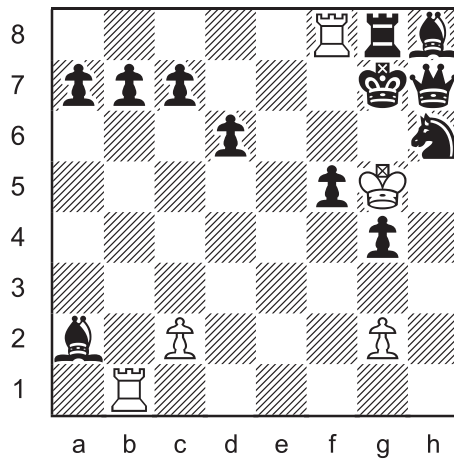
White plays twenty-nine moves
in a row to mate Black.

Only the last move may give check. Captures are allowed. White may not place their own king in check. Black does not get a turn.



Ten Years After was a rock band from Nottingham, England, led by guitarist and singer Alvin Lee. The group rose to fame and fortune in 1969 following their powerful performance at the Woodstock festival. Their albums include the acclaimed masterpiece *A Space in Time*.

Inverted Loyd 58



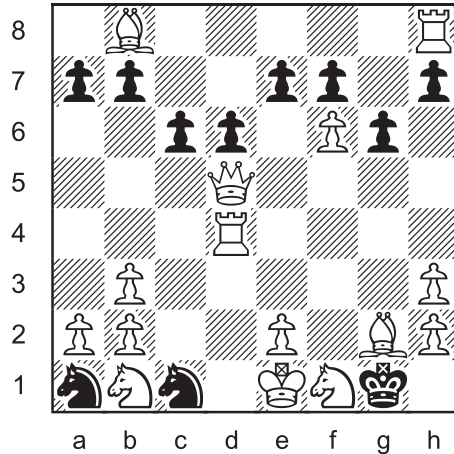

 Place five white pawns
 so that White has mate in 1.



The *Strawberry Fields Festival* in August 1970, though not as famous as Woodstock, was the same kind of musical and social event. Held in Canada at Mosport Park, a 500-acre racing venue east of Toronto, the 3-day extravaganza featured 23 bands and attracted 100,000 peace-loving fans.

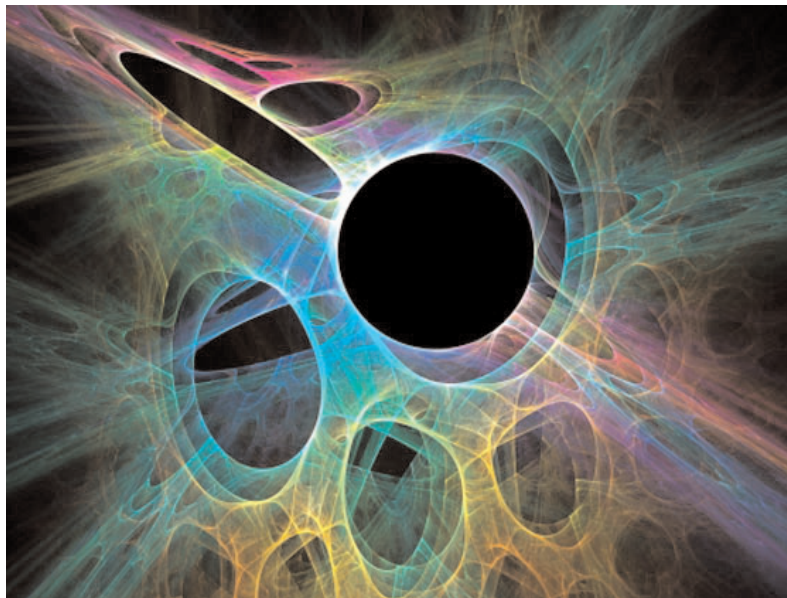
Performers included Procol Harum, Jethro Tull, Alice Cooper, Sly and the Family Stone, Grand Funk Railroad, and Ten Years After.

Retractor 38



White takes back their last move,
then mates in one.

If the retracted move is a capture, White decides which type of piece was taken. The position after the retraction must be legal. Among other things, this implies that Black had a legal move on the previous turn.



10 Dimensions

Modern physics sometimes reads like science fiction. According to *string theory*, the universe is a 10-dimensional spacetime continuum. The four we are familiar with (three spatial, one temporal) plus six mysterious dimensions of hyperspace.

Scientists believe that the mathematics underlying string theory is the key to a “theory of everything”, unifying our knowledge of quantum mechanics and general relativity into a single grand model. Perhaps Pythagoras was right.

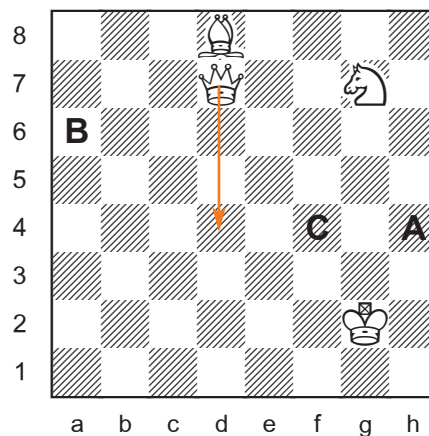
SOLUTIONS

All problems by J. Coakley, *Puzzling Side of Chess* (2022). Rebus 84 is a joint composition with Andrey Frolikin.

PDF hyperlinks. You can advance to the solution of any puzzle by clicking on the underlined title above the diagram. To return to the puzzle, click on the title above the solution diagram.

Archives. Past columns are available in the *Puzzling Side* archives.

Triple Loyd 87



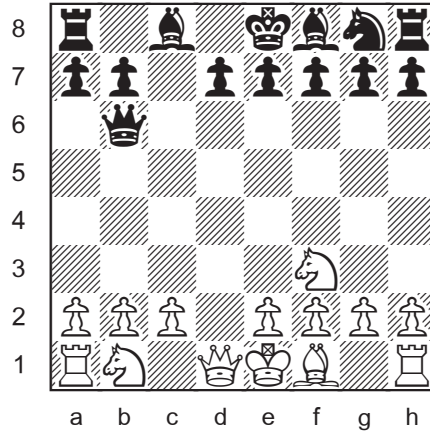
- A. Kh4#
- B. Ka6 =
- C. Kf4 (Qd4#)

Lloydminster, Alberta/Saskatchewan
One city officially part of two provinces.



The city of Lloydminster lies on both sides of longitude 110° W, the dividing line between Alberta and Saskatchewan. The provincial border runs along the town's main street, Meridian Avenue. The unique municipality, incorporated by both provinces, has a single mayor and city council. Population: 32,000. Nicknames: "Border City" and "Heavy Oil Capital of Canada".

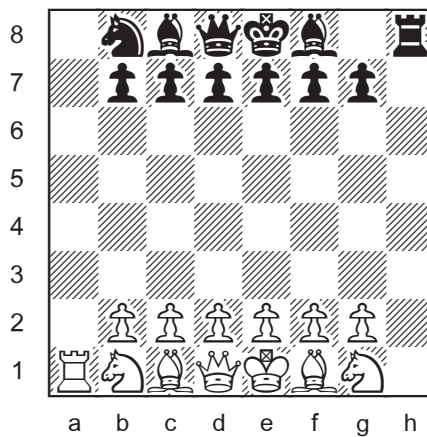
Longer Proof Game 99 (5.0 moves)



1.d4 Na6 2.Bf4 Nc5 3.Bxc7 Qxc7 4.dxc5 Qxc5 5.Nf3 Qb6
Invisible happenings on c5.



Longer Proof Game 100 (6.5 moves)

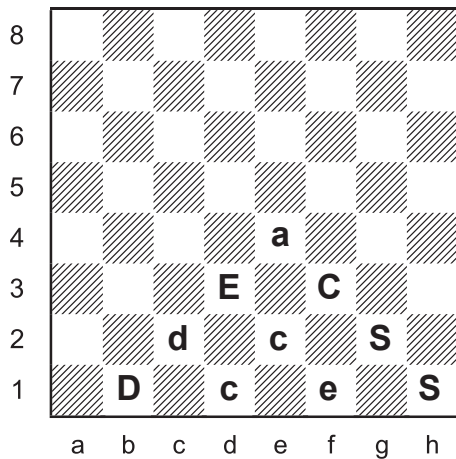


1.h4 Nf6 2.h5 Nxh5 3.Rxh5 a5 4.Rxa5 h5
5.Rxh5 Rxa2 6.Ra5 Rxa1 7.Rxa1
Homebase with impostor rook.

Rebus 84

Andrey Frolkin & Jeff Coakley 2022

Puzzling Side of Chess

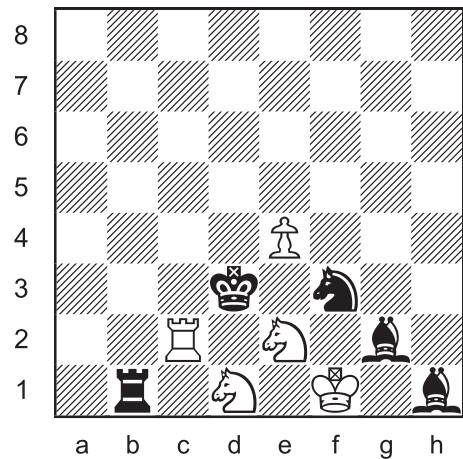


“decades”

D = rook
E = king
C = knight
A = pawn
S = bishop

caps = black

last move:
1...Bh3xg2+



(5 + 5)

E = Only letter with one uppercase and one lowercase that are not adjacent. The D's stand next to each other.

CDS ≠ On 1st rank.

C = C ≠ Both kings in check (d1 f3).
C ≠ Impossible check (e2).

S = S ≠ Impossible double check (g2 h1).
S ≠ If S = Check (h1).

D ≠ Both kings in check (c2).

D = ∅? No piece can be assigned to letter D.

The king on f1 is in check by a bishop on g2.

D = D ≠ Both kings in check (c2).

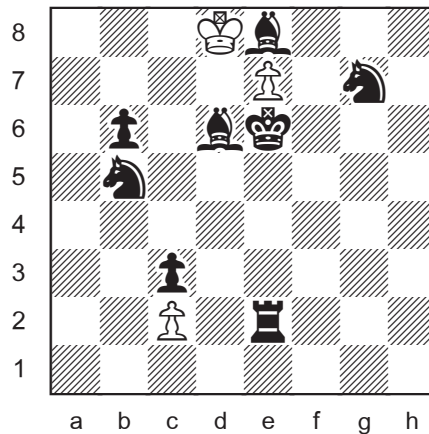
A = A ≠ Both kings in check (e4).

caps = black If caps = white, both kings in check (pawn e4).

last move: **1...Bh3xg2+** The type of piece captured is indeducible.



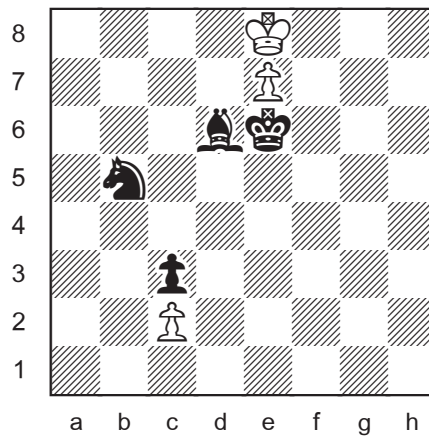
Multi-Wham 58



series-mate in 29

The white king must free a pawn. The chain of black defenders starts with the knight on g7 which guards the bishop on e8 which guards the knight on b5 which guards the pawn on c3. So the king is going to g7. The shortest path there is easy to find.

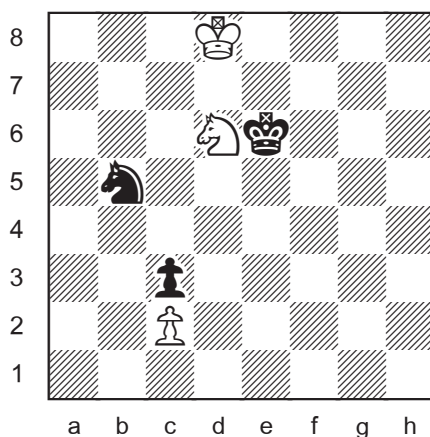
1.Kc8 2.Kb7 3.Kxb6 4.Ka5 5.Ka4 6.Kb3 7.Kc4 8.Kd3 9.Kxe2
10.Kf3 11.Kg4 12.Kg5 13.Kh6 14.Kxg7 15.Kf8 16.Kxe8



17.Kd8 The alternative *17.Kf8?* pins the white pawn and delays mate by one move. For example, *18.Kg7 19.e8=N 20.Nxd6 21.Ne4 22.Nxc3 23.Ne4 24.c4 25.cxb5 26.b6 27.b7 28.b8=Q 29.Kg6 30.Qd6#.*

18.e8=N A queen or rook would give check. A bishop could not capture c3.

19.Nxd6 Diagram next page.

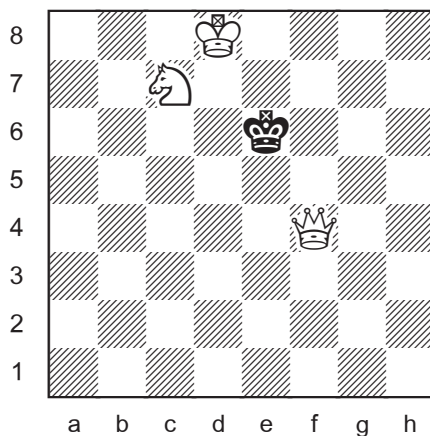


20.Ne4 The obvious capture 20.Nxb5? is slower by three moves.
 21.Nxc3 22.Ne4 23.Nf6 24.Nd7 25.c4 26.c5 27.c6 28.c7
 29.c8=Q 30.Qb8 31.Ke8 32.Qe5#

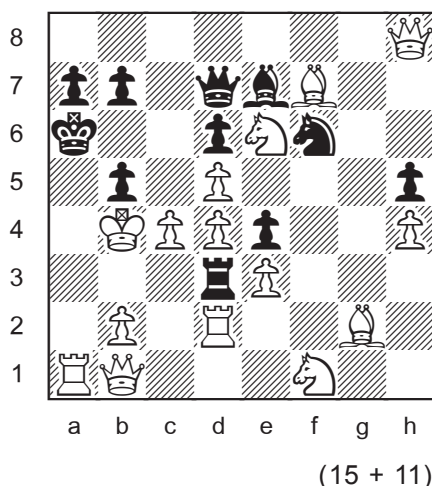
It's quicker to let the white pawn capture the knight so that it can promote to queen on b8.

21.Nxc3 At this point, the mate should be envisioned.

22.Nd5! 23.c4 24.cxb5 25.b6 26.b7 27.b8=Q 28.Qf4 29.Nc7#



Who's the Goof? 39



A quick look at the position reveals four suspect features. White has two queens, two light-square bishops, and two unusually doubled pawns on the d-file. And Black is somehow in check by the rook on a1. However, these circumstances are insufficient to explain why the position is illegal.

To uncover the criminal activity hidden on the board, we must first deduce the last two moves.

The material count is White 15, Black 11. White is missing a dark-square bishop. Black is missing RBNpp.

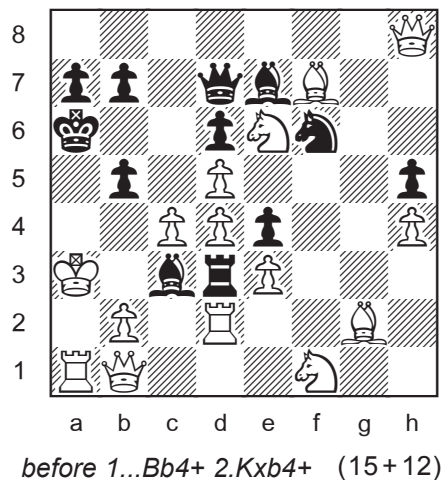
Check by the rook on a1 could only occur by means of a discovery by the white king, either $Ka3>b4+$ or $Ka4>b4+$.

The last move was not $Ka4>b4+$. On a4, the white king would be in check by the pawn on b5. Black's previous move was not $...b6-b5+$ because the white king would already be in check by the queen on d7. Black's previous move was not $...c6xb5+$ because the only missing white piece is a dark-square bishop and b5 is a light square.

So the last move was $Ka3>b4+$. On a3, the white king was in check by the rook on d3. It could only happen with a discovered check by a black piece that was then captured on b4. That piece could only be a bishop.

So the last two moves were $1...Bc3-b4+$ $2.Ka3xb4+$. Black's move was not a capture because the only missing white piece (dark bishop) was captured on b6 by the black c-pawn.

See diagram next page for the position before these two moves.



Black has two dark-square bishops. This in itself is not illegal. However, the overall *bishop ratio* in the position is impossible. White cannot have two bishops on light squares if Black has two on dark squares, and vice versa.

Black is missing two pawns (fg). The only missing white piece was taken on the b-file. Thus, the black g-pawn promoted on the dark square g1 without making a capture. This also implies that the white g-pawn made a capture to clear a path for the black g-pawn. That white pawn could have promoted to queen on f8 or h8 without an additional capture.

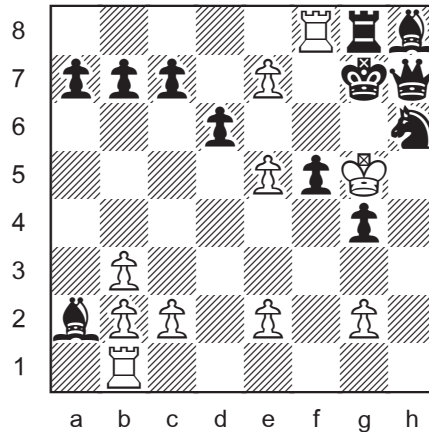
Now consider the fate of the white a-pawn. There are two options.

- a) It captured twice and White promoted a light-square bishop on c8. In that case, two additional captures are necessary to explain the doubled white d-pawns (fxe and exd). This makes a total of 5 captures by White but there are only 4 missing black pieces. So 'option a' is impossible.
- b) It is still on the board at c4 or d5, which entails three captures by white pawns (axb, bxc, cxd). In that case, the second white promotion had to be by the f-pawn. It could have promoted on f8 without a capture if the white g-pawn took the black f-pawn (gxf). But f8 is dark, so one more capture would be needed to promote a light-square bishop. Again, a total of 5 captures by White. So 'option b' impossible.

No options are possible, therefore the position is illegal.

Who is the goof? As usual in complex problems of this type, it is impossible to single out a single culprit. Almost any piece can be shifted to a different square to legalise the position. In fact, the only three pieces which have a solid alibi are the black pawns on d6, e4, and h5. Anyone else could be the "goof". But of course, the bishops are the primary suspects!

Inverted Loyd 58



(10 + 12)

Pawns added on b2 b3 e2 e5 e7.

1.exf6 e.p.#

The *en passant* capture is only possible if it can be proven that Black's last move was ...f7-f5.

White is missing 6 pieces (QBBNNp). The light-square bishop was captured on f1 (unmoved pawns on e2 g2).

The black bishop on a2 is a pawn that promoted on b1. Otherwise it could not be "inside" the white pawns at b2 b3 c2. The promoted pawn came from the d-file or e-file. The promotion and pawn on d6 required five captures by Black (...exdxcxbxaxb1). That accounts for all missing white pieces.

So the last move was not a capture by Black (...exf5, ...gxf5, ...hgx4, or ...Kxg7).

The last move was not the non-capture ...Kf7-g7 because the white king would be in check by the rook on g8 before that move.

The last move was not ...Nf7-h6, ...Qg6-h7, or ...f6-f5 because those pieces would be checking the white king before their move.

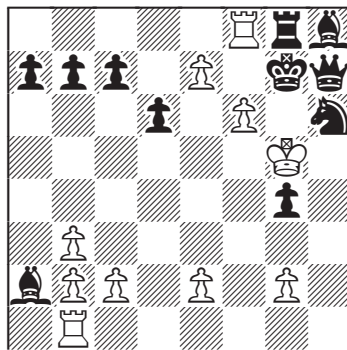


After what?

The band name Ten Years After refers to the time that passed since the birth of rock 'n' roll. The group formed in 1966, ten years after Elvis Presley's self-titled debut album.

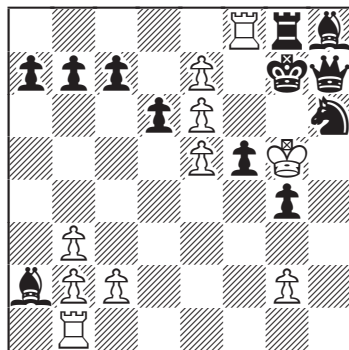
Black is missing 4 pieces (QRBN). If the last move was ...d7-d6, then the light-square bishop was captured on c8 (unmoved pawns b7 d7). The other 3 pieces were captured by white pawns on the be-files (axb3, dxe, fxe). That accounts for all missing black pieces. However, one additional capture by White is needed. In order to be taken by a black pawn on the queenside, the missing white h-pawn had to promote. Either the black h-pawn was captured to allow a promotion on h8 or the white h-pawn captured on the g-file to promote on g8. Thus, the last move was not ...d7-d6.

That leaves only ...f7-f5. Therefore the *en passant* capture is allowed.

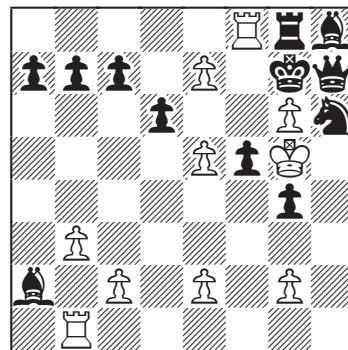


The position is legal. The white h-pawn captured an officer on the g-file to promote on g8. The black h-pawn promoted on h1.

Note that the following two tries fail.



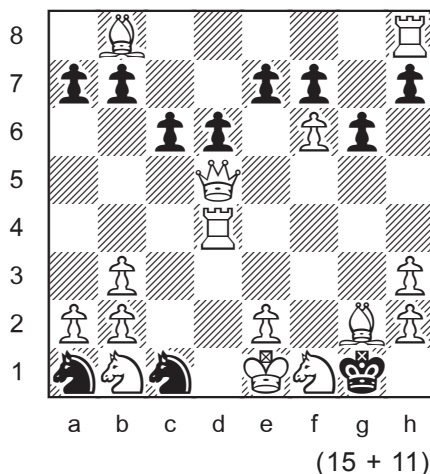
try A



try B

In try A, the last move could be ...hxg4. In try B, the bishop on a2 can be the original light-square bishop. The last move could be ...hxg4 or ...exf5. And even if the bishop on a2 is a promoted pawn, the last move could be ...d7-d6.

Retractor 38



-1.Be4-g2 +1.Qd5-g5#

There are several retractions which allow mate in 1, but only one reverts to a legal position. The following retractions are all illegal because Black does not have a move on the previous turn.

-1.Bh1-g2?	+1.Qd5-g2#	-1.Qg5-d5?	+1.Bg2-f3#
-1.Qf5-d5?	+1.Qf5-f2#	-1.Rg4-d4?	+1.Bg2-e4#
-1.Qf3-d5?	+1.Qf3-f2#	-1.Rg4-d4?	+1.Qd5-d4#

As explained below, none of these retractions can be an uncapture. All missing black pieces were taken elsewhere.

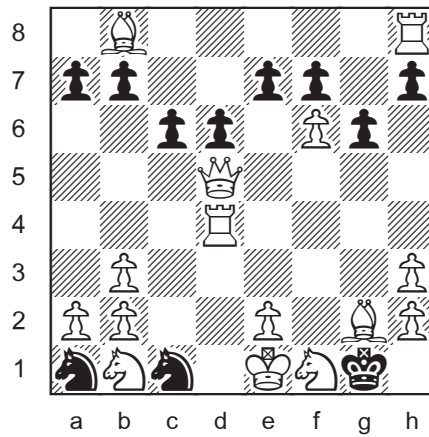
Black's last move was not ...Nc2-a1 or ...Nd3-c1 because the white king would be in check from their departure square.

Black's last move was not ...c7-c6 because of the bishop on b8.

Black's last move was not ...g7-g6 or ...d7-d6 because both black bishops were necessarily captured somewhere other than on their original square, as explained below.

White is only missing one piece. Therefore there was no cross-capture of black pawns on c6 and d6. This means that neither black rook escaped from behind the black pawns and that the rook on h8 is a promoted pawn. So the missing white piece is a rook.

Black is missing 5 pieces (QRRBB). The two rooks were captured on the 7th or 8th rank. The queen and light-square bishop were captured on the light squares b3 and h3.



The fifth missing black piece, the dark-square bishop, was captured by the white d-pawn in order to promote a pawn on either c8 or d8.

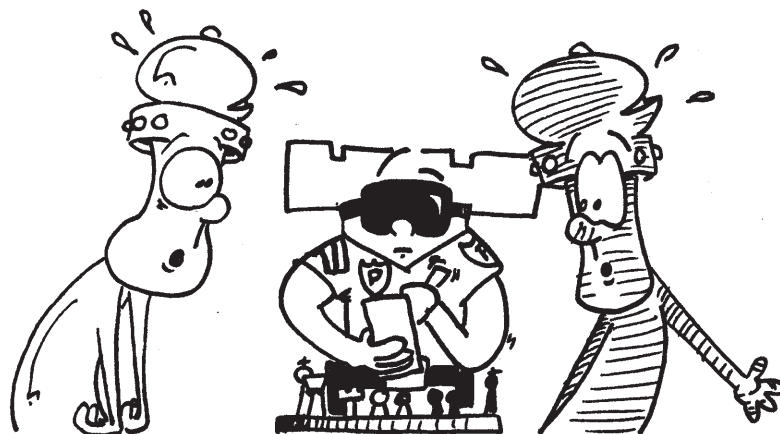
To promote on d8, the d-pawn captured the bishop on the c-file or e-file and then captured a rook on d7.

To promote on c8, the d-pawn advanced to d6 and captured the bishop on c7. Because the black d-pawn was necessarily on d7 at that time, the black light-square bishop was still on c8, so a black rook could not have been on c7.

That accounts for all missing black pieces. White's last move could be a capture by c2xQ/Bb3, Bc7xRb8, or RxRh8, but there is no mate if these moves are retracted. No other captures were possible. Thus, the solution must be the retraction of a non-capture.

And the only option for Black's last move is ...Kh1>g1. With the white queen and light-square bishop both on the same diagonal, that move has to be ...Kh1xRg1.

This could happen in two ways, both with a double check by the missing white rook. Either -1.Bf3-g2 Kh1xRg1 -2.Rg2-g1++ or -1.Be4-g2 Kh1xRg1 -2.Rg2-g1++. But only **-1.Be4-g2** maintains a legal position.



The try -1.Bf3-g2? Kh1xg1 -2.Rg2-g1+ results in a *retro perpetual*. From the diagram, Black's previous move had to be -2...Kg1-h1 and White's before that was -3.Rf2-g2+. Backing up again, Black played -3...Kh1-g1. But then the only way to explain the bishop check is -4.Rg2-f2+. The position cannot be reversed any further. Both sides must keep unplaying the same moves over and over. An impossible situation.

Note that the discovered check -4.g2xQ/Bh3+ fails because the white light-square bishop could not have escaped from f1.

The correct retraction is -1.Be4-g2. After -1...Kh1xg1 -2.Rg2-g1+, retro perpetual is avoided by -2...Kg1-h1 -3.Rf2-g2+ Kh1-g1 -4.Rf3-f2+! Middle diagram.

The black king could also be on g2 at this point (-3...Kg2-g1).

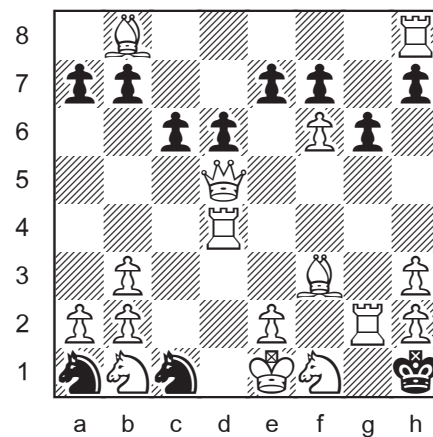
For forward thinkers, the game proceeds 1.Rf2+ Kg1 2.Rg2+ Kh1 3.Rg1++ Kxg1 4.Bg2 (or 4.Qg5#!).

So the solution is **-1.Be4-g2 +1.Qd5-g5#**.



Until next time!

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try : -1.Bf3-g2 Kh1xg1
-2.Rg2-g1++

