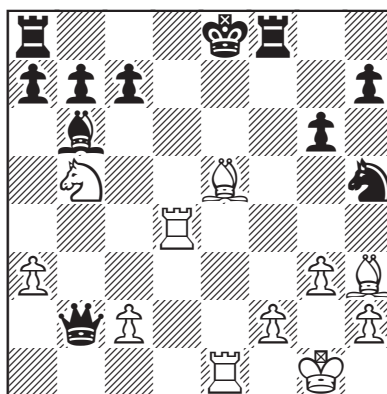## SERIES-MATES: Serious Action

number 245   March 26, 2025

They say that every action has an equal and opposite reaction. So what is the equal and opposite reaction to solving a chess problem? Perhaps these series-mates will provide some insight into the answer.
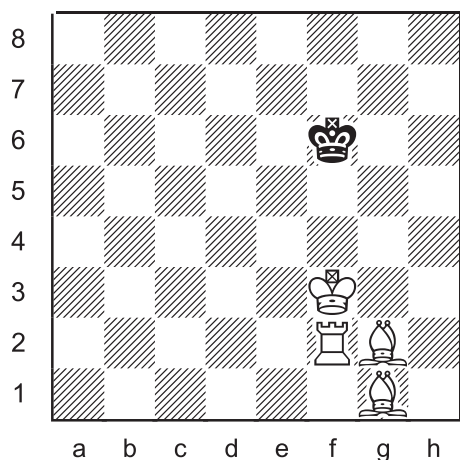

Double Whammy 75

White plays two moves in a row to mate Black.

The first move may not be check. Either move may be a capture.
Both moves may be with the same piece. Black does not get a turn.

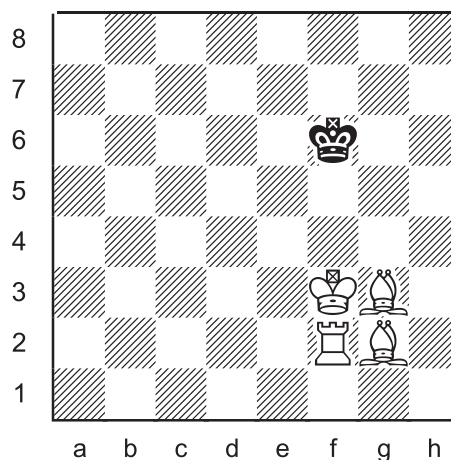Hopefully you'll have a positive reaction to these multi-wham triplets.

Multi-Wham 97

series-mate in 4
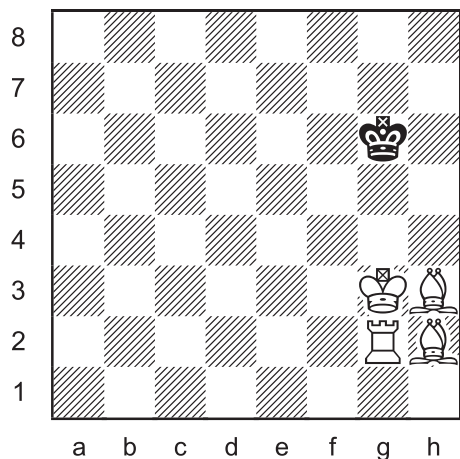White plays four moves
in a row to mate Black.

Multi-Wham 98

series-mate in 4
White plays four moves
in a row to mate Black.

Multi-Wham 99

series-mate in 5
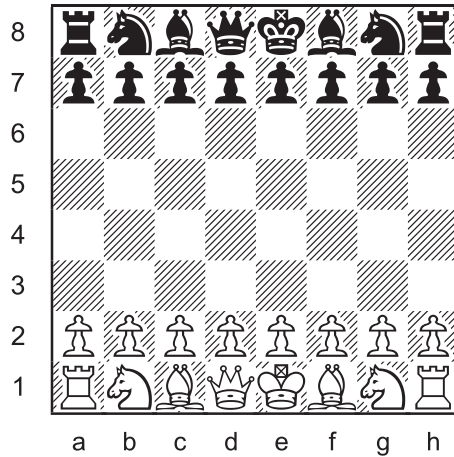White plays five moves
in a row to mate Black.

Only the final move may give check.
Captures are allowed. Black does not get a turn.
White may not place their own king in check,
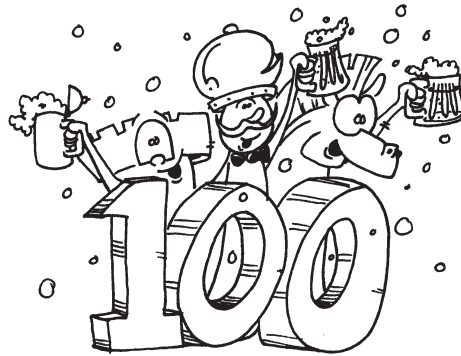*even if they get out of check on a subsequent turn.*

Multi-wham 100 has a special stipulation. All moves must be made by the same piece. It's an old problem posted on the internet a few months ago by IM David Shahinyan. Does anyone know who the composer is?
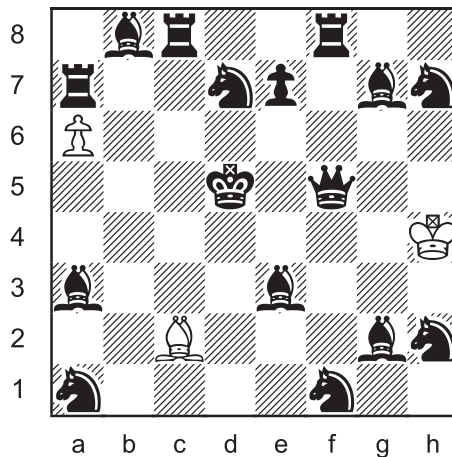
Multi-Wham 100

series-mate in 8
White plays eight moves in a row to mate Black.
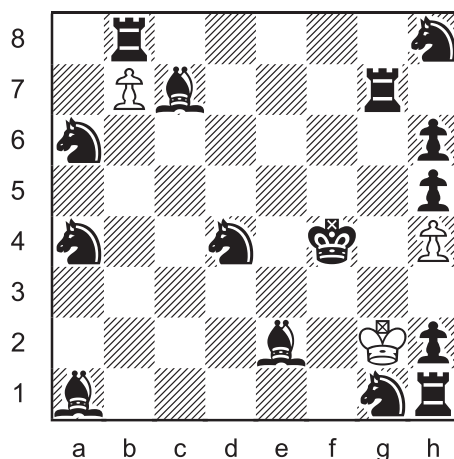Only one white piece may move.

Multi-Wham 101

series-mate in 42
White plays forty-two moves in a row to mate Black.

Our final puzzle is the longest but probably not the hardest problem in this column. Like many series-mates, the main task is navigating the king through a maze of defenders. Where will he end up this time?

Multi-Wham 102

series-mate in 51
White plays fifty-one moves in a row to mate Black.

The great English mathematician and physicist Isaac Newton (1643-1727) expounded his three laws of motion in the book *Philosophiæ Naturalis Principia Mathematica* in 1687, written in Latin as was the academic custom.

The third law stated: *Actioni contrariam semper et æqualem esse reactionem: sive corporum duorum actiones in se mutuo semper esse æquales et in partes contrarias dirigi*.
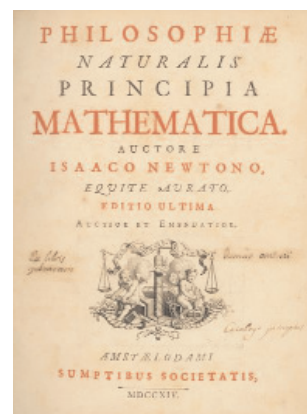
If you prefer an English translation: *To every action there is always an opposite and equal reaction; or, the actions of two bodies upon each other are always equal and opposite in direction*.

The law refers to the interaction of physical objects. It applies to the action of our bodies moving pieces on a chessboard or clicking a mouse, but not exactly to mental actions such as solving a puzzle. Unless we examine the firing of neurons within our brains. In that sense, everything we think, do, or decide is subject to the same laws of motion as the planets and stars.

> *"I can calculate the motion of heavenly bodies, but not the madness of people."*
> Isaac Newton

SOLUTIONS

All problems except multi-wham 100 are by J. Coakley, *Puzzling Side of Chess* (2025).

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.
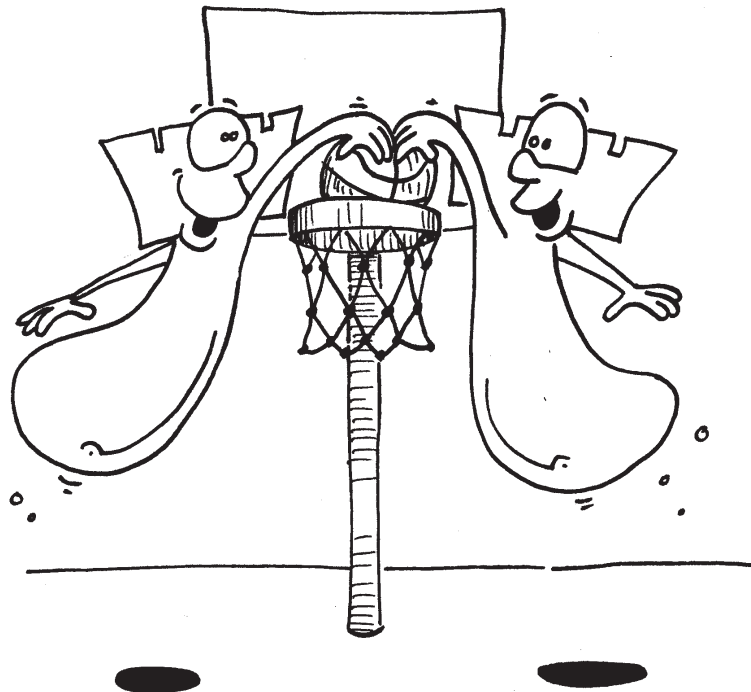
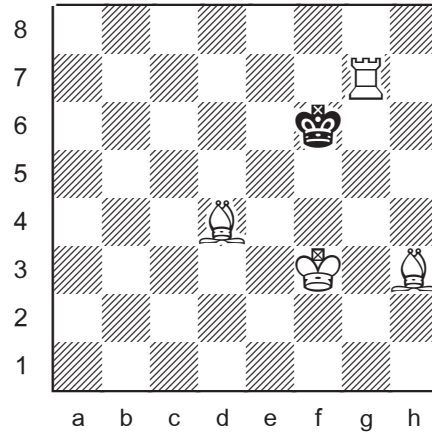*Archives.* Past columns are available in the *Puzzling Side* archives.
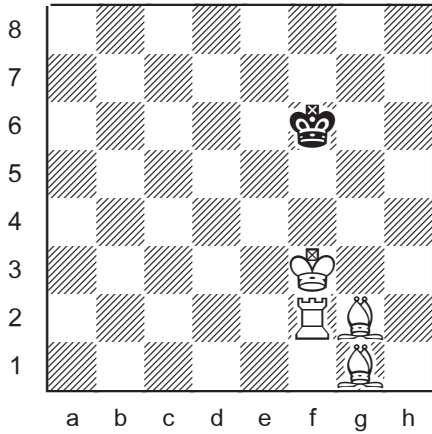
Double Whammy 75
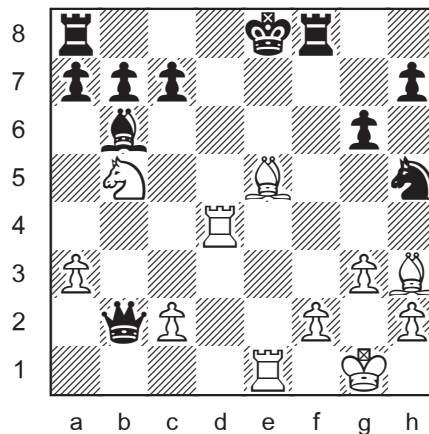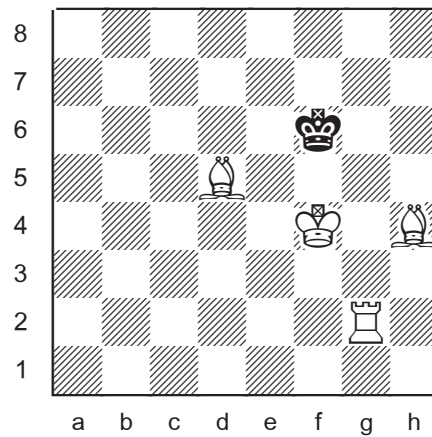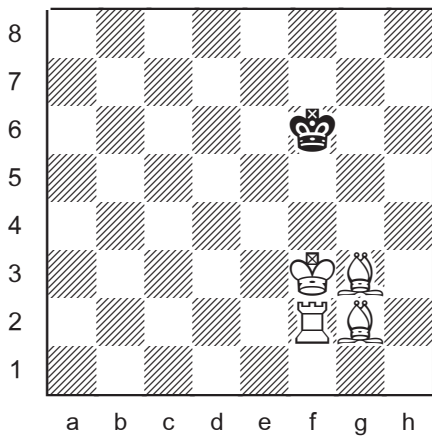

1.Rd7 2.Bd4#

The white pieces trade places on d4.

Multi-Wham 97

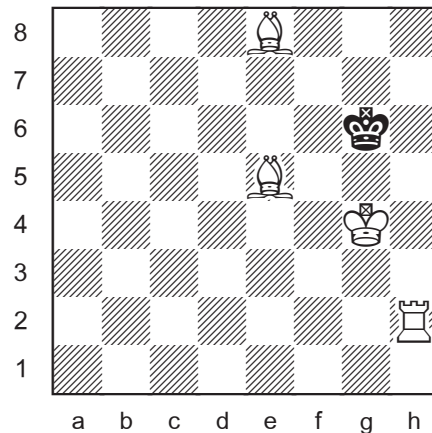series-mate in 4:
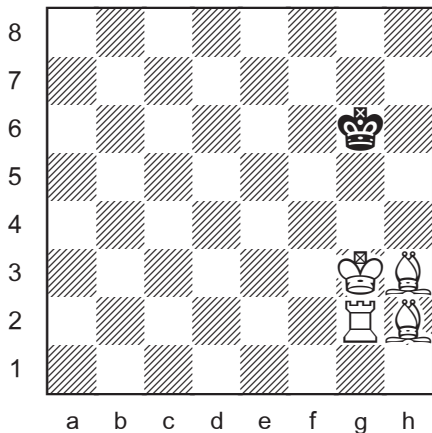1.Bh3 2.Rg2 3.Rg7 4.Bd4#

Multi-Wham 98

series-mate in 4
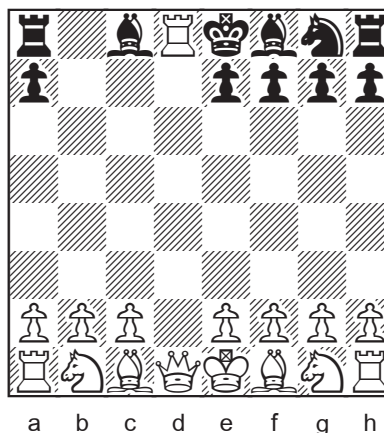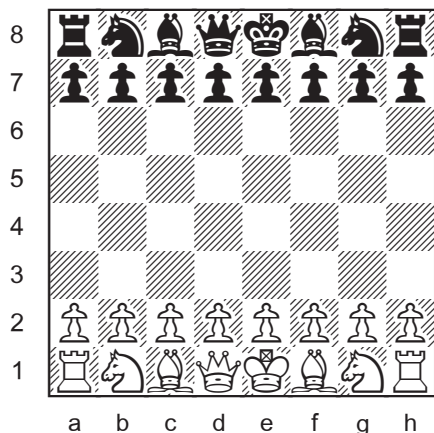1.Kf4 2.Bd5 3.Rg2 4.Bh4#

Multi-Wham 99

series-mate in 5
1.Bd7 2.Kg4 3.Be5 4.Rh2 5.Be8#
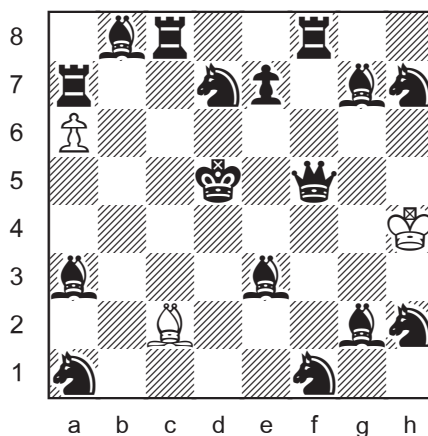
Multi-Wham 100

series-mate in 8
Only one white piece may move.

1.d4 2.d5 3.d6 4.dxc7 5.cxb8=R 6.Rxb7 7.Rxd7 8.Rxd8#

Armenian IM David Shahinyan, who recently posted this problem online, remembers someone showing it to him when he was young, but he does not know the source.

Multi-Wham 101

series-mate in 42

To promote the a-pawn, the white king must take the rook on a7. The rook is guarded by the bishops on b8 and e3. All three of those black pieces are on dark squares, so the white bishop cannot capture them.

However there are several obstacles in the king's way. Obviously the white bishop will have to capture the queen on f5. But there are two other situations that require the bishop's help. The bishop on b8 is defended by the <u>rook</u> on c8 which is defended by the <u>rook</u> on f8. The bishop on e3 is defended by the <u>knight</u> on f1 which is defended by the <u>knight</u> on h2. *A king cannot capture a piece that is protected by another piece of the same type*.

So the bishop's task is to capture the rook and knight on the light squares c8 and f1. After that is accomplished, the white king can handle everything else. It's hard to foresee at this point, but the bishop's place for the eventual mate is on f5. Therefore the bishop's final capture should be the queen. That determines the bishop's most economical route for the first six moves.

1.Bd3 2.Bxf1 3.Bb5 4.Bxd7 5.Bxc8 6.Bxf5
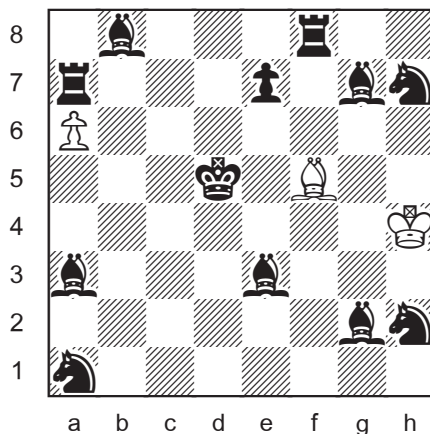
Now it's the white king's turn. The bishop on e3 is defended by the knight on h2 which is defended by the bishop on b8, so capturing the bishop on b8 is the next objective.

7.Kh5 8.Kg6 9.Kxh7 10.Kxg7 11.Kxf8 12.Ke8 13.Kd8 14.Kc8 15.Kxb8
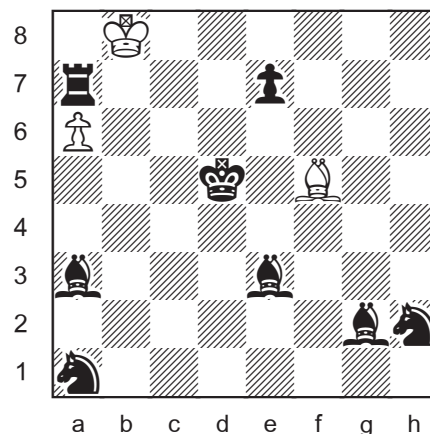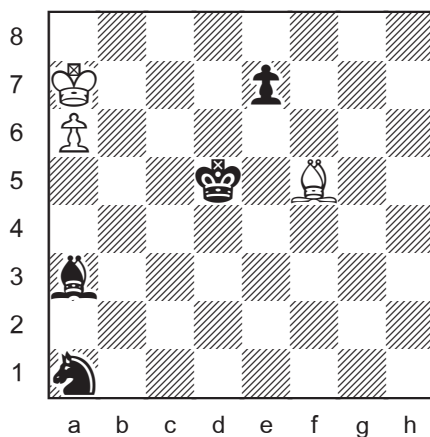

Having taken the bishop on b8, the king goes back for the bishop on e3.

16.Kc8 17.Kd8 18.Ke8 19.Kf7 20.Kg6 21.Kh5 22.Kh4 23.Kg3 24.Kxh2 25.Kxg2 26.Kf3 27.Kxe3
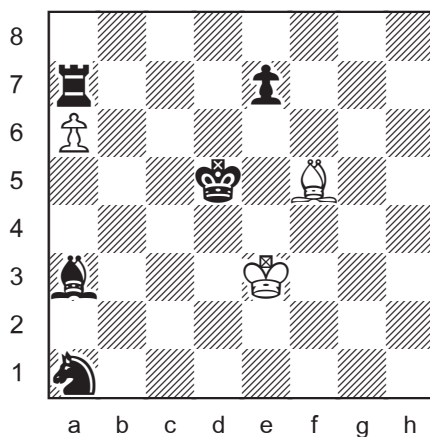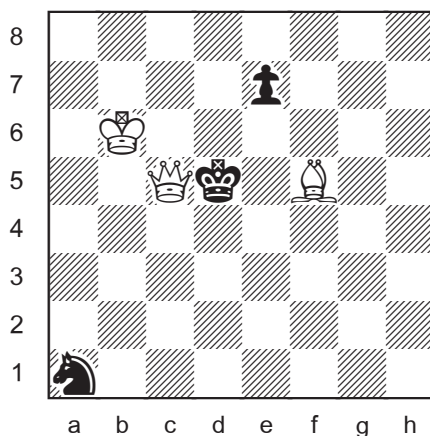
The black bishop and knight are blocking the queenside, so the king circles back around the kingside to take the black rook.

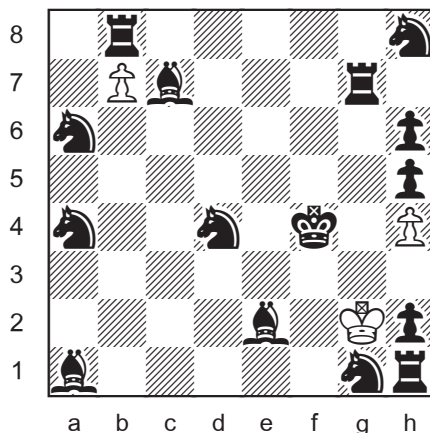28.Kf4 29.Kg5 30.Kg6 31.Kf7 32.Ke8 33.Kd8 4.Kc8 35.Kb8 36.Kxa7

Six moves to go.

37.Kb7 38.a7 39.a8=Q 40.Qxa3 41.Kb6 42.Qc5#

What is the equal and opposite reaction to checkmate?

Multi-Wham 102

series-mate in 51

To free either white pawn, the black bishop on e2 must be captured. The bishop defends both blockading black pieces. It directly defends the pawn on h5 and indirectly the rook on b8 by guarding the knight on a6 which guards the bishop on c7 which guards the rook. The bishop on c7 is also guarded by the <u>rook on g7</u>.
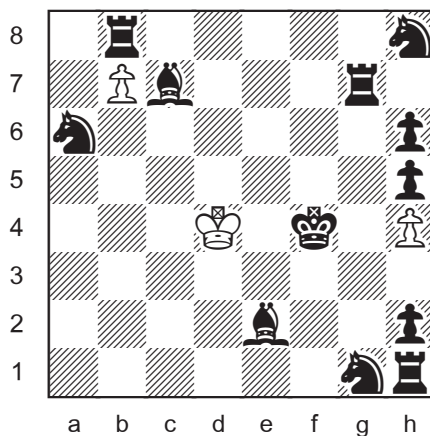
The bishop on e2 is guarded by the knights on d4 and g1. The knight on d4 is defended by the bishop on a1 and the knight on g1 by the pawn on h2 and <u>rook on g7</u>.
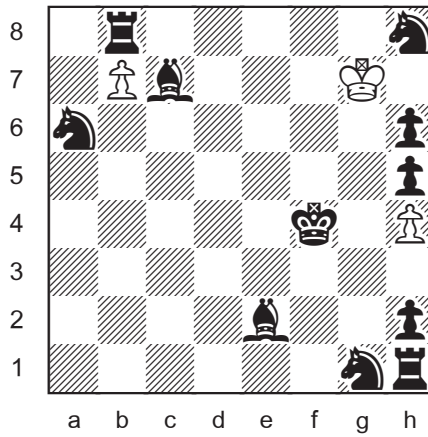
Therefore capturing the rook on g7 is the first objective.

1.Kf2   After *1.Kxh1?*, the king is trapped on the h-file.

The next 16 moves are more or less forced.

2.Ke1 3.Kd2 4.Kc1 5.Kb1 6.Kxa1 7.Ka2 8.Ka3 9.Kxa4 10.Ka3 11.Kb2 12.Kc3 13.Kxd4


14.Kd5 15.Ke6 16.Kf6 17.Kxg7

The next goal is to capture the knight on g1 and then the bishop on e2. But before going back around the board, the king must capture the pawn on h6. That pawn also blocks the advance of the white h-pawn and cannot be captured by a white queen because it would be check. Assuming the white b-pawn will promote to queen.
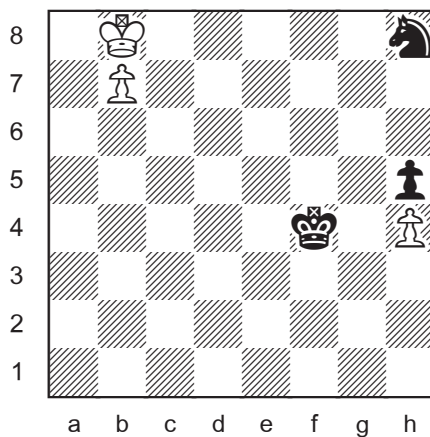
18.Kxh6 19.Kg7 20.Kf6 21.Ke6 22.Kd5 23.Kd4 24.Kc3 25.Kd2

26.Ke1 27.Kf2 28.Kg2 29.Kxh1 30.Kxh2 31.Kxg1 32.Kf2 33.Kxe2
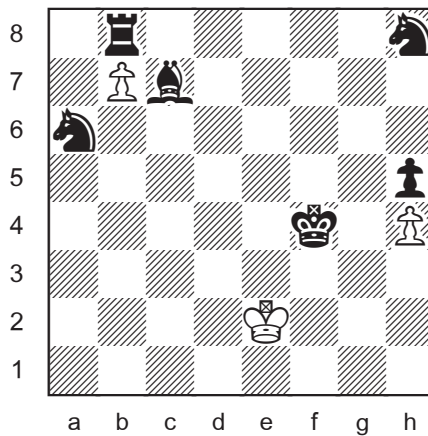
It's quicker now to promote the b-pawn than the h-pawn, so the white king proceeds to capture the rook on b8.

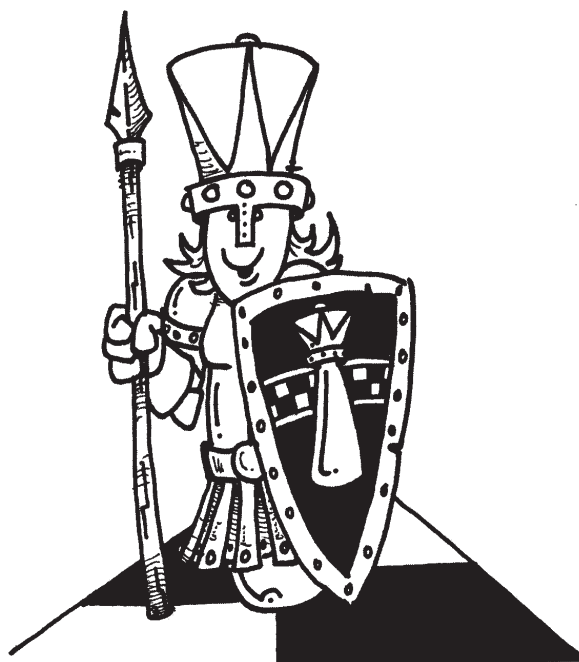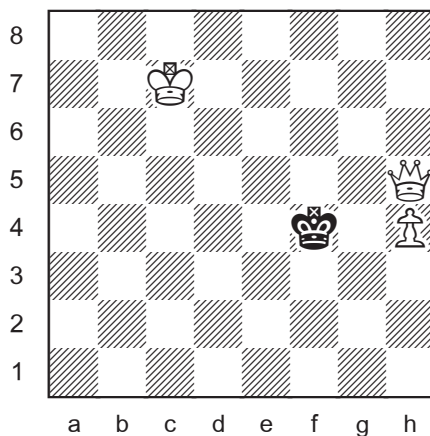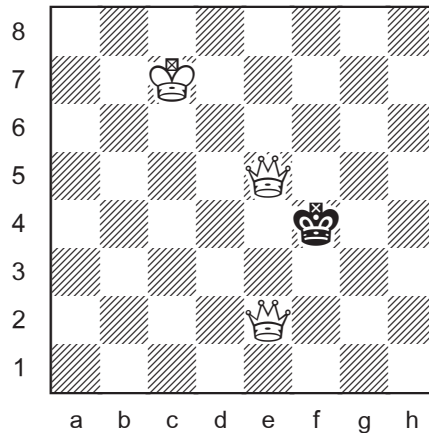34.Kd3 35.Kc4 36.Kb5 37.Kxa6 38.Kb5 39.Kc6 40.Kxc7 41.Kxb8
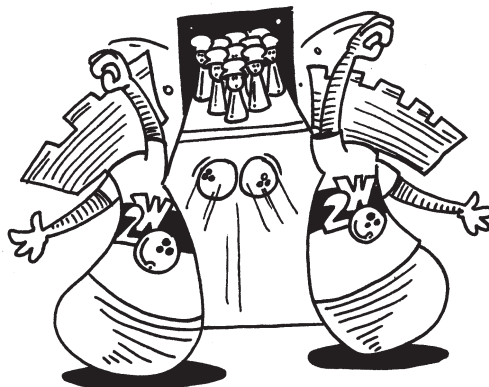
42.Kc7   Blocking the diagonal leading to the black king so that the pawn can promote to queen.

43.b8=Q 44.Qxh8 45.Qxh5   Mate in 6.

46.Qe2 47.h5 48.h6 49.h7 50.h8=Q 51.Qhe5#

As the inevitable reaction to the introduction of this column, we conclude with a few quotes by one of the most influential figures in modern science and mathematics: Isaac Newton, whose theory of gravitation was famously inspired by a falling apple.

Isaac Newton 1689

"What we know is a drop, what we don't know is an ocean."

"Truth is ever to be found in the simplicity, and not in the multiplicity and confusion of things."

"No great discovery was ever made without a bold guess."

"Live your life as an Exclamation rather than an Explanation."

Until next time!