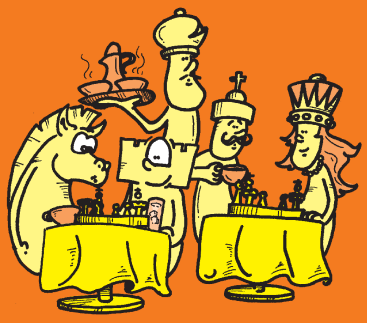


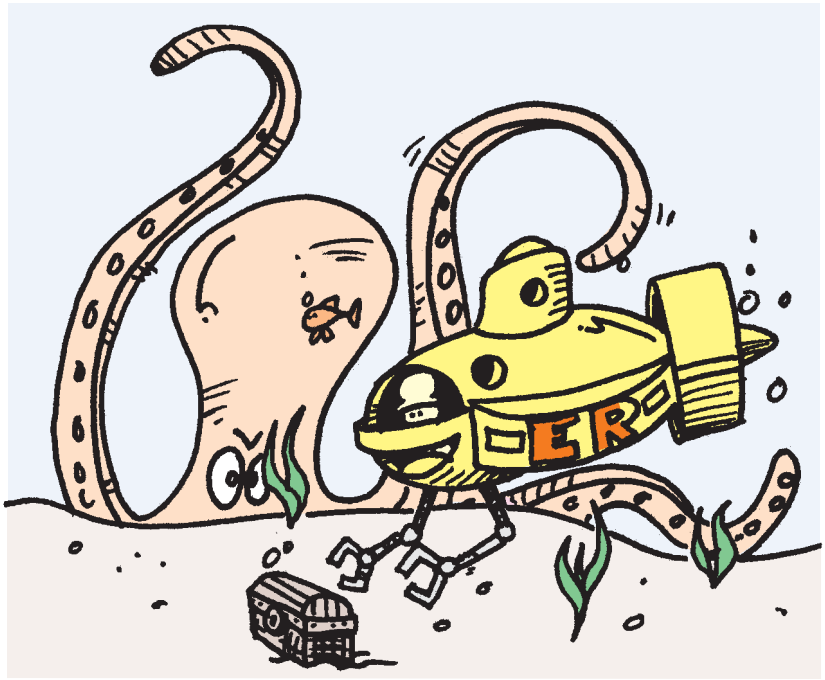
THE PUZZLING SIDE OF CHESS

number 192 July 31, 2020

RETURN to REBUSLAND

Jeff Coakley & Andrey Frolkin

Greetings from Rebusland! All visitors are welcome. This sequel to our previous article presents a survey of special stipulations used in chess rebuses. Original examples are given for each of the following types of problems: misspeller, ghost letter, piece addition, double encoder, multicoder, and ambiguity. We finish off with a pair of new ideas.

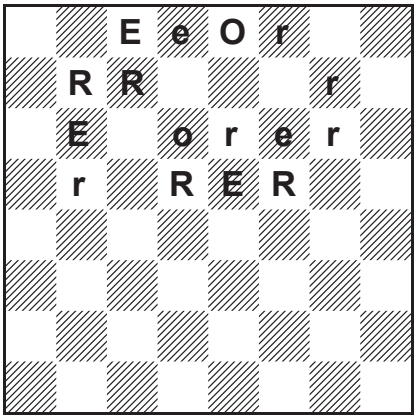


Our friends are all aboard.

The first joint composition ever published by us was a “misspeller” in the excellent Spanish chess magazine *Problemas* (April 2016). It was also credited to Ukrainian composer Sergey I. Tkachenko who came up with the concept of a rebus in which a letter on one square has to be changed to legalise the position. Dr. Tkachenko is currently chief physician at the Chernobyl Medical Centre. Best wishes to him.

Rebus 38

"error"

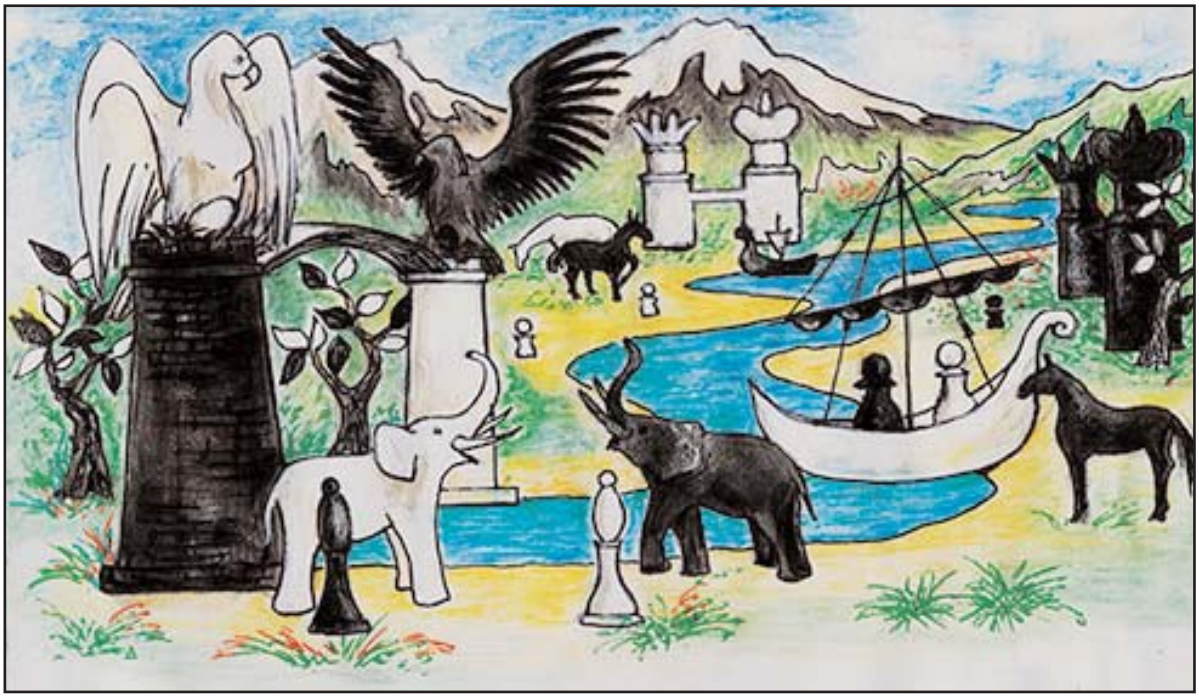


Rebus Misspeller

Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
However, a letter on one square is wrong.
Correct that letter to create a legal position.

Any single letter may be changed to one of the other letters in the puzzle and/or to upper or lower case.
For example, changing the E on c8 to e, R, or r is allowed.

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

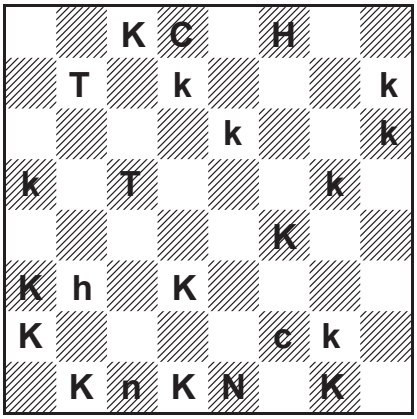


Blue Serenades in Rebusland

The next misspeller is much more challenging. “Triple redundancy”, a key element in this kind of rebus, is employed to the max.

Rebus 39

“*Tkachenko*”



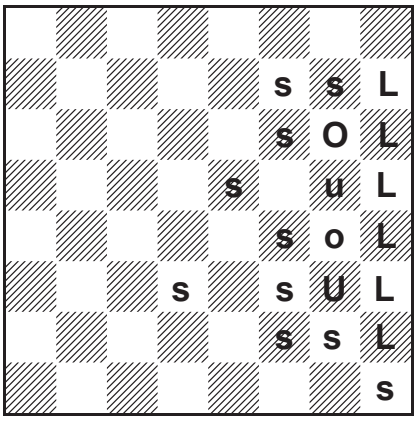
Rebus Misspeller

Each letter represents a different type of piece. Uppercase is one colour, lowercase is the other. However, a letter on one square is wrong. Correct that letter to create a legal position. Determine the position and the last move.

“Ghost letter” rebuses also made their debut in *Problemas* (July 2016). Many thanks to Joaquim Crusats for his assistance in preparing and publishing our article entitled “New Directions in Chess Rebuses”.

Rebus 40

“*soul*”



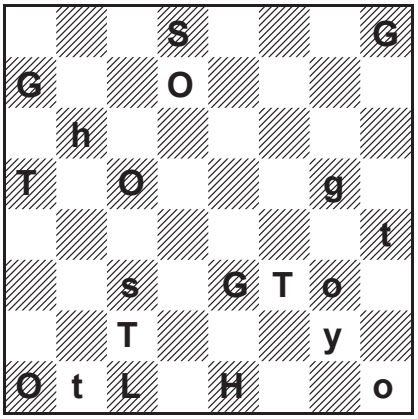
Ghost Letter Rebus

Each letter represents a different type of piece. Uppercase is one colour, lowercase is the other. Remove all instances of one letter to legalise the position. For example, the two O’s could be removed. Determine the position and the last move.

Eerie experience 41 increases the number of unexplained phenomena. We hope it makes you cheery, not leery or weary.

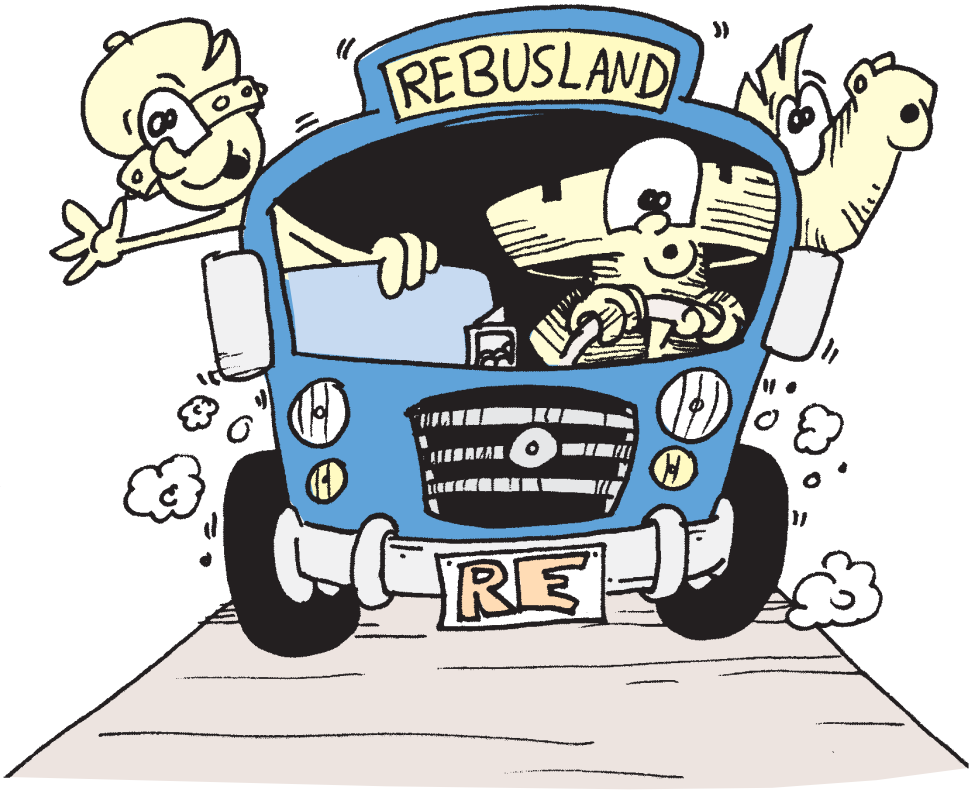
Rebus 41

"*ghostly*"



Ghost Letter Rebus

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

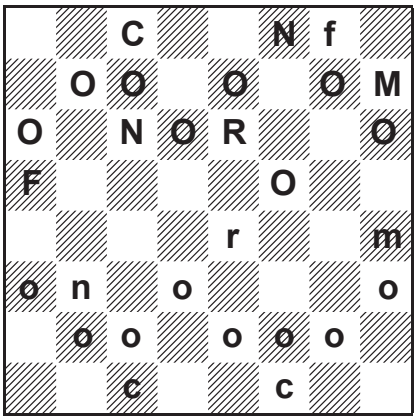


The RE bus is calling us.

The initial “add pieces to legalise the position” rebus appeared in the ChessProblems.ca *Bulletin* (December 2018). We are very grateful to editor Cornel Pacurar for including so many of our rebus articles in this impressive online magazine.

Rebus 42

“*Conform.*”



Piece Addition Rebus

Each letter represents a different type of piece.
Uppercase is one colour, lowercase is the other.
Add one or more pieces to legalise the position.
Determine the position and the last move.

If you’re reading this article, then you no doubt agree with us that rebuses are fun puzzles. Here’s one without the chess.

Riddle: “*When the world drags us down, what keeps our spirits up?*”

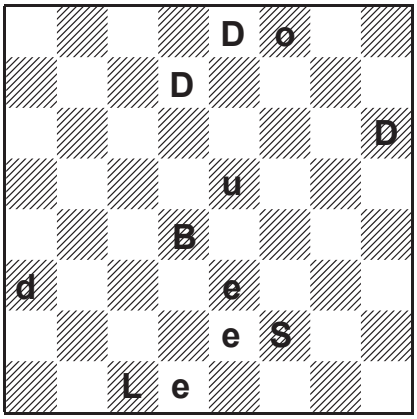
Unlike most languages, the consonant sounds in English can be represented by more than one letter. For example, C and S sound alike in the words ‘centre’ and ‘side’. Or C and K in ‘cat’ and ‘king’, F and V in ‘of’ and ‘love’, and G and J in ‘George’ and ‘Jane’.

The same kind of “double encoding” can be applied to chess rebuses, an idea of Nina Omelchuk. Besides her artistic skills, she has a knack for conceiving new stipulations in chess problems!

In the following puzzle, only one type of piece may be represented by two different letters. For the original compositions of this kind, see “Double Encoded Rebuses” in *Problemas* (April 2019).

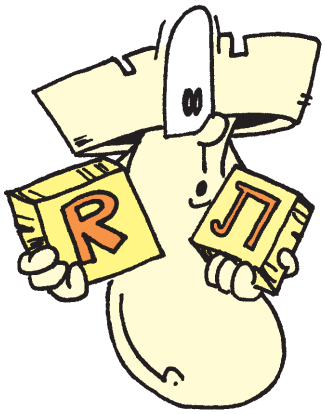
Rebus 43

“*doubles*”



Double Encoded Rebus

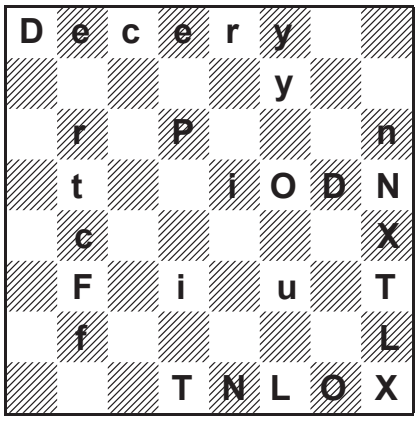
Each letter represents a type of piece.
Uppercase is one colour, lowercase is the other.
One type of piece is encoded by two letters.
For example, perhaps D and O are both knights.
The other pieces are each represented by a different letter.
Determine the position and, if possible, the last move.



The natural progression from double encoders was to eliminate the restrictions that only one type of piece could be represented by two letters. In a “multicoder”, <u>any number of piece-types</u> can be encoded by <u>two or more letters</u>. This greatly increases the opportunities for incorporating retro content.

Rebus 44

“*decryption flux*”



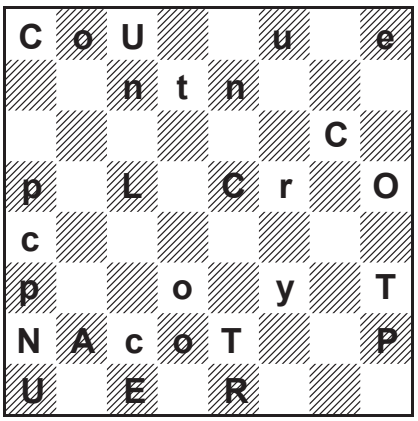
Multicoded Rebus

Each letter represents a type of piece.
Uppercase is one colour, lowercase is the other.
<u>Different letters can encode the same type of piece.</u>
For example, perhaps R, T, and L are all rooks.
There is no limit on how many pieces are multicoded.
More than two letters may represent the same type of piece.
Determine the position and the last move.

Good luck finding counterplay in this position.

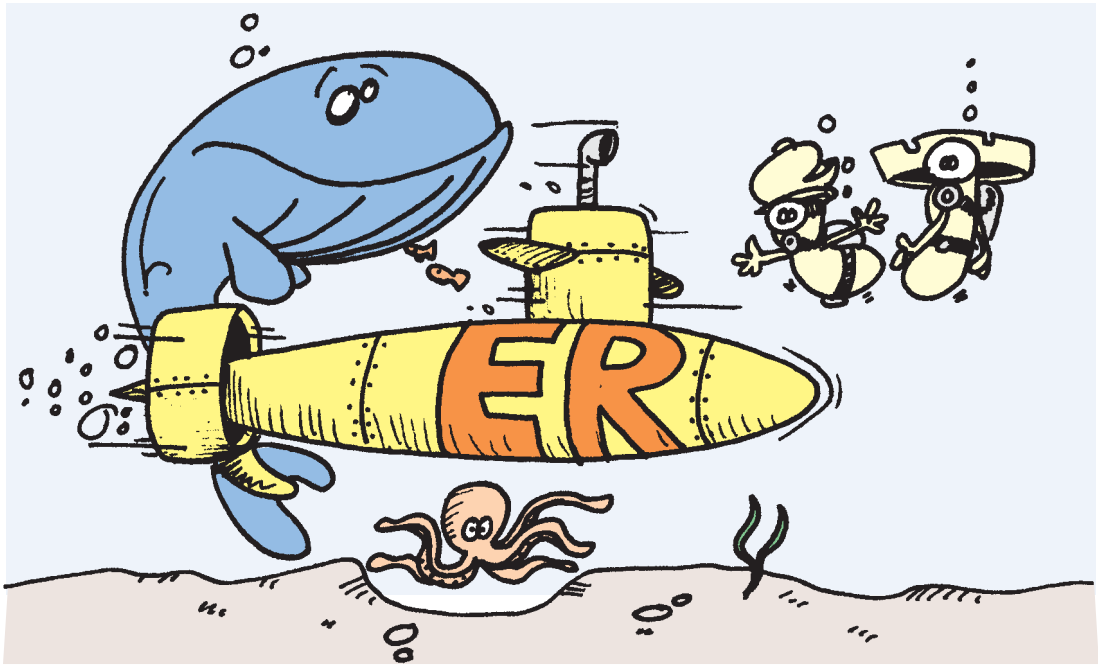
Rebus 45

"*counterplay*"



Multicoded Rebus

Each letter represents a type of piece.
Uppercase is one colour, lowercase is the other.
Different letters can encode the same type of piece.
For example, perhaps R, T, and L are all rooks.
There is no limit on how many pieces are multicoded.
More than two letters may represent the same type of piece.
Determine the position and the last move.



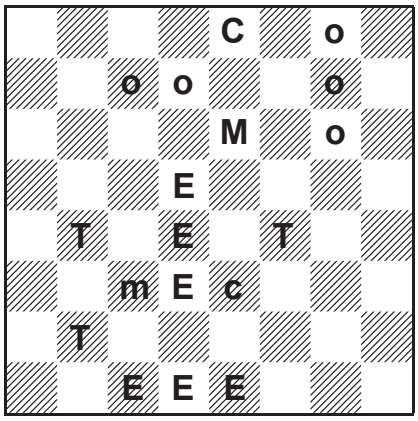
Sub ER. In the shade, safe beneath the waves.

Returning to the English language analogy, some letters can represent more than one consonant sound. For example, C in ‘city’ and ‘country’, or G in ‘gem’, ‘get’, and ‘genre’. Less obvious is S in ‘song’ and ‘dogs’.

As before, this “ambiguity” can be applied to rebuses. Once again, the originator of the idea was Nina Omelchuk, wife and muse of co-author Andrey Frolkin. To keep things in the family, the photo below of comet Neowise was taken by their son Alex.

Rebus 46

“*comet*”



Ambiguity Rebus

Each letter represents one or two types of pieces.
Uppercase is one colour, lowercase is the other.
The same kind of piece may not be represented by two different letters.
For example, if A is rook and pawn, B cannot be a rook or pawn.
Determine the position and, if possible, the last move.

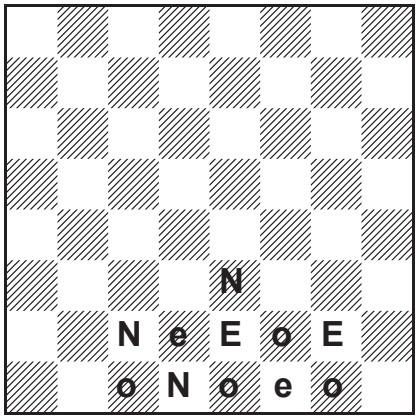
Comets come, comets go. *Kiev 2020*

“The Ambiguous Nature of All Things” has been pondered by us in two recent articles in the ChessProblems.ca *Bulletin* (December 2019 and June 2020). The title is perhaps as ambiguous as the problems themselves.

Bring on Neo, hero of *The Matrix.* A comet streaks across the sky. Is it real or a programmed figment of our imagination? Decipher the code and reveal the truth.

Rebus 47

“*Neo*”



Ambiguity Rebus

Each letter represents <u>one or two types</u> of pieces.
Uppercase is one colour, lowercase is the other.
The same kind of piece may not be represented by two different letters.
Determine the position and, if possible, the last move.

That concludes the survey of special stipulations, though the list was not exhaustive. One omission was “orientation” rebuses in which the direction of the board must be determined. We have an article on this topic planned for later in the year.

All of the problems presented here have been “standard rebuses”. Pieces for both sides are represented by the same letters with colours distinguished by upper and lower case. But these stipulations could also be used with other types of rebuses (split-alphabet, split-colour, or colour-free). An expansive tract of Rebusland yet to be explored.

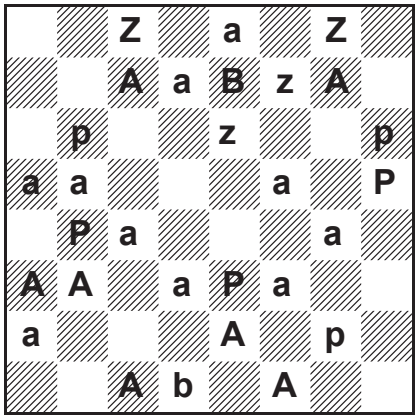
For an index of our published rebuses and articles since 2016, see the appendix at the end of column 188. Currently 164 problems, counting those in this article. Most are readily accessible online.

Into the future now. “The Continuity of Ambiguity” inevitably led us to rebuses in which letters may represent more than two types of pieces. In “multiambiguity” problems, there is no restriction on how many pieces a letter may represent. This stipulation has proven to be exceptionally productive for the expression of retro concepts.

Please stay tuned. *Puzzling Side* column 194 (September 2020) will feature a multitude of multiambiguities. In the meanwhile, here is a teaser. Perhaps a stumper as well. Dedicated to two extremes of the popular music spectrum. We like them both.

Rebus 48

“*Abba Zappa*”



Multiambiguity Rebus

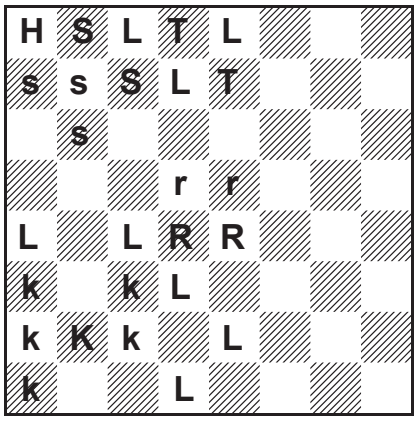
Each type of piece is represented by a different letter.
Letters may represent more than one type of piece.
Uppercase is one colour, lowercase is the other.
Determine the position and the last move.

For example, in a rebus lettered ‘FUN’, maybe F is king/queen/pawn and U is rook/bishop. Then N has to be knight.

The final puzzle is a curiosity that combines two special stipulations in one problem. A helter skelter combo of ambiguity and multicoding. Guaranteed to twist your brain.

Rebus 49

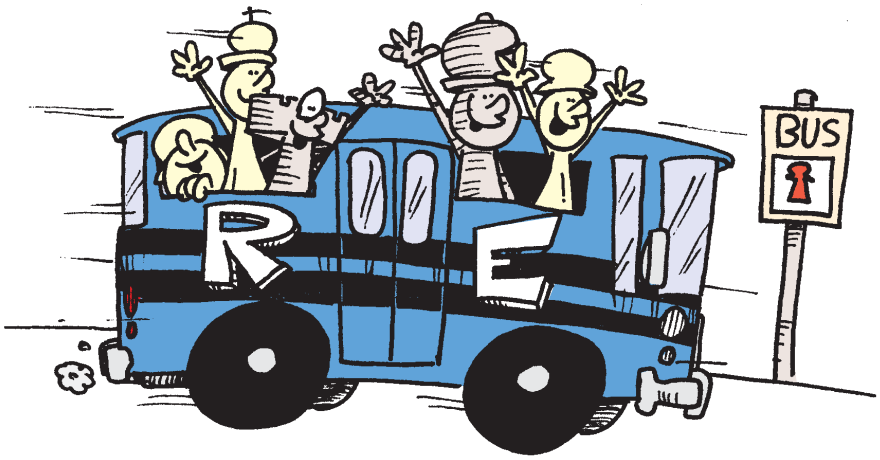
"*helter skelter*"



Multiambiguity and Multicode Rebus

Pieces are represented by letters.
Uppercase is one colour, lowercase is the other.
Letters may represent more than one type of piece (multiambiguity).
Different letters can encode the same type of piece (multicoding).
No overlapping between ambiguity and multicoding is allowed.
Determine the position and the last move.

For example, in a rebus lettered 'ABCDEF, if A is ambiguous, standing for rook and knight, then no other letter can stand for rook or knight. If the bishops are multicoded by BCD, then letters BCD cannot be ambiguous. Letters EF would be some combination of king, queen, or pawn.



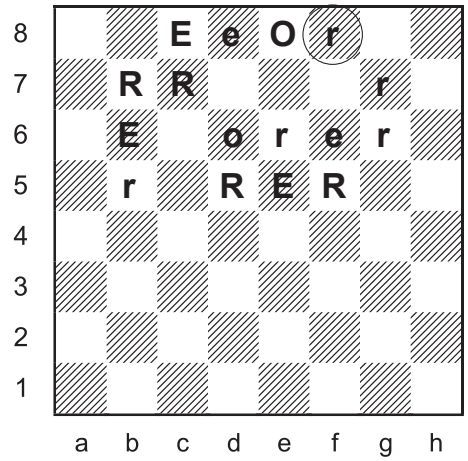
All of our joint articles are embellished with artwork by Antoine Duff and Nina Omelchuk. *Rebusland Productions* would not be the same without them. Lucky us.

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.

Rebus 38



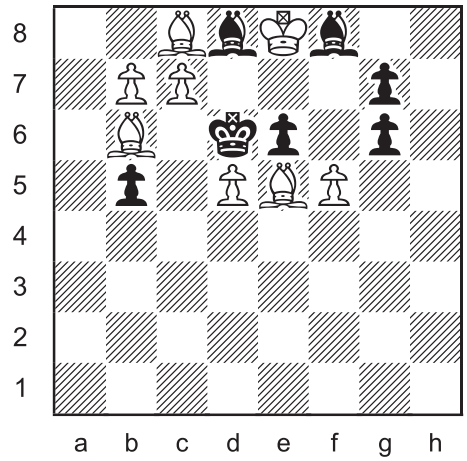
"*error*"

change
r on f8 to e

E = bishop
R = pawn
O = king

caps = white

last move:
1.B>e5+

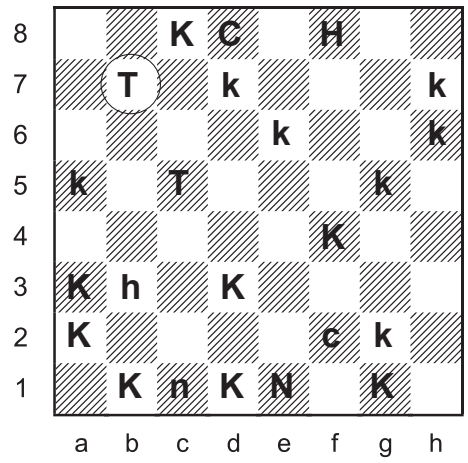


O = ♔	Letter with one uppercase, one lowercase.	(8 + 7)
R ≠ ♘ (b7 f5 g7)	Impossible multiple checks. There are <u>three</u> knights giving check. Even if one R is changed, the position will still be illegal because of the two remaining checks. This "triple redundancy" is a standard tactic in misspellers.	
R ≠ ♗♕ (b5 c7 g6)	Impossible multiple checks. Even if one R is changed.	
R ≠ ♖ (d5 e6 f8)	If R = ♖, there are three checks. The double check 1...e7xf8=R++ is possible if the R on d5 is changed. But the position is still illegal because there will be a third check by letter E, regardless of piece assignment.	
R = ♙	A pawn cannot be on the last rank, therefore the 'r' on f8 must be changed to 'E' or 'e'.	
caps = white	If caps = black, there would be an illegal check on the white king by a black pawn on c7.	
E ≠ ♕♖ (b6 d8)	Both kings in check.	
E ≠ ♘ (c8 f6)	Both kings in check.	
E = ♗	White is in check from e5. Last move: 1.B>e5+. This move may or may not have been a capture.	

Change 'r' on f8 to 'e'. If changed to 'E', impossible double check (e5 f8).

Rebus 39

"*Tkachenko*"

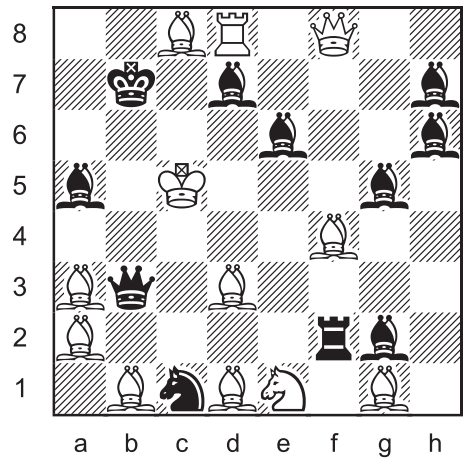


change
T on b7 to t

T = king
K = bishop
C = rook
H = queen
N = knight

caps = white

last move
1.c7-c8=B+



(12 + 11)

♔ ≠ (CHN) These three letters all have one uppercase and one lowercase, but none are king. In each case, it is impossible to assign any piece to letter K because of a triple redundancy of checks. Changing any letter will still leave an illegal position with two checks.

If C = ♔

K ≠ ♗	Four instances on 1st and 8th rank.
K ≠ ♗♕ (a5 g1 g5)	Impossible multiple checks.
K ≠ ♖ (a2 d7 f4)	Impossible multiple checks.
K ≠ ♘ (d1 d3 e6)	Impossible multiple checks.
K = Ø?	No piece can be assigned to K.

If H = ♔

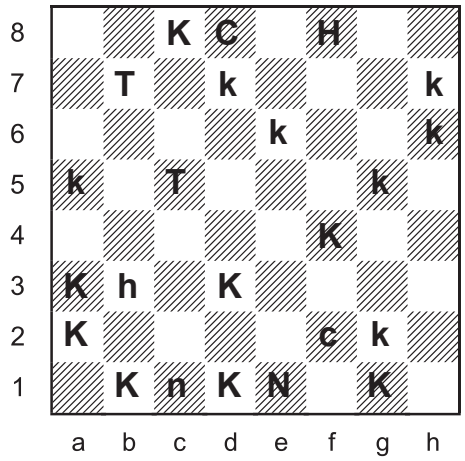
K ≠ ♗♕ (a2 d1 h6)	Impossible multiple checks.
K ≠ ♖ (a3 b1 d3)	Impossible multiple checks.
K ≠ ♘ (d7 e6 h7)	Impossible multiple checks.
K = Ø?	No piece can be assigned to K.

If N = ♔

K ≠ ♗♕ (a3 a5 f4)	Impossible multiple checks.
K ≠ ♖ (b1 d1 e6)	Impossible multiple checks.
K ≠ ♘ (a2 d3 g2)	Impossible multiple checks.
K = Ø?	No piece can be assigned to K.

T = ♔ One of the two capital T's (b7 c5) must be changed to lowercase in order to create a pair of kings.

Rebus 39 *continued*



Since the misspelt letter is T, no other letters can be changed.
CHKN ≠ ♙ On 1st or 8th rank.

Changing 'T' on c5 to 't' results in an illegal position.

K ≠ ♗♕ (a3 g2)	Both kings in check.
K ≠ ♖ (c8 d7)	Both kings in check.
K ≠ ♘ (a5 d3)	Both kings in check.
K = Ø?	No piece can be assigned to K.

Therefore, change 'T' on b7 to 't'.

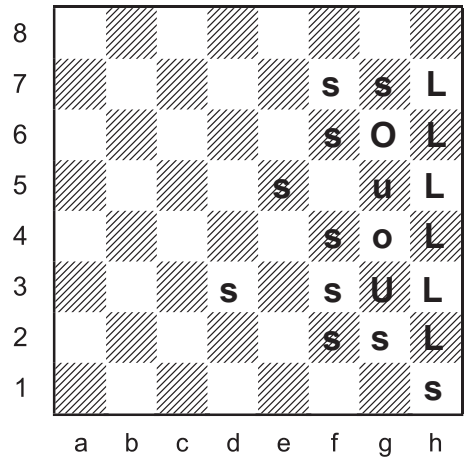
K ≠ ♖♕ (a5 g5)	Impossible double check.
K ≠ ♘ (d7 e6)	Impossible double check.
K = ♗	Check (c8).

last move 1.c7-c8=B+

caps = white	Uppercase promotion on 8th rank.
C ≠ ♕ (f2)	Both kings in check.
C ≠ ♘ (d8)	Impossible double check.
C = ♖	
H ≠ ♕ (f8)	Both kings in check.
H = ♘	
N = ♕	

By the way, the solved position is legal. Nine missing pieces is more than sufficient to explain 11 promoted bishops (6 white, 5 black).

Rebus 40



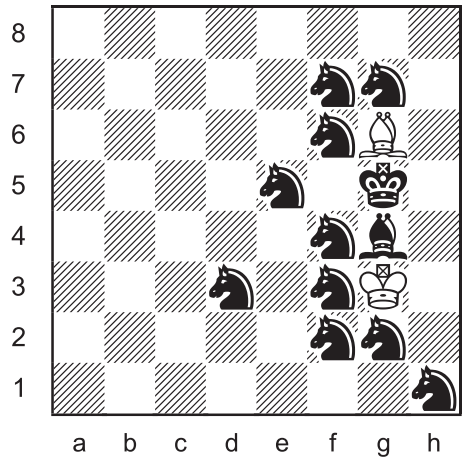
"*soul*"

remove
all L's

S = knight
O = bishop
U = king

caps = white

last move
1...h2-h1=N#



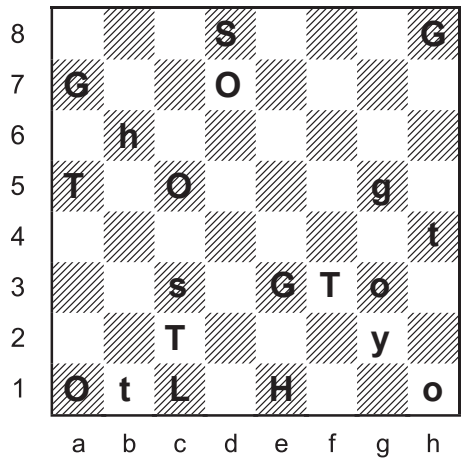
(2 + 12)

♔ = (OU) Letters with one uppercase and one lowercase.
L ≠ ♙ Sextupled pawns on the h-file would require 15 captures.
S ≠ ♙ Ten lowercase S's (also one on 1st rank).
O ≠ ♔ If O = ♔
L ≠ ♗♕ (h3 h5) Impossible double check.
L ≠ ♖ (h4) Impossible check.
L ≠ ♘ (h2 h6) Impossible double check.
L = Ø? No piece can be assigned to L.
S ≠ ♗♕ (d3 f7) Impossible double check.
S ≠ ♖ (f6 g7) Impossible double check.
S ≠ ♘ (e5 f4) Impossible double check.
S = Ø? No piece can be assigned to S.
Letters S and L cannot both be removed, so O ≠ ♔

U = ♔

L ≠ ♗♕ (h4 h6) Impossible double check.
L ≠ ♖ (h5) Impossible check.
L ≠ ♘ (h3 h7) Impossible double check.
L = Ø? No piece can be assigned to L.
Therefore, <u>remove all L's</u>.
S ≠ ♗♕ (f2 f4) Impossible double check.
S ≠ ♖ (f3 g2) Impossible double check.
S = ♘ <u>Check</u> (h1).
last move 1...h2-h1=N#
caps = white Lowercase promotion on 1st rank.
O ≠ ♕♖ (g6) Both kings in check.
O ≠ ♙ All 8 black pawns promoted to knights.
O = ♗

Rebus 41



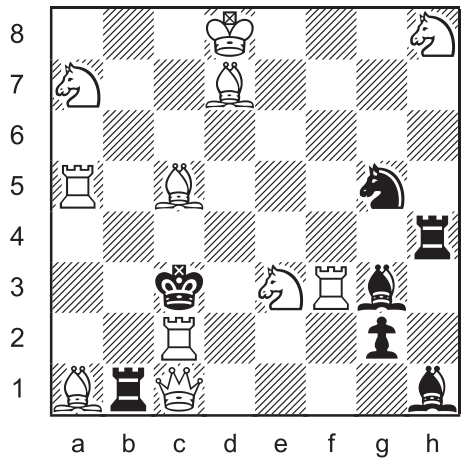
"*ghostly*"

remove all H's

G = knight
O = bishop
S = king
T = rook
L = queen
Y = pawn

caps = white

last move
1.Rb2xc2++



(11 + 7)

♔ = (HS) Letters with one uppercase and one lowercase.

Y = ♙ There are seven letters, so all six types of pieces are on the board. Y is the only letter not on the 1st or 8th rank.

H ≠ ♔ If H = ♔

The king on b6 is in a <u>check</u> along a diagonal. One of the letters G(a7), O(c5), S(d8), T(a5) must be a queen or bishop.

Now consider letter O.

If O's are not removed.

O ≠ ♕♗ (g3)	Both kings in check.
O ≠ ♖ (h1)	Both kings in check.
O ≠ ♘ (d7)	Impossible double check.
O = Ø?	No piece can be assigned to O.

If O's are removed.

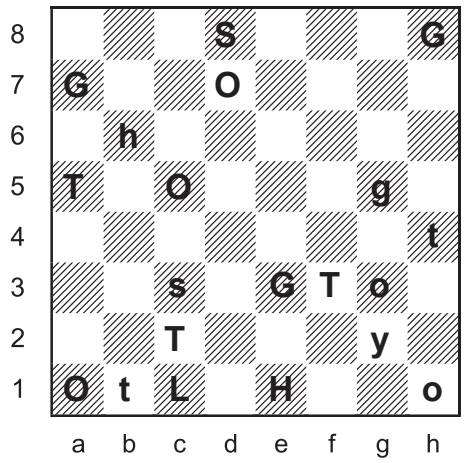
G ≠ ♕♗ (a7 e3)	Impossible double check.
S ≠ ♕♗ (c3 d8)	Both kings in check.
T ≠ ♕♗ (a5 h4)	Both kings in check.
(♕♗) = Ø?	Queen and bishop cannot both be assigned.

S = ♔ The king on c3 is in a <u>check</u> along a diagonal. One of the letters G(h8), H(e1), O(a1), T(a5) must be a queen or bishop.

L = ♕

G ≠ ♕ (g5 h8)	Both kings in check.
H ≠ ♕ (b6 e1)	Both kings in check.
O ≠ ♕ (a1 c5)	Impossible double check.
T ≠ ♕ (a5 c2)	Impossible double check.

Rebus 41 *continued*



O = ♗ G ≠ ♗ (g5 h8) Both kings in check.
H ≠ ♗ (b6 e1) Both kings in check.
T ≠ ♗ (a5) Impossible check. No last move.

caps = white If caps = black, it is impossible for a white bishop to be on h1 with a white pawn on g2.

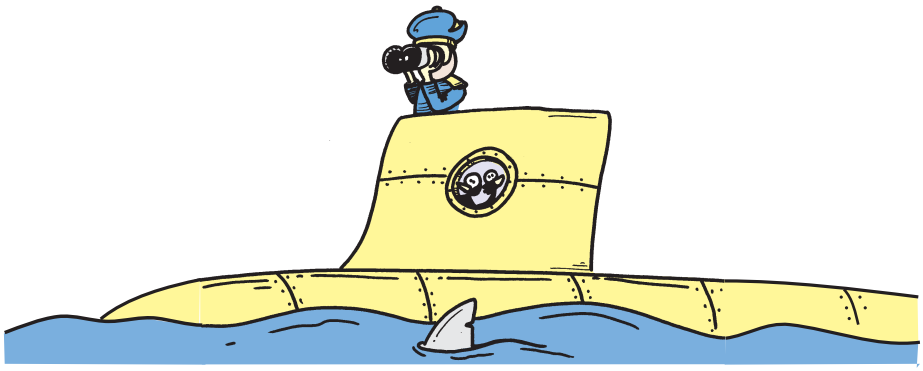
The king on c3 is in <u>check</u> by a white bishop on a1. This could only happen by means of a discovered check.

T = ♖ The only possibility for a discovered check.

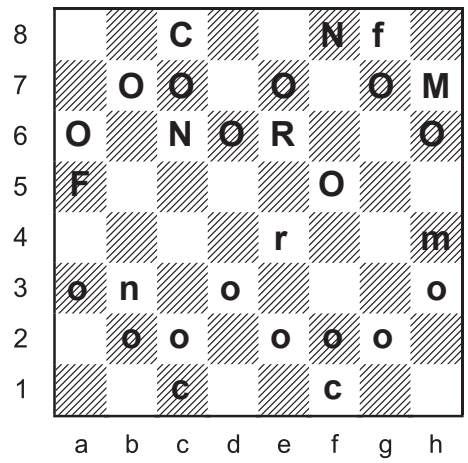
last move 1.Rb2xc2++ This move had to be a capture because otherwise the black king (c3) would already be in check from the queen on c1.The type of piece captured is indeducible.

One of the letters GH is a knight and the other must be removed.

G = ♘ If the G's are removed, there is a triple check (a1 c2 f3).
<u>Remove all H's</u>. The silent 'h' is not needed in the word 'ghost' anyhow.



Rebus 42



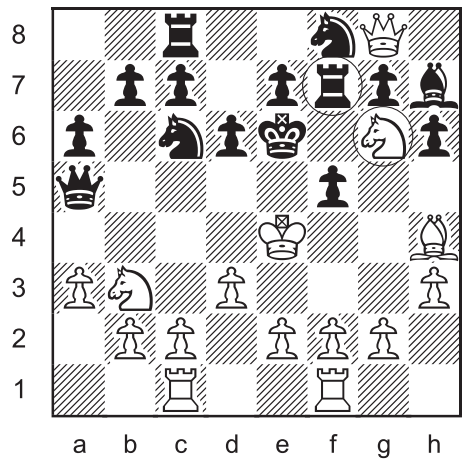
"*Conform.*"

add C/f7 n/g6

C = rook
O = pawn
N = knight
F = queen
R = king
M = bishop

caps = black

last move
1...f6-f5+



(15 + 15)

O = ♙ There are sixteen O's and four missing pieces (2w 2b).

If O ≠ ♙ There are 12 promoted pieces, which would require 4 'pawn x pawn' captures. That would account for all 16 pawns, with none remaining on the board. But with six letters in the puzzle, there must be pawns.

See "pro-passer theory", column 188, page 11.

caps = black The "inverted pawn formation" with caps = white would require 8 captures.

♔ = (FMR) Letters with one uppercase and one lowercase.

♕ = (FMR) Letters with one uppercase and one lowercase. With all pawns on the board, there were no promotions.

C = ♖ It is impossible for a white rook to have escaped from behind the white pawns. Since all six letters have lowercase instances, there must be a white rook on the board. C is the only letter behind the white pawns.

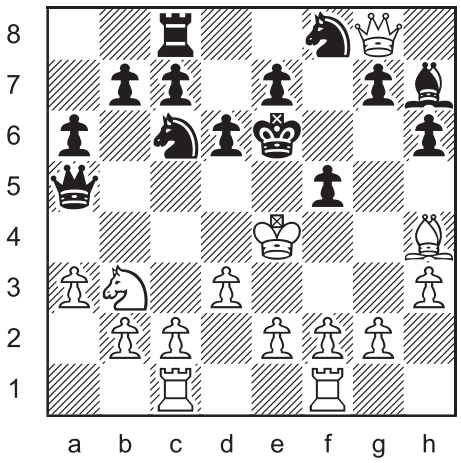
N = ♘ N ≠ ♗ (b3) With unmoved pawns on e2 and g2, we know the white light-square bishop was captured on f1. So the white piece on light square b3 cannot be a bishop.

M = ♗ Since all six letters have lowercase instances, White must have a bishop. It has to be dark because the light-square bishop was captured on f1. M is the only remaining lowercase letter on a dark square (h4).

R = ♔ If F = ♔ Both kings in check (♘b3 ♗h7).

F = ♕ See diagram next page.

Rebus 42 *continued*



(14 + 14)

Both kings are in check (f5 g8). The position must be legalised by adding pieces. The available pieces are a white knight and a black rook. With unmoved pawns on e7 and g7, the missing black bishop was captured on f8.

The check from the pawn on f5 is inevitable. It cannot be eliminated by adding a piece. So a piece must be added on f7 to block the check from the queen on g8. Then the last move had to be 1...f6-f5+. The capture 1...g6xf5+ is impossible since that would require two captures by the pawn (from f7 and g6). White is missing two pieces, but one was captured on f1.

Before 1...f6-f5+, with a piece added on f7, the position is still illegal because White is already in check by the bishop on h7. So a piece must be added on g6 to block that check.

With the black pawn back on f6, there was no way for a black rook to escape from behind the black pawns. Therefore, the missing black rook must be added on f7 (inside the pawns) and the missing white knight on g6.

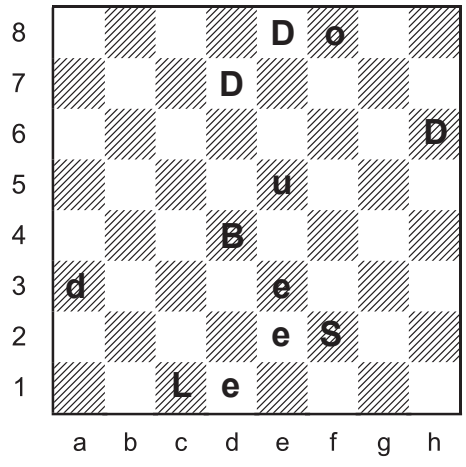
REBUS page 5

When the world drags us down,
what keeps our spirits up?

"Belief in Better Times"

bee-leaf-N-bettor-times

Rebus 43

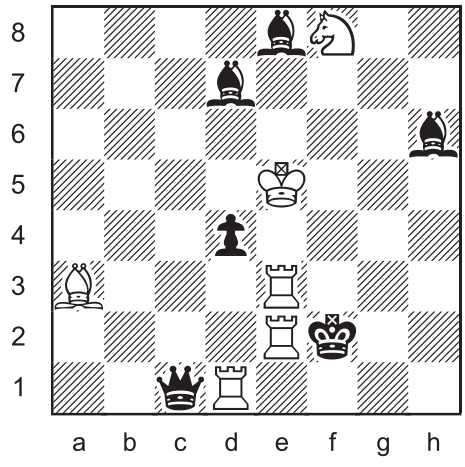


"doubles"

D = bishop
O = knight
U = king
B = pawn
L = queen
E = rook
S = king

caps = black

last move:
1.R>e2+



(6 + 6)

♔ = (OU)(BLS) There are no letters with one uppercase and one lowercase. So the kings must be double encoded by two of the letters with a single instance. All other pieces are represented by one letter.

♙ = (BUS) Other letters on 1st or 8th rank.

Uppercase king (BLS) is in <u>check</u> by E regardless of piece assignment.

O ≠ ♔ If O = ♔, the king on f8 is in check by D regardless of piece assignment. Both kings in check.

U = ♚ The only other lowercase singleton.

D = ♗ D ≠ ♕♖ (e8) Both kings in check.
D ≠ ♘ (d7) Both kings in check.

B ≠ ♔ Adjacent to king on e5.

L ≠ ♔ If L = ♔ Impossible double check by D (♗a3) and one of the E's.

S = ♔ The only other uppercase singleton.

B = ♙ Only remaining letter not on 1st or 8th rank.

caps = black If caps = white Check (d4). Both kings in check.

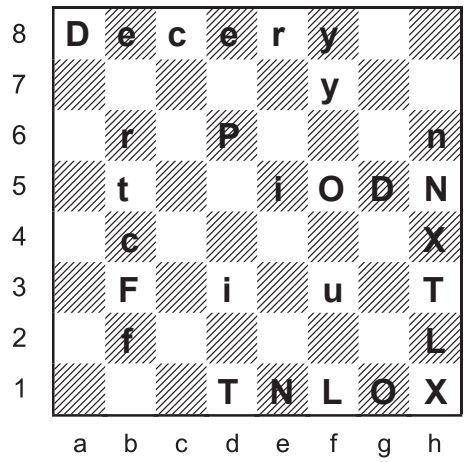
O = ♘ D ≠ ♕♖ (e8) Both kings in check.
D ≠ ♘ (d7) Both kings in check.

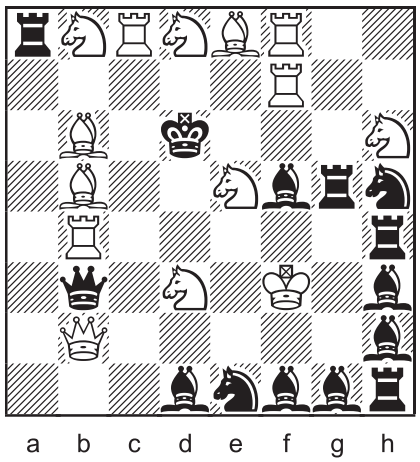
E = ♖ E ≠ ♕ (e2 e3) Impossible double check.

last move 1.R>e2+

L = ♕

Rebus 44





(14 + 14)

"d*ecryption flux*"

D = rook
E = knight
C = rook
R = bishop
Y = rook
P = king
T = bishop
I = knight
O = bishop
N = knight
F = queen
L = bishop
U = king
X = rook
caps = black
last: 1...e2-e1=N#

There are 14 different letters.

2T 2N F 2D 2L 2O 2X P
t n f 2c 2e 2i 2r 2y u

UP = ♔ The only letter with one uppercase and one lowercase is F. However, the F's are not kings because they are adjacent. Therefore the two kings are double encoded (represented by separate letters). The candidates are the singletons (letters with only one instance). U is the only lowercase singleton. P is the only uppercase singleton. Things are looking up.

Ten different letters are on the 1st or 8th rank. The only letters that can be pawns are I and F. If there are any pawns.

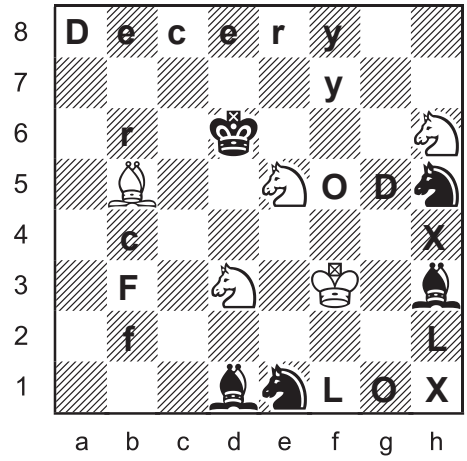
One of the kings is in <u>check</u> by N (♖h6, ♗h5, or ♘e1)
N ≠ ♕ (h5 h6) Both kings in check.
One of the kings is in <u>check</u> by T (♖h3, ♗d1, or ♘b5)
T ≠ ♕ (d1 h3) Impossible double check.
The only way to explain the two checks is a double check with a bishop on d1 and knight on e1. Last move 1...e2-e1=N++.

T = ♗
N = ♘
caps = black Promotion on 1st rank. U is the white king, P the black.

I = ♘ I ≠ ♕♗♙ (e5) Both kings in check.
I ≠ ♖ (d3) Both kings in check.

See diagram next page.

Rebus 44 *continued*



caps = black

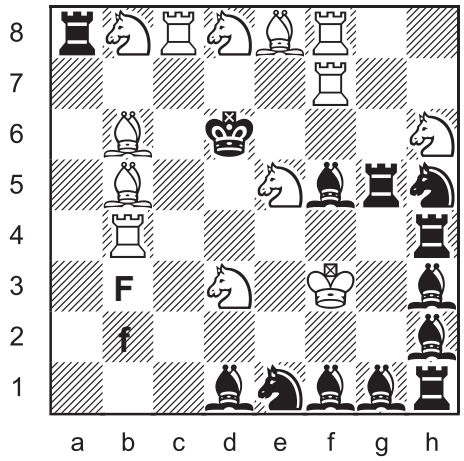
Now the identity of other letters is easily revealed. Pieces must be assigned to avoid checks. Only the F's require some retro thought.

D = ♖	D ≠ ♕♗ (a8)	Triple check.
	D ≠ ♘ (g5)	Triple check.
E = ♘	E ≠ ♕♖ (d8)	Both kings in check.
	E ≠ ♗ (b8)	Both kings in check.
C = ♖	C ≠ ♕♗ (b4)	Both kings in check.
	C ≠ ♘ (c8)	Both kings in check.
R = ♗	R ≠ ♕♖ (c6)	Both kings in check.
	R ≠ ♘ (e8)	Both kings in check.
Y = ♖	Y ≠ ♕♗ (f8)	Both kings in check.
	Y ≠ ♘ (f7)	Both kings in check.
L = ♗	L ≠ ♕♖ (f1)	Triple check.
	L ≠ ♘ (h2)	Triple check.
O = ♗	O ≠ ♕♖ (f5)	Triple check.
	O ≠ ♘ (g1)	Triple check.
X = ♖	X ≠ ♕♗ (h1)	Triple check.
	X ≠ ♘ (h4)	Triple check.

See diagram next page.

An *isogram* is a word or phrase in which each letter is only used once. As in 'decryption flux', 'counterplay', and 'multicoder'. Perfect choices for lettering a rebus.

Rebus 44 *concluded*



caps = black

Not counting the F's, there are 12 promoted pieces, 6 for each side. White: 2 rooks, 1 bishop, 3 knights; Black: 2 rooks, 4 bishops.

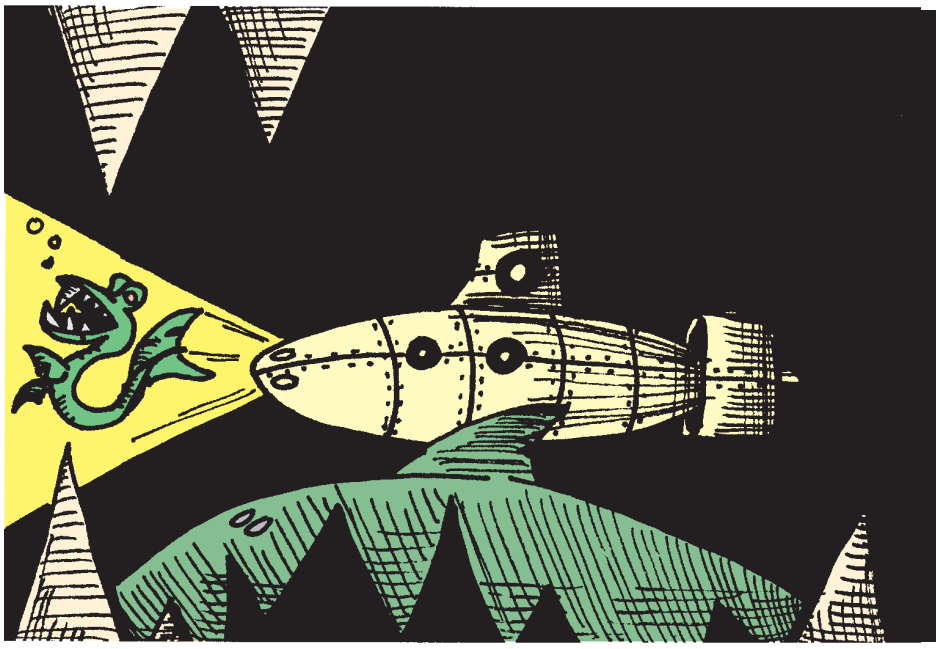
There are four missing pieces, two for each side. This is sufficient to account for 12 promoted pieces if all the missing pieces are pawns. Each 'pawn x pawn' capture can create three passers. Therefore

F = ♕

F ≠ ♖♗♘ Too many promoted pieces (14).

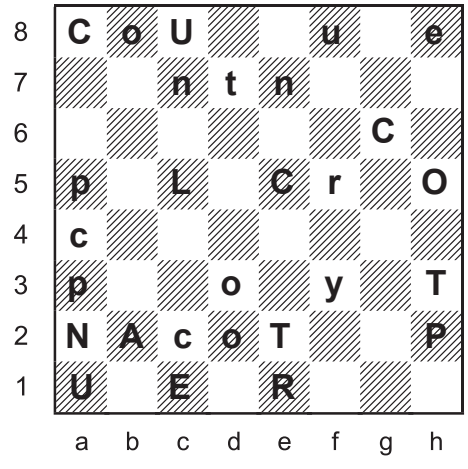
F ≠ ♙ The missing pieces are 2 queens and and 2 pawns, insufficient to explain 12 promotions.

The last move is actually mate. 1...e2-e1=N#



Darkness lurking in the murky depths.

Rebus 45

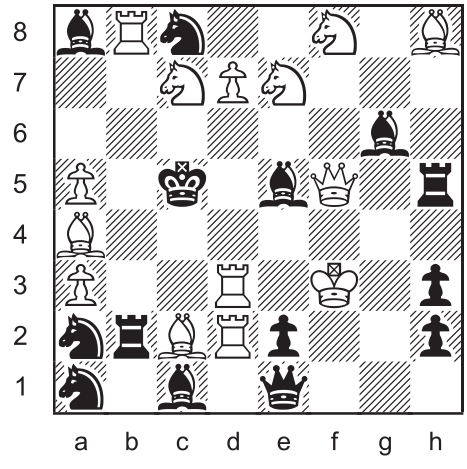


"*counterplay*"

C = bishop
O = rook
U = knight
N = knight
T = pawn
E = bishop
R = queen
P = pawn
L = king
A = rook
Y = king

caps = black

last: 1...Rb7-b2+



(14 + 14)

There are 11 different letters. 3C O 2U N 2T E R P L A
2c 3o u 2n t e r 2p y

♔ = (EARLY) E and R have one uppercase and one lowercase. ALY are singletons and could be kings if double encoded.

E ≠ ♔ If E = ♔

One king is in <u>check</u> by letter O (♗d2, ♘d3, or ♖h5).

O ≠ ♙ (b8) On 8th rank.

O ≠ ♕ (d2 h5) Both kings in check.

One king is in <u>check</u> by letter C (♗e5, ♘g6, or ♖c2).

C ≠ ♙ (a8) On 8th rank.

C ≠ ♕ (c2 e5) Both kings in check.

A legal double check is impossible.

R ≠ ♔ If R = ♔

One king is in <u>check</u> by letter O (♗d2, ♘d3, or ♖h5).
One king is in <u>check</u> by letter C (♗g6, ♘c2, or ♖e5).
A legal double check is impossible.

Therefore the kings are double encoded from letters ALY.

Y = ♔ Only lowercase singleton.

A ≠ ♔ If A = ♔

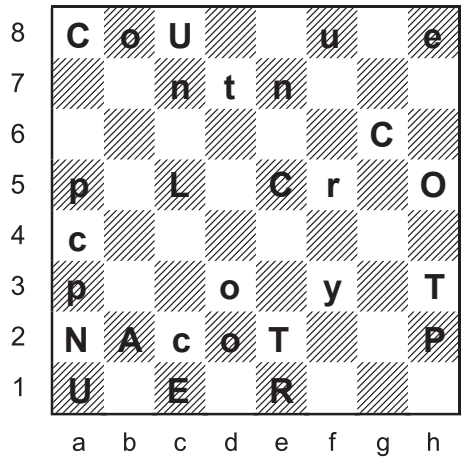
One king is in <u>check</u> by letter O (♗h5, ♘d3, or ♖b8).
One king is in <u>check</u> by letter C (♗a8 or ♖c2).

C ≠ ♘ (a5 e5) Both kings in check.

A legal double check is impossible.

L = ♔ The remaining uppercase singleton.

Rebus 45 *continued*



C = ♗

C ≠ ♕ (a8 c2)	Both kings in check.
C ≠ ♘ (a4 e5)	Both kings in check.
C ≠ ♖ (c2)	Impossible check (c2). No last move.

The last move was not rook to c2. It could only move there from c3 or c4, where it would already give check.

No discovered checks are possible.

If O = ♗ (Bc4-d3+)	Both kings in check (h5).
If O = ♘ (Nc4-d2+)	Impossible double check (d3).
If P = ♗ (Bc3-a5+)	Impossible double check (a3).

The king on f3 is in <u>check</u> from the bishop on a8.

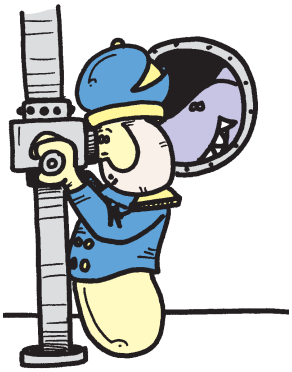
P = ♙

P ≠ ♕♖ (a5)	Both kings in check.
P ≠ ♗ (a3)	Both kings in check.
P ≠ ♘ (h2)	Impossible double check.

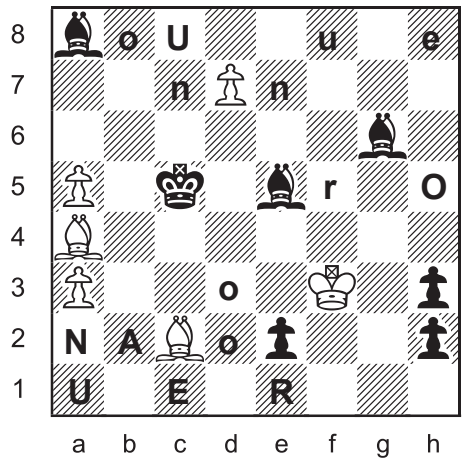
T = ♙

T ≠ ♕♖ (h3)	Impossible double check.
T ≠ ♗ (e2)	Impossible double check.
T ≠ ♘ (d7)	Both kings in check.
caps = black	If caps = white	Impossible check (pawn e2).

See updated diagram next page.

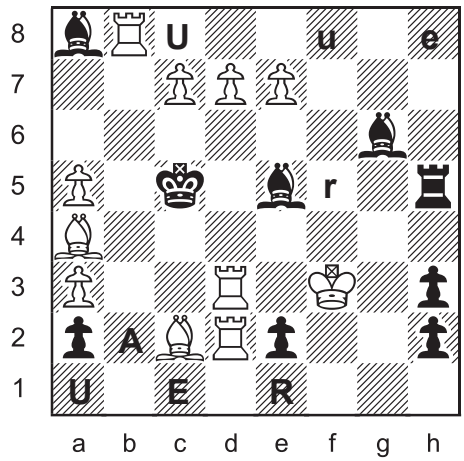


Rebus 45 *continued*



caps = black

O = ♖	O ≠ ♕♗ (h5)	Impossible double check.
	O ≠ ♘ (d3)	Both kings in check.
N = ♘	N ≠ ♕♗ (e7)	Both kings in check.
	N ≠ ♖ (c7)	Both kings in check.
	N ≠ ♙	Too many pro-passers. See diagram.



caps = black

try N = ♙

There are 4 missing pieces, two for each side. This is insufficient to explain the pawn formation.

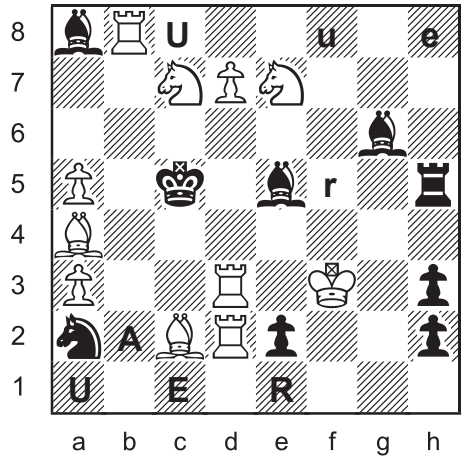
The doubled h-pawns required one capture by Black.

The three pawns on the a-file required a minimum of two captures, one by White (axb) and one by Black (...bxa).

The inverted pawns on the e-file (white above black) required one capture, by White since Black has already made two captures.

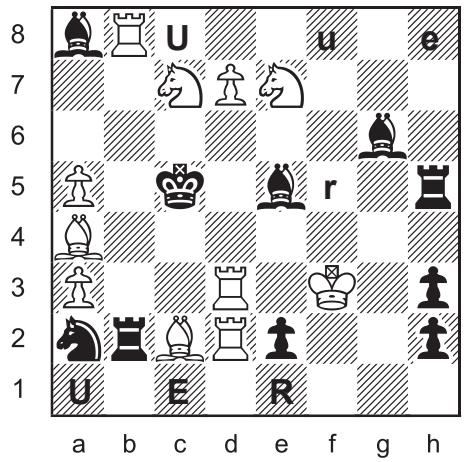
This accounts for all missing pieces. However, two more captures are necessary to explain the missing black c-pawn and d-pawn. Therefore, N ≠ ♙.

Rebus 45 *continued*



caps = black

A = ♖ The discovered check 1...Rb7>b2 is the only way to explain the check by the black bishop on a8.
The last move was not 1...Kc6-c5+ or 1...Kd5-c5+ because the black king would be in an impossible double check on c6 or in triple check on d5.



caps = black

There are 4 missing pieces, two for each side.

One was captured by a white pawn on the a-file.
One was captured by a black pawn on the h-file.
One capture is necessary to explain the missing c-pawns.
One capture is necessary to explain the missing f-pawns.

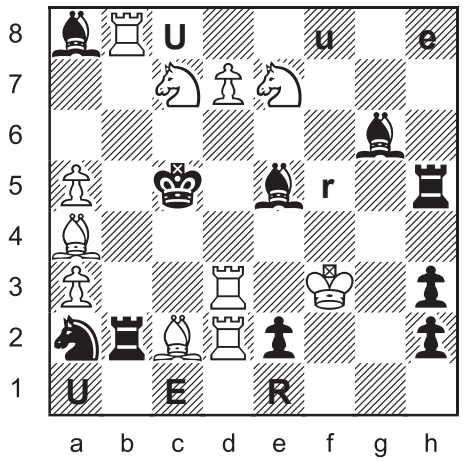
This closes the material balance. No other captures are possible.

All missing pawns must be accounted for.

The black a-pawn was captured by a white pawn, otherwise it would still be on the a-file.

The white h-pawn was captured by a white pawn, otherwise it would still be on the h-file.

Rebus 45 *concluded*



caps = black

The 6 missing pawns on the cdef-files can be explained by two captures only if both sides made a 'pawn x pawn' capture, <u>either</u> white cxd and black ...fxe <u>or</u> white exf and black ...dxc.

(The capture of an officer would not suffice to clear a path for all missing pawns.)

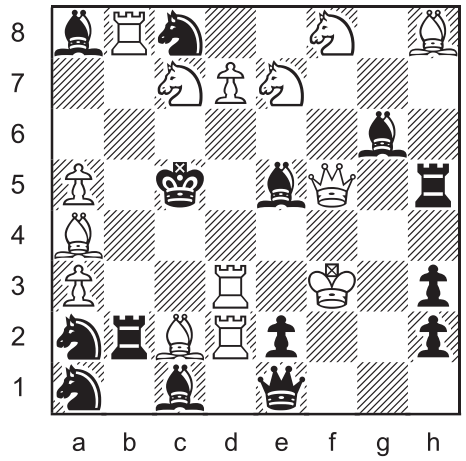
Therefore, all 4 missing pieces are pawns. There are 6 pawns on the board, so there can be at most 6 promoted pieces.

RUE = (♕♗♘) Currently White is missing a queen and dark-square bishop. Black is missing a queen and knight. If these pieces are not assigned to RUE, then there will be more than 6 promoted pieces.

R = ♕ R ≠ ♗ (f5) White must have a dark-square bishop.
R ≠ ♘ (e1) Impossible double check.

U = ♘ U ≠ ♗ (c8) Given the various 'pawn x pawn' captures, possible promotions by Black could have occurred on b1, c1, or e1. Only b1 is a light square. Black already has one promoted light-square bishop (a8 or g6) and cannot have another.

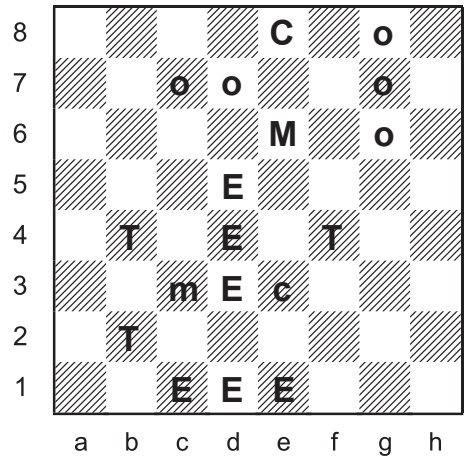
E = ♗



The position is legal. Each side has 3 passed pawns and 3 promoted pieces, for a total of 12 pro-passers, which are adequately explained by the 4 missing pawns.

The last move was the non-capture 1...Rb7-a2+.

Rebus 46

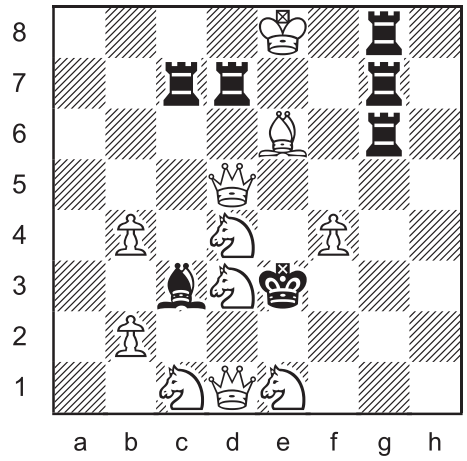


"comet"

C = king
O = rook
M = bishop
E = queen
knight
T = pawn

caps = white

last move:
1...Rh8xg8+



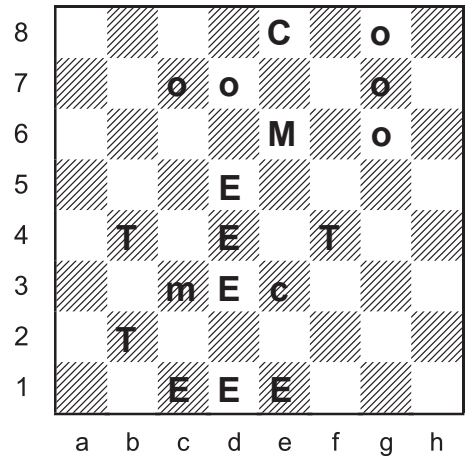
(11 + 7)

♔ = (MC) Only letters with uppercase and lowercase.

M ≠ ♔ If M = ♔
E is ambiguous.
If E is not ambiguous.
E ≠ ♕♖ (c1 d3) Impossible double check.
E ≠ ♗ (d4 e1) Impossible double check.
E ≠ ♘ (d1 d5) Impossible double check.
E ≠ ♙ On 1st rank.
E = Ø ? No piece can be assigned to E.
O is not ambiguous. There are 5 letters, so only one letter can be ambiguous.
O = ♖ O ≠ ♕♗ (d7 g8) Impossible double check.
O ≠ ♘ (c7 g7) Impossible double check.
O ≠ ♙ On 8th rank.
The king on e6 is in <u>check</u> by the rook on g6.
T = ♘ T ≠ ♕♗♙ (b2 b4) Both kings in check.
C = ♗ C ≠ ♕ (e3) Impossible double check.
C ≠ ♙ On 8th rank.
E = Ø ? E ≠ ♕ (d3 d4) Both kings in check.
E ≠ ♙ On 1st rank.
No piece can be assigned to E. So M ≠ ♔.

C = ♔

Rebus 46 *continued*



C = ♔

E is ambiguous. If E is not ambiguous.

E ≠ ♕♖ (d3 e1) Impossible double check.

E ≠ ♗ (c1 d4) Impossible double check.

E ≠ ♘ (d1 d5) Impossible double check.

E ≠ ♙ On 1st rank.

E = Ø ? No piece can be assigned to E.

O is not ambiguous. With 5 letters, only one can be ambiguous.

O = ♖ O ≠ ♕♗ (d7 g6) Impossible double check.

O ≠ ♘ (c7 g7) Impossible double check.

O ≠ ♙ On 8th rank.

The king on e8 is in <u>check</u> by the rook on g8.

E = ♕ M ≠ ♕ (e6) Both kings in check.

T ≠ ♕ (f4) Both kings in check.

There are 5 letters and one is ambiguous (E), so all 6 types of pieces are on the board. E is the only remaining option.

E is ambiguous. Some E's are queens, some E's are a different piece.

E/c1 ≠ ♕♗ Both kings in check.

E/c1 ≠ ♙ On 1st rank.

E/c1 = ♘ So E's are queens and knights. Pieces are assigned to avoid checks.

E/d3/d4/e1 = ♘

E/d1/d5 = ♕

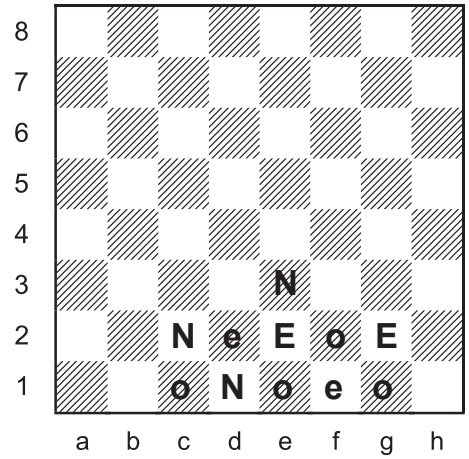
T = ♙ T ≠ ♗ (f4) Both kings in check.

M = ♗ The final letter is the final piece.

caps = white If caps = black Both kings in check (pawn f4).

last move 1...Rh8xg8+ The type of piece captured is indeducible.

Rebus 47

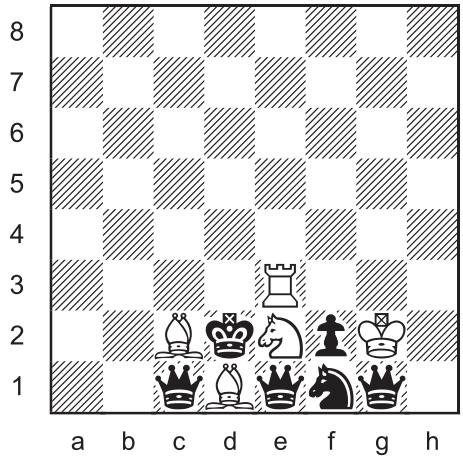


"*Neo*"

N = rook
bishop
E = king
knight
O = queen
pawn

caps = white

last move:
1...h2xg1=Q+



(14 + 16)

E = ♔ Only letter with upper and lower case.

E/g2 = ♔ E/e2 ≠ ♔ Adjacent to both lowercase E's.

E/d2 = ♔ E/f1 ≠ ♔ Adjacent to E/g2.

The E's on e2 and f1 must be a different type of piece.

E/e2/f1 = ♘ E ≠ ♕♗ (f1) Impossible check.
E ≠ ♖ (e2) Impossible check.
E ≠ ♙ (f1) On 1st rank.

N/d1 = ♗ N/d1 ≠ ♕♖ Impossible check.
N/d1 ≠ ♙ On 1st rank.

O/g1 = (♕♖) O/d1 ≠ ♙ On 1st rank.

The king on g2 is in <u>check</u> by the O on g1.

O/f2 = ♙ O/f2 ≠ ♕♖ Impossible double check.

N/e3 = ♖ N/e3 ≠ ♕♗ Both kings in check.

N/c2 = ♗ N/c2 ≠ ♖ Both kings in check.

O/g1 = ♕

O/c1/e1 = ♕ O/c1/d1 ≠ ♙ On 1st rank.

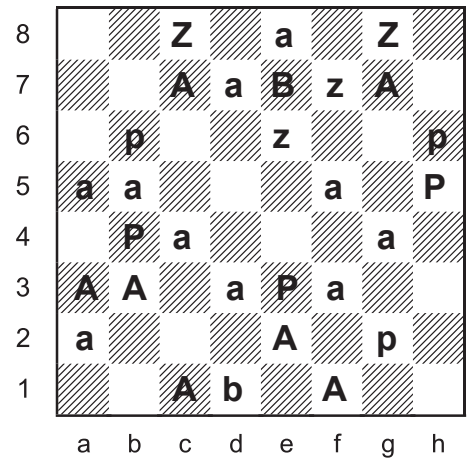
last move 1...h2xg1=Q+ Only explanation for the queen check.

caps = white Promotion on 1st rank.

Comet NEOWISE was visible in the northern hemisphere during July 2020. The wise part of its name comes from *Wide-field Infrared Survey Explorer,* the telescope used to discover it. 'NEO' stands for "near-Earth object". Its closest approach to our planet was over 100 million kilometres. Near enough!

The nucleus of the comet, made of rock and ice, has a diameter of 5 km. Its tail is a stream of dust and gas, released by solar radiation as the comet approaches the sun. With an orbital period of nearly seven millennia, Neo will return to our skies around the year 8820. If we are still alive.

Rebus 48

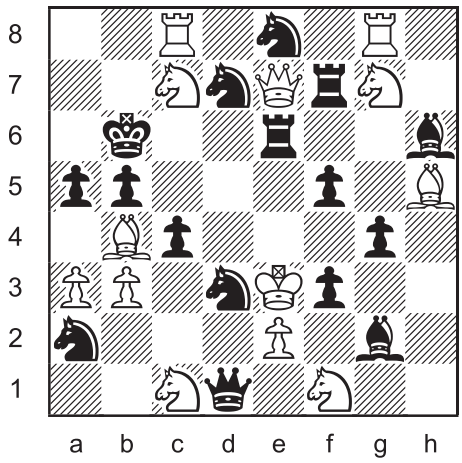


"Abba Zappa"

Z = rook
A = knight pawn
P = king bishop
B = queen

caps = black

last move:
1...e4xf3++ e.p.



(13 + 16)

Letter count: 13 uppercase, 16 lowercase
7A 10a, 3P 3p, 2Z 2z, 1B 1b

The sequence of proofs in the following argument goes as follows:

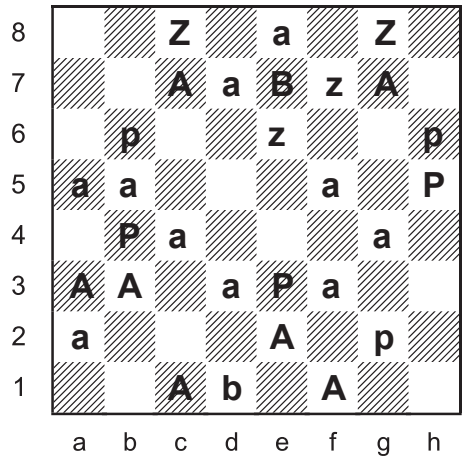
1. A = ♙
2. caps = white
3. The 3 missing pieces are pawns.
4. P = ♗
5. B = ♕
6. Z = (♖ or ♘)
7. P = ♔
8. P/e3 = ♔ and P/b4 = ♗
9. Z = ♖ and A = ♘
10. last move: 1...e4xf3++ e.p. and P/b6 = ♔

There are 29 pieces on the board. So there were three captures. Even if all captures were of the 'pawn x pawn' type, this could only affect 6 files. The pawns on the other 2 files must have remained intact, with the white pawn below its black counterpart.

Furthermore, the three 'pawn x pawn' captures must have occurred in three separate "sectors". Each sector consists of two adjacent files. The two 'intact pawn' files cannot be part of a 'pawn x pawn' sector.

To unmask the pawns, we need only identity which letters fulfill the requirement of having two files with intact pawns and three 'pawn x pawn' sectors. There are three possibilities to look at.

Rebus 48 *continued*



P ≠ ♙ On the b-file and h-file, the uppercase P is below the lowercase P. However, the other 6 files are split unevenly, with one to the left of the b-file. The 6 files cannot be divided into 3 separate sectors of adjacent files. Hence, the P's are not the pawns.

A = ♙ But colours affect which files have intact pawns.

If caps = black. There are three files (acg) on which a lowercase A is below an uppercase A. However, the spacing of these files makes it impossible for them to be the files with intact pawns.

If all three files (acg) have intact pawns, 4 captures were necessary. One to remove a pawn from the b-file, one from the h-file, and two from the def-files.

If only two of the acg-files have intact pawns, the other 6 files are split into uneven groups. If the ac-pawns are intact, the other files are split 1/5. If ag-pawns are intact, 5/1. If cg-pawns are intact, 2/3/1. None of these splits can be divided into 3 sectors of adjacent files. So caps ≠ black.

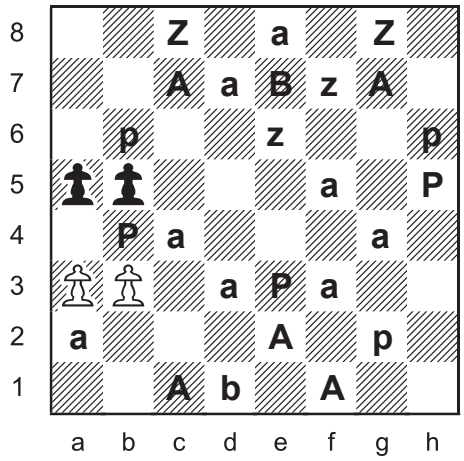
caps = white On the a-file and b-file, an uppercase A is below a lowercase A. The other files can be divided into 3 sectors: cd, ef, gh. Each 'pawn x pawn' capture took place in one of those sectors.

A/a3/a5/b3/b5 = ♙ The intact pawns. Some of the other A's may also be pawns. Those on the 1st and 8th rank must obviously be officers. Also, the one on a2 must be an officer. Otherwise 2 extra captures would be necessary.

All 3 missing pieces are white pawns. If one missing piece was an officer, there would have to be a third file with intact pawns.

Rebus 48 *continued*

Updated diagram.



caps = white

Since the only missing pieces are pawns, both sides must have at least one bishop of each colour.

A ≠ ♗ All remaining lowercase A's (white) are on light squares.

B ≠ ♗ There is only one lowercase and one uppercase B.

Z ≠ ♗ All Z's are on light squares.

P = ♗

P/g2 = ♗ The only lowercase P on a light-square.

P/h5 = ♗ The only uppercase P on a light-square.

B ≠ (♖♘) There is only one B of each case. There must be two rooks and two knights for each side.

B ≠ ♔ If B = ♔ P = ♗, so AZ = (♖♘).

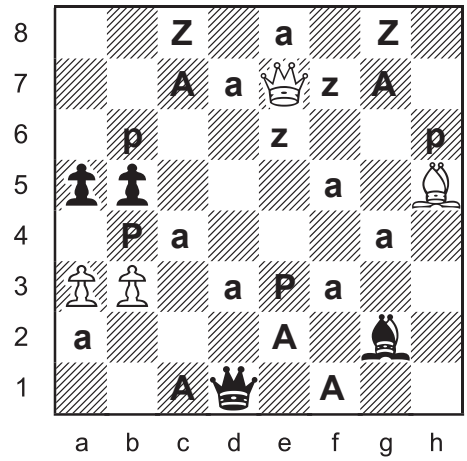
If A = ♖ Triple check (c1 e8 f1).

If A = ♘ Then Z = (♕ or ♖)
Impossible double check (e6 f7).

B = ♕ Time to refresh our picture.

The winner takes it all.

Rebus 48 *continued*



caps = white

Z ≠ ♔ If Z = ♔ After assigning kings, there is one Z of each case remaining. They cannot be rook or knight because there must be two rooks and two knights for each side.

Z = (♖ or ♘)

A ≠ ♔ Disregarding the pawns on a3 and b3, there are five uppercase A's. None can be his majesty.

A/e2 ≠ ♔ Impossible check (♕d1). The last move was not 1...d2-d1=Q+ (or 1...c2xd1=Q+) because that would mean the original black queen is on the board elsewhere, but that is impossible since only B = ♕.

A/c1 ≠ ♔ Impossible check (♕d1).

A/f1 ≠ ♔ Impossible double check (♕d1 ♗g2).

A/c7 ≠ ♔ <u>Check</u> (b6). If A = ♔, then all P's are bishops
Some A = (♖ or ♘). A's on the 1st and 8th ranks cannot be pawns.
If A = ♘(e8) Impossible double check.
If A = ♖ Z = ♘(e6)
Impossible double check.

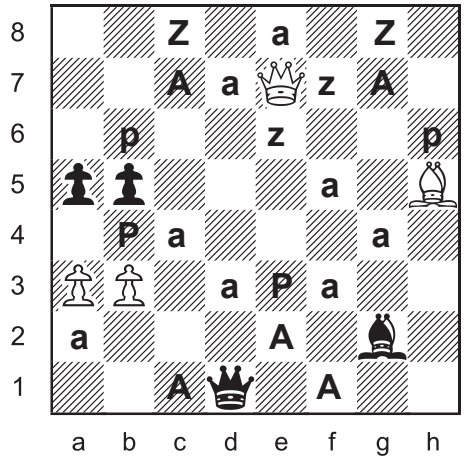
A/g7 ≠ ♔ <u>Check</u> (h6).
If A = ♘(e8) Impossible double check.
If A = ♖ Z = ♘(e6)
Impossible double check.

P = ♔

The picture is starting to come into focus.

P = ♔♗ B = ♕ Z = (♖ or ♘) A = ♗ and (♖ or ♘) caps = white

Rebus 48 *continued*



caps = white

P/b4 ≠ ♔ If P/b4 = ♔ Check (♙a5).
If A = ♘ (a2) Impossible double check.
A/a2 is not a pawn because two more captures would be needed.
If A = ♖ Z = ♘
Both kings in check (♘c8 or ♘g8).
Either P/b6 or P/h6 is king.

P/b4 = ♗

P/e3 = ♔ The white king on e3 is in check by a black bishop on b6 or h6.

♔ = P/b6 or P/h6

Z ≠ ♘ If P/b6 = ♔ Z ≠ ♘ Both kings in check (♘c8).
If P/h6 = ♔ Z ≠ ♘ Both kings in check (♘g8).

Z = ♖ The white king on e3 is in check by the black rook on e6.

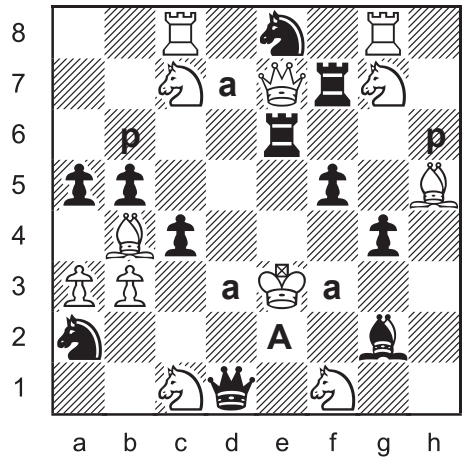
Double check! As so often happens in problem chess, it can only be explained by an *en passant* capture. But in this position, there are two e.p.'s to consider.

A = ♘♙

A/c1/e8/f1 = ♘ On 1st or 8th rank.
A/a2 = ♘ If A/a2 = ♙, two additional captures are needed.
A/c4 = ♙ A/c4 ≠ ♘ Triple check (♘c4).
A/f5 = ♙ A/f5 ≠ ♘ Triple check (♘f5).
A/g4 = ♙ A/g5 ≠ ♘ Triple check (♘g5).
A/c7 = ♘ A/c7 ≠ ♙ Inverted pawns (white c7, black c4) would require two additional captures.
A/g7 = ♘ A/g7 ≠ ♙ Inverted pawns (white g7, black g4) would require two additional captures.

The next diagram paints a clearer picture.

Rebus 48 *continued*



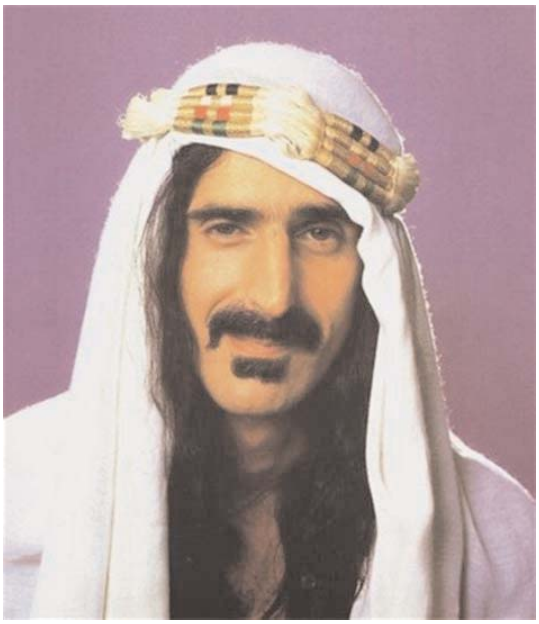
caps = white

One P is king, one P is bishop. A's are pawns or knights. Black e.p.'ed one way or the other. There are two ways to deduce which it was, both involve the 'pawn x pawn' sectors.

The *en passant* capture (...e4xd3 or ...e4xf3) must be a capture that took place within one of the sectors cd, ef, gh. Therefore the last move was **1...e4xf3++ e.p.**

A/f3 = ♙
P/h6 = ♝
P/b6 = ♔

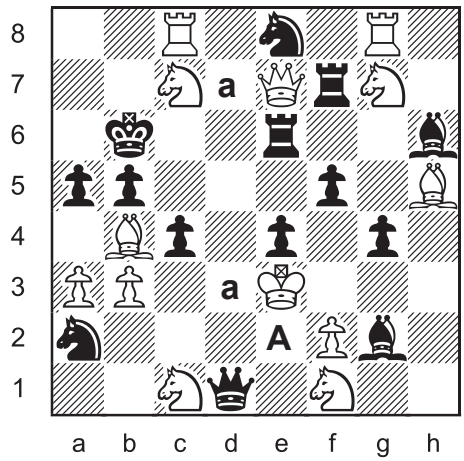
The alternative logic to prove that the last move was 1...e4xf3++ e.p. is based on the black pawn on c4. Its presence means that in the cd-sector Black captured ...dxc. Therefore no black pawns can be on the d-file, eliminating an e.p. on d3.



Sheik Yerbouti

Rebus 48 *concluded*

Before 1...exf3++ e.p., White's previous move was of course f2-f4.
A look in the rearview mirror shows us the position before that move.

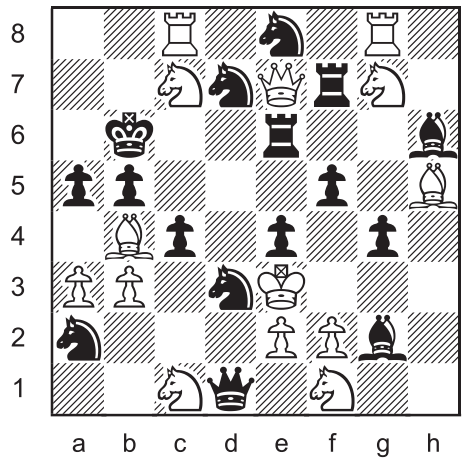


caps = white

A/e2 = ♙ The 'pawn x pawn' capture by the black e-pawn necessarily had to create three pro-passers: itself and the other two pawns in the same sector.

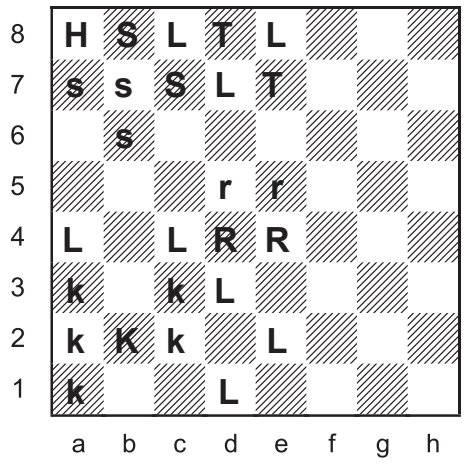
A/d3/d7 = ♘ In the cd sector, the black pawn on c4 shows that the 'pawn x pawn' capture in that section was ...dxc, creating two black passed pawns on the c-file and one white passed pawn on the d-file. The white pawn promoted on d8. One of the black pawns promoted on c1. There cannot be a black pawn on the e-file.

The final picture.



White is in check from the bishop on h6. The previous move was either ...Nf4-d3+ or ...g5-g4+.

Rebus 49

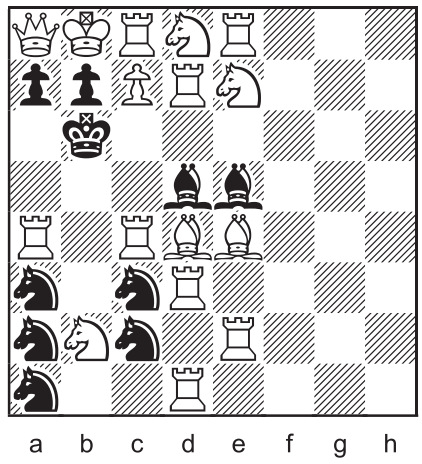


"*helter skelter*"

H = queen
S = king
pawn
K = knight
L = rook
T = knight
R = bishop

caps = white

last move:
1.Rc5-c4+



(16 + 10)

Letter count: 16 uppercase, 10 lowercase
2S 2R 1K 8L 2T 1H
3s 2r 5k

If a letter stands for two or more piece-types, no other letter can stand for the same piece-types. If a piece-type is represented by two or more letters, none of these letters can also represent some other piece-type.

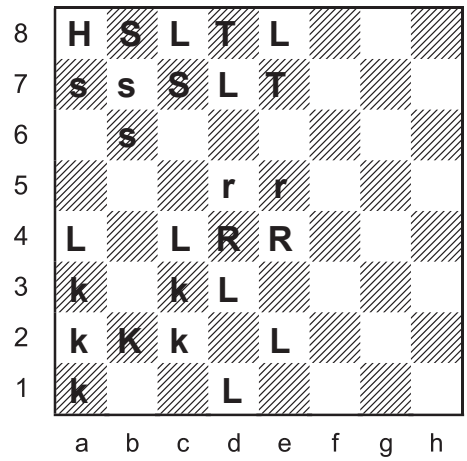
No overlapping between "ambiguity" and "multicoding" is allowed. If a piece is represented by an ambiguous letter, that piece cannot be part of any multicoding. If a piece is multicoded, that piece cannot be represented by an ambiguous letter.

There are three lowercase letters. One of them must be a king. The letter which represents that king must be ambiguous because all lowercase letters have more than one instance. Thus, there can be no multicoding of kings. Both kings must be represented by the same letter.

S = ♔ R ≠ ♔ All R's are adjacent to each other.
K ≠ ♔ Uppercase K is adjacent to all lowercase K's.

There are 16 uppercase pieces. None have been captured so there must be at least two rooks, two bishops, two knights, and a queen. This necessity is a key factor in deciding piece assignment.

Rebus 49 *continued*



S/c7 ≠ ♔ If S/c7 = ♔

S/a7 = ♔ Only non-adjacent S.

S/b8 ≠ (♖♗♘)

S/b8 is the only other S. If S/b8 = (♖♗♘), then there is only one instance of that piece-type. Because it is represented by an ambiguous letter, it cannot be multicoded.

S/b8 ≠ ♙ On 8th rank.

S/b8 ≠ ♕ Impossible check on ♔a7.

S/b8 = Ø No piece can be assigned to S/b8.

S/b8 = ♔

S/b6 = ♔ Only non-adjacent S.

S/c7 = ♙ S/c7 ≠ (♖♗♘) These piece-types must have two uppercase instances.

S/c7 ≠ ♕ Impossible check. No last move.

caps = white If caps = black Impossible pawn check (c7).

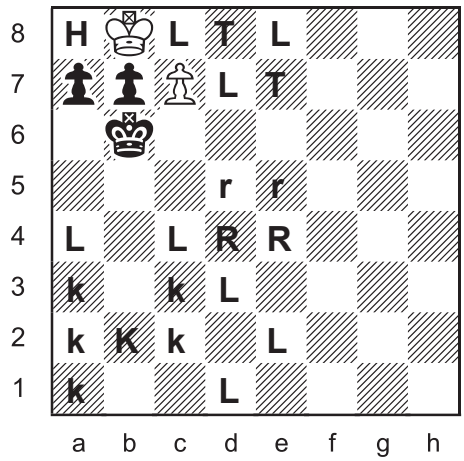
S/a7/b7 = ♙ S/a7/b7 ≠ (♕♖♗♘) because then no other letters could represent that piece-type. White (uppercase) must have every piece-type.

H = (♕♖) H ≠ ♘ Impossible check (a8).

H ≠ ♗ A bishop cannot be on a8 with black pawns on a7 and b7.

H ≠ ♙ On 8th rank.

Rebus 49 *continued*



No other letters are ambiguous.

H is a singleton.

K only has one uppercase. If K was ambiguous, then there would not be any white pieces of the second type represented.

T has two uppercase. If T was ambiguous, there would only be one instance of both white pieces represented.

R has two uppercase. If R was ambiguous, there would only be one instance of both white pieces represented.

All L's are on light squares.

If L is ambiguous:

L ≠ ♗ There would not be a white dark-square bishop.

R = ♗ Only other option with uppercase on a light square. (H ≠ ♗)

Check (d4).

K = ♘ K ≠ ♕♖ (b2) Impossible double check.

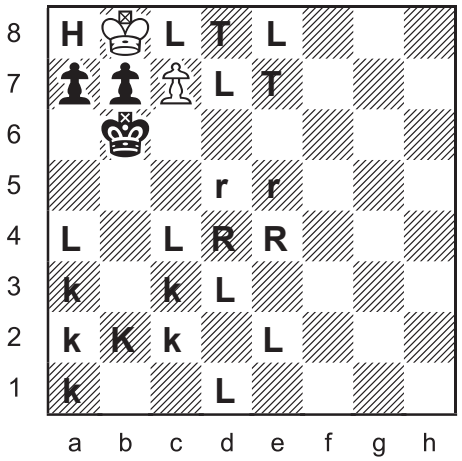
L = ♕ and ♖ Only possibility for ambiguity.

H = Ø? No piece can be assigned to H.

Therefore L is not ambiguous.

S is the only ambiguous letter. The other 5 letters (HKLTR) represent 4 types of pieces (♕♖♗♘). So one piece must be multicoded. Perhaps less obviously, only one piece can be multicoded. If two pieces are multicoded (by 4 letters), then one letter is left to represent the two remaining pieces, which is impossible since none of the letters HKLTR can be ambiguous.

Rebus 49 *continued*



To summarise what we know about the remaining letters and pieces.

HKLTR = (♕♖♗♘) H = (♕♖)
No letters are ambiguous.
One piece and only one piece is multicoded.

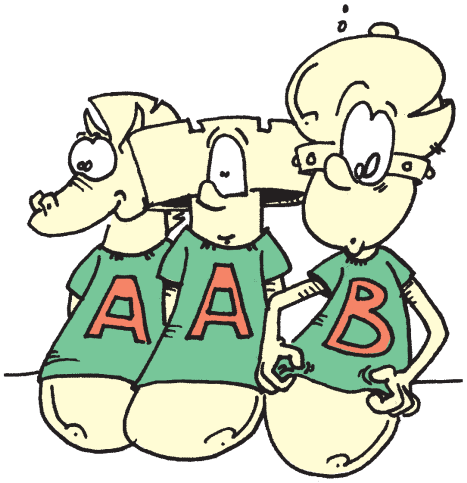
L ≠ ♗ If L = ♗ Bishops must be multicoded because all L's are on light squares. The candidates for multicoding a bishop are KTR.

T ≠ ♗ If T = ♗ HKR = (♕♖♘)? Two of the pieces will only have one instance.

R ≠ ♗ If R = ♗ HKT = (♕♖♘)? Two of the pieces will only have one instance.

K ≠ ♗ If K = ♗ White has 7 promoted light-square bishops, plus a passed pawn that would promote on a light square. Black has 3 promoted bishops, two of them on dark squares. This "bishop ratio" is impossible to achieve with 6 captures.

R = ♗ Only remaining letter with uppercase on light square. The black king is in <u>check</u> by the bishop on d4.



Rebus 49 *concluded*

K = ♘ K ≠ ♕♖ (b2)
Impossible double check.

Knights must be multicoded because there is only one uppercase K. The two candidates are LT.

T = ♘ L ≠ ♘
Quintuple check (a4 c4 c8 d4 d7).

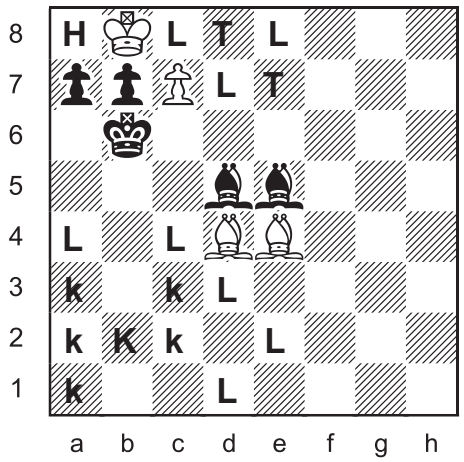
L = ♖ If L = ♕ Then H = ♖?
Only one white rook.

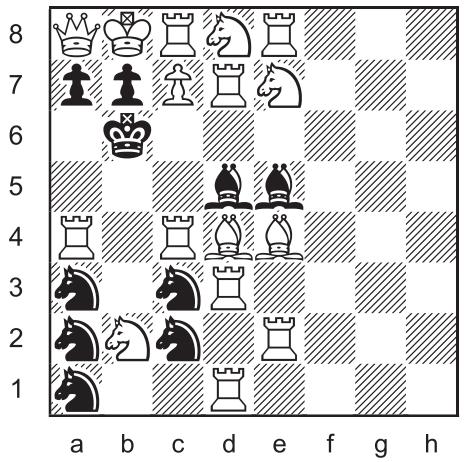
H = ♕

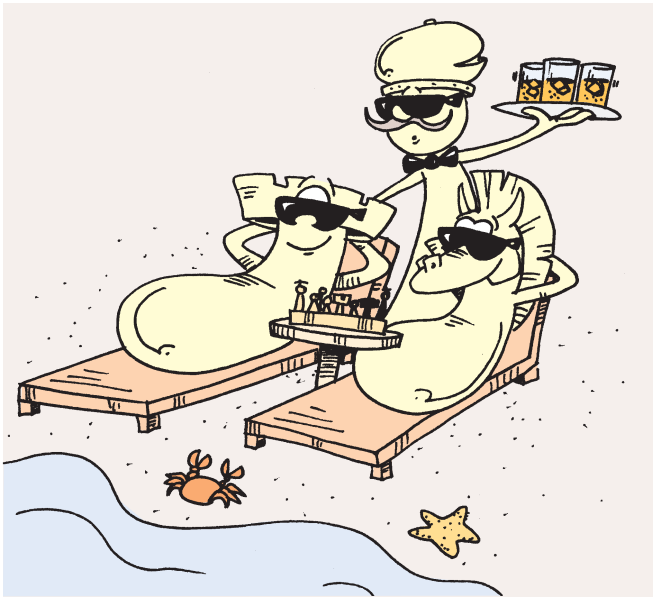
last move 1.Rc5-c4+

The last move was not the capture 1.Bxd4+ because the 10 promoted pieces and 3 passers required the capture of all 6 missing pieces.

As in most rebuses, the position is strange but legal.







We hope you enjoyed the puzzles.