

THE PUZZLING SIDE OF CHESS

Number 194 October 6, 2020

A MULTITUDE OF MULTIAMBIGUITY

Jeff Coakley & Andrey Frokin

This article presents nine rebuses with a special stipulation called “multiambiguity”. It expands the concept of *ambiguity*, as described in column 192, by increasing the number of different pieces that can be represented by the same letter.

In a basic ambiguity rebus, letters can stand for one or two pieces. See our articles in the *ChessProblems.ca Bulletin* (issues 17 & 18) for a selection of 15 problems.

With multiambiguity, there is no restriction on how many pieces can be represented by the same letter. For example, in a rebus lettered ‘FUN’, maybe F is king/queen/pawn and U is rook/bishop. Then N has to be knight. As in the basic format, a piece-type cannot be represented by two different letters. If F is pawn, then U and N cannot be pawn.

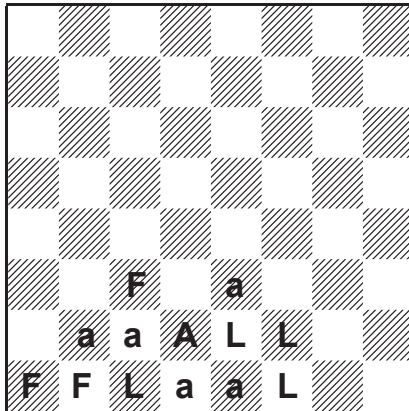


Even the simplest rebuses of this type are quite complex. Solvers will find their powers of deduction pushed to the limit. We hope you enjoy the challenge.

A strange summer behind us, it's time to embrace the fall.

Rebus 52

"fall"



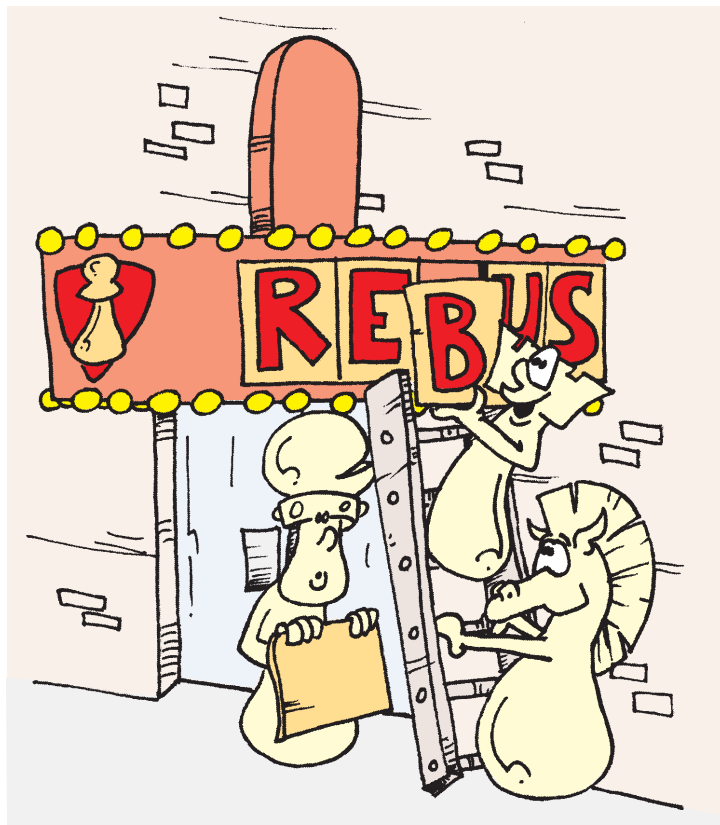
Multiambiguity Rebus

Each type of piece is represented by a certain letter.

Letters may represent more than one type of piece.

Uppercase is one colour, lowercase is the other.

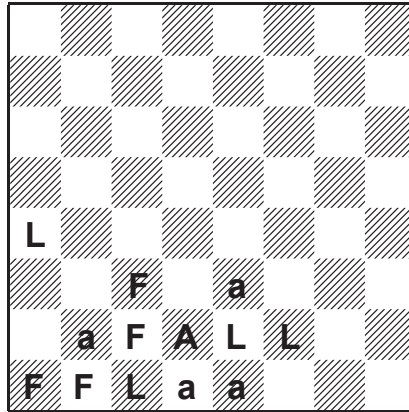
Determine the position and, if possible, the last move.



The next position is an approximate twin to the first. L/f1 shifts to a4 and a/c2 morphs to F. We don't have anything to say about alfalfa, other than it is one of the longer words with only three letters.

Rebus 53

"alfalfa"



Multiambiguity Rebus

Each type of piece is represented by a certain letter.

Letters may represent more than one type of piece.

Uppercase is one colour, lowercase is the other.

Determine the position and, if possible, the last move.

To fill the emptiness of space, these pages include photos of our summer days in Ukraine and Canada. Can you tell which is which?



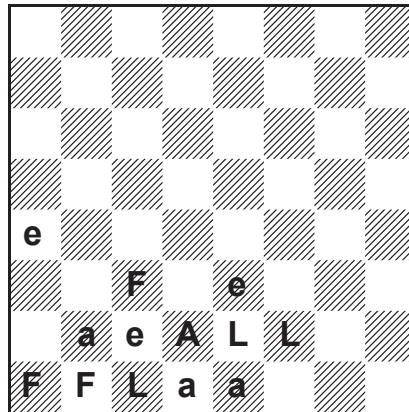
Into the Vortex

Most multiambiguous rebuses have three letters. The following problem, a mutant of alfalfa, has the maximum of four letters.

If a rebus has 6 letters, then there can be no ambiguity. There are only 6 types of pieces. If a rebus has 5 letters, then only one letter can be ambiguous and it can only stand for 2 pieces, which is not “multi”.

Rebus 54

“falafel”



Multiambiguity Rebus

Each type of piece is represented by a certain letter.

Letters may represent more than one type of piece.

Uppercase is one colour, lowercase is the other.

Determine the position and, if possible, the last move.

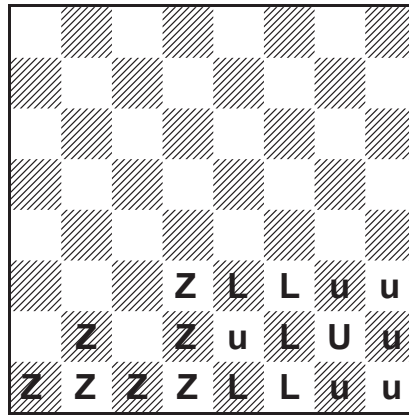


Where the Path Leads

So far the problems have been tactical in nature. Things get more retro now. Please set your clocks to Zulu time.

Rebus 55

“Zulu”



Multiambiguity Rebus

Each type of piece is represented by a certain letter.
 Letters may represent more than one type of piece.
 Uppercase is one colour, lowercase is the other.
 Determine the position and, if possible, the last move.

Rebusland Productions is dedicated to bringing rebuses to wherever you are. Here’s one without the chess.

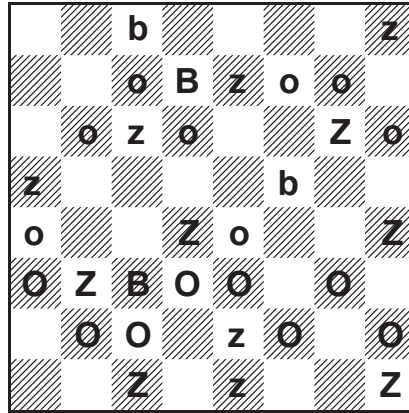
Riddle: “How come U R where U R?”



The boards are fuller in the rest of the problems. Bozo, the world's most famous clown, has all 32 pieces. The silly word, of unknown origin, actually predates the clown.

Rebus 56

“Bozo”



Multiambiguity Rebus

Each type of piece is represented by a certain letter. Letters may represent more than one type of piece. Uppercase is one colour, lowercase is the other. Determine the position and the last move.

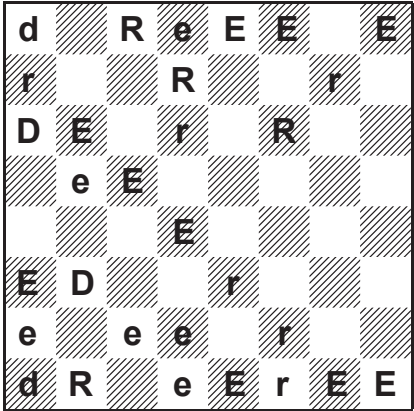


In Touch with the Sky

The next three rebuses are especially difficult. Their common thread developed as we reduced the number of pieces in relatively full positions. Red Deer has three letters and 30 pieces. Rather than give any unsolicited clues, we'll just say that solving this problem is good preparation for those that follow.

Rebus 57

"Red Deer"



Multiambiguity Rebus

Each type of piece is represented by a certain letter.
 Letters may represent more than one type of piece.
 Uppercase is one colour, lowercase is the other.
 Determine the position and the last move.

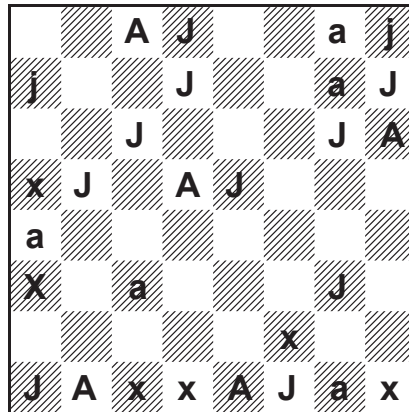


Blue on Blue

As noted in *Return to Rebusland* (column 192), multiambiguity has proven to be exceptionally productive for the expression of retro concepts. The original idea for rebuses with ambiguous letters came from Nina Omelchuk. Thanks, Nina!

Rebus 58

“Ajax”



Multiambiguity Rebus

Each type of piece is represented by a certain letter.
 Letters may represent more than one type of piece.
 Uppercase is one colour, lowercase is the other.
 Determine the position and the last move.

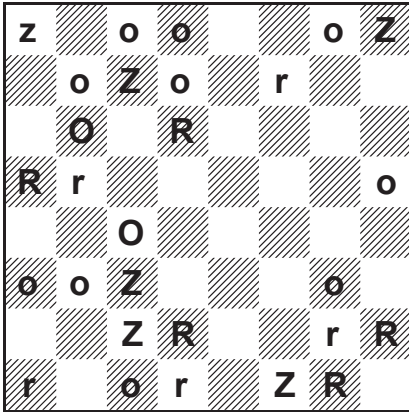


Nina Omelchuk

Zorro is perhaps the hardest rebus ever. It might have outfoxed us if we hadn't made it ourselves. The solution is eight pages long. See page 37 for a more colourful presentation of the same problem.

Rebus 59

"Zorro"



Multiambiguity Rebus

Each type of piece is represented by a certain letter.
 Letters may represent more than one type of piece.
 Uppercase is one colour, lowercase is the other.
 Determine the position and the last move.



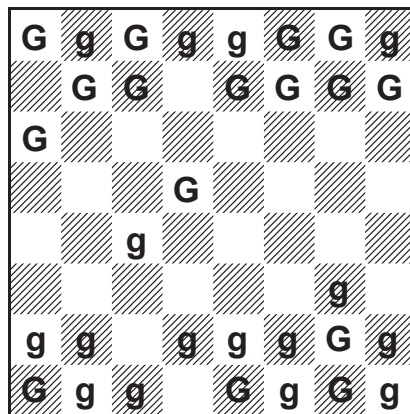
Cubism

Three is the natural number of letters in a multiambiguous rebus. It provides three ways of dividing the 6 types of pieces: 4-1-1 (alfalfa), 3-2-1 (fall), 2-2-2 (zulu). Our final puzzle shows the curious case where one letter stands for all six types of pieces!

The English consonant G is the king of multiambiguity. It sounds differently in each of these words: go, giant, mirage, night, laugh.

Rebus 60

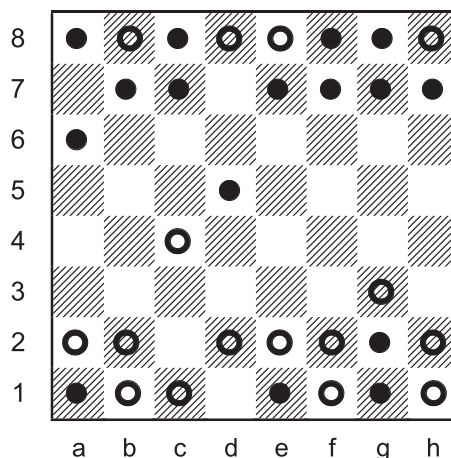
"golly gee"



Multiambiguity Rebus

All pieces are represented by the letter G.
 Uppercase is one colour, lowercase is the other.
 Determine the position and the last move.

This puzzle can also be presented as a button problem. For a similar more complicated position, see *ChessProblems.ca Bulletin* (issue 16).



And so another rebus article comes to its unambiguous end.

SOLUTIONS

All rebuses are joint compositions by Andrey Frolkin and Jeff Coakley, *Puzzling Side of Chess* (2020).

Solutions are given with *rebus notation*, an abbreviated method of describing logical deductions. See column 133 for more explanation.

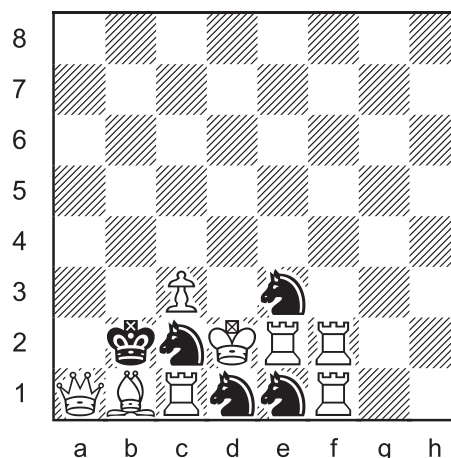
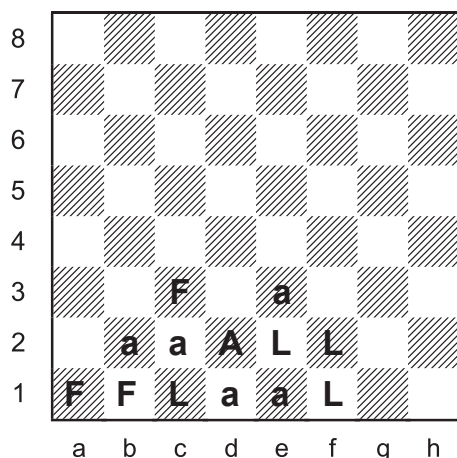
PDF hyperlinks. You can advance to the solution of any puzzle by clicking on the underlined title above the diagram. To return to the puzzle, click on the title above the solution diagram.

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

Rebus 52

"fall"

F = queen
 bishop
 pawn
 A = king
 knight
 L = rook
 caps = white
 last move:
 1.Q>a1+



(8 + 5)

A/d2 = ♔

A = ♔ The one letter with both cases.
 The only uppercase A is d2.

A/b2 = ♔

Only lowercase A not adjacent to d2.

A/e1 ≠ ♔♖

Impossible check.

A/e1 ≠ ♖

On 1st rank.

A/e1 = (♖♘)

L/c1 ≠ ♔♖

Impossible check.

L/c1 ≠ ♖

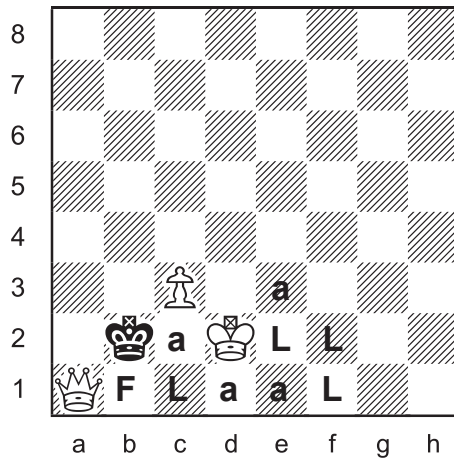
On 1st rank.

L/c1 = (♖♘)

F ≠ ♖♘

A's and L's are rook and knight (A/e1 and L/c1).

Rebus 52 *continued*



F/a1 ≠ ♔

On 1st rank.

F/a1 ≠ ♖

If F/a1 = ♖ Check.

last move: 1...a2-a1=B+ caps = black

F/c3 ≠ ♔ ♖ ♗ Impossible double check.

F/c3 = ∅? No piece can be assigned to F/c3.

F/a1 = ♔

Check.

F/c3 ≠ ♔ ♖

Impossible double check.

F/c3 = ♗

caps = white

If caps = black Impossible double check (a1 c3).

last move: 1.Q>a1+

This move may or may not have been a capture.

F/b1 ≠ ♔ ♖

Impossible double check.

F/b1 ≠ ♗

On 1st rank.

F/b1 = ♖

F = ♔ ♖ ♗ ♘

The remaining AL = (♖ ♗).

A/d1 ≠ ♖

Impossible check.

A/d1 = ♗

A = ♗

All remaining A's are knights.

L = ♖

All L's are rooks.

For an index of our published rebuses and articles since 2016, see the appendix at the end of column 188. Currently 175 problems, counting those in this article. Most are readily accessible online.



Rebus 53

"alfalfa"

F = knight

A = king

queen

bishop

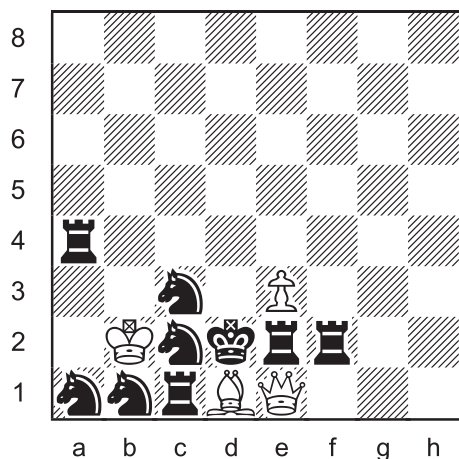
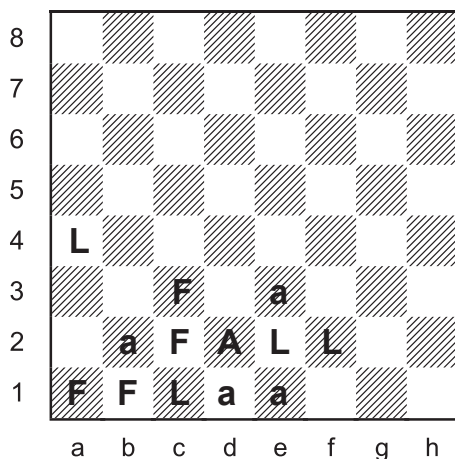
pawn

L = rook

caps = black

last move:

1.Q>e1+



(4 + 9)

A/b2/d2 =

A is only letter with both cases.

A/d2 is only uppercase A.

A/b2 is only non-adjacent lowercase A.

L/c1 ≠

Impossible check.

L/c1 ≠

On 1st rank.

L/c1 = ()

F/a1 ≠

On 1st rank.

F/a1 ≠

If F/a1 = Check.

Last move: 1...a2-a1=Q+ or 1...a2-a1=B+

A/e1 ≠

Impossible double check.

A/e1 ≠

On 1st rank.

A/e1 = ()

F ≠

A's and L's are rook and knight.

F/c3 ≠

Impossible double check.

F/c3 ≠

If caps = black Impossible double check.

If caps = white No promotion on a1.

F/c3 = ∅?

No piece can be assigned to F/c3.

F/a1 = ()

A ≠

F's and L's are rook and knight.

A/e1 ≠

Impossible check.

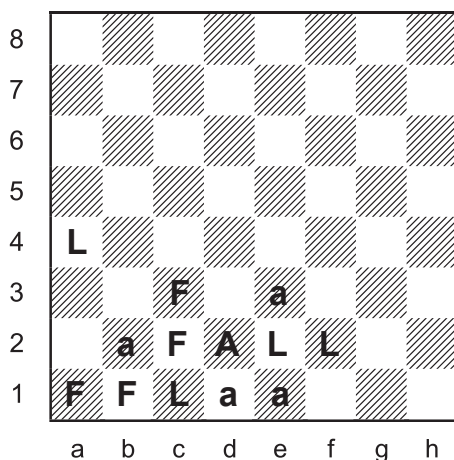
A/e1 ≠

On 1st rank.

A/e1 =

Check.

Rebus 53 *continued*



A/d1 ≠ ♖

On 1st rank.

A/d1 ≠ ♔

Impossible check.

A/d1 = ♗

A/e3 ≠ ♔ ♗

Impossible double check.

A/e3 = ♖

caps = black

If caps = white

Impossible double check (e1 e3).

last move: 1.Q>e1+

A = ♔ ♗ ♗ ♖

That leaves ♖ and ♗ for F and L.

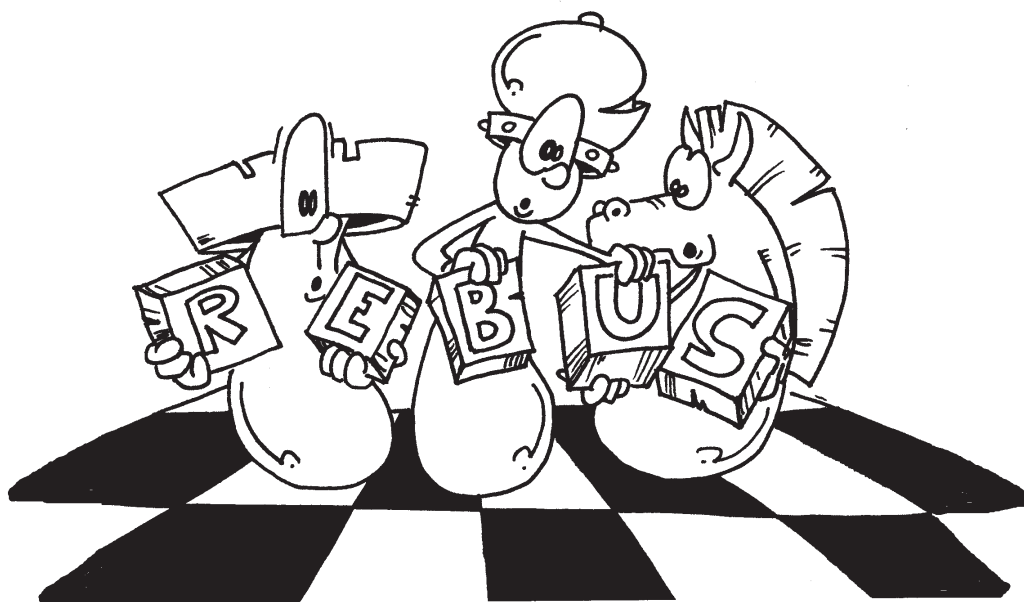
F/b1 ≠ ♖

Both kings in check.

F = ♗

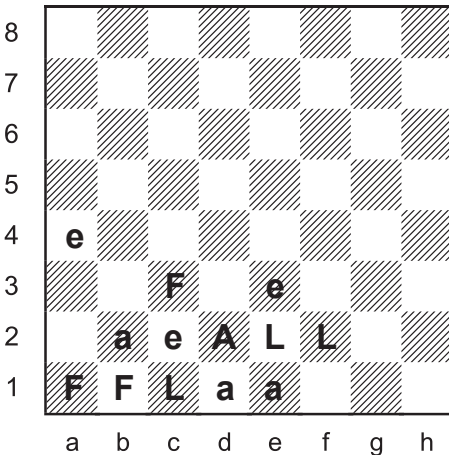
L = ♖

Three letter rebus with one letter representing four pieces.

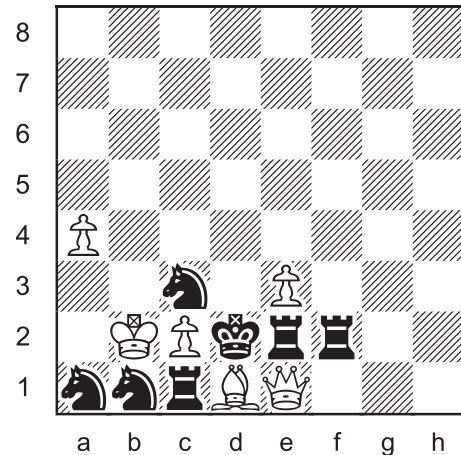


Rebus 54

"falafe"



F = knight
 A = king
 queen
 bishop
 L = rook
 E = pawn
 caps = black
 last move:
 1.Q>e1+



(6 + 7)

The solution is very similar to the previous rebus ("alfalfa"). The same arguments can be used to show the following.

A/b2/d2 =

L/c1 = ()

F/a1 = ()

AE ≠

F's and L's are rook and knight.

A/e1 =

Check.

A/d1 =

Here the solution varies.

E =

Only choice since A = and FL = ()

caps = black

If caps = white

Impossible double check (e1 e3).

last move: 1.Q>e1+

F/b1 ≠

Both kings in check.

F =

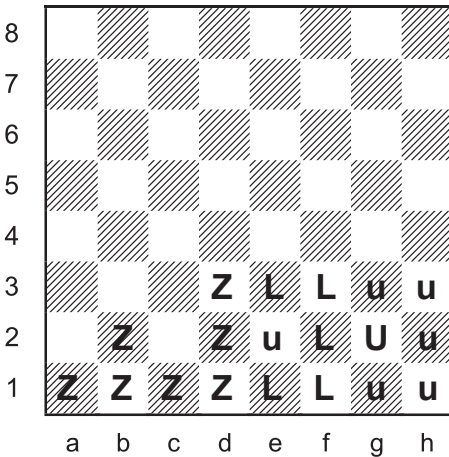
L =

Four letter rebus with one letter representing three pieces.

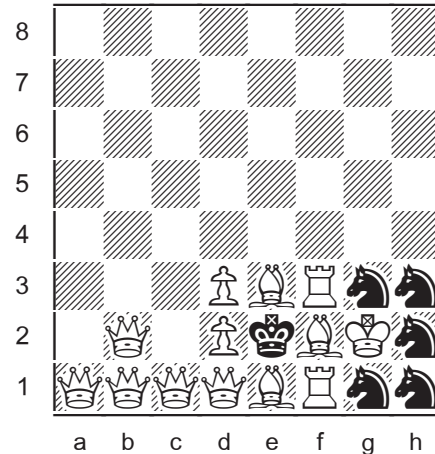
Is there a falafel sandwich on the menu?

Falafels are made from mashed chick peas and spices, which are rolled into balls, deep fried, and served on pita bread with tomatoes, lettuce, and tahini (sesame sauce) or tzatziki (yogurt, cucumber, and garlic).

Rebus 55



“Zulu”
 Z = queen
 pawn
 U = king
 knight
 L = rook
 bishop
 caps = white
 last move:
 1.Q>d1+



(13 + 6)

U/g2 =

U = The one letter with both cases.
 The only uppercase U is g2.

U/e2 =

Only lowercase U not adjacent to g2.

U/h1 ≠

Impossible check.

U/h1 ≠

On 1st rank.

U/h1 = ()

L/f1 ≠

Impossible check.

L/f1 ≠

On 1st rank.

L/f1 = ()

Z ≠

L's and U's are rook and knight (L/f1 and U/h1).

U/g1 ≠

Impossible check.

U/g1 ≠

On 1st rank.

U/g1 = ()

L/e1 ≠

Impossible check.

L/e1 ≠

On 1st rank.

L/e1 = ()

Z ≠

L's and U's are bishop and knight (L/e1 and U/g1).

Z/d1 ≠

On 1st rank.

Z/d1 =

Check.

Rebus 55 *continued*

Z/d3 ≠ ♔ Impossible double check.

Z/d3 = ♖

caps = white If caps = black
Impossible double check
(♔d1 ♖d3).

last move: 1.Q>d1+ This move may or may not have been a capture.

LU ≠ ♔ ♖ Zeds are queen and pawn.

LU = (♖ ♗ ♘) To avoid an impossible double check, these pieces must be assigned to L and U so that none give check.

Z = ♔ ♖

Z/d2 = ♖ If Z/d2 = ♔
Impossible double check.

Z/a1/b1/c1 = ♔ On 1st rank.

See diagram at right.

Either L or U stands for two piece types.

If L = ♘ and U = ♖ + ♗

White has 3 promoted knights, 3 promoted queens, 2 pawns, and either a queen or pawn on b2. This would require 9 white pawns.

If L = ♗ and U = ♖ + ♘

Triple check (d1 f1 f3)

If L = ♖ and U = ♗ + ♘

Quadruple check (d1 e1 e3 f2)

Hence L must represent two pieces. U represents only one piece.

U ≠ ♖ Both kings in check (d1 g1 g3 h2).

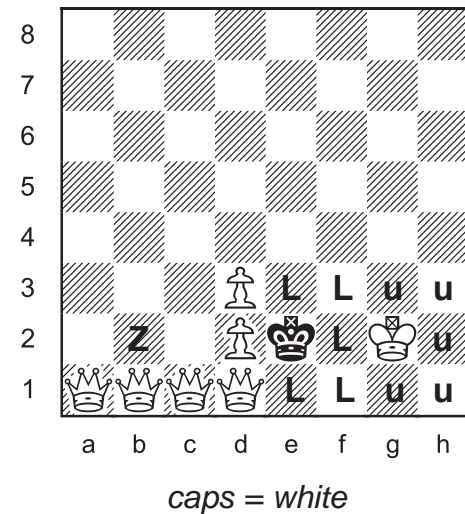
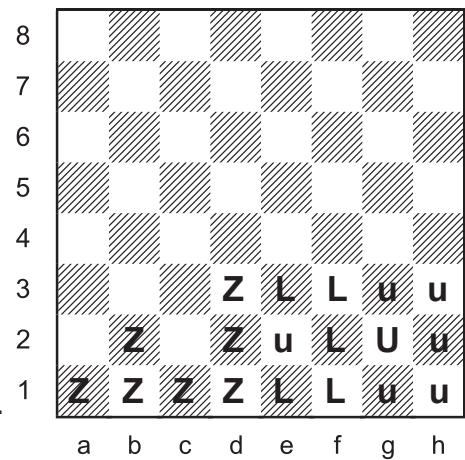
U ≠ ♗ Both kings in check (d1 h1 h3).

U = ♘ Rook and bishop must be assigned to the L's.

L/f1/f3 = ♖

L/e1/e3/f2 = ♗

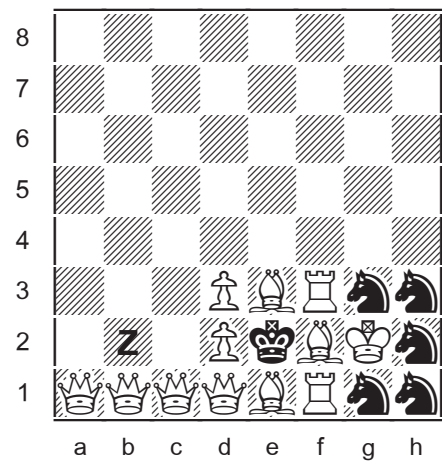
See diagram next page.



Rebus 55 *concluded*

Z/b2 = ♔ If Z/b2 = ♖, there are too many promoted pieces. White would have 4 queens, 3 pawns, and 3 dark-square bishops. But all 3 bishops would be promoted because the original was captured on c1 (unmoved pawns on b2 d2). This would require 9 white pawns.

With a queen on b2, the world is in order.



REBUS

page 5

How come U R where U R?

“Why would I not be here?”

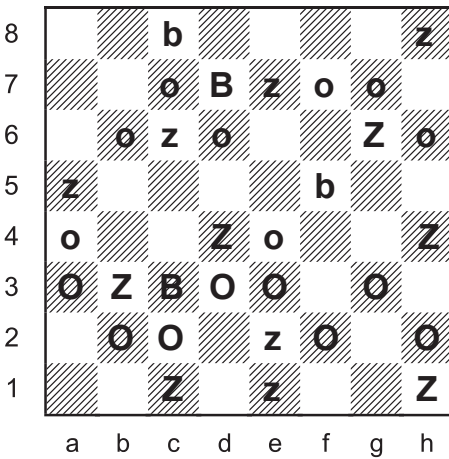
y-wood-eye-knot-bee-hear



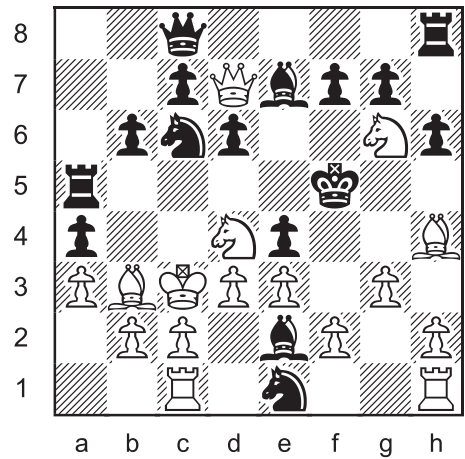
A Lovely Place to Be

Rebus 56

"Bozo"

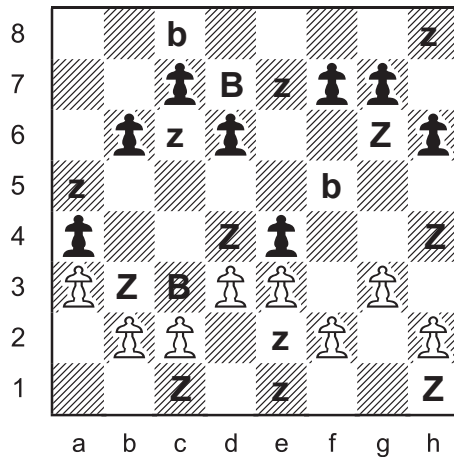


B = king
 queen
 O = pawn
 Z = rook
 bishop
 knight
 caps = white
 last move
 1.Ne6-d4++



(16 + 16)

All 32 pieces are on the board, so several deductions are elementary. There were no captures or promotions. The 16 O's are the pawns. The capital letters are white. This diagram clarifies the situation.



caps = white

Each side has 2 B's and 6 Z's.

Z/c1/h1 = ♖

The white rooks could not escape from behind the white pawns, so the two capital letters on the 1st rank must be the rooks.

B ≠ ♖

The rooks are zeds.

B ≠ ♗

Both lowercase B's are on light squares.

B ≠ ♘

If B = ♘, then Z = ♔♕♖♗

Z/g6 ≠ ♔

Impossible check by pawn f7.

Z/b3 ≠ ♔

Impossible check by pawn a4.

Z/d4/h4 ≠ ♔

Impossible check by knight f5.

♔ = ∅?

No Z can be the white king.

B = ♔♕

Rebus 56 *continued*

B/c8 ≠ ♔

If B/c8 = ♔

B/d7 ≠ ♔

B/d7 = ♔

Adjacent to c8.

Impossible check (d7).

No last move.

B/c8 = ♔

B/f5 = ♔

The 4 capital Z's are bishops and knights.
Two are on light squares, two are on dark squares. One Z on the dark squares d4 and h4 must be a knight. So the black king (f5) is in check by a knight.

B/d7 ≠ ♔

If B/d7 = ♔

Both kings in check (queen c8).

B/c3 = ♔

B/d7 = ♔

Check. Black is in double check.

Z/d4 = ♞

The only possible double check is 1.Ne6-d4++.

Z/h4 = ♞

There must be a white dark-square bishop.

See diagram.

Z/g6 = ♞

If Z/g6 = ♞ Triple check.

Z/b3 = ♞

Z/a5/e1 ≠ ♞

Both kings in check.

Z/h8 ≠ ♞

A bishop cannot be on h8 with a black pawn on g7.

Z/e7 = ♞

Only remaining Z on a dark square.

Z/e1/e2 ≠ ♞

Black rooks cannot be behind the white pawns.

Z/e1 = ♞

Z/e2 ≠ ♞

Both kings in check.

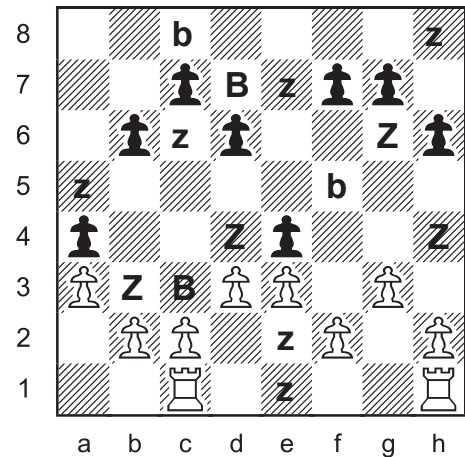
Z/e2 = ♞

Z/c6 ≠ ♞

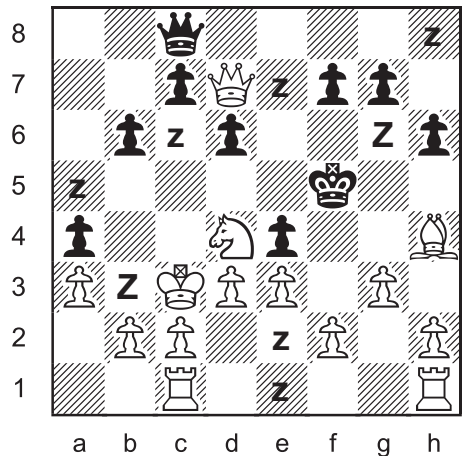
Both kings in check.

Z/c6 = ♞

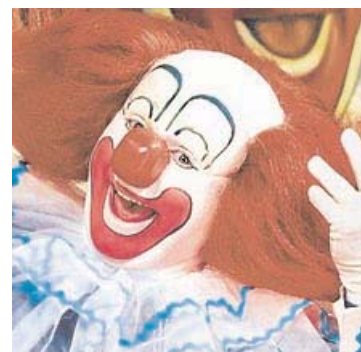
Z/a5/h8 = ♞



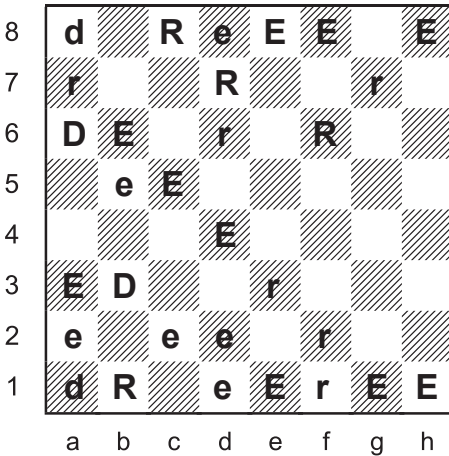
caps = white



caps = white

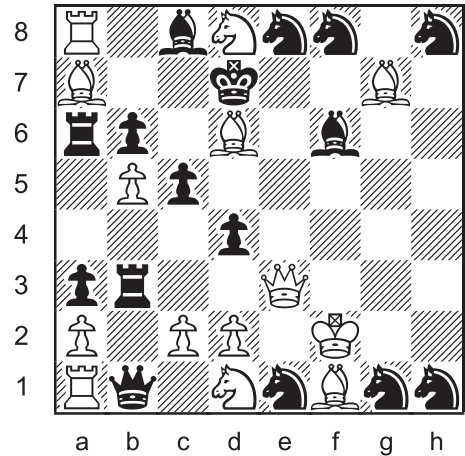


Rebus 57



"Red Deer"

R = king
queen
bishop
E = knight
pawn
D = rook
caps = black
last move:
1...Ng3-h1+



(14 + 16)

Letter count: 16 uppercase, 14 lowercase
4R 6r, 10E 6e, 2D 2d

The pawns are the key to the first deduction.

Only two pieces are missing. That limits the changes to the pawn formation and the number of possible promotions.

There must be at least 4 files with "intact pawns" (white below black).
A single 'pawn x officer' can eliminate intact pawns on one file only.
A single 'pawn x pawn' capture can eliminate intact pawns on two files.

DR ≠ ♖ If DR = ♖

There are more than four files without intact pawns.

E = ♖ To have four files with intact pawns, the E's on a2 b5 c2 d2 / a3 b6 c5 d4 must be pawns and caps = black.

Because there are only four files with intact pawns, the two missing pieces must be white pawns. There were two 'pawn x pawn' captures by Black.

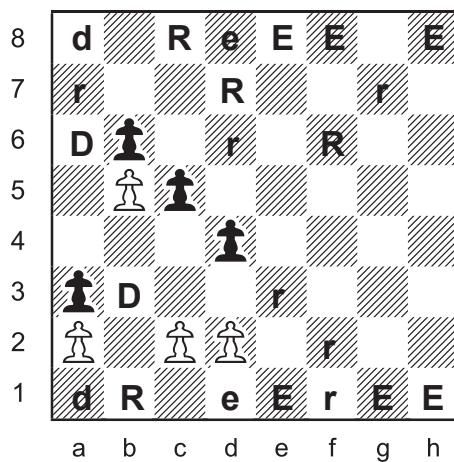
There are no pawns on the efgh-files, which means that Black promoted 4 pawns and White promoted two pawns.

All the original officers are on the board.

The two promoted white pieces are R's. The four promoted black pieces are E's.

The next deductive steps involve the complex "bishop effect".

Rebus 57 *continued*



caps = black

D ≠

Both uppercase D's are on light squares.

E ≠

If E =

All remaining uppercase (black) E's = . Otherwise White is missing two officers.

Black has 6 bishops, 4 dark and 2 light. Two are the original bishops, which means Black promoted 1 light and 3 dark bishops. But this is impossible. Each 'pawn x pawn' capture allows two promotions for the capturing side on the same promotion square. In this case, it is possible for Black to promote 4 times on dark squares, or four times on light squares, or twice on light and dark. But not 3 dark / 1 light.

R =

Four R's are bishops, two for each side.

R/f6 =

Only dark uppercase R.

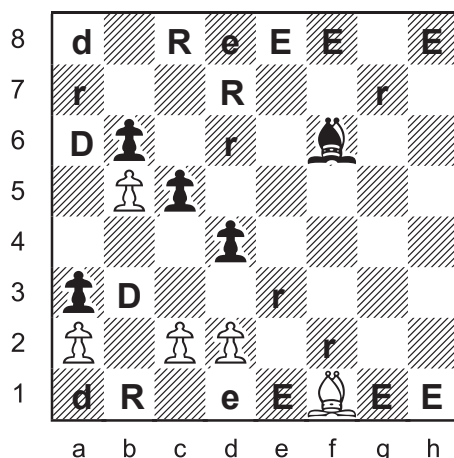
R/f1 =

Only light lowercase R.



Halifax, Nova Scotia

Rebus 57 *continued*



caps = black

The next step is to identify the kings.

D ≠ If D/b3 = Impossible checks (a2 c2).
 If D/a6 = Impossible check (b5). The last move was not a capture because there are no missing black pieces. The last move was not 1.b4-b5+ because the king would already be in check by the bishop on f1.

E ≠ All remaining E's are on the 1st or 8th rank, so they must be officers.

There are two lowercase (white) E's. If one of them is a king, then the other must be a queen. Otherwise White is missing one of their original officers.

Similarly, there are six uppercase (black) E's. If one of them is a king, then the others must all be queens. Otherwise White is missing two of their original officers.

If E/d1 = E/e1 = Impossible check. No last move.

If E/d8 = E/e8 = Impossible double check (e8 f6).

R =

R = If D or E = , then several things are impossible. For example, Black has 5 promoted pieces (1D 4E) and 4 pawns.

Rebus 57 *continued*

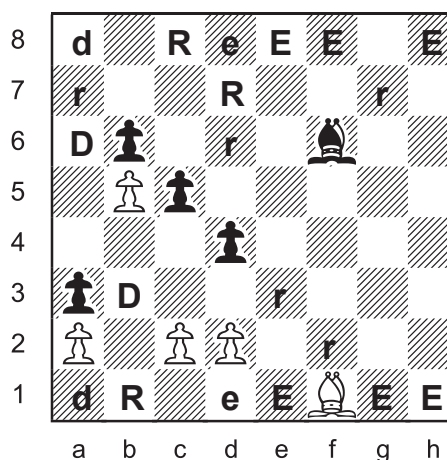
To summarise the current state of the investigation:

$$R = \text{♔} + \text{♕} + \text{♞}$$

$$E = \text{♙} + (\text{♖} \text{ or } \text{♘})$$

$$D = (\text{♖} \text{ or } \text{♘})$$

Now we are in a position to identify the black king.



caps = black

$$R/b1 \neq \text{♔} \quad \text{If } R/b1 = \text{♔}$$

Impossible check (♖a1 or ♖d1). DE = (♖♘)
No last move regardless of how rooks are assigned.

$$R/b1 = \text{♕}$$

$$R/b1 \neq \text{♞}$$

Unmoved pawns on a2 c2.

$$R/c8 \neq \text{♔}$$

$$\text{If } R/c8 = \text{♔}$$

Impossible check (♖a8 or ♖d8).

$$\text{If } E/d8 = \text{♖}$$

No last move by the rook.

$$\text{If } D/a8 = \text{♖}$$

No last move by the rook. But three conceivable discovered checks must also be considered.

1.Kb8-a7+ is impossible because the kings would be adjacent (and both in check).

1.Bb8-a7+ and 1.Bb8-d6+ are impossible because both kings would be in check.

$$\text{If } R/a7 = \text{♔} \quad \text{Check (♖a6).}$$

$$\text{If } R/d6 = \text{♔} \quad \text{Check (♘e8).}$$

$$\text{If } R/e3 = \text{♔} \quad \text{Check (♖b3 and ♙d4).}$$

$$\text{If } R/f2 = \text{♔} \quad \text{Check (♘h1).}$$

$$\text{If } R/g7 = \text{♔} \quad \text{Check (♘e8).}$$

$$R/d7 = \text{♔}$$

$$R/c8 = \text{♞}$$

Black must have a light-square bishop.

$$E = \text{♘}$$

E/d8 ≠ ♖ Impossible check.

Therefore all E's are knights.

$$D = \text{♖}$$

Rebus 57 *concluded*

R/a7 ≠ ♔ Impossible check (♖a6).

R/d6 ≠ ♔ Adjacent to ♔d7.

R/e3 ≠ ♔ Impossible double check (♖b3 and ♙d4).

R/g7 ≠ ♔ Impossible double check (♘e8 and ♙f6).

R/f2 = ♔ Check (♘h1).

R/a7/d6/g7 = ♔ If R/a7/d6/g7 = ♔ Both kings in check.

R/e3 = ♔ White must have a queen.

The position is unravelled, but what about the last move? Apparently it could be either 1...Ng3-h1+ or 1...h2-h1=N+.

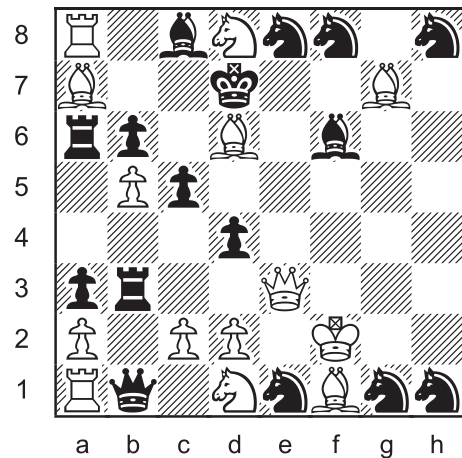
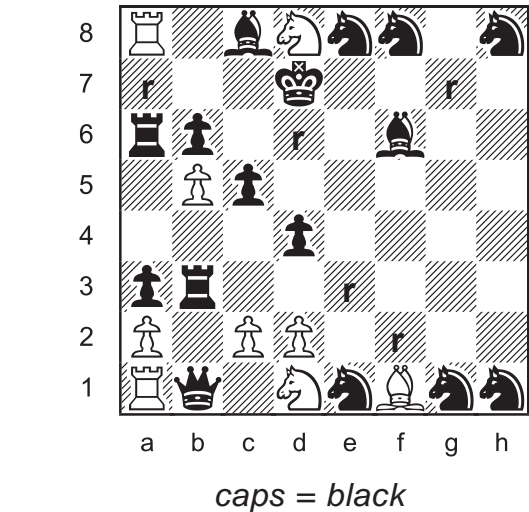
However, the bishop effect makes the promotion impossible.

Each 'pawn x pawn' capture can yield three promotions, two for the capturing side, one for the captured side. All three promotions necessarily occur on the same colour squares.

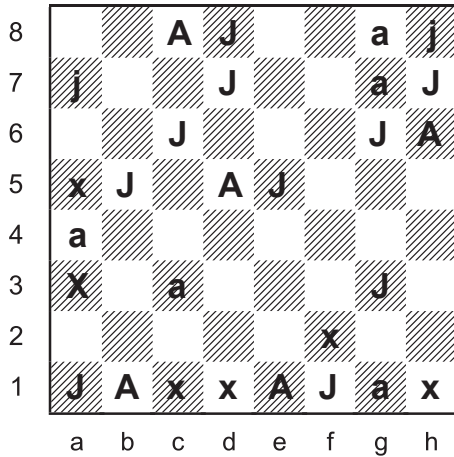
In this case, White has promoted 2 dark-square bishops (on f8 h8). So all 4 black promotions also occurred on dark squares (e1 g1). A promotion on h1 is impossible.

last move: **1...Ng3-h1+**

Red deer are a species of deer found throughout Europe, including Ukraine. The city of Red Deer, Alberta, halfway between Calgary and Edmonton, was mistakenly given its name by British traders who mistook the local elk for red deer. An understandable error given the close similarity between the two species.

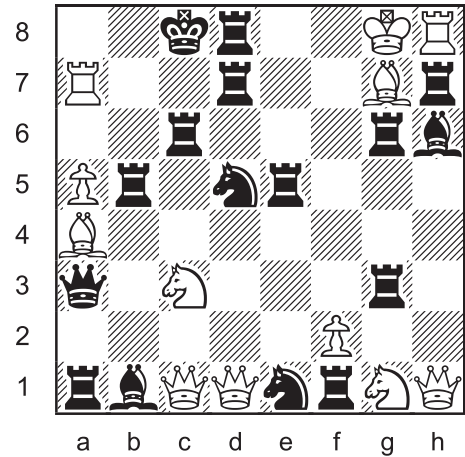


Rebus 58



"Ajax"

A = king
 bishop
 knight
 J = rook
 X = queen
 pawn
 caps = black
 last move:
 1...0-0-0+



(12 + 16)

Letter count: 16 uppercase, 12 lowercase
 10J 2j, 5A 5a, 1X 5x

There are 16 uppercase pieces on the board, including the original queen, 2 rooks, 2 bishops, and 2 knights.

X/a3 ≠ There is only one uppercase X.

X/a3 ≠ If X/a3 = or

The lowercase X's include an officer () so uppercase would be missing 1 or 2 original officers.

X/a3 =

X/c1/d1/h1 = X ≠ Otherwise uppercase is missing some of its original officers.

Xc1/d1/h1 ≠ On 1st rank.

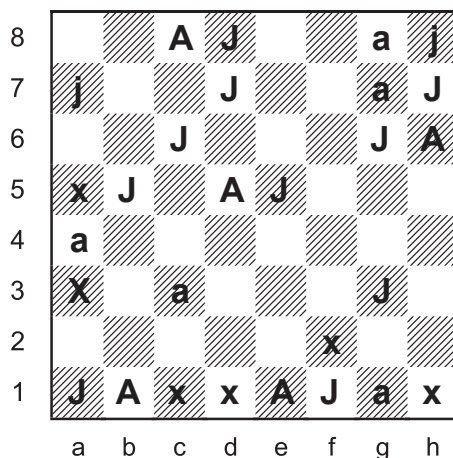
X/a5/f2 = () or () or (+)

Looking ahead, the lowercase X's include the original lowercase queen and 4 pro-passers (promoted queens or passed pawns).

There are four missing pieces, all lowercase. Now consider the possible location of pawns. Regardless of pawn assignment, there is no file that has both a white and a black pawn. (X/a3 =) This can only be explained by 4 missing pieces if all captures were of the 'pawn x pawn' type. Therefore, the 4 missing pieces are all pawns.

Furthermore, the 4 'pawn x pawn' captures had to occur in four separate "sectors". Each sector consists of two adjacent files (ab, cd, ef, gh).

Rebus 58 *continued*



A = ♔ Lowercase has 12 pieces on the board. The 4 missing pieces are pawns, so all the original lowercase officers are on the board (queen, 2 rooks, 2 bishops, 2 knights). One X is the original queen. The other 4 lowercase X's are pro-passers (promoted queen or passed pawn). That accounts for all lowercase pawns. Therefore, the other lowercase letters (5A's and 2J's) must be 2 rooks, 2 bishops, 2 knights, and the king. This is only possible if A = ♔.

The remaining 4 A's for both sides represent two types of officers.

A/d5 ≠ ♔ Impossible double check by two queens (d1 h1).

A/h6 ≠ ♔ Impossible double check by two queens (c1 h1).

A/b1 ≠ ♔ Impossible check (c1). The last move by the queen on c1 was not a capture because there are no missing uppercase pieces. The last move was not the non-capture Qc1+ (or ...c2-c1=Q+) because the king (b1) would already be in check from the queen on d1.

A/e1 ≠ ♔ Impossible check (d1). Same reasoning as A/b1 ≠ ♔.

A/c8 = ♔ Only remaining uppercase A.

J ≠ ♞ Both lowercase J's are on dark squares.

J ≠ ♞ If J = ♞ Impossible check (a7). No last move.
(Both lowercase J's are knights since each side must have two knights on the board.)

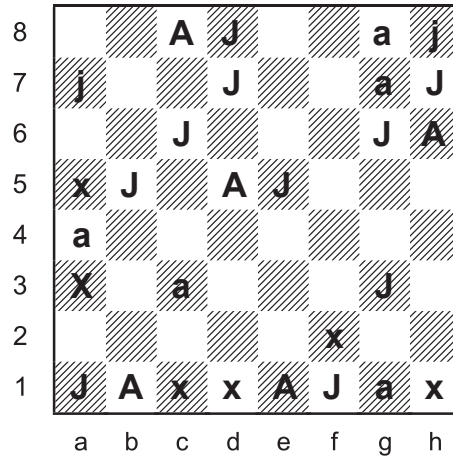
J = (♖) or (♗ + ♘)

A = ♔ + 2♞ + 2♝

J/a1/d8/f1 = ♖ On 1st or 8th rank.

J/a7/h8 = ♖ Lowercase must have 2 rooks.

Rebus 58 *continued*



A/g1 ≠ ♔

Impossible check (♖f1). The last move was not 1...e2xf1=R+ or 1...g2xf1=R+ because all captures were 'pawn x pawn'.

A/a4 ≠ ♔

Impossible check (♔a3). The last move was not the capture Qxa3+ because the 4 missing pieces were taken by pawns. The last move was not the non-capture Qa3+ because the king (a4) would already be in check by the rook on a1.

A/c3 ≠ ♔

If A/c3 = ♔ Check (♔a3). Ignoring the king (c8), there are two uppercase A's on light squares (b1 d5). One of them must be a knight, giving check. Impossible double check.

A/g7 ≠ ♔

If A/g7 = ♔

J/h7 ≠ ♖

Impossible check.

J/h7 ≠ ♗

If J/h7 = ♗

J/g3/g6 = ♖

Uppercase cannot have pawns on both files in the gh sector. One file must be clear of pawns after the 'p x p' capture in that sector.

Impossible check (♖g6). The last move could not be a capture. The last move was not the non-capture Rg6+ because the king (g7) would already be in check from the rook on g3.

J/h7 = ∅? No piece can be assigned to J/h7.

A/g8 = ♔

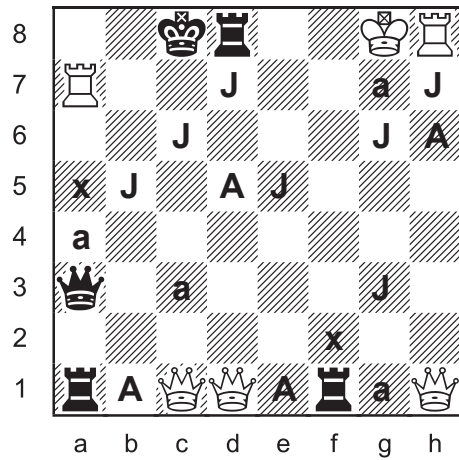
Only remaining lowercase A.

The king on g8 is in check by the rook on d8. No discovered check is possible, so the only way to explain the check is castling!

last move: 1...0-0-0+ caps = black

Finally a chance to update the diagram.

Rebus 58 *concluded*



caps = black

What we know about the remaining letters: $A = 2 \text{♗} + 2 \text{♘}$

$J = (\text{♖}) \text{ or } (\text{♖} + \text{♗}) \text{ or } (\text{♗})$

$X = (\text{♔}) \text{ or } (\text{♔} + \text{♗}) \text{ or } (\text{♗})$

$X/a5 = \text{♗}$ If $X/a5 = \text{♔}$

Impossible castling last move.

$X/f2 = \text{♗}$ If $X/f2 = \text{♔}$

Impossible castling last move.

If the white f-pawn promoted earlier, it had to be in the ef sector on e8 or f8. In either case, the black king had to move.

All J's = ♖

If X's are pawns, J's are not.

A/h6 = ♗

If A/h6 = ♘

Both kings in check.

A/e1 = ♘

Black cannot have two bishops on dark squares.

A/d5 = ♘

If A/d5 = ♗

Both kings in check.

A/b1 = ♗

A/g7 = ♗

If A/g7 = ♘

Impossible castling last move.

A/a4 = ♗

White must have a light-square bishop. The other two lowercase A's are on dark squares.

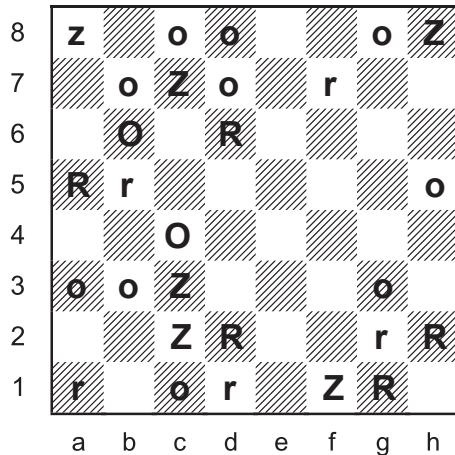
A/c3/g1 = ♘

Ajax, mythical hero of Greece, was the cousin of Achilles and great grandson of Zeus. A warrior of extraordinary strength, he played a decisive role in many battles of the Trojan War. His life is portrayed in Homer's *Iliad*.

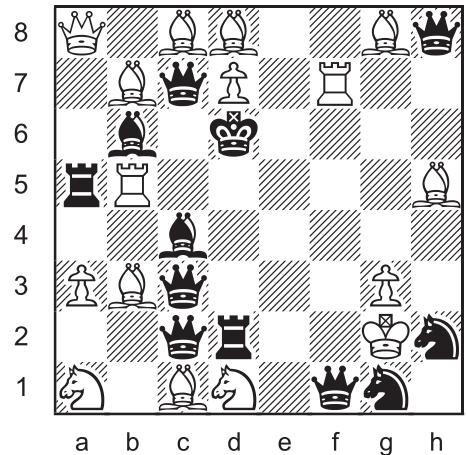


[October 2020. Thanks to Yan Lim for pointing out that there should be J/g6 and not J/g4 as originally published.]

Rebus 59



“Zorro”
 Z = queen
 O = bishop
 pawn
 R = king
 rook
 knight
 caps = black
 last move:
 1...f2-f1=Q++



(16 + 12)

Letter count: 12 uppercase, 16 lowercase
 5 Z 1 z, 2 O 10 o, 5 R 5 r

There are 16 lowercase pieces on the board, including the original queen, 2 rooks, 2 bishops, and 2 knights.

Z/a8 ≠ There is only one lowercase Z.

Z/a8 ≠ On 8th rank.

Z/a8 ≠ If Z/a8 =

The uppercase Z's include an officer () so lowercase would be missing 1 or 2 original officers.

Z/a8 =

Z/f1/h8 = Z ≠ Otherwise lowercase is missing some of its original officers.

Z/f1/h8 ≠ On 1st or 8th rank.

Z/c2/c3/c7 = () or () or (+)

The 5 uppercase Z's include the original uppercase queen and 4 pro-passers (promoted queens or passed pawns). That accounts for 4 uppercase pawns.



Rebus 59 *continued*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8 | z | o | o | | | o | Z | |
| 7 | | o | Z | o | | r | | |
| 6 | | O | | R | | | | |
| 5 | R | r | | | | | o | |
| 4 | | | O | | | | | |
| 3 | o | o | Z | | | | o | |
| 2 | | | Z | R | | r | R | |
| 1 | r | | o | r | | Z | R | |
| | a | b | c | d | e | f | g | h |

There are four missing pieces, all uppercase. Now consider the possible location of pawns.

If ♙ = ∅ (no pawns on board)
 The 4 missing pieces are all pawns.

If Z or R = ♙
 Regardless of piece assignment, there is no file that has both a white and a black pawn. This can only be explained by 4 missing pieces if all captures were of the 'pawn x pawn' type.
 The 4 missing pieces are all pawns.

If O = ♙
 Regardless of piece assignment, there is only one file (b) that could have both a white and a black pawn. A position with a single pair of "intact pawns" (on same file, white below black) can be achieved by 3 'pawn x pawn' captures and 1 'pawn x officer' capture.

Conclusion: The 4 missing pieces are all pawns except for the situation where O = ♙ with intact pawns on the b-file. In that case, there can be at most one missing officer.

O ≠ ♔ If O = ♔
 There are 2 uppercase O's. One is king. The other is a pawn or officer (♖♗♘).

There are lowercase O's are on the 1st and 8th ranks, so some of them must be officers (♙♚♛). Hence, the R's can represent at most 2 types of officers

If the second capital O = ♙, then uppercase is missing at least two officers, which is impossible.

If the second capital O is an officer, then uppercase is missing one officer. This is impossible because there are no intact pawns on the b-file.

Rebus 59 *continued*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8 | z | o | o | | | o | Z | |
| 7 | | o | Z | o | r | | | |
| 6 | | O | R | | | | | |
| 5 | R | r | | | | | o | |
| 4 | | | O | | | | | |
| 3 | o | o | Z | | | | o | |
| 2 | | | Z | R | | r | R | |
| 1 | r | | o | r | Z | R | | |
| | a | b | c | d | e | f | g | h |

R = ♔

One R for each side is a king. The other R's (4 of each colour) must represent two types of officers and there must be two of each type for both sides. Otherwise there are too many missing officers.

R ≠ ♖ All uppercase R's are on dark squares.

R = ♔ + 2♖ + 2♗

O = (♖) or (♖ + ♗)

O/c1/c8/d8/g8 = ♖ On 1st or 8th rank.

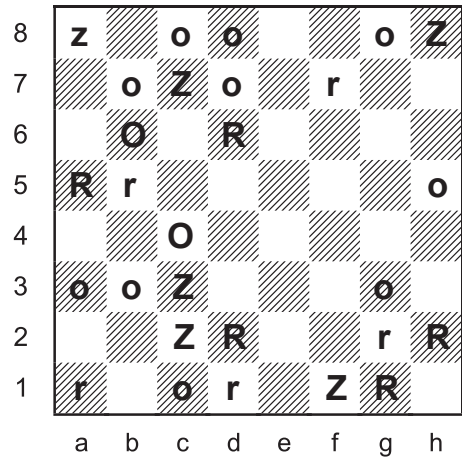


Moon Dot

Rebus 59 *continued*

Concerning the uppercase O's, there are six scenarios to consider:

- a) O/b6/c4 = ♖
- b) O/b6 = ♗, O/c4 = ♖
- c) O/b6 = ♖, O/c4 = ♗, caps = white
- d) O/b6 = ♖, O/c4 = ♗, caps = black
- e) O/b6/c4 = ♗, caps = white
- f) O/b6/c4 = ♗, caps = black



a) If O/b6/c4 = ♖ Uppercase is missing two bishops. Impossible.

b) If O/b6 = ♗, O/c4 = ♖ Uppercase is missing one bishop and there are no intact pawns. Impossible.

c) O/b6 = ♖, O/c4 = ♗, caps = white
 A tricky situation which is impossible because of the *bishop ratio*. The bishop ratio compares the number of light-square and dark-square promotions. The colour (light/dark) of a passed pawn is the colour of its promotion square.

O/b7 = ♖ White is missing a bishop, so there must be intact pawns on the b-file (black pawn on b7).

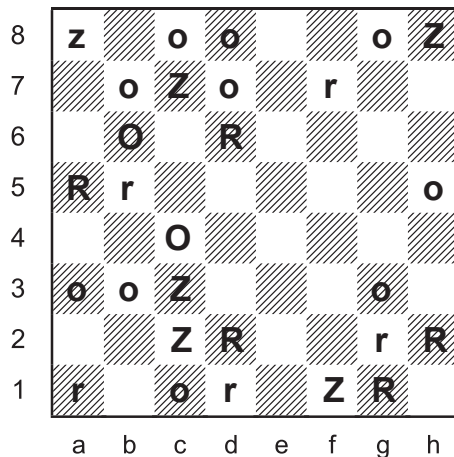
There are 9 other lowercase O's. This list shows their colour:

| | if bishop | if passed pawn | (* = impossible) |
|----|-----------|----------------|---------------------------------|
| c1 | dark | * | on 1st rank |
| c8 | light | * | on 8th rank |
| d8 | dark | * | on 8th rank |
| g8 | light | * | on 8th rank |
| a3 | dark | * | Black a-pawn took bishop on b4. |
| b3 | light | light (b1) | |
| d7 | light | light (d1) | |
| g3 | dark | dark (g1) | |
| h5 | light | light (h1) | |

Regardless of piece assignment: 5 light / 4 dark. Subtracting the two original bishops, there are 4 light / 3 dark.

Each 'pawn x pawn' capture allows two promotions on the same colour. In this case, the three 'pawn x pawn' captures could create 4 light and 2 dark. But the 'pawn x officer' capture had to be ...a5xBb4, with a light promotion square (b1). A ratio of 5 light / 2 dark is possible, but not the required 4 light / 3 dark. This scenario is impossible.

Rebus 59 *continued*



d) O/b6 = ♖, O/c4 = ♗, caps = black

O/b3 = ♖ Black is missing a bishop, so there must be intact pawns on the b-file. With pawns on b3 (white) and b6 (black), the 'pawn x officer' capture had to take place on the b-file (axb). With the black pawn on b6, this capture could only take place on b7. But b7 is a light square and black is missing a dark-square bishop. This scenario is impossible.

At this point, we can already conclude that both capital O's are bishops.

e) O/b6/c4 = ♗, caps = white

There are 10 lowercase O's.

| | if bishop | if passed pawn | (* = impossible) |
|----|-----------|----------------|------------------|
| c1 | dark | * | on 1st rank |
| c8 | light | * | on 8th rank |
| d8 | dark | * | on 8th rank |
| g8 | light | * | on 8th rank |
| a3 | dark | dark | |
| b3 | light | light | |
| b7 | light | light (b1) | |
| d7 | light | light (d1) | |
| g3 | dark | dark (g1) | |
| h5 | light | light (h1) | |

Regardless of piece assignment: 6 light / 4 dark. Subtracting the two original bishops, there are 5 light / 3 dark.

Each 'pawn x pawn' capture allows two promotions on the same colour. In this case, four 'pawn x pawn' captures could create 6 light / 2 dark or 4 light / 4 dark, but not the required 5 light / 3 dark. This scenario is impossible.

Rebus 59 *continued*

When everything else is impossible, whatever remains must be true. Scenario f.

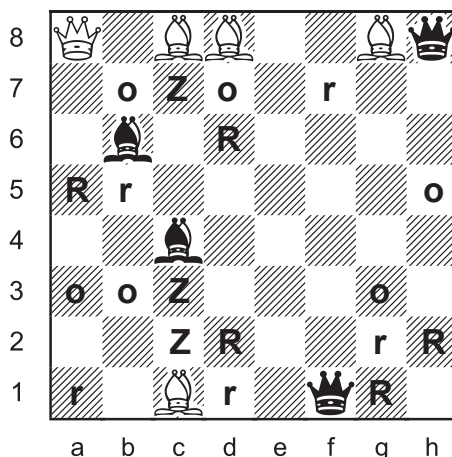
O/b6/c4 = ♗ caps = black

Putting some pieces in the diagram, here is what we know about the letters:

Z = (♙) or (♜) or (♙ + ♜)

O = (♗) or (♝) or (♗ + ♝)

R = ♔ + 2♖ + 2♞



caps = black

Consider the situation if all lowercase O's are bishops.

- | | | | |
|----|-------|----|-------|
| c1 | dark | b3 | light |
| c8 | light | b7 | light |
| d8 | dark | d7 | light |
| g8 | light | g3 | dark |
| a3 | dark | h5 | light |

A ratio of 6 light / 4 dark. Minus the two original bishops equals 5 light / 3 dark promotions. 6/2 or 4/4 is possible but not 5/3. Thus, at least one O must be a pawn. And hence, all the Z's are queens.

Z/c2/c3/c7 = ♙

With the knowledge of queens, we can now locate the kings.

First, the white (lowercase) king.

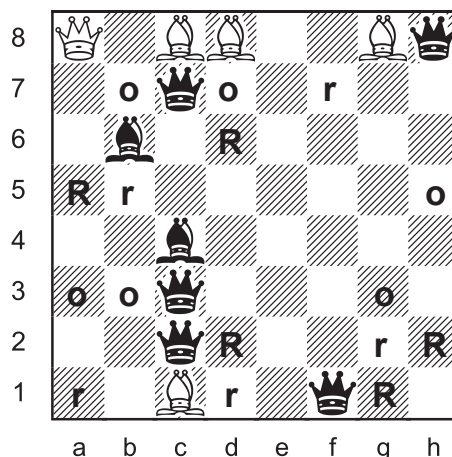
R/a1 ≠ ♙ Impossible check (c3). The last move could not be a capture. All captures were made by pawns. The non-capture 1.Qc3+ is impossible because the king would already be in check by the queen on h8.

R/b5 ≠ ♙ Impossible check (c4). The last move could not be a capture. The non-capture 1.Bc4+ is impossible because the king would already be in check by the queen on f1.

R/d1 ≠ ♙ Impossible double check (c2 f1).

R/f7 ≠ ♙ Impossible double check (c4 f1).

R/g2 = ♙ Only remaining lowercase R. Check (f1).



caps = black

Rebus 59 *continued*

The black king is easier to find.

R/a5 ≠ ♔ Both kings in check (a8 f1).

R/d2 ≠ ♔ Both kings in check (c1 f1).

R/g1 ≠ ♔ Adjacent to king (g2).

R/h2 ≠ ♔ Adjacent to king (g2).

R/d6 = ♔ Only remaining uppercase R.

Middle diagram.

Assigning rooks and knights to the R's is straightforward.

R/b5/f7 ≠ ♘ Both kings in check.

R/b5/f7 = ♖

R/a1/d1 = ♘

R/g1/h2 ≠ ♖ Impossible double check.

R/g1/h2 = ♘

R/a5/d2 = ♖ Double check (d2 f1).

Lower diagram. Only O's to go.

last move: **1...f2-f1=Q++**

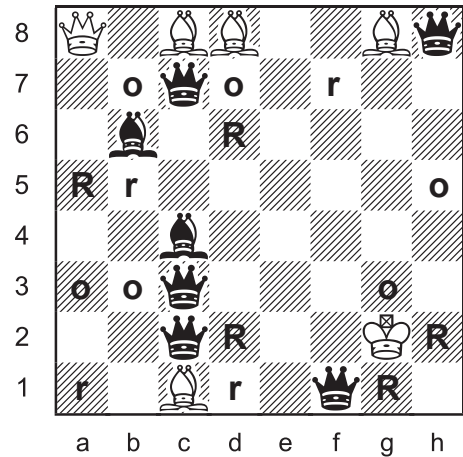
The only way to explain the double check.
The last move was not 1...e2xf1=Q++
because all captures were 'pawn x pawn'.

O/g3 = ♖ If O/g3 = ♖ Both kings in check.

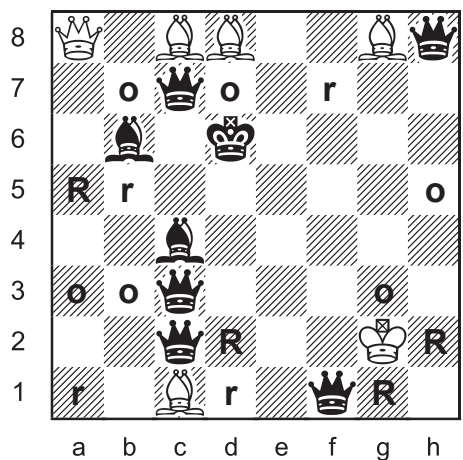
O/h5 = ♖ The four 'pawn x pawn' captures each had to occur in their own separate "sector". Each sector consists of two adjacent files (ab, cd, ef, gh). There cannot be white pawns on both files in a sector.

O/a3 = ♖ If O/a3 = ♖ Both kings in check.

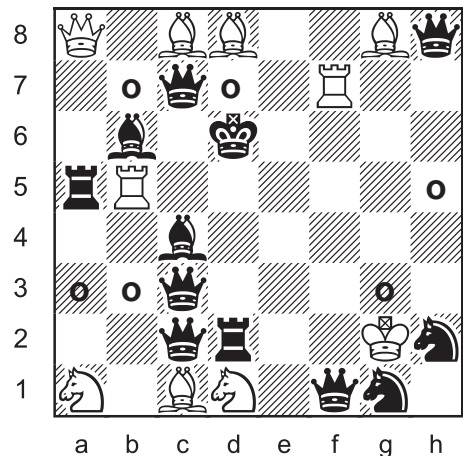
O/b3/b7 = ♖ There cannot be pawns on both files in sector ab.



caps = black



caps = black



Rebus 59 *concluded*

Everything is solved except for O/d7. Is it a white pawn or bishop? One more diagram and back to calculating the bishop ratio.

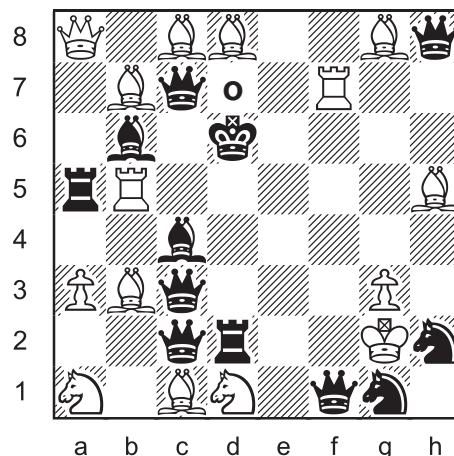
Not counting O/d7, White has 5 light / 2 dark bishops and 2 passed pawns that would promote on light squares. A total count of 7 light / 2 dark minus the 2 original bishops gives a ratio of 6 light / 1 dark.

Four 'pawn x pawn' captures cannot yield 7 light / 1 dark promotees. But 6 / 2 is possible.

O/d7 = ♖

If O/d7 = ♗ Impossible bishop ratio.

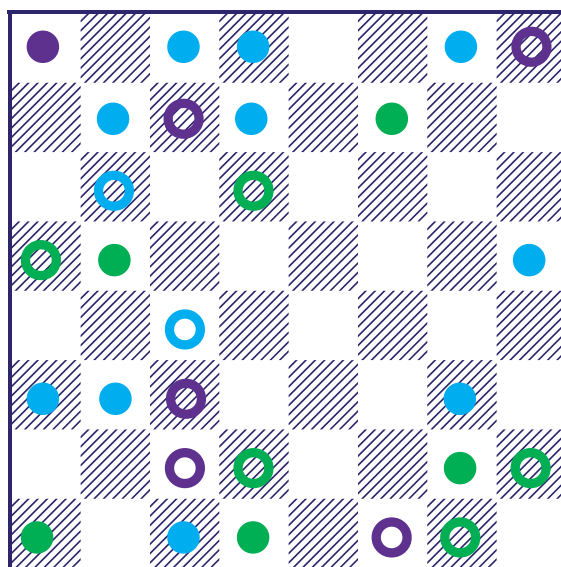
With O/d7 = ♖, it counts as a dark-square promotee and the bishop ratio is possible,



caps = black

Chess rebuses can be presented without letters. Other symbols, such as coloured buttons, work just as well. Check out this version of Zorro.

"ZORRO"



Multiambiguity Rebus

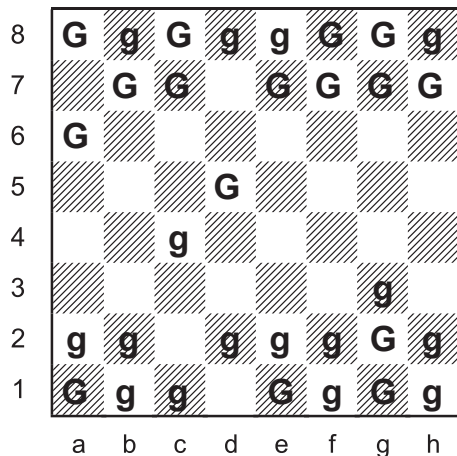
Each type of piece is represented by a certain colour button. Buttons of the same colour may represent more than one type of piece.

For example, blue buttons may be knights and pawns.

Solid buttons are one side (black or white), hollow buttons the other.

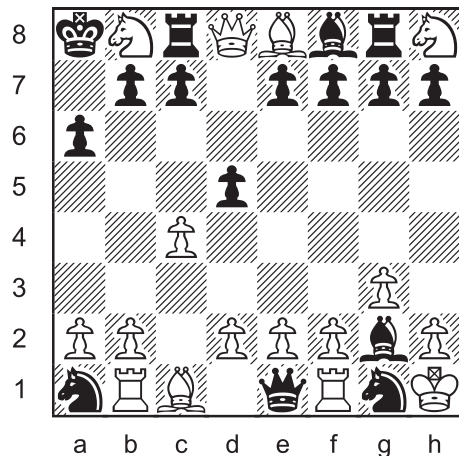
Determine the position and the last move.

Rebus 60



"golly gee"

G = king
queen
rook
bishop
knight
pawn
caps = black
last move:
1...Bh3-g2+



(16 + 16)

G =

All 32 pieces are on the board, so there were no promotions or captures.

All pawns are on their original file, with white below black. Thus, all the G's on the 2nd through 7th rank, except G/g2, are pawns.

caps = black

G/c1 = Unmoved pawns b2 d2.

G/b1 = No escape around a2 b2 Bc1.

G/a1 = Only piece that could hop to a1.

G/f8 = Unmoved pawns e7 g7.

G/b1 = No escape around g7 h7 Bf8.

G/a1 = Only piece that could hop to h8.

G/b8/d8/e8 ≠ No way for white king to get behind black pawns.

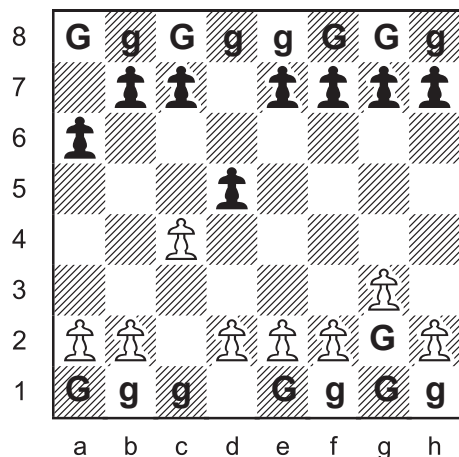
G/b8/d8/e8 ≠ No way for white rook to escape from 1st rank with unmoved bishop on c1.

G/f1/h1 = ()

G/e8 =

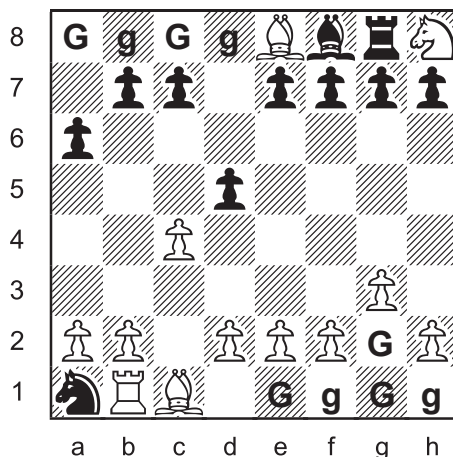
Only remaining lowercase G on a light square. White must have a light-square bishop.

G/b8/d8 = ()



caps = black

Rebus 60 *continued*



caps = black

G/g1/g2 ≠

Adjacent to white king regardless if king is on f1 or h1.

G/g1 ≠

Impossible check regardless if white king is on f1 or h1.

G/g1 ≠

Unmoved pawns f2 h2.

G/g1 =

G/e1/g2 ≠

No way for black rook to get behind white pawns with an unmoved bishop on c1.

G/e1 ≠

Unmoved pawns d2 f2.

G/e1 ≠

If G/e1 =

G/f1 =

Impossible check.

G/e1 =

G/h1 =

If G/f1 = Impossible check (e1).

G/f1 =

G/g2 =

Check.

last move: 1...Bh3-g2+



Rebus 60 *concluded*

One more diagram. Still to assign: white queen and knight, black king and rook.

G/b8 ≠ ♔ Both kings in check regardless if black king is on a8 or c8.

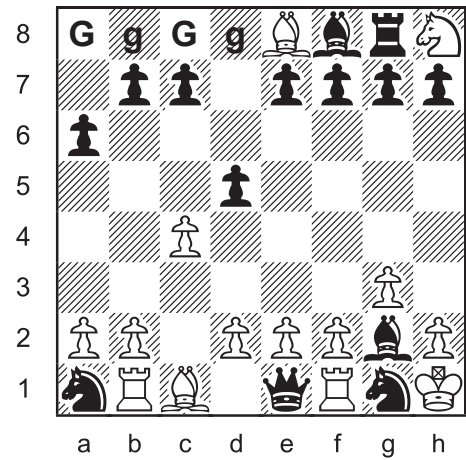
G/b8 = ♞

G/d8 = ♔

G/c8 ≠ ♕ Both kings in check (d8 g2).

G/c8 = ♖

G/a8 = ♔



Andrey and the other guy

We hope you enjoyed the puzzles.

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