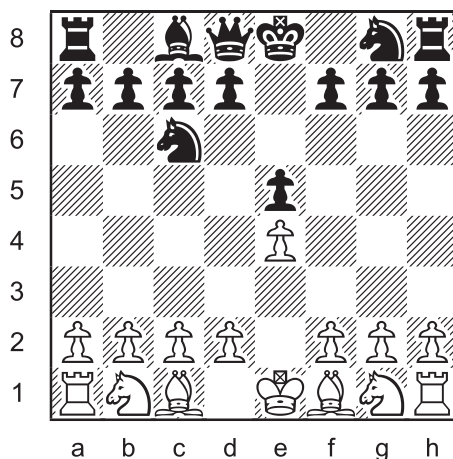## PROOF GAMES   Hounds of Deduction
number 187   February 29, 2019

Happy leap day, folks! Always nice to have an extra 24 hours before an end of February deadline. This column presents an assortment of proof games and a side theme of canine prowess. Let's match wits and whiffs with man's best friend.

Proof Game 88

This position, with White to play, was reached in a game after each player made exactly four moves. What were the moves?

The general aim of a proof game is to *prove* that a position is legal by showing that it could happen in an actual game. In most puzzles of this type, the goal is to reach the given position in a precise number of moves. No sooner, no later. The first two problems in this column are proof games in 4.0 which means four moves by each side.

The positions may be comical, and the strategy far from optimal, but the moves are legal.

Proof Game 89
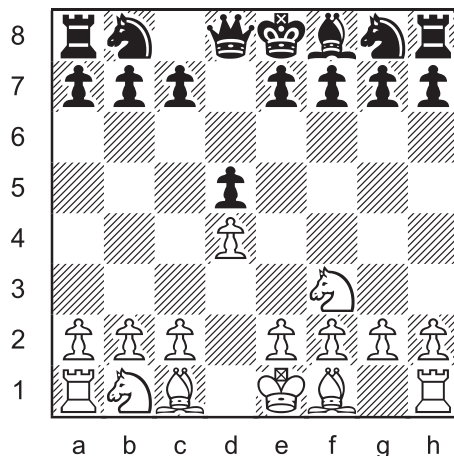
This position was reached after
Black's fourth turn. What were the moves?

The Nose Knows

Dogs live in a world of smells. Their noses have 300 million scent receptors, compared to 5 million in people. The olfactory cortex of their brain is 40 times larger. It is estimated that the sense of smell in some hounds is 10,000 times greater than in humans.

The next puzzle is a *synthetic game*. Similar to a proof game, but instead of finding the move sequence that leads to a given position, the task is to compose a game that ends with a particular move.

Synthetic Game 45
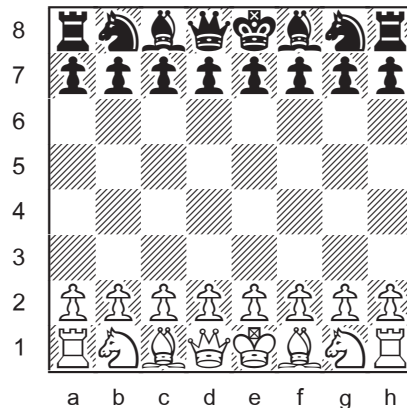
Compose a game that ends with the move **8.Kh8**
For an extra challenge, no captures are allowed.

Wrong End of the Sniff

A dog's nose is a marvelous thing, much more complex than a human snout. It has two air passages, one for breathing, one for smelling, which greatly enhances their ability to analyse scents. The nostrils work independently of each other, aiding in directional perception. They also exhale through slits on the sides of their nose, which acts to draw in more odors.

Longer Proof Game 77 (5.0 moves)
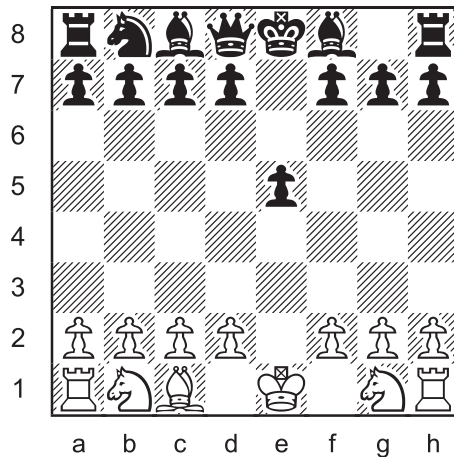
This position was reached after
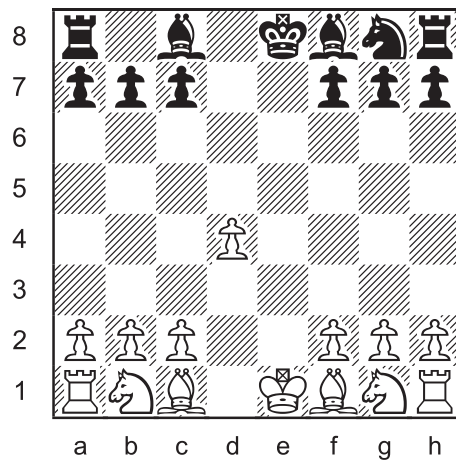Black's <u>fifth</u> turn. What were the moves?

In matters of the nose, dogs have something else that humans do not: a functional *vomeronasal organ.* Located in the nasal cavity above the roof of the mouth, this organ detects chemical particles given off by other animals, including pheromones from potential mates. Evidently, it even assists them in identifying human emotions.

In a sense, they can smell feelings!

The final PG has six missing pieces. A lot of action in a short time and a hard trail to track.

Longer Proof Game 78   (6.0 moves)

This position was reached after
Black's <u>sixth</u> turn. What were the moves?

Born to Smell

Their wet noses help dogs to collect scents. So do the droopy ears and facial skin on hounds. Artificial selection at its weirdest.

SOLUTIONS

All problems by J. Coakley, *Puzzling Side of Chess* (2020).

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.
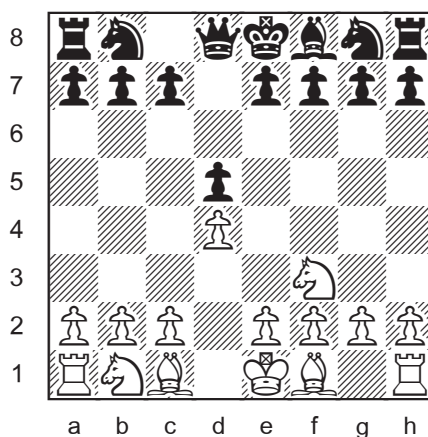
Proof Game 88
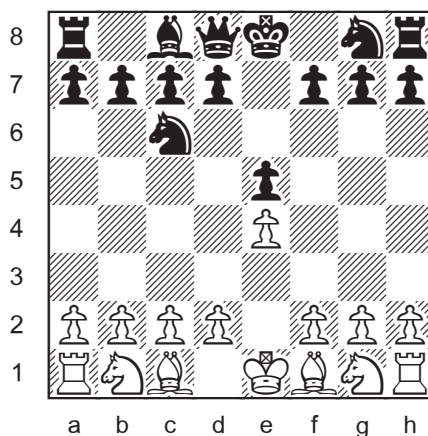
1.e4 e6 2.Qh5 Bc5 3.Qxc5 e5 4.Qc6 Nxc6

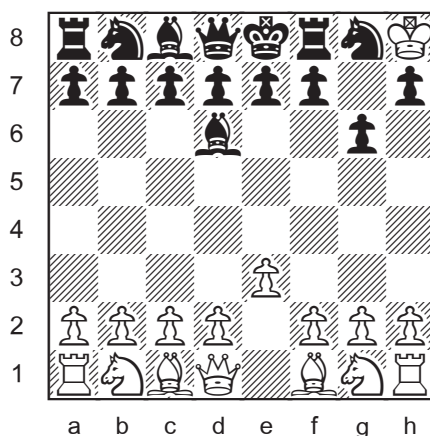Black pawn tempo, closing 5th rank after queen crosses.

Proof Game 89

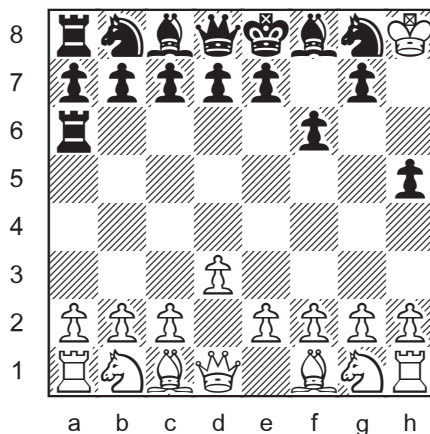

1.d4 d6 2.Qd3 Bg4 3.Qf3 Bxf3 4.Nxf3 d5

Another pawn tempo, another vanishing queen.

Synthetic Game 45

1.e3 g6 2.Ke2 Bg7 3.Kf3 Be5 4.Kg4 Bd6
5.Kg5 Nf6 6.Kh6 Rf8 7.Kg7 Ng8 8.Kh8

There are many solutions and at least four basic schemes for Black. The simplest approach, discovered with François Labelle's program *Jacobi,* is shown below.
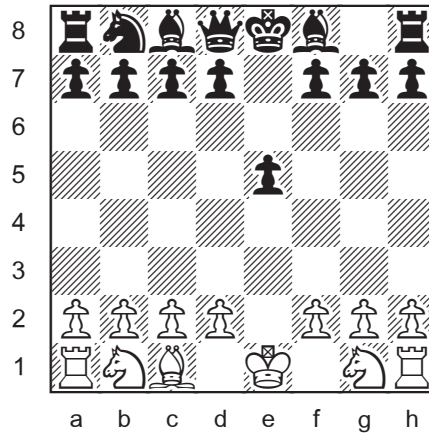

1.e3 h5 2.Ke2 Rh6 3.Kd3 Rb6 4.Ke4 f6
5.Kf5 Ra6 6.Kg6 Rb6 7.Kh7 Ra6 8.Kh8

Others possibilities are:

1.e3 h6 2.Ke2 h5 3.Kd3 h4 4.Ke4 f6 5.Kf5 Rh5+ 6.Kg6 Re5 7.Kh7 Re4 8.Kh8
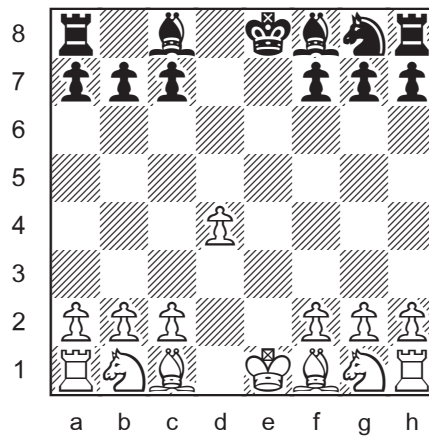
1.e3 h6 2.Ke2 h5 3.Kd3 g5 4.Ke4 f6 5.Kf5 Nh6+ 6.Kg6 Rg8+ 7.Kh7 Rg6 8.Kh8
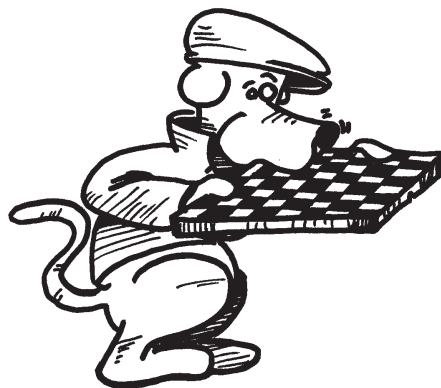
Longer Proof Game 77 (5.0 moves)

1.e4 Nf6 2.Ba6 Nxa6 3.Qf3 Nb8 4.Qxf6 exf6 5.e5 fxe5

Switchback black knight and cross-capture e-pawn.

Longer Proof Game 78 (6.0 moves)

1.d4 e5 2.dxe5 Nf6 3.Qxd7+ Nbxd7 4.exf6 Nxf6 5.e3 Qd4 6.exd4 Ng8

Impostor black knight. Both queens missing in action.

Until next time!