RETURN TO A RETRO WORLD

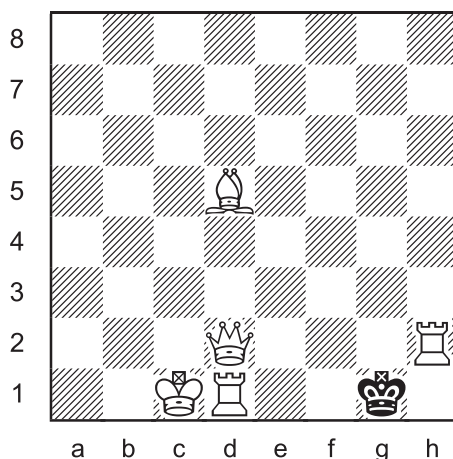number 42   July 27, 2013

Retrograde analysis is the art of backwards thinking. By examining details of the present situation, we deduce past events.

There are various kinds of chess puzzles that involve retro thinking. In a *last move problem*, the task is to determine the move or moves which led to the given position.

When answering the question "What was the last move?", the solver must be as precise as possible. A complete description of a move includes the square a piece moved from, whether a capture was made, and if so, what type of piece was taken.

If more than one move is asked for, the first move will always be exactly determined. But absolute precision is sometimes impossible on subsequent turns. Certain moves may be partially ambiguous with regard to capturing or departure square.
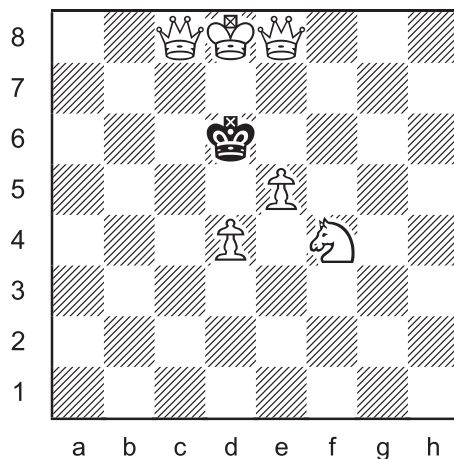
Retro 10

What were the last three moves?

In *last move* problems, moves are counted separately for White and Black. "Last three moves" means two turns by one side and one turn by the other (W-B-W or B-W-B).

Solutions are given in long algebraic notation (departure and destination squares). When possible, if there was a capture, the type of piece taken is also indicated (in parentheses).

Assume that the puzzle positions are legal, even if the piece placement is strange. A chess position is legal if it could be reached in a game played with normal rules. Strategy is not a requirement.
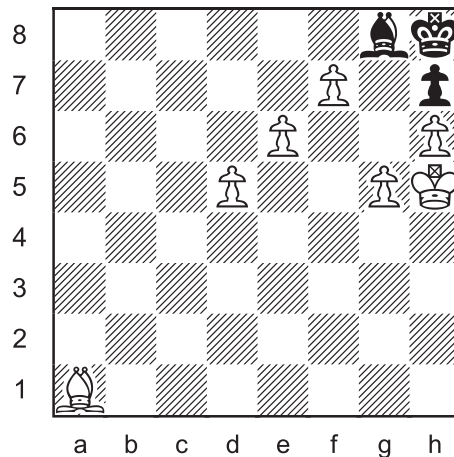
Retro 11

What were the last three moves?

See column 30 for *last move* problems 1-9. Other examples of retro analysis can be found in column 21 (puzzle 8, mate in 2), column 26 (illegal positions), column 29 (proof games).
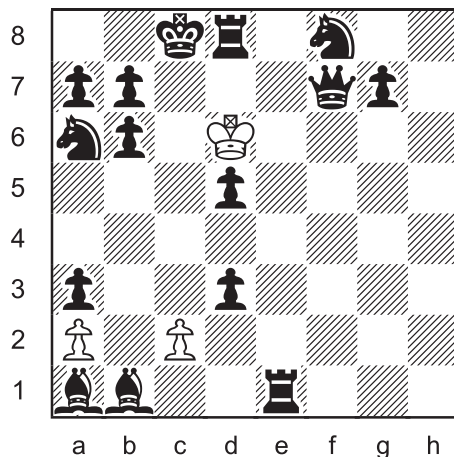
Retro 12

What were the last four moves?

If you haven't solved the earlier problems yet, be warned that the next paragraph may give away the solutions.

The first three puzzles each featured one of the *special moves* of chess: castling, pawn promotion, and *en passant* capture. As you might have noticed already, the majority of last move problems include one of these special moves.

The only tactic that occurs with a similar degree of frequency is the capture of a piece that moved previously to give check or take a piece.

The following masterpiece is by Finnish composer Matti Arvo Myllyniemi (1930-1987). It should keep you busy for a while.
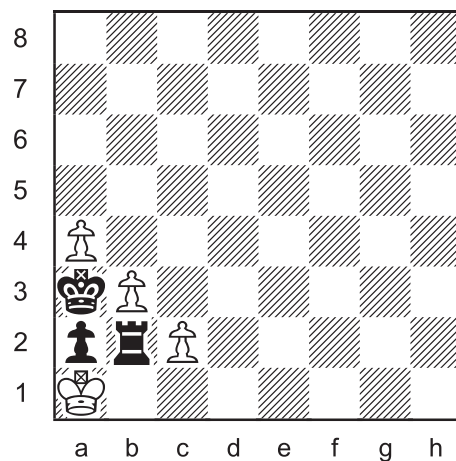
Retro 13

What were the last five moves?

In all of the diagrams so far, one of the kings was in check, so it was obvious which side made the last move. In the next two positions, figuring out who just moved is part of the puzzle.

These two positions also represent a different class of last move problem, in which one player has pieces on the other side of the board behind the opponent's pawns. Explaining exactly how they got there can be quite challenging.

Problem 14 was published in 1924 by a group of composers which included Niels Høeg (1876-1951) of Denmark and Thomas Dawson (1889-1951) of England, both of whom were pioneers in the field of retrograde analysis.
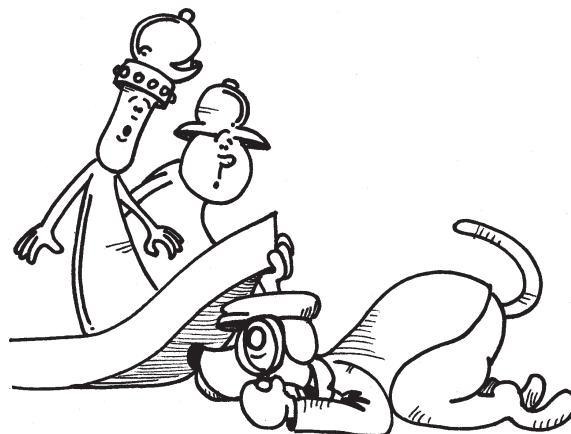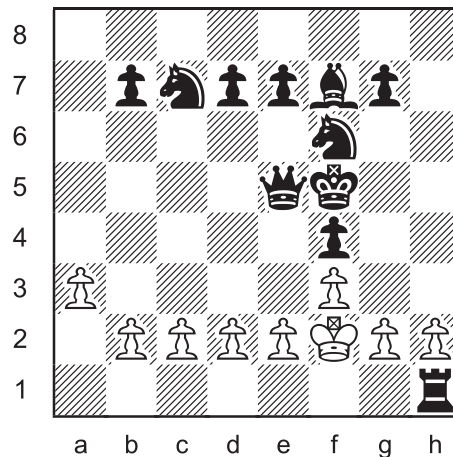
Retro 14

What were the last two moves?

That little puzzle was a piece of cake compared to the next problem by Dutch composer Pieter ten Cate (1902-1996). You will need all your deductive skills for this one.

Even though you are only asked for the last move, it will be necessary to look at least three turns into the past to figure out what that move was. Good luck.
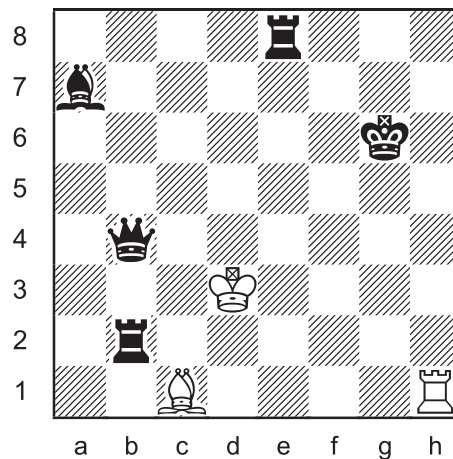
Retro 15

What was the last move?

For those master detectives who are eager for one more mystery to solve, here's a problem from the case files of Harmonius Hound.

In this puzzle, we are not only told whose turn it is, we are also given significant information about the previous move.

Retro 16

White to move.
Black just played their king from h6 to g6.
How is that possible?
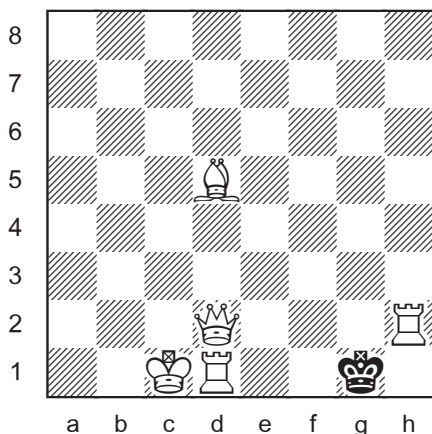
What were the last seven moves?

Three months and counting. The deadline for the *ChessCafe Puzzlers Cup* is Halloween. Don't get tricked at the last moment. Send in your entries today.

SOLUTIONS

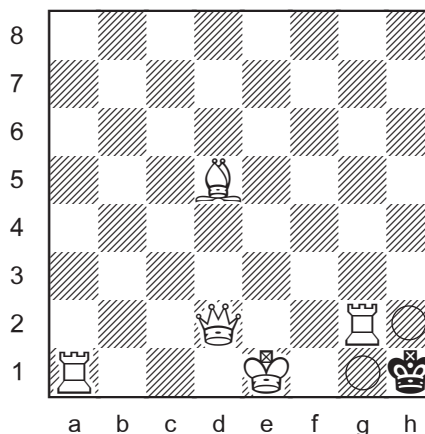Retro problems 10,11,12,16 by J. Coakley, *Winning Chess Puzzles For Kids Volume 2* (2010).

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.

Retro 10

Last three moves:

Position three moves ago

1. Rg2>h2   Kh1>g1
2. O-O-O+

White's rook move to h2 may or may not have been a capture. That is indicated by the symbol > (instead of Rg2-h2+ or Rg2xh2+).

Also, Black's king move to g1 may or may not have been a capture.

Analysis.
Black is in check, so we know that the last move was by White. It was not a "rook move" to d1 because the rook could only get there from e1 or f1, and the black king would already be in check. No discovered checks were possible, so the last move had to be *castling*.

With the white king on e1 and rook on a1, the previous move by Black could not be ...Kg2-g1 because the king would be in triple check on g2. So the black move had to be with the *king from h1 to g1.*

On h1, the black king would be in double check by the bishop at d5 and rook at h2, so the previous white move was *rook from g2 to h2.*

Retro 11

Last three moves:

1. d7xc8=Q+   Kc6>d6
2. e4-e5#

Position three moves ago

Black is in check from the pawn at e5. The pawn must have advanced from e4 on the last move because it could not capture on e5 from d4 or f4.
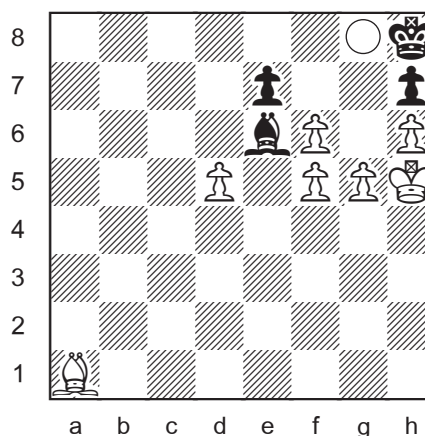
With a white pawn on e4, the previous move by the black king was not from c5, d5, or e5 because he would be in an impossible double check on those squares. He did not move from e6 either because he would have been in triple check. So the previous move had to be with the king from c6 to d6. This move could have been a capture, or not.

With the black king on c6, Black is in double check from the queens at c8 and e8. The only way this double check could happen is by the pawn promotion d7xc8=Q+. The black piece captured on c8 could be a queen, rook, bishop, or knight. A knight is used in the diagram.

Retro 12

Last four moves:

Position four moves ago

1. . . .   Be6>g8
2. f6-f7+   e7-e5
3. f5xe6# e.p.
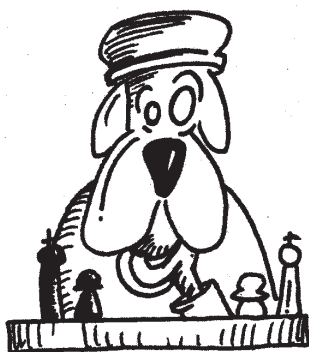
In the puzzle diagram, Black is in check from the bishop on a1, so the last move had to be a discovered check. It was not d4-d5# or e5-e6# because Black would have no legal move on the previous turn. It could not be ...Kg7-h8 because on g7, the king would be in an impossible check from the pawn on h6.

The last move was not f6-f7# either. In that case, the previous black move could not be ...Bf7-g8 because the white king would be in check if the bishop were on f7. *It cannot be Black's turn if White is in check*.

The surprising solution is a discovered check by the *en passant* capture f5xe6#! That means the previous black move was ...e7-e5.
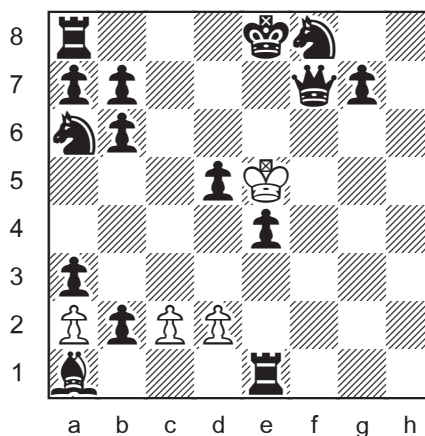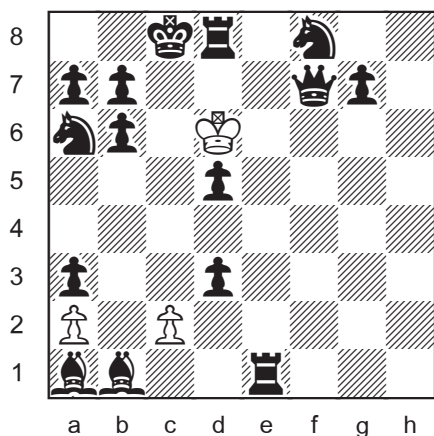
With a white pawn on f5 (not e6) and a black pawn on e7, then a discovered check on the previous turn is possible by f6-f7+ because black could have played ...Be6>g8 on the turn before. That bishop move may or may not have been a capture.

Retro 13
Matti Myllyniemi 1975
Die Schwalbe

Last five moves:

Position five moves ago

1. . . .   b2-b1=B+
2. d2-d4   e4xd3 e.p.+
3. Ke5-d6   O-O-O#

All five moves are exactly determined.

The solution includes castling, pawn promotion, and an *en passant* capture! Combining all three special moves in one problem is known as the *Valladão* theme, named after Brazilian composer Joaquim Valladão Monteiro (1907-1993). Not an easy task to accomplish.

A survey of the puzzle position provides us with this useful information:
a) White is in check from the rook on d8.
b) The black bishop on b1 is a promoted pawn.
c) Black has fifteen pieces on the board. The only missing piece is the original light-square bishop. Therefore the white king did not capture on d6 (a dark square).
d) The black pawn formation (including the promoted bishop on b1) required thirteen captures, which means that all the missing white pieces were taken by pawns. So the last black move was not a capture by 3...Re8xd8# or 3...Nd7xf8#.

The last move was not 3...Re8-d8# or 3...Nd7-f8# because White would have no legal move on the previous turn. Only the white king could have moved, and he would have been in an impossible check on c5, c6, e5, e6, or e7. The only black move which gives White a legal move (Ke5-d6) on the previous turn is castling.

On e5, the white king is in double check from the bishop on a1 and rook on e1. This can only be explained by an *en passant* capture.

With the white king on e5, a white pawn on d2, and a black pawn on e4, White is in check from the bishop on a1. That check could only happen by the discovery ...b2-b1=B+.

Because we are going backwards from a given position, some problemists number the moves differently, or put them in reverse order. These alternate notations are equally descriptive, but they can be confusing to new solvers.

```
n-2.   . . .      b2-b1=B+
n-1.  d2-d4     e4xd3 e.p.+
  n.  Ke5-d6    O-O-O#

-1.   . . .      O-O-O#
-2.  Ke5-d6     e4xd3 e.p.+
-3.  d2-d4       b2-b1=B+
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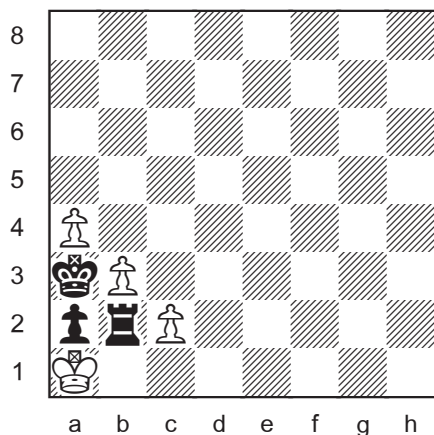
I prefer the method used by Raymond Smullyan, showing a diagram for the position as it was previously and giving the moves in a normal forward order. This approach is the most "user-friendly".
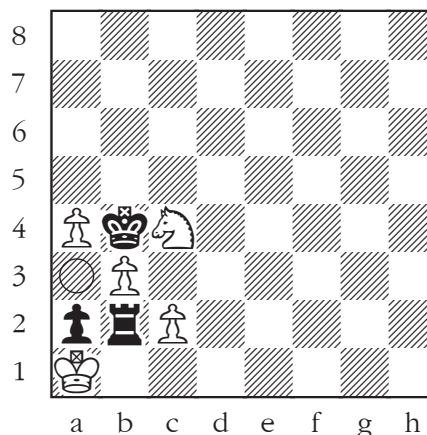
Retro 14

Hugo August, Otto Brennert, Thomas R. Dawson,
Niels Høeg, Valerian Onitiu 1924
Skakbladet

Last two moves:
1. N>a3   Kb4xa3(N)

Position two moves ago

Evidently, a real team effort.

The last move was made by Black since the only possible white move would be Kb1-a1, which is illegal because the white king would be in an impossible double check on b1.
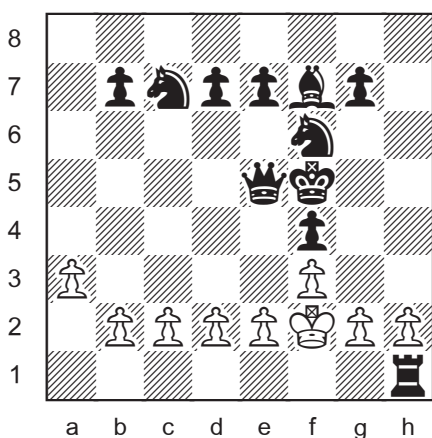
The only possible black move was …Kb4xa3. It had to be a capture, otherwise White had no legal move on the previous turn.

The previous white move had to be by a piece that was then captured on a3. With the black king on b4, the only piece that could move to a3 is a knight, from b1, b5, or c4. That move could be a capture, or not.
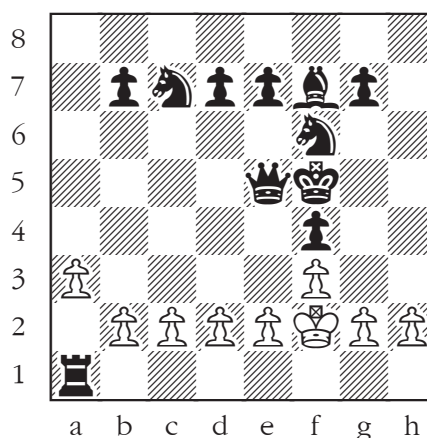
Retro 15
Pieter ten Cate 1972
Die Schwalbe

Last move: …Ra1-h1   Position one move ago

This move was not a capture. White's preceding move was with their king from the first rank to f2. That move was not a capture. Before then, Black's previous move was either …Ra2-a1+ or …a2-a1=R+.

A close examination of the puzzle position reveals the following.

a) Black has unmoved pawns on b7, d7, e7, and g7 which means that the original black bishops were captured on c8 and f8.

b) The bishop on f7 must be a promoted pawn. It could only have promoted on b1, which would require three captures by the missing a- or c-pawn (for example, a4xb3xa2xb1=B).

c) The black rook on h1 must be a promoted pawn because there is no other way it could have gotten inside the white wall of pawns.

d) To promote into a rook on a1, the missing black a- or c-pawn would require two captures (c4xb3xa2-a1=R). Promoting the missing h-pawn into a rook on f1 would also require two captures.

e) White has unmoved pawns on b2, d2, e2, g2 so we know that the white bishops were captured on c1 and f1 (and that they were not captured by a pawn).

f) Besides the two bishops, White is missing five other pieces (QRRNN). These five pieces were all captured by the two black pawns which promoted earlier. So we can deduce that the last move was not a capture by Black.

Proof that Black played the last move.
If White played the last move, it had to be with the king. On e3, it would have been in an impossible double check. On g3 (and e3), it would have been in check from the pawn on f4 which could only move there by capturing from g5. But that capture is impossible since all missing white pieces were captured elsewhere. On e1, f1, or g1, the king would be in an impossible check by the black rook on h1. The last moves were not a discovered check by 1...Bg1-f2+ followed by 2.Kf1xf2(B) because the black dark-square bishop was captured on f8. Therefore, we know that White did not play the last move.

Black made the last move. It was not a capture, which means that the previous move by White was with the king. So the question becomes "Which black move would give White a legal move on the previous turn?"

The only possibility is the black rook.

While working on this puzzle, I wondered for a long time why the black knights are on the board. I finally realized that their presence eliminates the possibility of an earlier position with black Rc1 Nd1 vs. white Kf1 where the last moves were 1...Nd1-f2+ 2.Kf1xf2(N) Rc1-h1. We can conclude that there was no discovered check by Black on the move before White played Kf2.

The line 1...Ra1xc1(B)+ 2.Kf2 Rc1-h1, in which the black rook captures a bishop on c1, can also be excluded. It does not work because the bishop on c1 had to be captured earlier so that the white rook from h1 could be captured on a2 or b1 by one of the black pawns that promoted.

The only other option is that the black rook came from a1 and that the move before 2.Kf2 Ra1-h1 was either 1...Ra2-a1+ or 1...a2-a1=R+.
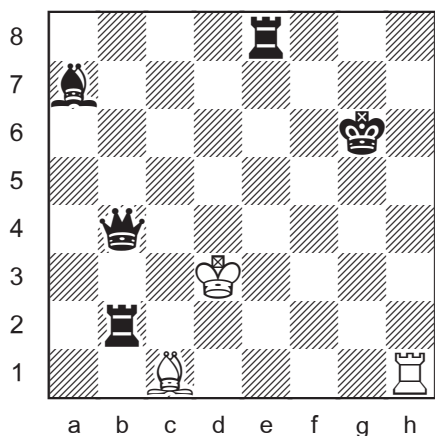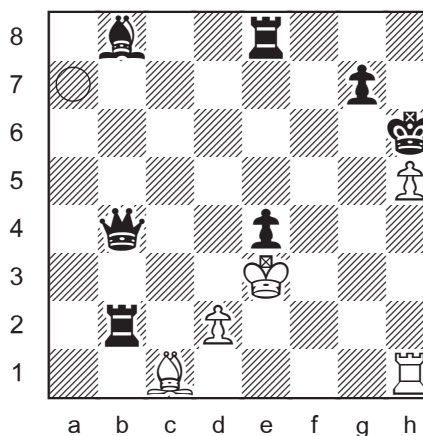
Voilà.

Retro 16

J. Coakley 2010
Winning Chess Puzzles For Kids Volume 2
version *ChessCafe.com 2013*

Last seven moves:

1. . . .   Bb8>a7+
2. d2-d4   e4xd3+ e.p.
3. Ke3xd3+   g7-g5
4. h5xg6+ e.p. Kh6xg6

Position seven moves ago

Two *en passant* captures and four vanishing pawns are the keys to unravelling this mystery.

The five moves before ...Kh6xg6 are exactly determined. Black's first move (...Bb8>a7) may or may not have been a capture.

Analysis from the puzzle position.
On h6, the black king was in double check from the rook on h1 and bishop on c1. That situation could only result from an *en passant* capture. So the last three moves had to be 3...g7-g5 4.h5xg6+ e.p. Kh6xg6.

With the black king on h6, a black pawn on g7, and a white pawn on h5, Black is in check from the bishop at c1. This check can only be explained by a discovery. It wasn't 3.Kd2>d3+ since the king would be in an impossible double check on d2. That leaves 3.Ke3>d3+.

On e3, the white king is in double check by the bishop at a7 and rook at e8. By now, it's probably obvious what happened: another *en passant* capture! 2.d2-d4 e4xd3+ e.p. 3.Ke3xd3+

One more step backward to go. With the white king on e3, a white pawn on d2, and a black pawn on e4, White is in check from the bishop at a7. The previous move had to be 1...Bb8>a7+.

The original version of this problem (2010) started with the black king on h6 and a white pawn on g6, asking for the last six moves. With the black king in check, it was not necessary to say whose turn it was.

A further "improvement" to this puzzle would be to set up the new position (pawnless with Kg6) on a board without notation. The solver is not told which direction the board is facing. They are only informed that Black just played their king to where it stands now from the dark square beside it on the edge of the board. "How is that possible? What were the last seven moves?"

The colour of the corner squares gives away the "horizontal" direction of the board (a1, h8 dark; a8, h1 light), but only the necessity of an *en passant* capture can determine which sides are White and Black.

With no pawns on the board, and without notation as a reference for direction, the *stump potential* for finding two *en passant* captures is very high.

The Case of the Bloodstained Chessboard

The police were baffled, so they called Harmonius Hound to the scene of the crime. The ace detective was often consulted by the authorities on cases involving chess. A blood trail from h6 to the black king on g6 was the only clue he needed to determine the last several moves of the game. Predictably and unfortunately, the chess moves had nothing to do with the crime.

Undaunted, Harmonius sniffed out some other clues, and solved the mystery later that afternoon. But he was most happy about the new chess puzzle that the case had provided. "Hey, Watson, try this one."

Until next time!