

THE PUZZLING SIDE OF CHESS

Jeff Coakley

SMORGASBORD XXXVIII The Far Side

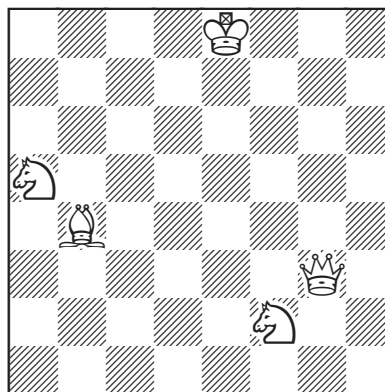
number 236

June 24, 2024

Summertime on the cafe patio. Perfect weather for an evening under the stars. This month's menu features six new puzzles with a side order of lunar trivia.



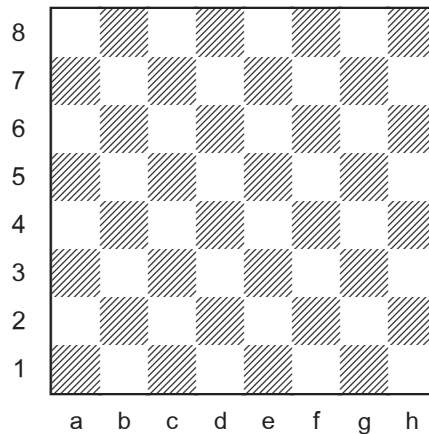
Triple Loyd 92



Place the black king on the board so that:

- Black is in checkmate.
- Black is in stalemate.
- White has mate in 1.

KQRBNP Move Maximizer & Move Minimizer



Place a king, queen, rook, bishop, knight, and pawn on the board so that:

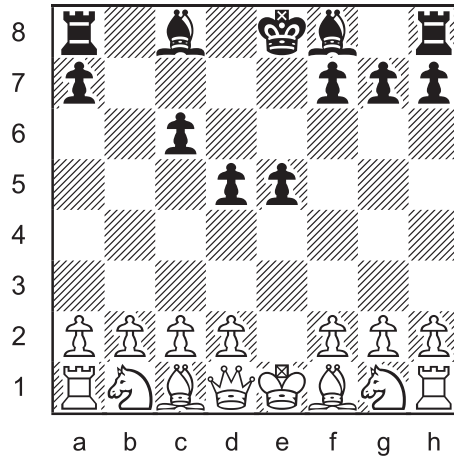
- A. they have the most total moves.
- B. they have the fewest total moves.



Like the planets and the stars, the Moon rotates on its axis. So it may seem strange that the same side of the Moon always faces the Earth. The situation exists because one lunar rotation takes exactly the same time as one lunar orbit around the Earth. And that is no coincidence. *Synchronised rotation* is a common occurrence among celestial bodies.

Billions of years ago, the Moon spun much faster. But the gravitational pull of the Earth gradually slowed its rotation to an apparent standstill, a process known as *tidal locking*.

Longer Proof Game 126 (6.0 moves)



This position was each reached after Black's sixth turn. What were the moves?

It was not until 1959 that photographs from a Russian spacecraft provided humans with our first glimpse of the far side of the Moon.

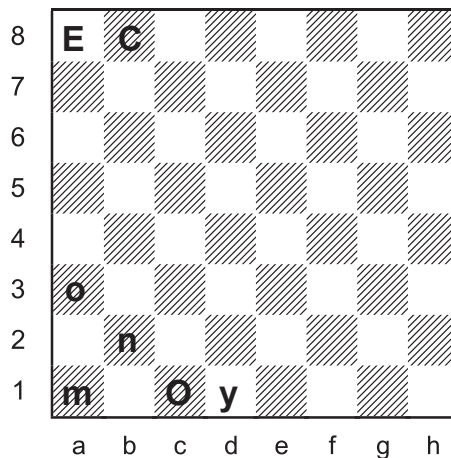


The far side of the Moon is sometimes mistakenly called the dark side. This is partially attributable to the popularity of Pink Floyd's classic album *The Dark Side of the Moon*. But as we know, the entire lunar surface, near and far, receives an equal amount of sunshine.

In fact, the near side of the Moon is actually darker than the far side. The near side has many large dark maria (seas), which were created when molten lava flowed into impact craters. Whereas the highlands on the far side are made from a light-coloured mineral called feldspar.

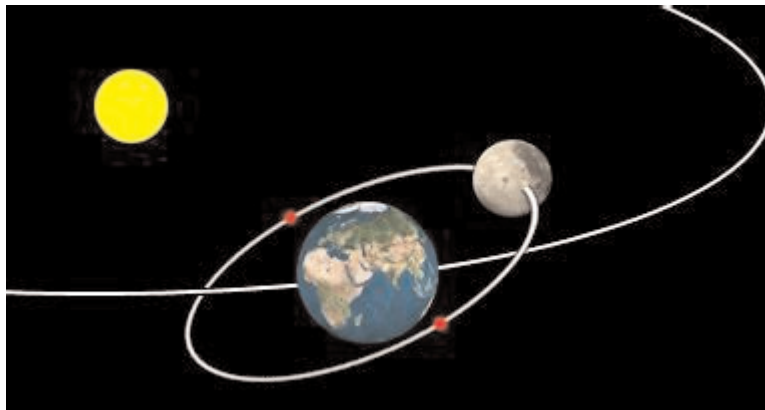
Rebus 114

"economy"



White to move

Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and, if possible, the last move.

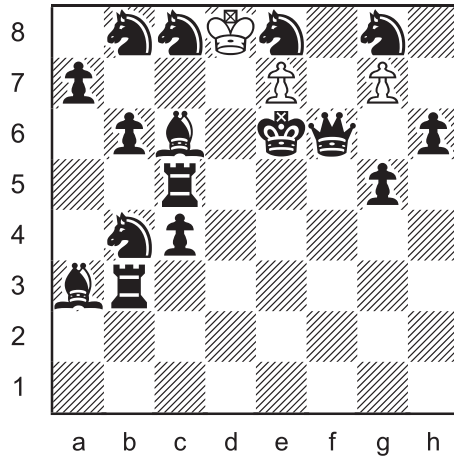


Relative to the stars, the Moon circles the Earth every 27 days, 7 hours, 43 minutes, 11.5 seconds. But its speed is not constant. The Moon's orbit is elliptical, so the speed varies according to its distance from Earth. At perigee (360,000 km), it is travelling 3900 km/h. At apogee (405,000 km), a mere 3500 km/h. An average of 3700 km/h (2300 mph).

From Earth, the Moon appears 14% larger and 30% brighter at perigee ("supermoon") than at apogee ("micromoon"). This difference is distinct from the optical illusion of the Moon looking larger near the horizon than when it is higher in the sky, a phenomenon not fully understood.

The orbital plane of the Moon is tilted 5 degrees to the orbital plane of the Earth around the Sun. If they were in the same plane, eclipses would occur much more frequently.

Multi-Wham 89



series-mate in 25

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



near side



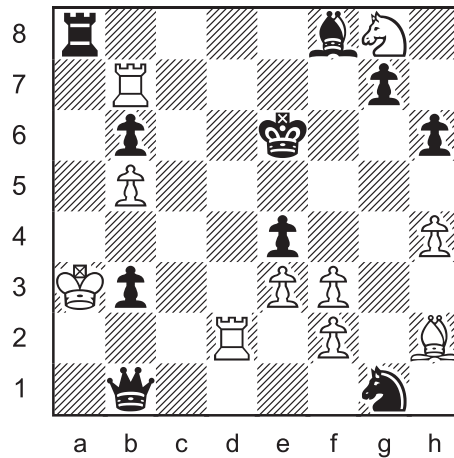
far side

Tidal locking works in both directions. In the same way that the Earth slowed the rotation of the Moon, the gravitational force of the Moon is slowing the Earth's rotation. Approximately 15 microseconds per year. $1 \mu\text{sec} = .000001$ second. Consequently, by the year 70,000, each day on Earth will last one second longer.

Theoretically, in 50 billion years, our planet would also be tidally locked, with the same side of Earth always facing the Moon. But the Sun will stop shining long before then.

The next position is illegal. It cannot be reached in an actual game. The solution to this kind of puzzle is a logical argument that proves a contradiction. Identifying a particular piece as the “goof” is not usually possible. But normally there is one feature of the position that underlies any explanation of illegality.

Who's the Goof? 41



Why is this position illegal?



Parts of the Moon visible from Earth

As viewed from Earth, there is a slight wobble in the Moon's orbit due to variation in its orbital speed and the tilt of its orbital plane. This rocking motion, called *libration*, allows us to see more than our usual half of the Moon. At different times in the year, areas normally hidden around the edges become visible. Only 50% can be seen at any given moment, but a total of 59% of the Moon's surface is visible from Earth at one time or another.

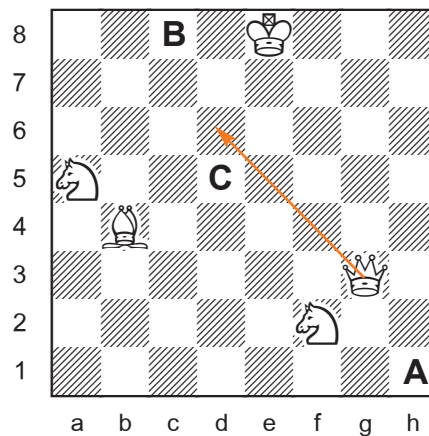
SOLUTIONS

All problems by J. Coakley, *Puzzling Side of Chess* (2024). Rebus 114 is a joint composition with Andrey Frokin.

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.

Triple Loyd 92

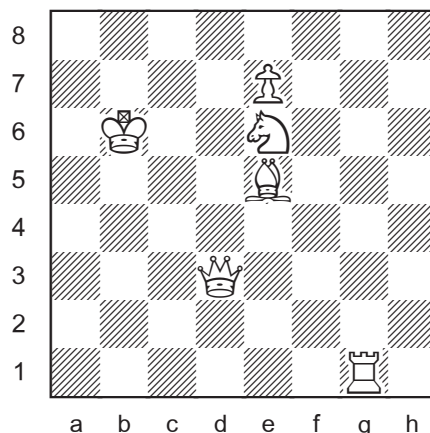


- A. Kh1#
- B. Kc8=
- C. Kd5 (Qd6#)

The most common conclusion in chess: Queen mates King.



KQRBNP Move Maximizer



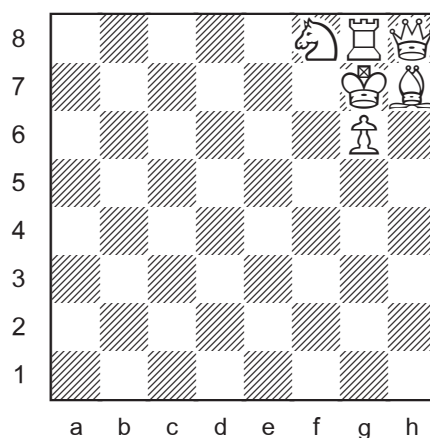
72 moves

(8K, 25Q, 14R, 13B, 8N, 4P)

There are many solutions. The pawn has a choice of 4 promotions.

Only the queen has less moves than her theoretical maximum. To achieve their maximum, both the queen (27) and bishop (13) must stand on one of the four central squares. But if both are in the centre, the bishop blocks the queen. Also, if the queen is in the centre, the knight cannot be placed so that they both have their maximum (27,8).

KQRBNP Move Minimizer

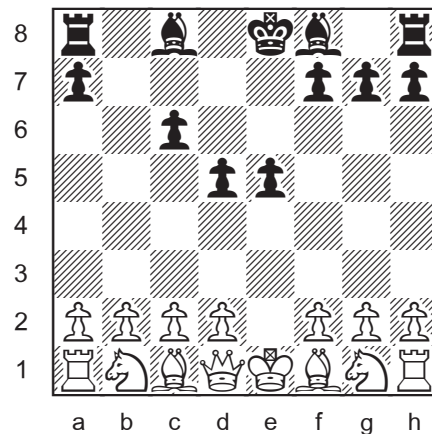


5 moves

(3K, 0Q, 0R, 0B, 2N, 0P)

This pattern is probably unique. Here or reflected to the queenside.

Longer Proof Game 126 (6.0 moves)



1.e4 d5 2.e5 Qd6 3.exd6 e5 4.dxc7 Ne7 5.cxb8=N Nc6 6.Nxc6 bxc6
Excelsior white pawn knighted for bravery.



The Dark Side of the Moon was released by Pink Floyd in 1973. Band members at the time were Roger Waters, David Gilmour, Nick Mason, and Richard Wright. The album, recorded at Abbey Road studios, has sales over 50 million.

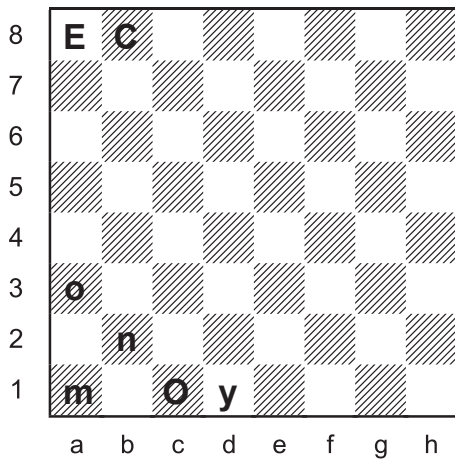
The track Brain Damage, an allusion to former band leader Syd Barrett, includes the lyric "If the band you're in starts playing different tunes, I'll see you on the dark side of the moon."

The last song, titled Eclipse, closes with the spoken line, "There is no dark side of the moon really. Matter of fact, it's all dark."

Rebus 114

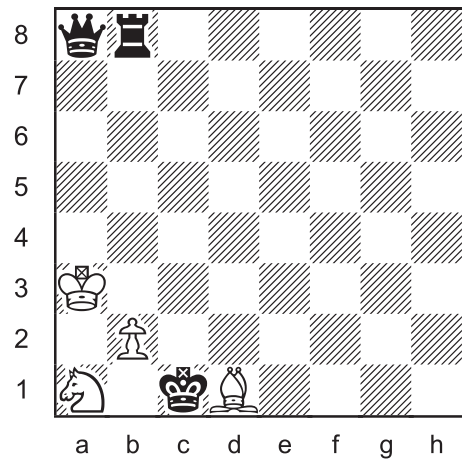
Andrey Frolkin & Jeff Coakley

“economy”



white to move

E = queen
 C = rook
 O = king
 N = pawn
 M = knight
 Y = bishop
 caps = black
 last move:
 1...Q>a8+



The stipulation “white to move” means that Black cannot be in check.

O = Letter with one uppercase, one lowercase.

N = Only letter not on 1st or 8th rank.

caps = black If caps = white

Check (black pawn b2).

MY ≠ () Impossible double check (a1 or d1).

E ≠ () Both kings in check (a8).

Queen and rook cannot both be assigned.

So caps ≠ white

MY = () MY ≠ () Black king in check (a1 or d1). Impossible with White to move.

M = M ≠ A white bishop cannot be on a1 with a white pawn on b2.

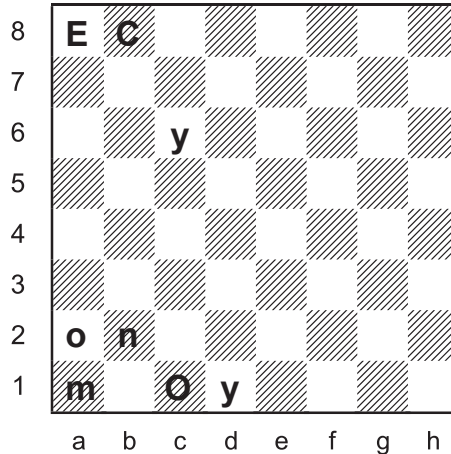
Y = **E =** E ≠ Impossible check (a8).

C =

Last move: 1.Q>a8+ This move may or may not have been a capture.
 The departure square is unknown.

The stipulation “white to move” can be eliminated from this rebus with the addition of one more piece. See next page.

Rebus 114b



O =

Letter with one uppercase, one lowercase.

N =

Only letter not on 1st or 8th rank.

caps = black

If caps = white Check (black pawn b2).

MY ≠ () Impossible multiple checks (a1 or d1/c6).

E ≠ () Both kings in check (a8).

Queen and rook cannot both be assigned.

So caps ≠ white

MY = ()

M ≠ () Impossible check (a1).

Y ≠ () Impossible double check (c6 d1).

M =

M ≠ () A white bishop cannot be on a1 with a white pawn on b2.

Y =

E =

E ≠ () Impossible check (a8).

C =

Last move: 1.Qb7>a8+ This may or may not have been a capture.

This problem ties the record for fewest pieces (8) in a rebus with six letters. See *ChessProblems.ca Bulletin 11*, April 2017.

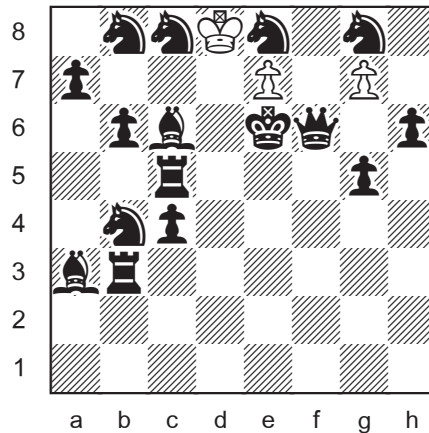
Living on the Moon

One day on the Moon, from sunrise to sunrise, lasts one Earth month.

Earth is not visible from the far side of the Moon. Looking from the near side, the Earth would appear to be stationary, always at the same place in the sky. From the lunar equator, it would be directly overhead.

The Earth does not move through the lunar sky, but its daily rotation is visible.

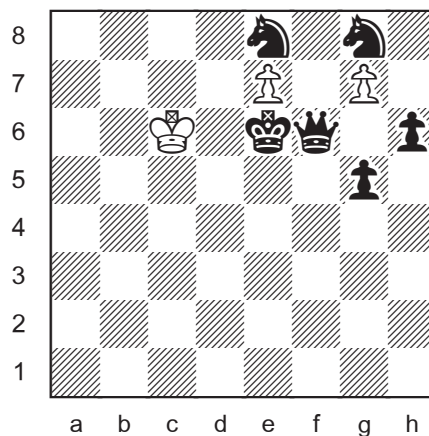
Multi-Wham 89



series-mate in 25

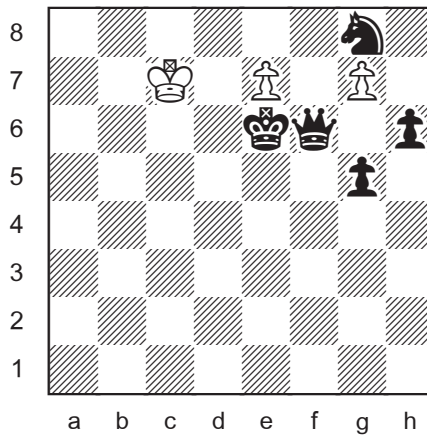
The white king has a lot of work to do before he can free his e-pawn by capturing the knight on e8. That knight is guarded by the bishop on c6 which in turn is guarded by the rook on c5 and knights on b4 and b8. The chain of defence extends further to the bishop on a3 and rook on b3 which protect the knight on b4. To make a long story short, the white king must capture all the queenside pieces. His path of destruction offers no alternative routes.

1.Kxc8 2.Kxb8 3.Kxa7 4.Kxb6 5.Kxc5 6.Kxc4 7.Kxb3 8.Kxa3
 9.Kxb4 10.Kc5 11.Kxc6 Like Pac-Man, the king gobbles
 everything along his way.



The next few moves are also easy to find. The king takes the knight on e8, then gets out of the way on c7. Going to d8 is not far enough as the pawn would be pinned by the black queen.

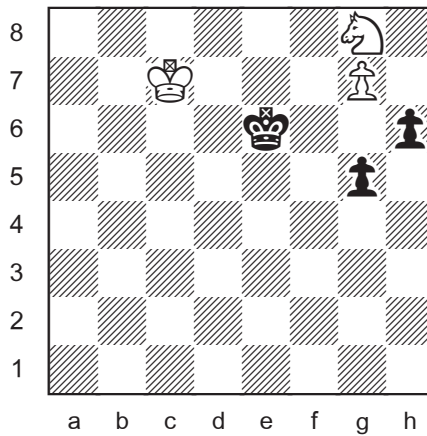
12.Kb7 13.Kc8 14.Kd8 15.Kxe8 16.Kd8 17.Kc7



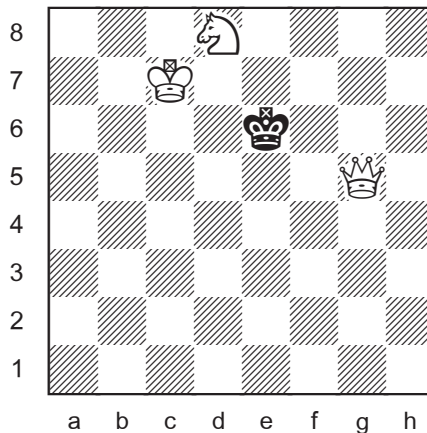
In a sense, the real problem starts here.

18.e8=N Promoting to queen or rook would give check. A bishop would not be able to capture the knight on g8.

19.Nxf6 20.Nxg8 Now the knight goes to f7 so that the g-pawn can promote to queen.

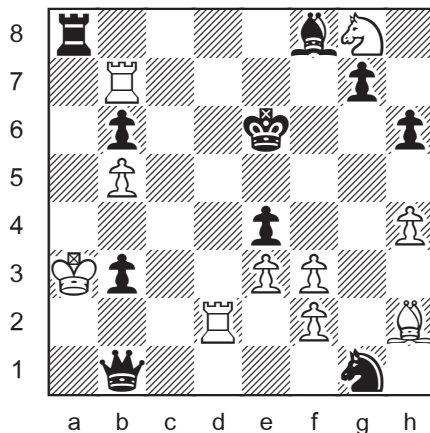


21.Nxh6 22.Nf7 23.g8=Q 24.Qxg5 25.Nd8#



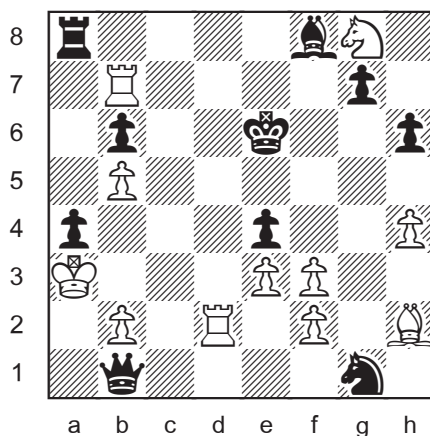
Ideal mate with king, queen, and knight.

Who's the Goof? 41



The position is illegal because of an impossible check six moves ago by the white bishop on h2.

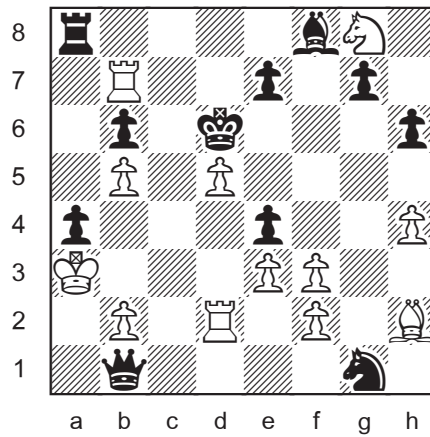
The white king is in double check by the rook on a8 and bishop on f8. This could only occur by means of an *en passant* capture. So the last two moves were -1...a4xb3 e.p.# -2.b2-b4/



The check by the black bishop on f8 can only be explained by the discovered check -2...Kd6>e6+. Before that move, the black king on d6 was in double check by the rook on e2 and bishop on h2. Another case of *en passant*. The previous three moves had to be -2...Kd6xe6+ -3.d5xe6 e.p.++ e7-e5. Diagram next page,

The Far Side is a comic strip by Gary Larson. The title has nothing to do with the Moon, but rather the cartoonist's unconventional humour and absurd perspectives of life on Earth.

Check out www.thefarside.com for your daily dose of laughs!



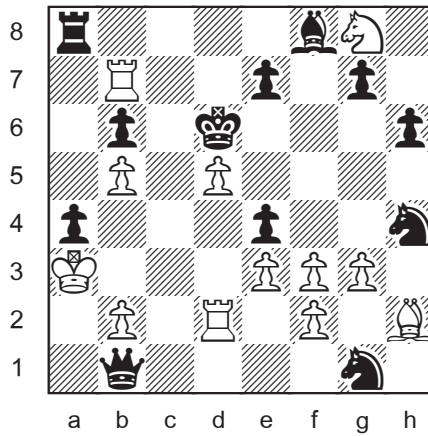
In case you find backward notation confusing, the moves going forward from this position are 1...e5 2.dxe6 e.p.++ Kxd6+ 3.b4 axb3 e.p.#.

The black king is in an impossible check by the bishop on h2.

It looks as if the last move could have been a discovered check by the pawn capture g3xh4+. However, that move is impossible because there are not enough missing black pieces to account for all of the captures made by white pawns. The diagram on the next page shows the position before g3xh4+ with a black knight on h4.



Nearest Side of the Moon



position before g3xh4+

Consider the white pawn on f3. If it captured earlier from g2, then it is impossible for a white bishop to be on h2. So the pawn on f3 captured from e2. Which means that the pawn on e3 captured from d2 and that the pawn on d5 captured from the c-file. White also has doubled pawns on the b-file. Thus, the white pawn formation required **4 captures** (axb, cxd, dx e, exf). Black is missing 4 pieces. However, one of them is the rook from h8. With a black bishop on f8 and pawns on g7 h6, that rook could not escape to be captured by a white pawn. Therefore, the capture g3xh4+ is impossible and the position is illegal.

So who is the goof? As often happens, it could be anybody. The puzzle position can be legalised by shifting *any single piece* to a different square. But let's lay the blame on the white bishop.



Until next time!

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