



THE PUZZLING SIDE OF CHESS

Jeff Coakley

ILLEGAL POSITIONS: GOOFING DOWN

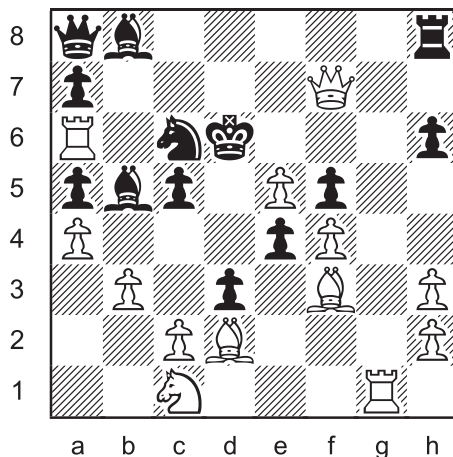
number 34

May 11, 2013

The positions in this column are intentionally illegal. Your task is to figure out why.

A chess position is *legal* if it can be reached in an actual game, starting from the initial array and following the rules of normal play. Don't worry if the moves seem strange. Legality has nothing to do with good strategy.

Who's the Goof? 15

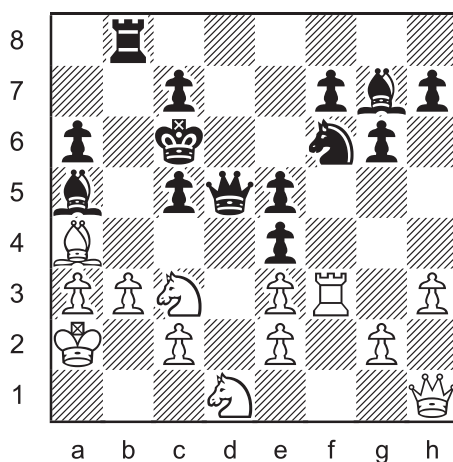


Why is this position illegal?

For problems 1-14, see columns 12, 19, 26 in the archives.



Who's the Goof? 16

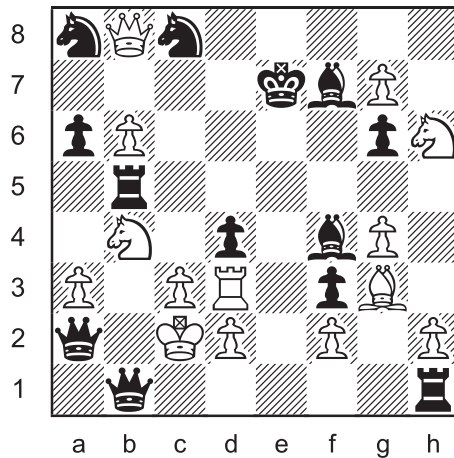


Why is this position illegal?

Who's the Goof? is a kind of negative *proof game*. The goal is to prove that a position could **not** happen in a real game. Solving the puzzle usually involves “backwards thinking” (retrograde analysis).

The *stipulation* is to explain why the position is illegal. Sometimes a single piece or tactical element can be identified as the “goof”. However, in more complicated cases, a logical argument is necessary to demonstrate a “legal contradiction” within the position.

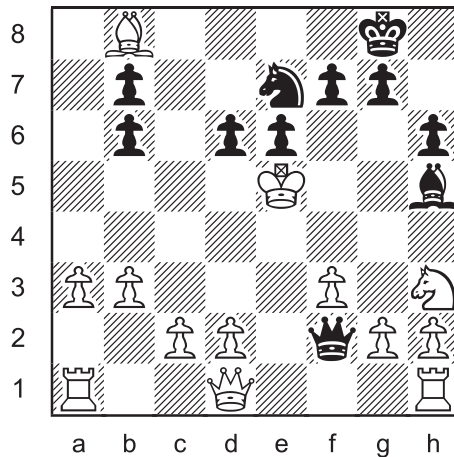
Who's the Goof? 17



Why is this position illegal?

As always, we saved the toughest for last. You may want to get a refreshment before you start this one.

Who's the Goof? 18



Why is this position illegal?

If anybody is wondering about the title of this column, here's the story.

An error-prone duck goes to his psychologist.

“Hey, Doc, I made a resolution to stop goofing up.”

“That’s excellent.”

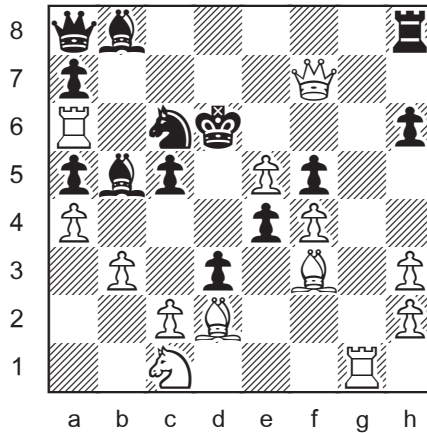
“Yea, now I goof down instead!?”

SOLUTIONS

All problems by J. Coakley, *ChessCafe.com* (2013).

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.

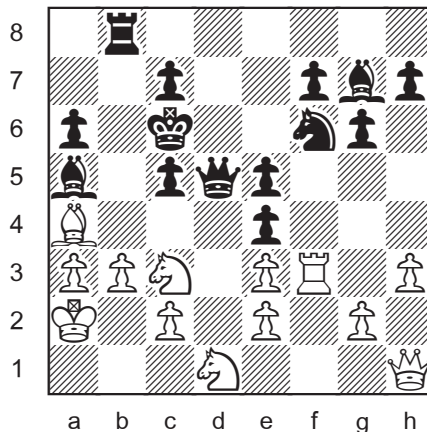
Who's the Goof? 15



White has no king.

A true King's Gambit!?

Who's the Goof? 16

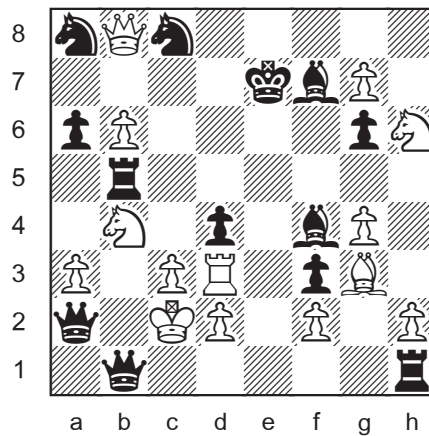


Black has two dark-square bishops.

Neither of them can be a promoted piece because Black still has eight pawns on the board.

Other features in the position are legal. For example, the white bishop on a4 is a pawn that promoted on c8 or e8.

Who's the Goof? 17



The position is illegal because White did not have a legal move on their last turn. This backwards dead-end is called *retro-stalemate*.

The white king is in double check by two black queens. The only way this could happen is if Black just promoted with $1\dots b2-b1=Q\#$. But consider the position before that move (black pawn on b2 and b1 vacant). What was White's previous move?

The last white move was not with the queen, rook, bishop, or knights. They would be checking the black king on any square they could have moved from. *It cannot be White's turn if Black is in check.*

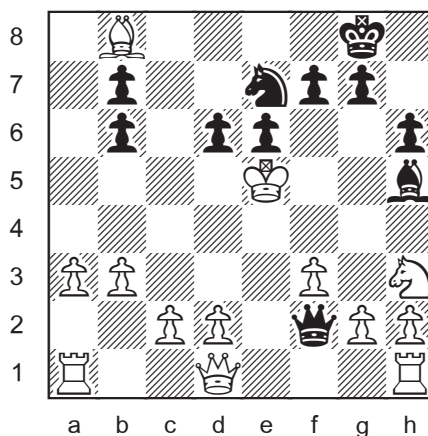
The last white move was not with a pawn. The d-, f-, and h-pawns are still on the 2nd rank. The a- and c-pawns had nowhere to move from ("zero reverse mobility"). The pawn on g7 could only come from f6, where it would be checking the black king. That leaves the pawns on b6 and g4.

Proving that the last white move was not $1.a5xb6$, $1.c5xb6$, or $1.h3xg4$ is trickier. Black is missing three pieces (ppp). White has doubled g-pawns. One of them started on the e-file and captured twice to reach the g-file. So only one black piece is available for capture elsewhere. Therefore, we can deduce that the other white pawns are all on their original file and never took anything, since it would require two captures to leave and return.

(A possible history for the white doubled pawns is that the e-pawn captured a knight on f6 and a pawn on g7. Black then promoted their e-pawn into a knight on e1, which later went to c8, and also played $\dots hxg6$.)

The last white move was not by the king. On b3, b1, and c1, he would be in an impossible double check. On c1, he would be in an impossible check from the black rook on h1, which had nowhere to move from to give check. The promotion ...g2xh1=R+ is not possible because it would require two captures by the black g- and h-pawns. White is only missing two pieces (RB), and one of them was captured on the b-file by a black pawn (now on b2) from the a- or c-file. The original black b-pawn could not have advanced directly to b2 because the white b-pawn never left the b-file.

Who's the Goof? 18



There is no single explanation for this double-edged goof.

The white king is in check. If the last move was the advance 1...d7-d6+, then the position is illegal because of the black bishop on h5. If the last move was the capture 1...c7xd6+, then the position is illegal because of the white bishop on b8.

Let's examine 1...d7-d6+ first. In the position before that move (with black pawns on b7 and d7), the bishop on h5 would have to be a promoted piece, since the original light-square bishop could not have moved from c8. For the black c-pawn to promote on the light squares d1 or f1 would require three captures. White is only missing three pieces (BNp) and one was captured on b6, so promotion on those squares is impossible.

Disproving a promotion on b1 by the black a-pawn or c-pawn requires more analysis. In order to escape from behind the white pawns, a promoted bishop on b1 would have to exit via a2 and across b3, which means that the promotion would need to take place before the white pawn moved to b3. But with a white pawn on b2, three captures

would be required by the promoting pawn (for example, ...a7-a5xb4-b3xa2xb1=B). That is impossible since there are only three missing white pieces and one was captured on b6.

Because the bishop on h5 is not the original light-square bishop and it cannot be a promoted pawn, the position before 1...d7-d6+ is illegal.

The capture 1...c7xd6+ meets a similar fate. In the position before that move (with black pawns on b6, b7, and c7), the white bishop on b8 would have to be a promoted piece, since the original dark-square bishop could never reach b8. To promote on b8, the white e-pawn would require five captures (e2xd3xc4xb5xa6-a7xb8=B). The first four captures are all on light squares.

Black is missing five pieces (RRBNp). But one of them is a dark-square bishop. It could not be taken along the light-square path from e2 to a6. It also could not be taken on b8 since there is no way for the bishop to get there. So a promotion on b8 is impossible.

Because the bishop on b8 is not the original dark-square bishop and it cannot be a promoted pawn, the position before 1...c7xd6+ is illegal.

And the grand conclusion: The puzzle position is illegal because it can only be reached by two possible moves, and the positions before those moves are both illegal.

Have you heard about the *Chess Cafe Puzzlers Cup*? Make up your own goofs and win prizes. Check it out.

Until next time!

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