## RETRACTORS: Overlooked Mates

number 66   August 30, 2014

Missing a mate in one is no fun when it happens in a game, but it can make for an interesting puzzle.

In a basic *retractor* problem, White takes back their last move, and then checkmates Black with a different move. If the retracted move is a capture, you decide which type of piece was taken.

One step backward, one step forward. It's easy.
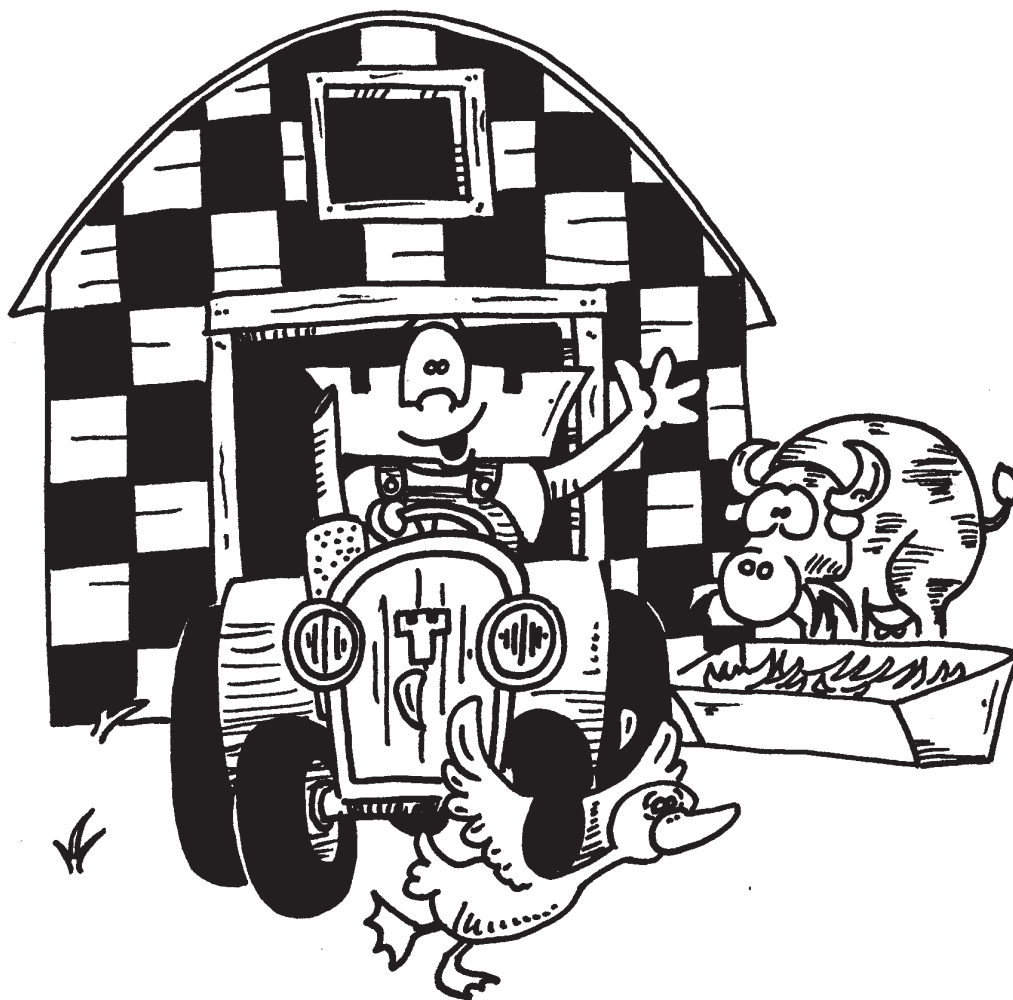
Retractor 23
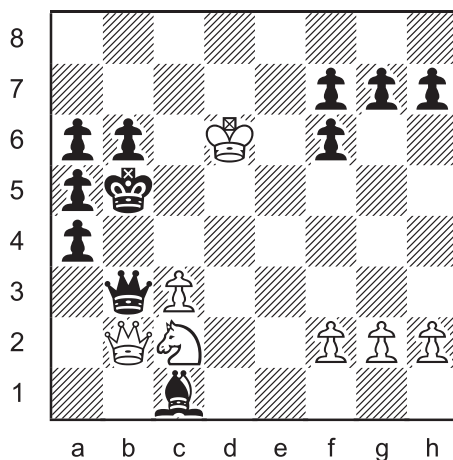
White takes back their last move,
then mates in one.

Solutions are given in long algebraic notation (departure and destination squares). In the case of captures, the type of piece taken is shown in parentheses.

Here are the special rules for this type of puzzle.

a) White may retract any move of their choice.

b) The position after the retraction must be legal. Among other things, this implies that Black had a legal move on the previous turn. A position is legal if it can be reached in a normal game following the standard rules.

c) If the retracted move is a capture, White decides which type of piece was taken.

d) An *en passant* capture is allowed as the backward (retracted) move unless it can be proven illegal.

e) An *en passant* capture is not allowed as the forward (mating) move unless it can be proven that Black moved their pawn two squares on the previous turn.

f) Castling is allowed as a backward or forward move unless it can be proven illegal.

For problems 1-22, see columns 33, 45, 54, 62.

The next two problems are by Danish composer Karl Adolf Koefoed Larsen (1896-1963).
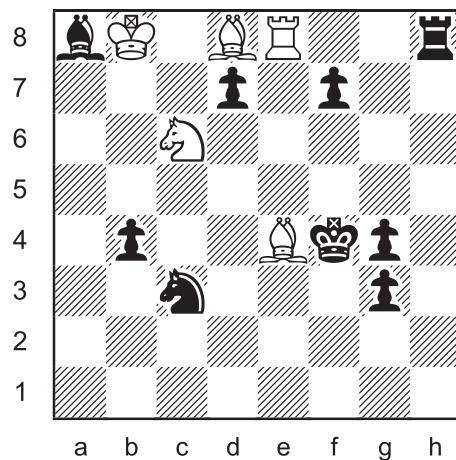
Retractor 24
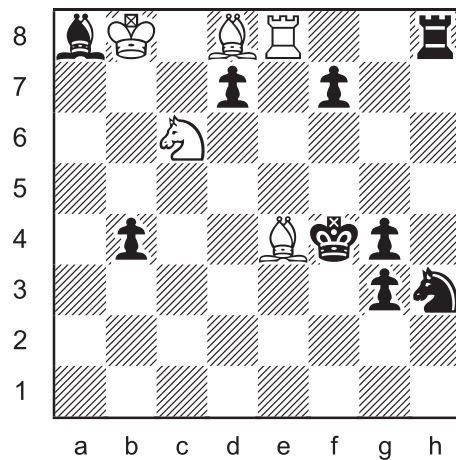
White takes back their last move,
then mates in one.

Now the same position but with the black knight on c3. That change makes things much trickier.
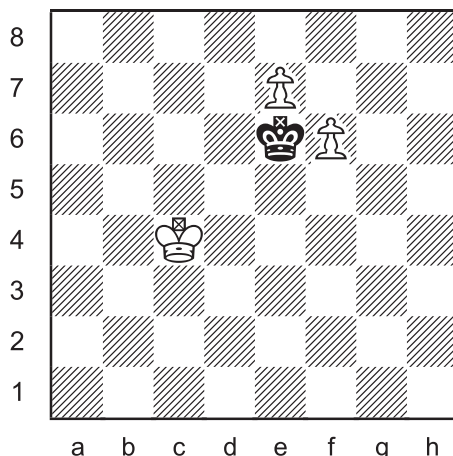
Retractor 25

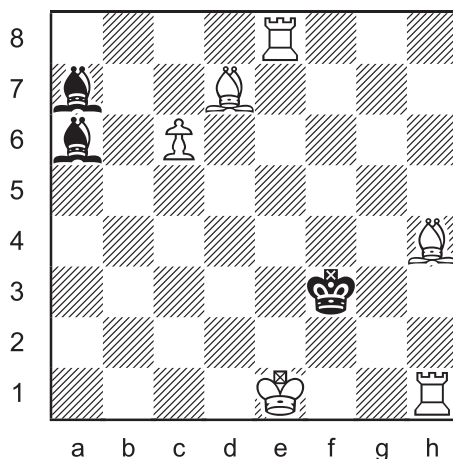White takes back their last move,
then mates in one.

The following "pawn endgame" by German composer Bruno Sommer (1881-1971) is over a hundred years old. It looks too basic to be a retractor problem. But you know what they say about looks.

Retractor 26

White takes back their last move,
then mates in one.
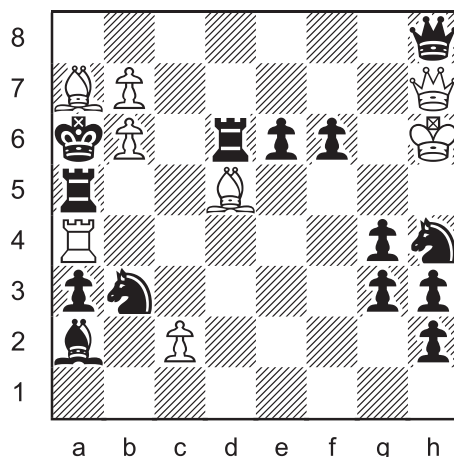
Retractor 27

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

Did you know that you can win prizes by making your own puzzles? The *2014 Chess Cafe Puzzlers Cup* is under way and there is still plenty of time to enter. We're looking for all kinds of problems: easy, hard, or in between!

Next up is a very challenging puzzle by British problemist Thomas R. Dawson (1889-1951). Many tempting tries will turn out to be illegal.

A prolific author and composer, Dawson is best remembered as a pioneer in the art of *retrograde analysis* and the inventor of numerous heterodox chess pieces.

Retractor 28

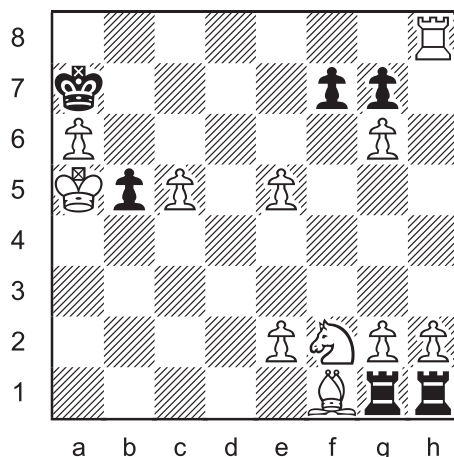

White takes back their last move,
then mates in one.

Our final problem, by German composer Josef Haas (1922-2003), should keep you busy for quite a while. But be warned, the *stump potential* is rather high.

Retractor 29

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

It's probably obvious what the mating move will be. The real puzzle is how to arrange the necessary conditions!

SOLUTIONS

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.
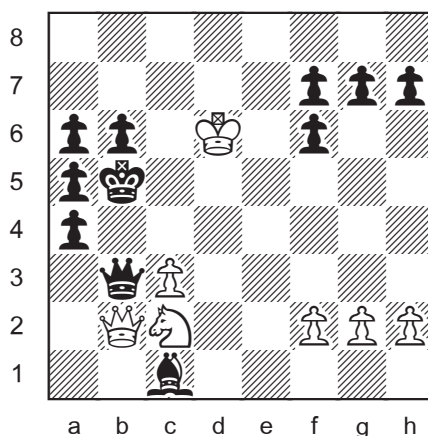
[*The problems in this column have been renumbered, one higher than originally published, to account for the previously unnumbered retractor in column 54.*]

Retractor 23

J. Coakley 2014
ChessCafe.com
version of Thomas R. Dawson 1927

In the diagram, 1.Na3# would be mate, but any retraction "undoes" that threat.

-1.Kd5-d6
+1.c3-c4#

A white king move from d5 to d6 is taken back, placing him in check from the black queen. Then the c-pawn is advanced to block the check and give mate.

A minus sign precedes the retracted move. A plus sign is shown before the forward move.

The retracted move -1.Kd5-d6 was not a capture.
a) The black queen, dark-square bishop, and eight pawns are still
   on the board.
b) An "uncaptured rook" on d6 would check the white king on d5.
c) An uncaptured knight on d6 would stop the mate.

Note that this puzzle cannot be solved as a "double whammy" (1.Kd5 2.c4#) because the white king would be in check after the first move. In a *series-mate*, White is not allowed to place their own king in check.

Here is a slightly more complicated version of the problem, adding a white pawn on f3, and shifting a black pawn from h7 to f5.

Retractor 23b
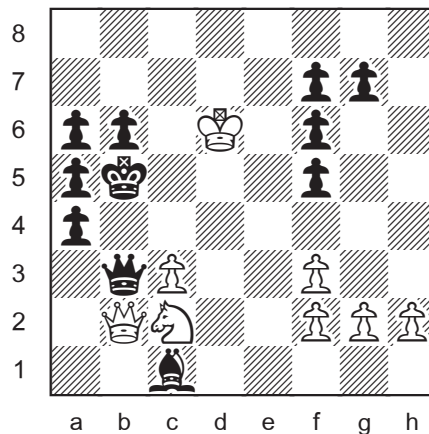
The solution is still the same (-1.Kd5-d6 +1.c4). But now *retrograde analysis* is necessary to prove that the retraction -1.e2xf3 (followed by +1.Na3#) is illegal.

The black pawn formation requires eight captures. White is missing eight pieces (RRBBNppp). However, if White just played 1.e2xf3, then the light-square bishop was captured earlier on f1, since it had no way out with the pawn on e2. In that case, only seven white pieces would be available for capture by the black pawns. Therefore, the last move could not have been 1.e2xf3.

The original problem by Thomas R. Dawson, which also appeared in his book *Caissa's Wild Roses In Clusters* (1937), is shown below. It's puzzling why he placed the black pawns on a3, e2, f3, g2.
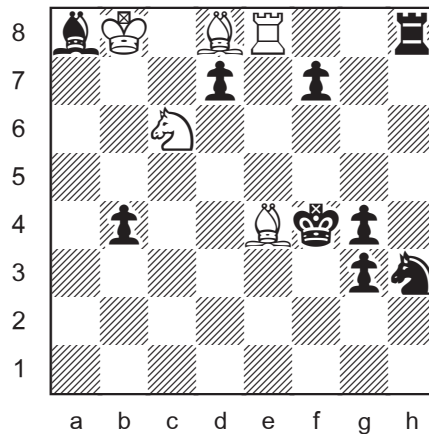
Retractor 23c
Thomas R. Dawson 1927
Pittsburgh Post
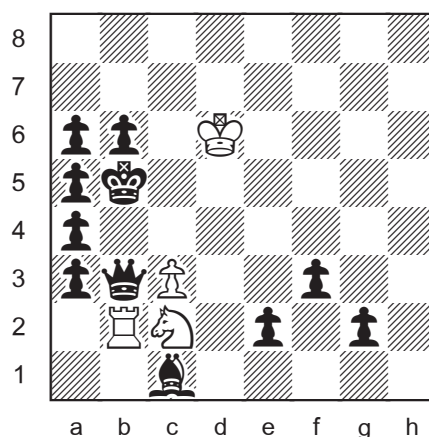
Retractor 24

Karl Adolf Koefoed Larsen 1949
Arbejder-Skak

-1.Ne7xc6(R)
+1.Ne7-d5#

The uncaptured black piece on c6 must be a rook. A queen, bishop, or pawn would defend d5, and a knight would check the white king.

Retractor 25

Karl Adolf Koefoed Larsen 1949
Arbejder-Skak
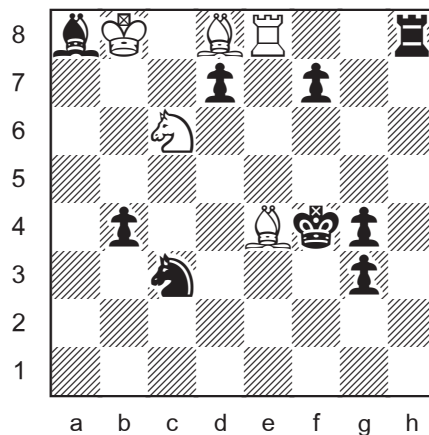
-1.Re5xe8(N)
+1.Bd8-g5#

The white rook goes back to e5 where it guards g5. The retracted move must be an "uncapture" so that the white bishop on d8 is not pinned by the black rook at h8.

The uncaptured piece must be a knight. A queen or rook would pin the white bishop on d8. And a black bishop could not be on e8 with unmoved pawns at d7 and f7.

Retractor 26

Bruno Oswald Sommer 1910
Deutsches Wochenschach
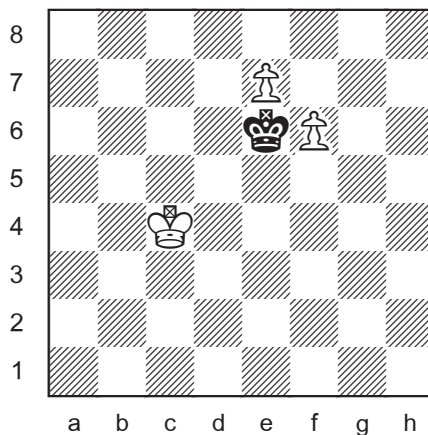
-1.e5xf6 e.p.
+1.e7-e8=Q#

When the *en passant* capture is retracted, there is a white pawn on e5 (attacking d6 and f6) and a black pawn on f5 (blocking f5). The new white queen does the rest.

An *en passant* capture is allowed as a backward move unless it can be proven illegal.

Retractor 27

J. Coakley 2014
ChessCafe.com

-1.b5xc6 e.p.
+1.0-0#

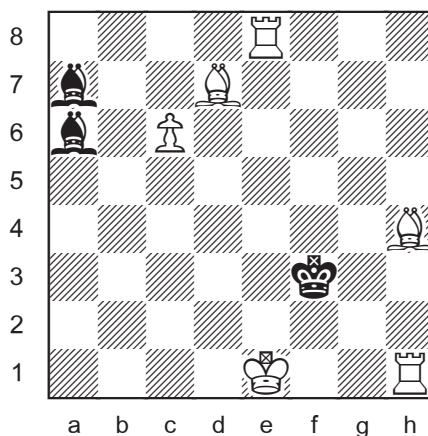After the "unpassant", there is a white pawn on b5 and a black pawn on c5. The two pawns block the diagonals of both black bishops, allowing White to castle. Black's last move was ...c7-c5.
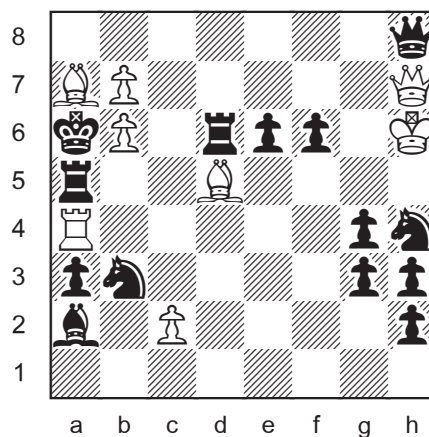
Everyone expected castling, right?

In retractor problems, castling is allowed as a backward or forward move unless it can be proven illegal.

Retractor 28

Thomas R. Dawson 1929
The Problemist
Caissa's Wild Roses In Clusters (1937)

In the diagram, White could mate by Bc4#. However, there is no legal retraction which maintains that possibility.

-1.Kh5xh6(B)

The uncapture on h6 unpins the white queen. With the white king back on h5, the bishop on e4 is pinned.

+1.Qh7-d3#

Proof that the black piece on h6 was a bishop is given below. But first, it should be shown that the following two retractions are illegal.
1) an uncapture on b7 by a white pawn from c6
   -1.c6xb7 (+1.Be4#)
2) an uncapture on h7 by the white queen, such as:
   -1.Qc7xh7 (+1.Be4# or +1.Qc4#)
   -1.Qf5xh7 (+1.Qd3# or +1.Qf1#)

The gist of the proof is that the missing black b-pawn had to be captured by the white a-pawn and the only other missing black piece is a dark-square bishop, which could not be uncaptured on the light squares b7 or h7. Here is a detailed argument.

a) White is missing eight pieces (RNNppppp).

b) The black pawn formation, with four pawns on the g- and h-files, required eight captures. For example, c7xd6xe5xf4xg3xh2 and d7-d6xe5xf4xg3. This accounts for all missing white pieces.

c) Black is missing two pieces (Bp), a pawn and a dark-square bishop. One of those pieces was captured on the b-file by a white pawn. That only leaves one black piece available for capture elsewhere.

d) Because all missing white pieces were captured by the black kingside pawns, we know that the black pawn on a3 has never left the a-file. We can also deduce that the missing black b-pawn was either captured on the b-file or promoted on b1.

e) But promoting the black b-pawn on b1 is impossible because it would require three captures by White. First, the white b-pawn (from b2) would have to clear the b-file by making a capture. Then two additional captures by white pawns would be necessary to make the doubled pawns at b6 and b7.

f) We can conclude that the black b-pawn was captured somewhere on the b-file.

g) The only other missing black piece is the dark-square bishop. Since h7 is a light square, the retracted move cannot be an uncapture on that square.

So now we only need to show that the retraction -1.c6xb7 is impossible.

h) Since b7 is a light square, the only possibility for a capture on that square is the missing black b-pawn.

i) The white pawn that started on a2 could only have been captured by the black kingside pawns if it first promoted. However, that promotion is impossible. It would require at least one capture by the white a-pawn because the black a-pawn has never left the a-file. But if the white a-pawn promoted, then one of the white b-pawns had to come from the d-file since the original white c-pawn is still on c2. That would require two additional captures by White. So we can deduce that one of the white b-pawns started on the a-file.

j) We also know that the other white b-pawn started on b2 because it would require two more captures for it to leave and then return to the b-file. That means that the capture c6xb7 could never have occurred.

Therefore, the only legal retraction is -1.Kh5xh6(B). The dark-square bishop was uncaptured on h6 since the other missing black piece is a pawn that was captured on the b-file.

Retractor 29

Josef Haas   1975
Die Schwalbe
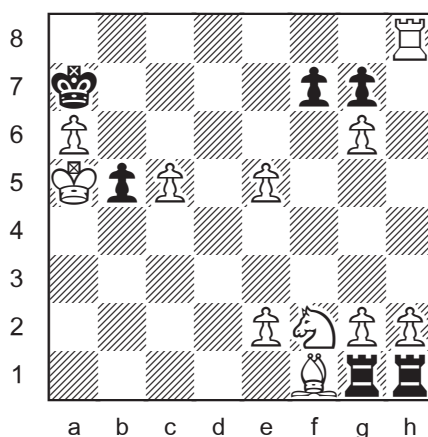
-1.Rg8xh8(N)
+1.c5xb6 e.p.#

An *en passant* capture is not allowed as the forward (mating) move unless it can be proven that Black moved their pawn two squares on the previous turn.

-1.Rg8xh8(N) is the only retraction which "forces" ...b7-b5 on the last move.

The main task for White is to eliminate the possibility that Black's last move was ...Ka8-a7 (or ...Kb8-a7) in response to a rook check along the back rank.

a) After retractions such as -1.e4-e5 or -1.Ne4-f2, the last two moves could have been Rh3-h8+ Ka8-a7.
b) If the white rook is retracted along the h-file, -1.Rh3-h8 for example, then there is no mate even if Black's last move was ...b7-b5. The same is true for the unpromotion -1.h7-h8=R.
c) So the rook must be retracted along the 8th rank somewhere. If -1.Rd8-h8 is taken back, the last two moves could have been Rd6-d8+ Ka8-a7. A similar argument works against rook retractions from c8 and e8.
d) If -1.Rf8-h8 is retracted, the last two moves could have been Rg8xf8+ Ka8-a7, or e7xf8=R+ Ka8-a7.
e) That only leaves the g8 square. If -1.Rg8-h8 is retracted without an uncapture, then the last two moves could have been Rh8xg8+ Ka8-a7. So White must retract a capture on h8.

f) A black bishop cannot be on h8 with a black pawn on g7. If a black queen or rook is uncaptured, then Black's last move could have been ...Qh8 or ...Rh8. Therefore the black piece uncaptured on h8 must be a knight.

Now consider the position before -1.Rg8xh8(N).
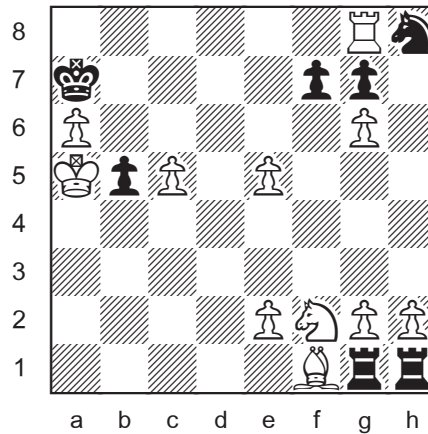
What was Black's last move?

g) The last move was not by the black knight, rooks, or pawns at f7 and g7. They have "zero reverse moblity".

h) The last move was not ...b6-b5 because the pawn would be checking the white king from b6. *It cannot be Black's turn if White is in check.*

i) The analysis below will show that the last move was not ...Ka8-a7 or ...Kb8-a7 because the black king would have been in an illegal check on a8 or b8. There are three ways the check might have occurred. All three are impossible. Consider the position with the black king in check on a8.

i1) The last white move was not by the rook because it could only have moved to g8 from along the 8th rank where it would already be checking the king.

i2) The last white move was not a discovered check by Bb8-a7+ or Nc8-a7+ (followed by ...Ka8xa7) because all missing white pieces were captured elsewhere.

* White has unmoved pieces on f1, g2, and h2, so both black rooks must be promoted pawns.
* The promotions on g1 would require **five** captures by Black. Two with the e-pawn and three with the d-pawn (or h-pawn).
* White is missing **five** pieces (QRBpp), so all possible captures are accounted for.

i3) The last white move was not the promotion 1.h7xg8=R+ because there are not enough missing black pieces available for capture to reach that position.

* The white pawn formation plus a promotion on g8 would require a total of **nine** captures, all on the c- through h-files. For example, b2-b4xc5, c2-c3xd4xe5, d2-d3xe4xf5xg6, and f2-f4xg5xh6-h7xg8=R+.
* Black is missing **nine** pieces, but here is the tricky point. One of the missing pieces is the a-pawn. It could not be captured on the c- through h-files unless it first promoted.
* As explained above, all missing white pieces were captured by the two black pawns that promoted on g1. Which means the black a-pawn did not make any captures (to leave the a-file).
* If White did capture nine times as described above, then no other black pieces were available for capture by the white a-pawn. That implies that the pawn at a6 has never left the a-file, which means that the black a-pawn could not have gotten by it to promote on a1.
* So the black a-pawn could only have promoted on a1, but that would require two captures by the white a-pawn to clear the way and return to the a-file. For example, a2-a4xb5 (and after ...a7-a5) then b5xa6. However, in that case, there would not be enough missing black pieces for the nine captures described above.
* We can conclude that the last two moves, in the previous diagram, were not h7xg8=R+ Ka8-a7.

Therefore, after the retraction -1.Rg8xh8(N), the only legal move for Black on the previous turn was ...b7-b5, justifying the *en passant* capture +1.c5xb6 e.p.#.

Until next time!