



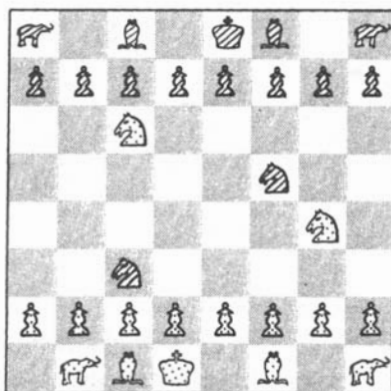
## THE MYSTERY OF THE INDIAN CHESS SET

MAY 4. **T**oday we had our first chess adventure, and an unusual one it was!

Aboard ship are two brothers, natives of India. They own a magnificent but curious chess set from their country. There is no difficulty recognizing the shapes of the pieces—the main difference being the rooks, which are in the form of battle elephants—but the colors are unusual. Instead of the usual black and white or red and white, the colors of this set are red and green.

Holmes and I came across the following position:

*Green-15*



*Red-15*

The players had temporarily abandoned the game and gone for a stroll on the ship. Several other chess enthusiasts

were looking at this unusual set and wondering which of the colors was really White and which Black; some conjectured one and some the other. Holmes looked at the position for a while and announced, "Gentlemen, it turns out to be quite unnecessary to guess about the matter; it is *deducible* which color is really White."

And so I leave the problem for the reader: Which color is really White?



## A QUESTION OF PROMOTION

MAY 18 (3:00 P.M.) **B**y now, Holmes and I are pretty well acquainted with virtually every chess player aboard. Today we came across the following game in progress:

*Black-14*



*White-15*

We knew both players somewhat. When we sat down, it took quite a while before the next move was made. Suddenly Holmes said, "What an interesting game, gentlemen. I perceive there is a promoted piece on the board."

"Quite true," replied White, "only how on earth did you know?"

"Elementary, Mr. Wilson—really elementary," said Holmes, who then explained the solution.

The solution is indeed rather elementary.

## SOLUTIONS

## THE MYSTERY OF THE INDIAN CHESS SET

Red is now in check, hence Green moved last. It remains to determine who moved first, which can be done by figuring whether an odd or even number of moves have been made.

The rook on b1 has made an odd number of moves; the other three rooks have each made an even number of moves (possibly zero). The Red knights have collectively made an odd number of moves, since they are on squares of the same color, and the Green knights have collectively made an even number of moves. The one king has made an even number of moves (possibly zero), and the other king an odd number. The bishops and pawns have never moved, and both queens were captured before they ever moved. So the grand totality is odd. Thus Green moved first. Hence Green is White and Red is Black.

## ANOTHER QUESTION OF LOCATION

The White pawns have captured six pieces and the Black pawns eight. Among these eight must be a White pawn unless a White pawn promoted. Now, the White pawns on a4, b4, and c4 came from c2, d2, and e2, so if a White pawn was captured by a Black pawn, it must have come from f2, g2, or h2, but this is impossible; even from f2, it would have to make at least two captures to get to the d-file or beyond, which is one too many. Therefore, a White pawn did promote.

Now, the promoting White pawn could make at most one capture. Hence it came from h2 and promoted on g8 (since the Black king's rook has never moved), making its capture on g8 (from h7). Thus all seven missing Black pieces are accounted for. Also the Black pawn from h7 could not have been the piece captured by the promoting White pawn from h2, nor could it make enough captures to be captured by any of the pawns on a4, b4, and c4. Therefore this Black pawn must have promoted too. It could not

## SOLUTIONS

If Black *can* castle, then his last move was not with the king or rook, hence was with the pawn, moreover from e7 to e5. Then White can take him *en passant*. If Black then castles, to avoid mate by pawn to g8, White mates by pawn to b7.

Fergusson's whole point was that *either* Black can't castle or White can capture *en passant*, and there is no way of knowing which. In either case there is a mate in two, but a different one in each case. Thus, without knowledge of the past history of the game, there is no first move of White which one can point to and say, "This, and only this, move leads to a mate in two."

### A QUESTION OF PROMOTION

The piece captured on c3 was not the Black queen's bishop, nor the pawn from h7, since it could not get to the c-file. Hence the pawn from h7 has promoted. It promoted on g1 after capturing exactly one piece—the White queen's bishop. The capture by the pawn on c3 had to occur before the bishop got out to be captured by the Black pawn, and so the capture on c3 occurred before the promotion. Thus the promoted Black piece is still on the board.

### SHADES OF THE PAST

This is as complex a retrograde analysis as I have ever seen; in comparison, the problem discussed in "You Really Can't, You Know" is child's play!

Black is missing a bishop (from c8, which travels on white squares) and a pawn from g7 or h7. The Black piece captured by the White pawn on a3 was not the bishop, nor the pawn (which could never have gotten to the a-file), hence the missing Black pawn has promoted. If the Black piece captured on a3 was an *original* officer, then one of the Black officers now on the board must be promoted. Suppose, on the other hand, that it was the *promoted* Black piece which was captured on a3. This means that the promotion took place prior to capture and implies that there is a promoted *White* piece on the board, which must now be proved. Let's suppose the promoted Black piece was captured on a3. The first thing to observe is that the pawn on g3 came from g2, because if it came from h2 it captured on g3, which is a black square. But the pawn on a3 also captured on a black square. This is impossible, since one of the two missing Black pieces is the bishop traveling on white squares. So the pawn on g3 really did come from g2.

The next point to observe is that the promoting Black pawn did not promote on h1, since White has just castled. One consequence of this is that the Black pawn on g6 really came from g7,

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