WCCI 2016-2018 – Helpmates selection

All problems appeared originally in December 2018 on Google Sites at:
(https://sites.google.com/view/mihailoswebsite/mihailos-chess-problems-new)

Mihailo Stojnic

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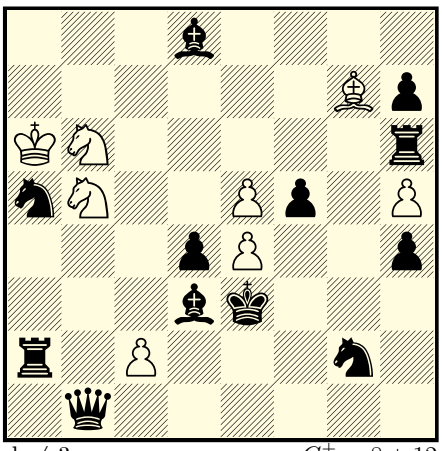
Google Sites 2018



h ≠ 3 C^+ 8 + 12

a) Diagram
b) ♙e4 ↔ ♟f5
zero positions

Content:

a) Diagram – zero position – no solution
1.♗xe4 ♘c7(♗xh6+?) 2.♚f4 ♗xh6+ 3.♚xe5 ♘d7≠? ($\mathbf{a}_{0t_1}$)
Additional try:
1.♟d3? ♘d6 2.♚d4 ♘a4 3.♞e3 ♙c3≠ ($\mathbf{a}_{0t_2}$)

$\mathbf{a}_1$) Diagram a) –♗d8
1.♜xh5(♜h∼?) ♘a4 2.♚xe4 ♙xd3+ 3.♚d5 ♘c7≠? ($\mathbf{a}_{1t_1}$)
1.♜xb6+ ♔xb6 2.♚xe4 ♙xd3+ 3.♚d5 ♘c7≠? ($\mathbf{a}_{1t_2}$)
1.♞c6+ ♘a4 2.♚xe4 ♙xd3+ 3.♚d5 ♘c7≠ ($\mathbf{a}_{1s_1}$)

$\mathbf{a}_2$) Diagram a) +♟b2
1.♗xd4(♗d3∼?) ♘a3 2.♚d2 ♗xh6+ 3.♚c3 ♘d5≠? ($\mathbf{a}_{2t_1}$)
1.♗xb5+ ♔xb5 2.♚d2 ♗xh6+ 3.♚c3 ♘d5≠? ($\mathbf{a}_{2t_2}$)
1.♞c4+ ♘a3 2.♚d2 ♗xh6+ 3.♚c3 ♘d5≠ ($\mathbf{a}_{2s_1}$)

$\mathbf{a}_3$) Diagram a) –♟f5
1.♚xe4 ♗f6 2.♗e2 ♘d5 3.♗f3 ♘d6≠? ($\mathbf{a}_{3t_1}$)
1.♜f6 ♙c4 2.♜f3 ♘d5 3.♚xe4 ♘d6≠ ($\mathbf{a}_{3s_1}$)
Additional tries:
1.♚xe4 ♙c4 2.♞e1/♕d1 ♘d5? 3.♞f3/♕f3 ♘d6≠? ($\mathbf{a}_{3t_2}$)
1.♚xe4 ♗xh6 2.♞e1/♕d1 ♘c4 3.♞f3/♕f3 ♘d6≠? ($\mathbf{a}_{3t_3}$)

b) Diagram a) + ♙e4 ↔ ♟f5 – zero position – no solution
1.♟d3? ♘c3(♘d6?) 2.♚d4 ♘a4(♘xe4?) 3.♞e3 ♙c3≠ ($\mathbf{b}_{0t_1}$)
Additional tries:
1.♜c6 ♙c3 2.♜c4 ♘xd4 3.♜d2 ♘d5≠? ($\mathbf{b}_{0t_2}$)
1.♜xh5(♜h∼?) ♘c4(♗h6?) 2.♚f4 ♗h6 3.♚xf5 ♘xd4≠? ($\mathbf{b}_{0t_3}$)
1.♜xc2 ♙e6 2.♞c4 ♘xd4 3.♜d2 ♘d5≠? ($\mathbf{b}_{0t_4}$)
1.♗e2 ♙f6 2.♗f3 ♘c3 3.♞e1 ♗xh6≠? ($\mathbf{b}_{0t_5}$)
1.♕d1 ♗f8 2.♕f3 ♗a3 3.♗e2 ♗c1≠? ($\mathbf{b}_{0t_6}$)

$\mathbf{b}_1$) Diagram b) +♗g7 → e7
1.♗f6? ♘c4(♘c8?,♘d5?) 2.♚f4 ♘e3(♘e7?) 3.♚xe5 ♗d6≠ ($\mathbf{b}_{1t_1}$)
1.♚f4 ♙c4 2.♚xe5 ♘d6 3.♞f4 ♘d7≠ ($\mathbf{b}_{1s_1}$)
Additional tries:
1.♗c4 ♗xh4 2.♗e6 ♘d5+ 3.♚f3 ♘xd4≠? ($\mathbf{b}_{1t_2}$)
1.♗xc2(♗d∼?) ♘d6(♗g5?) 2.♚f4 ♗g5 3.♚xe5 ♘d7≠? ($\mathbf{b}_{1t_3}$)
1.♚f3 ♗xh4 2.♜xh5(♜h∼?) ♘d5 3.♗xc2(♗d∼?) ♘xd4≠? ($\mathbf{b}_{1t_4}$)
1.♚f4 ♗xh4 2.♗xc2(♗d∼?) ♘xd4 3.♜xh5(♜h∼?) ♘d5≠? ($\mathbf{b}_{1t_5}$)

$\mathbf{b}_2$) Diagram b) +♟g5
1.♜xh5(♜h∼?) ♙xd3(♘d5+?) 2.♚f4 ♘d5+ 3.♚xf5 ♘xd4≠? ($\mathbf{b}_{2t_1}$)
1.♚f4 ♗xh6 2.♚xf5 ♘c4 3.♟g4 ♘xd4≠ ($\mathbf{b}_{2s_1}$)
Additional try:
1.♗f6 ♘c4 2.♚f4 ♘xd4 3.♟g4 ♗xh6≠? ($\mathbf{b}_{2t_2}$)

$\mathbf{b}_3$) Diagram b) +♟g3
1.♚f4 ♙c4 2.♜g6 ♘xd4 3.♜g4 ♘d5≠? ($\mathbf{b}_{3t_1}$)
1.♗e2 ♗f6 2.♗g4 ♘xd4 3.♚f4 ♘d5≠ ($\mathbf{b}_{3s_1}$)
Additional tries:
1.♚f4 ♗f6 2.♞e3/♕d1 ♘xd4? 3.♞g4/♕g4 ♘d5≠ ($\mathbf{b}_{3t_2}$)
1.♚f4 ♙xd3 2.♞e3/♕d1 ♘d6 3.♞g4/♕g4 ♘d5≠? ($\mathbf{b}_{3t_3}$)

Comment: There are three **main** thematic complexes: 1) Diagrams $\mathbf{a}_1$) and $\mathbf{a}_2$) and their respective thematic lines ($\mathbf{a}_{1t_1}$), ($\mathbf{a}_{1t_2}$), ($\mathbf{a}_{1s_1}$) and ($\mathbf{a}_{2t_1}$), ($\mathbf{a}_{2t_2}$), ($\mathbf{a}_{2s_1}$); 2) Diagrams $\mathbf{a}_3$) and $\mathbf{b}_3$) and their respective

thematic lines ($\mathbf{a}_{3t_1}$), ($\mathbf{a}_{3t_2}$), ($\mathbf{a}_{3t_3}$), ($\mathbf{a}_{3s_1}$) and ($\mathbf{b}_{3t_1}$), ($\mathbf{b}_{3t_2}$), ($\mathbf{b}_{3t_3}$), ($\mathbf{b}_{3s_1}$); and 3) Diagrams $\mathbf{b}_1$) and $\mathbf{b}_2$) and their respective solutions ($\mathbf{b}_{1s_1}$) and ($\mathbf{b}_{2s_1}$). There are also two **supporting** complexes formed by main tries in Diagrams $\mathbf{b}_1$) and $\mathbf{b}_2$) and zeros positions: 1) Main tries in Diagrams $\mathbf{b}$) and $\mathbf{b}_1$), ($\mathbf{b}_{0t_1}$) and ($\mathbf{b}_{1t_1}$); and 2) Main tries in Diagrams $\mathbf{a}$) and $\mathbf{b}_2$), ($\mathbf{a}_{0t_1}$) and ($\mathbf{b}_{2t_1}$). Finally, there are four **additional** complexes formed by additional tries in Diagrams $\mathbf{b}$) and $\mathbf{b}_1$), and Diagrams $\mathbf{a}$) and $\mathbf{b}_2$): 1) Additional tries ($\mathbf{b}_{0t_2}$) and ($\mathbf{b}_{1t_2}$) in Diagrams $\mathbf{b}$) and $\mathbf{b}_1$), respectively; 2) Additional tries ($\mathbf{b}_{0t_3}$) and ($\mathbf{b}_{1t_3}$) in Diagrams $\mathbf{b}$) and $\mathbf{b}_1$), respectively; 3) Additional tries ($\mathbf{b}_{1t_4}$) and ($\mathbf{b}_{1t_5}$) in Diagram $\mathbf{b}_1$); and 4) Additional tries ($\mathbf{a}_{0t_2}$) and ($\mathbf{b}_{2t_2}$) in Diagram $\mathbf{a}$) and $\mathbf{b}_2$), respectively. There are also quite a few additional tries as well.

Below I will discuss all of these complexes separately. Before doing that though, I will briefly explain the terminology that will be used and that relates to the categorization of the white knights' unpinnings (these will obviously be among the key strategic elements in each complex). As is rather obvious, each knight can be unpinned either by a white or by a black piece. Unpinning by a white piece can be by a, so to say, supporting white piece (including the white king) or by the other white knight; unpinning by a black piece can be either a direct unpinning by a pinning black piece or an indirect unpinning by a different black piece (the other pinning piece can act as such a piece as well). I will use the following terminology: 1) ***black-white*** (one knight unpinned by black the other by white); 2) ***white-white*** (both knights unpinned by white); and 3) ***black-black*** (both knights unpinned by black). To facilitate the analysis, the scheme below shows all possibilities for unpinning both white knights (and having them eventually play) together with thematic lines that contain them (two of them are actually impossible, but listed for the completeness). 8 out of the 9 thematic complexes mentioned above contain unpinnings of both white knights; the first of two supporting complexes (($\mathbf{b}_{0t_1}$) and ($\mathbf{b}_{1t_1}$)) and the pair of thematic lines ($\mathbf{a}_{1t_1}$) and ($\mathbf{a}_{2t_1}$) from the first main complex are based on unpinning only one of the white knights; also, the pair of thematic lines ($\mathbf{a}_{3t_3}$) and ($\mathbf{b}_{3t_3}$) from the second main complex does not enable unpinning of both white knights.

1. ***black-white***
   - indirect black, supporting white — ($\mathbf{a}_{1s_1}$), ($\mathbf{a}_{2s_1}$)
   - direct black, supporting white — ($\mathbf{a}_{1t_2}$), ($\mathbf{a}_{2t_2}$), ($\mathbf{a}_{3t_1}$), ($\mathbf{b}_{3t_1}$), ($\mathbf{a}_{3s_1}$), ($\mathbf{b}_{3s_1}$), ($\mathbf{a}_{0t_1}$), ($\mathbf{b}_{2t_1}$)
   - indirect black, white knight — ($\mathbf{a}_{0t_2}$), ($\mathbf{b}_{2t_2}$)
   - direct black, white knight — ($\mathbf{b}_{0t_3}$), ($\mathbf{b}_{1t_3}$)
2. ***white-white***
   - white knight, supporting white — ($\mathbf{b}_{1s_1}$), ($\mathbf{b}_{2s_1}$), ($\mathbf{a}_{3t_2}$), ($\mathbf{b}_{3t_2}$)
   - supporting white, supporting white — ← impossible (unless it is by the white king)
   - white knight, white knight — ← impossible
3. ***black-black***
   - direct, indirect — ($\mathbf{b}_{0t_2}$), ($\mathbf{b}_{1t_2}$)
   - indirect, indirect
   - direct, direct — ($\mathbf{b}_{1t_4}$), ($\mathbf{b}_{1t_5}$).

Three main complexes:

1. *Diagrams* $\mathbf{a}_1$) *and* $\mathbf{a}_2$) *(*($\mathbf{a}_{1t_1}$)*,* ($\mathbf{a}_{1t_2}$)*,* ($\mathbf{a}_{1s_1}$) *and* ($\mathbf{a}_{2t_1}$)*,* ($\mathbf{a}_{2t_2}$)*,* ($\mathbf{a}_{2s_1}$)*)*

   The strategy revolves around the idea to get the black king to reach d5 and c3 squares. To do so one needs to ensure that the white knights don't guard these squares. Tries ($\mathbf{a}_{1t_1}$) and ($\mathbf{a}_{2t_1}$) achieve that through the above mentioned ***black-white*** combination of the knights' unpinnings. Black first directly unpins one of the white knights via a random move (that turns out to have to be a precise move 1. ♜xh5 or 1. ♝xe4) and then white unpins the other by a supporting piece (♙c2 in try ($\mathbf{a}_{1t_1}$) and ♗g7 in try ($\mathbf{a}_{2t_1}$)). Eventually, ($\mathbf{a}_{1t_1}$) doesn't work since *c*6 is unguarded and ($\mathbf{a}_{2t_1}$) doesn't work since ♝e4 directly attacks d5.

   In tries ($\mathbf{a}_{1t_2}$) and ($\mathbf{a}_{2t_2}$), black annihilates one of the white knights through checks! In ($\mathbf{a}_{1t_2}$) after 1. ♜xb6+ ♔xb6, the white king manages to take control of both critical squares c6 and c5. However it also pins the non-annihilated white knight and eventually mate 3...♘c7≠ is not possible. Similarly, in ($\mathbf{a}_{2t_2}$) after 1. ♝xb5+ ♔xb5, the white king takes control of c4 but nothing controls c2 and the whole checking/annihilation mechanism doesn't work again.

As unpinning and checking didn't work separately, ***paradoxically***, their a combination finally works in solutions ($\mathbf{a}_{1s_1}$) and ($\mathbf{a}_{2s_1}$)! Both solutions show again a variant of ***black-white*** knights' unpinnings. Differently from tries ($\mathbf{a}_{1t_1}$) and ($\mathbf{a}_{2t_1}$), here we have an indirect black and a supporting white unpinning. The checking indirect black unpinning is done through 1.♞c6+ and 1.♞c4+ and the opening of the a-file black rook/knight battery.

The roles of pieces from each of the three thematic pairs ♘b5/♘b6, ♙c2/♗g7, ♗d2/♖h6 are ***reciprocally*** changed between the corresponding lines in Diagrams $\mathbf{a}_1$) and $\mathbf{a}_2$). Moreover, there is a perfect overall strategic analogy within each of the three pairs of thematic lines. One should also note an additional checking dual avoidance in tries ($\mathbf{a}_{1t_1}$) and ($\mathbf{a}_{2t_1}$) and solutions ($\mathbf{a}_{1s_1}$) and ($\mathbf{a}_{2s_1}$) which actually determines the precise ordering of the white moves. Namely, in ($\mathbf{a}_{1t_1}$) and ($\mathbf{a}_{1s_1}$) 1...♗xh6 doesn't work in place of 1...♘a4 as the black king would be in check after 2.♚d2! Similarly, in ($\mathbf{a}_{2t_1}$) and ($\mathbf{a}_{2s_1}$) 1...♙xd3 doesn't work in place of 1...♘a3 as the black king would again be in check after 2.♚xe4!

2. *Diagrams* $\mathbf{a}_3$) *and* $\mathbf{b}_3$) *(*($\mathbf{a}_{3t_1}$), ($\mathbf{a}_{3s_1}$), ($\mathbf{a}_{3t_2}$), ($\mathbf{a}_{3t_3}$) *and* ($\mathbf{b}_{3t_1}$), ($\mathbf{b}_{3s_1}$), ($\mathbf{b}_{3t_2}$), ($\mathbf{b}_{3t_3}$)*)*

In this complex the goal is to get the black king mated on e4 and f4 respectively. The strategy is based on a combination of guarding two critical squares around the black king in the mating positions (d5 and f3 in Diagram $\mathbf{a}_3$) and g5 and g4 in Diagram $\mathbf{b}_3$)) and the unpinning of white knights. Tries ($\mathbf{a}_{3t_2}$) and ($\mathbf{b}_{3t_2}$) show analogous main plans that fail as one of the knights is not properly unpinned (in try ($\mathbf{a}_{3t_2}$) d6 is also under the ♖h6 attack in the assumed mating position). These plans utilize a supporting black piece (♕b1 or ♞g2) as tools to self-block on f3 and g4 and supporting white pieces, ♙c2 and ♗g7, to guard d5 and g5 and unpin ♘b5 and ♘b6, respectively.

On the other hand, tries ($\mathbf{a}_{3t_3}$) and ($\mathbf{b}_{3t_3}$) do show analogous mechanisms that manage to properly unpin the white knights (through a ***white-white*** unpinning combination). This time though the squares d5 and g5, respectively remain unguarded (due to a change 2...♘xd4 to 2...♘d6, f3 in also unguarded in ($\mathbf{b}_{3t_3}$)).

Finally, the main tries ($\mathbf{a}_{3t_1}$) and ($\mathbf{b}_{3t_1}$) and solutions ($\mathbf{a}_{3s_1}$) and ($\mathbf{b}_{3s_1}$) showcase the main plans of this complex. Namely, tries ($\mathbf{a}_{3t_1}$) and ($\mathbf{b}_{3t_1}$) show a ***black-white*** unpinning combination (direct black, supporting white) where the unpinning black pieces (♗d2 and ♖h6) through a short maneuver reach to guard f3 and g4, respectively. These mechanisms still fall short as the white unpinnings do not ensure the control of the critical squares d5 and g5. The solutions ($\mathbf{a}_{3s_1}$) and ($\mathbf{b}_{3s_1}$) fix this by also relying on the same type of ***black-white*** unpinning combination, this time though executed reciprocally compared to tries ($\mathbf{a}_{3t_1}$) and ($\mathbf{b}_{3t_1}$). Namely, in try ($\mathbf{a}_{3t_1}$) ♗d2 unpins ♘b5 and maneuvers to reach f3, while ♗g7 unpins ♘b6. In solution ($\mathbf{a}_{3s_1}$) ♖h6 unpins ♘b6 and maneuvers to reach f3, while ♙c2 unpins ♘b5 and completes the idea by also guarding d5. Analogously and ***reciprocally***, in Diagram $\mathbf{b}_3$), in try ($\mathbf{b}_{3t_1}$) ♖h6 unpins ♘b6 and maneuvers to reach g4, while ♙c2 unpins ♘b5. In solution ($\mathbf{b}_{3s_1}$) ♗d3 unpins ♘b5 and maneuvers to reach g4, while ♗g7 unpins ♘b6 and completes the idea by also guarding g5.

As in the first main complex, here again, the roles of pieces in all three thematic pairs ♘b5/♘b6, ♙c2/♗g7, ♗d2/♖h6 are ***reciprocally*** changed between the corresponding lines in Diagrams $\mathbf{a}_3$) and $\mathbf{b}_3$) and there is also a perfect overall strategic analogy within each of the four pairs of thematic lines.

3. *Diagrams* $\mathbf{b}_1$) *and* $\mathbf{b}_2$) *(*($\mathbf{b}_{1s_1}$), ($\mathbf{b}_{2s_1}$)*)*

In this complex the goal is to get the black king mated on e5 and f5, respectively. The strategy is based on a combination of guarding/blocking a critical square around the black king in the mating position (f4 in Diagram $\mathbf{b}_1$) and g4 in Diagram $\mathbf{b}_2$)) and the ***white-white*** unpinnings of white knights.

Fairly connected to this complex are tries ($\mathbf{b}_{0t_3}$) and ($\mathbf{b}_{1t_3}$) from one of the additional complexes and tries ($\mathbf{a}_{0t_1}$) and ($\mathbf{b}_{2t_1}$) from one of the supporting complexes which also have the black king mated on e5 and f5, respectively. Tries ($\mathbf{b}_{0t_3}$) and ($\mathbf{b}_{1t_3}$) show the play very much similar to the solutions ($\mathbf{b}_{1s_1}$), ($\mathbf{b}_{2s_1}$). The key difference is that instead of ***white-white*** unpinning they have a ***black-white*** unpinning with a rather simple direct black unpinning. This direct black unpinning effectively takes away one of three black move and is the key reason why these two tries fail (basically, there are no additional available black moves that can ensure self-blocking of f4 and g4).

Tries ($\mathbf{a}_{0t_1}$) and ($\mathbf{b}_{2t_1}$) also show a ***black-white*** unpinning. This time though in addition to the direct black unpinning there is a change in white unpinning and instead of unpinning by the other knight we have the supporting peace white unpinning. This allows for a bit different play by one of the knights. Still d6 (as a replacement for f4 due to 2...♗xh6) and g4 remain unguarded and the tries fail.

As in the other two main complexes, here again, the roles of all key pieces are ***reciprocally*** changed between the corresponding lines and there is also a perfect overall strategic analogy within each of these three pairs of thematic lines.

Supporting and additional complexes:

1. *Diagrams* **b**) *and* $\mathbf{b}_1$) *(($\mathbf{b}_{0t_1}$), ($\mathbf{b}_{1t_1}$))*

   In this complex only one of the knights is unpinned by a supporting self-blocking black piece (♟d4 in ($\mathbf{b}_{0t_1}$) and ♗d8 in ($\mathbf{b}_{1t_1}$)). This knight then does a short dual-avoiding maneuver and eventually enables mates by ♗g7 or ♙c2. One should note that these tries can be activated by ♗d3 → ♗f1 and ♗e7 → ♗f8. I preferred though to have active solutions only in th main complexes and everything else realized through tries.

2. *Diagrams* **a**) *and* $\mathbf{b}_2$) *(($\mathbf{a}_{0t_2}$), ($\mathbf{b}_{2t_2}$))*

   These two tries show the last remaining ***black-white*** unpinning not shown above – indirect black unpinning and white unpinning by the other knight. One of the knights is first indirectly unpinned as in the complex above by a supporting black piece (♟d4 in ($\mathbf{a}_{0t_2}$) and ♗d8 in ($\mathbf{b}_{2t_2}$)) and then this unpinned knight indirectly unpins the other knight.

3. *Diagrams* **b**) *and* $\mathbf{b}_1$) *(($\mathbf{b}_{0t_2}$),($\mathbf{b}_{1t_2}$))*

   This and the following complex show ***black-black*** unpinning. Here it is in the form of one direct and one indirect unpinning. The unpinnings are done through maneuvers (1.♖c6 2.♖c4 and 1.♗c4 2.♗d6) of the pinning pieces ♖h6 and ♗d3. It is a bit pity that ♗g7 remains with no role in ($\mathbf{b}_{0t_2}$).

4. *Diagram* $\mathbf{b}_1$) *(($\mathbf{b}_{1t_4}$),($\mathbf{b}_{1t_5}$))*

   Finally in this complex we have ***black-black*** direct unpinnings. On top of random moves being replaced by the precise ones, it is interesting to note how the slight change in the choice of the square (f3 or f4) where the black king moves determines the rest of the play and introduces a ***reciprocal*** change or both, black and white, second and third moves and consequently a ***reciprocal*** change of functions of white knights that play the same moves.

Technical comments:

It is relatively easy to see that twinning could have been done differently and made in a much lighter fashion. For example, with just a little bit of juggling the first zero position can actually be realized without any twins! However, some nice tries would be lost and the connections of certain complexes would quite likely be a bit more difficult to follow.

Also, there is always the philosophical question what constitutes a dualistic try in helpmate when it comes to moves' permutations. I view a try as permutably dualistic if the permutations of moves are possible after the first move (it is the first black move in the standard helpmate setup or the first white move in the white to play setup). Permutations that include the first move simply establish a different try. When it comes to the solutions the story is different. The solution is still permutably dual if the permutations are possible after the first move but is also cooked if they are possible in the first move (of course, there are always exceptions where the permutations can be say a part of a larger strategic concept that doesn't naturally promote just permutability; for example, a reciprocal change of first and second move). When taken in the just described sense all the thematic lines mentioned within the content of this problem are not permutably dualistic. There are some of them though that allow for possible permutations in the first moves (for example, the tries from the second main complex as well as tries ($\mathbf{b}_{1t_4}$),($\mathbf{b}_{1t_5}$), and ($\mathbf{b}_{2t_1}$)).

There also a couple of other tiny details that can be found here and there as one browses through various lines. We will mention some of them. For example, some of the tries could have been listed in different twins as well (e.g. ($\mathbf{a}_{3t_1}$), ($\mathbf{a}_{3t_2}$), ($\mathbf{a}_{3t_3}$)). In such situations I tried to connect them to the twin where they are the

most relevant and to position them so that the following of the entire content is as smooth as possible. There are also a couple of tiny duals. None of them though is of conceptual nature but rather forced by the location of the pieces on the board (for example, in ($\mathbf{a}_{1t_1}$) 1...♘d7 has the same conceptual effect as mentioned ♘a4; in ($\mathbf{b}_{3t_1}$), ($\mathbf{b}_{3t_2}$), and ($\mathbf{b}_{2t_1}$) ♙xd3 and ♙c4 have the same conceptual effect and can be interchanged as well; in ($\mathbf{a}_{3t_2}$), ($\mathbf{a}_{3t_3}$) 2...♕f1 is also possible). Also in certain tries there are unnecessary weaknesses caused by black moves (for example, in ($\mathbf{b}_{2t_1}$)/($\mathbf{b}_{0t_3}$) 1.♖xh5 disables control of g6 and in ($\mathbf{b}_{2t_2}$) ♗f6 also attacks g5 in the final position). These weakness are conceptually not needed and are just caused by the overall setup (for example, if the board is one file wider or if a ♞ plays on f6 instead of ♗ these weaknesses would not be there). They are of course tiny details given the magnitude of the overall concept presented in this problem and don't really cause one to break much of a sweat but for the completeness should be mentioned as well.

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Mihailo Stojnic

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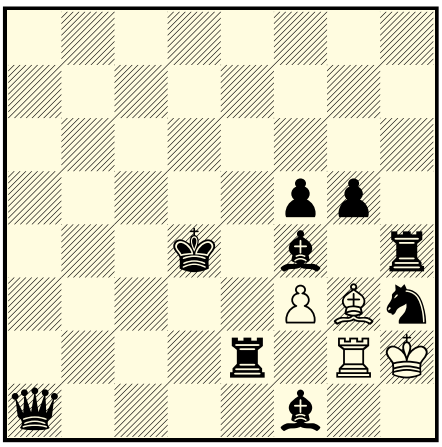

h ≠ 3 C^+ 4 + 9

a) Diagram
b) ♟f5 → e5, ♚d4 → d3
c) ♟f5 → d5, ♛a1 → c8

Content:

a) Diagram

1.♜e1 ♖g1(♖∼?,♗xf4?) 2.♚e3 ♗xf4+ 3.♚f2 ♖g2≠? ($\mathbf{a}_{t_1}$)

1.♗e3 ♗xh4(♗∼?,♖f2?) 2.♚e5 ♖f2 3.♚f4 ♗g3≠ ($\mathbf{a}_{s_1}$)

b) Diagram a) +♟f5 → e5, ♚d4 → d3

1.♜b2 ♖c2 2.♗d2(♗e2?) ♗xe5 3.♗e2 ♖c3≠? ($\mathbf{b}_{t_1}$)

1.♜c2 ♗xf4 2.♜c3 ♗xg5(♗d1?) 3.♜c4 ♖d2≠ ($\mathbf{b}_{s_1}$)

Additional try:

1.♗d2(♗e5?) ♖xe2 2.♜c4 ♗f4 3.♗c3 ♖d2≠? ($\mathbf{b}_{t_2}$)

c) Diagram a) +♟f5 → d5, ♛a1 → c8

1.♗d6 ♖xe2 2.♗c5 ♖e1(♖e6?) 3.♗d3 ♗e5≠? ($\mathbf{c}_{t_1}$)

1.♗c7 ♗d6 2.♜e5 ♖c2 3.♗d3 ♗c5≠ ($\mathbf{c}_{s_1}$)

Additional try:

1.♜c2(♜e5?) ♗xf4 2.♗d3 ♖e2 3.♜c5 ♗e5≠? ($\mathbf{c}_{t_2}$)

Comment: There are three main complexes: 1) Main try ($\mathbf{a}_{t_1}$) and solution ($\mathbf{a}_{s_1}$) in Diagram **a**); 2) Main try ($\mathbf{b}_{t_1}$) in Diagram **b**) and solution ($\mathbf{c}_{s_1}$) in Diagram **c**); and 3) Main try ($\mathbf{c}_{t_1}$) in Diagram **c**) and solution ($\mathbf{b}_{s_1}$) in Diagram **b**). There is also an additional complex formed by additional tries ($\mathbf{b}_{t_2}$) and ($\mathbf{c}_{t_2}$) from Diagrams **b**) and **c**), respectively.

Main complexes:

1. *Diagram* **a**) *(($\mathbf{a}_{t_1}$),($\mathbf{a}_{s_1}$))* ← ***Complex 1***

   This complex introduces some elements of the idea of ***inharmonic*** play that will be the key topic in the following two main complexes. Usually helpmates rely on at least one pair of harmonic thematic lines that are typically solutions. Here that harmony is broken as there are no two solutions. Still a play analogous to the one from the solution ($\mathbf{a}_{s_1}$) does happen but in the try ($\mathbf{a}_{t_1}$). In both thematic lines the following content is presented in an analogous fashion: through an anticipated self-block black pinning piece (♗f4 in ($\mathbf{a}_{s_1}$)) and ♜e2 in ($\mathbf{a}_{t_1}$))) first unpins one of the white pinned pieces (♗ in ($\mathbf{a}_{s_1}$)) and ♖ in ($\mathbf{a}_{t_1}$))); then the unpinned white piece instead of randomly plays a precise corrective move leaving the line of pinning and clearing it for the black king's arrival; the pinned white piece plays along the other pinning line to guard one of the critical squares in the anticipated mating position; finally, the unpinned white piece eventually through a so-called ***switchback*** gets back to its original square and mates.

2. *Diagrams* **b**) *and* **c**) *(($\mathbf{b}_{t_1}$),($\mathbf{c}_{s_1}$))* ← ***Complex 2***

   This complex together with the following one represents the complete version of a general concept to which we refer as the ***reciprocal inharmonic***. The reciprocal inharmonic essentially assumes at least four thematic lines with two solutions and two tries. Both solutions are inharmonic to each other and both tries are also inharmonic to each other. However, each of the solutions is harmonic/analogous with one of the tries (elements of harmony/analogy can vary from geometric/artistic to purely strategic/conceptual). Of course the value of the concept is higher if the tries are not artificially created instead of already existing solutions, but are actually inherent to the mechanism itself, i.e. they can not be avoided by the setup itself!

   The idea behind the ***reciprocal inharmonic*** is to potentially increase the problem's puzzling value. In typical helpmates where play is analogous between the solutions, once one of the solutions is found the

other is pretty much an automatic. In inharmonic problems this is not the case. However, inharmonic problems do not allow for a high level of artistic impression typically achieved in modern helpmates with multi-phase analogous play. ***Reciprocal inharmonic*** concept in way attempts to achieve both, 1) to increase the difficulty for solvers and 2) to still leave enough space for the standard analogous/harmonic artistic approach.

Thematic lines ($\mathbf{b}_{t_1}$) and ($\mathbf{c}_{s_1}$) form one half of the ***reciprocal inharmonic*** while the lines ($\mathbf{c}_{t_1}$) and ($\mathbf{b}_{s_1}$) that will be discussed below form the other half. The play in ($\mathbf{b}_{t_1}$) and ($\mathbf{c}_{s_1}$) is completely analogous and contains in both phases a ***Loshinsky*** magnet on one of the pinning lines, closing of a ♛ line, opening of a white line and self-blocking of one of the squares in the anticiapted mating position through moving one of the pinning pieces to the other pinning line (after anticritical moves from the ***Loshinsky*** magnets). Finally there are also self-blocks on e2 and d3 by ♗f1. ***Model mates*** are present as well.

3. *Diagrams* **b)** *and* **c)** *(($\mathbf{c}_{t_1}$),($\mathbf{b}_{s_1}$))* ← ***Complex 3***

   As mentioned above, this complex completes the second half of the ***reciprocal inharmonic***. The play is again completely harmonious between the two thematic phases and it includes leaving the pinning line and self-blocking the black king, capturing the other pinning piece, avoiding dual anti-critical moves by white, and opening lines for ♗f1 and ♖h4 to provide self-blocks on d3 and c4, respectively.

   Finally, the ***key point*** that connects **Complexes 2** and **3** (and around which the entire mechanism was conceived) is the role of critical squares c5, e5, c3, and d2. In **Complex 2** white mates on c5 and c3, and black self-blocks on e5 and d2. In **Complex 3** it is the other way around, white mates on e5 and d2, and black self-blocks on c3 and c5. Moreover, the change in occupation of these four squares in mating positions is actually ***cyclic***. The following table highlights this.

Cyclic **squares occupation in mating positions**

Squares	c5	e5	c3	d2
Complex 2	♗	♖	♖	♗
Complex 3	♗	♗	♖	♖

Additional complex:

1. *Diagrams* **b)** *and* **c)** *(($\mathbf{b}_{t_2}$),($\mathbf{c}_{t_2}$))* ← ***Complex 4***

   The strategy in this complex is very similar to the one presented in **Complex 3** and revolves around self-blocks on c3 and c5. However, the roles between the black thematic pieces (♖e2 and ♗f4) are reversed and ♖ ends up self-blocking on c5 while ♗ ends up self-blocking on c3. This changes the overall white play as well. Instead of capturing black thematic pieces on e2 and f4 one now has a delayed ***Umnov*** effect on these squares. The capturing still reappears but in a reciprocal form. The reciprocal change of play that occurs on c3 nd c5 when compared to **Complex 3** causes that now when compared to **Complex 2**, **Complex 4** exhibits a ***double reciprocal*** change in occupation of mating squares c5, e5, c3, and d2. The table below highlights this.

Double reciprocal **squares occupation in mating positions**

Squares	c5	e5	c3	d2
Complex 2	♗	♖	♖	♗
Complex 4	♖	♗	♗	♖

Technical comments:

The twinning could be a bit lighter at the expense of adding several extra pieces. However, an almost Meredith position for this type of content is for me beyond priceless.

3

Mihailo Stojnic

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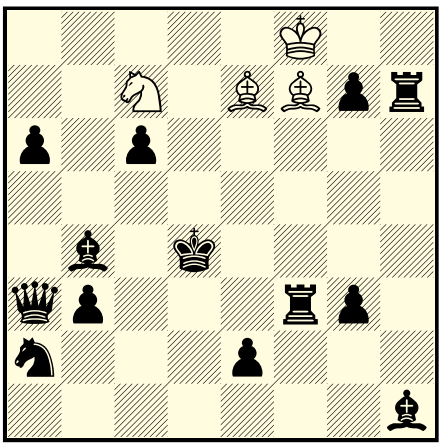

h ≠ 3 C^+ 4 + 13

a) Diagram
b), c) ... see text

Content:

a) Diagram

1.♖f5 ♘e8(♘b5?) 2.♖b5 ♗g5? 3.♚c5 ♗e3≠ ($\mathbf{a}_{t_1}$)

mating position 1

1.♖c3(♖f5?) ♗h5 2.♖c5 ♗f6 3.♚c4 ♗xe2≠ ($\mathbf{a}_{s_1}$)

mating position 2

Additional tries:

1.♟c5 ♗f6+ 2.♚c4? ♗e8 3.♟a5 ♗b5≠ ($\mathbf{a}_{t_2}$)
1.♖f6 ♘xa8 2.♖d6 ♗d8 3.♚c5 ♗b6≠? ($\mathbf{a}_{t_3}$)
1.♟c5 ♗f6+ 2.♚e3 ♗g6 3.♗d2 ♘d5≠? ($\mathbf{a}_{t_4}$)
1.♖d3 ♘xa6 2.♗c3 ♗xa3 3.♗e4 ♗c5≠? ($\mathbf{a}_{t_5}$)

b) Diagram a) +♘c7 → b1

1.♗d2 ♘xa3(♘xd2?) 2.♖c3 ♗c5+ 3.♚d3 ♗g6≠? ($\mathbf{b}_{t_1}$)

mating position 2

1.♗d2(♗d6?) ♗xa3 2.♗f4 ♗g6 3.♚e3 ♗c5≠ ($\mathbf{b}_{s_1}$)

mating position 1

Additional tries:

1.♖d3 ♘c3 2.♟c5 ♗g5 3.♗e4 ♘xe2≠? ($\mathbf{b}_{t_2}$)
1.♖e3 ♘xa3 2.♗d2 ♗f6+ 3.♚d3 ♗c4≠? ($\mathbf{b}_{t_3}$)

c) Diagram a) +♕a3 → e5

1.♕b5 ♘d5(♘e6?) 2.♟c5 ♗f6+ 3.♚c4 ♘f4(♘xb4?)≠ ($\mathbf{c}_{s_1}$) ← ***echo battery creation***

Additional tries:

1.♖c3 ♗e8 2.♚c4 ♗xc6 3.♕d4 ♗b5≠? ($\mathbf{c}_{t_1}$)
1.♖f5 ♗xb4 2.♕e4 ♘b5 3.♚e5 ♗d6≠? ($\mathbf{c}_{t_2}$)
1.♖d3 ♗g6 2.♚d5? ♘a8 3.♖d4 ♘b6≠? ($\mathbf{c}_{t_3}$)
1.♖d3 ♘xa6 2.♕e3 ♔xg7? 3.♗e4 ♗f6≠ ($\mathbf{c}_{t_4}$)

d) Diagram c) +♗b4 → c5

1.♗b6 ♘e8(♘b5?) 2.♕b5 ♘d6 3.♚c5 ♘f5(♘xb5?)≠ ($\mathbf{d}_{s_1}$) ← ***echo battery creation***

Additional tries:

1.♗b6 ♗d6(♗f6?) 2.♕b5 ♗e5 3.♚c5 ♘xa6≠? ($\mathbf{d}_{t_1}$)
1.♚e4 ♗f6? 2.♗e3 ♗xb3 3.♕f4 ♗c2≠ ($\mathbf{d}_{t_2}$)

Additional content:

e) Diagram c) −♗h1, +♘c7 → f2

1.♕c7 ♔e8(♗f6+?) 2.♚e5 ♗f6+(♗d6+?) 3.♚d6 ♘e4≠ ($\mathbf{e}_{s_1}$)

1.♕f5 ♗xb4(♘d3?) 2.♚e5 ♘d3+(♘g4+?) 3.♚f6 ♗e7≠ ($\mathbf{e}_{s_2}$)

Additional tries:

1.♗d2 ♗f6 2.♚e3(♕f4?) ♗g6 3.♕f4 ♘d1≠? ($\mathbf{e}_{t_1}$)
1.♚e3 ♗c5+ 2.♚f4 ♗e6 3.♖h3 ♘xh3≠? ($\mathbf{e}_{t_2}$)

Comment: There are three main complexes presented in Diagrams **a**)–**d**) and an additional play in Diagram **e**). The three main complexes are: 1) Tries and solutions ($\mathbf{a}_{t_1}$), ($\mathbf{a}_{s_1}$) and ($\mathbf{b}_{t_1}$), ($\mathbf{b}_{s_1}$) in Diagrams **a**) and **b**), respectively; 2) Solutions ($\mathbf{c}_{s_1}$), ($\mathbf{d}_{s_1}$)in Diagrams **c**) and **d**), respectively; and 3) Remaining tries in Diagrams **a**)–**d**). A short description of these complexes would be the following. The first complex shows a variant of a ***reciprocal inharmonic*** with ***identicalness*** of mating positions as the critical inharmonic element. There are two types of identical mating positions: ***mating position 1*** and ***mating position 2***. Moreover, these two types of positions are in a way ***echo*** variants of each other. The second complex presents a pair of ***echo*** ♗/♘ white battery creations. Finally, the third complex shows three pairs (($\mathbf{a}_{t_2}$),($\mathbf{a}_{t_3}$)), (($\mathbf{b}_{t_2}$),($\mathbf{c}_{t_3}$)), (($\mathbf{c}_{t_4}$),($\mathbf{d}_{t_2}$))) and one quadruplet (consisting of two pairs) (($\mathbf{a}_{t_5}$),($\mathbf{b}_{t_3}$),($\mathbf{c}_{t_1}$),($\mathbf{c}_{t_2}$)) of ***echo*** mating positions

and one pair ((**a**$_{t_4}$),(**d**$_{t_1}$)) with the same type of mating position. Out of 18 thematic lines in Diagrams **a**)–**d**), 12 end with ***model mates*** (in tries a mate is viewed as model if all squares around the black king except the unguarded ones satisfy general standard requirements needed for a mate to be model), 5 end with mates in which only one square neighboring the black king is controlled twice, and one ends with mate in which two squares neighboring the black king are controlled twice. Solutions (**e**$_{s_1}$),(**e**$_{s_2}$) in the additional Diagram **e**) show ♕ clearing the path for ♚ and providing distant self-blocks in a combination with white dual-avoidance. On the other hand, Diagram **e**)'s tries (**e**$_{t_1}$),(**e**$_{t_2}$) show an additional pair of, what would be, ***model mates***.

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Mihailo Stojnic

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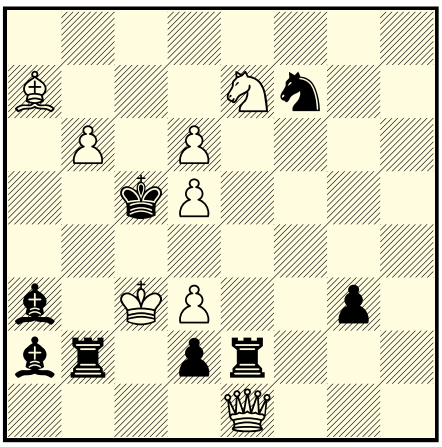

h ≠ 1.5 C^+ 8 + 8

a) Diagram
b), c), d) see text

Content:

a) Diagram

1...♕b1(X) 2.♖xb6(x) ♕xb6≠ (a_{s_1})
1...♕h1(Y) 2.♗xd5(y) ♕xd5≠ (a_{s_2})
1...♕xe2(Z) 2.♘xd6(z) ♙d4≠(Z_1) (a_{s_3})
1...♕xg3(W) 2.♖b5(w) ♙d4≠ (a_{s_4})

b) Diagram a) +♗a7 ↔ ♘e7

1...♕b1(X) 2.♖b5(w) ♕xb5≠ (b_{s_1})
1...♕h1(Y) 2.♖xb6(x) ♙d4≠ (b_{s_3})
1...♕xe2(Z) 2.♗xd5(y) ♕e3≠(Z_2) (b_{s_2})
1...♕xg3(W) 2.♘xd6(z) ♕xd6≠ (b_{s_4})

c) Diagram a) +♗a7 → a6

1...♕xg3(W) 2.♖xb6(x) ♙d4≠ (c_{s_1})
1...♕xe2(Z) 2.♘xd6(z) ♕e3≠(Z_2) (c_{s_2})

d) Diagram a) +♘e7 → f5

1...♕h1(Y) 2.♖b5(w) ♙d4≠ (d_{s_1})
1...♕xe2(X) 2.♗xd5(y) ♙d4≠(Z_1)? (d_{t_1})

Comment: This problem shows a ***2×4 Lacny*** concept in helpmate twomover with white playing the first move (i.e. in helpmate in 1.5 moves). After white moves 1...♕b1(X), 1...♕h1(Y), 1...♕xe2(Z), and 1...♕xg3(W) in Diagram **a**) black continues with 2.♖xb6(x), 2.♗xd5(y), 2.♘xd6(z), and 2.♖b5(w), respectively. On the other hand, in Diagram **b**) after the same white first moves, black continues with 2.♖b5(w), 2.♖xb6(x), 2.♗xd5(y), and 2.♘xd6(z), respectively (essentially a ***cyclic*** permutation (shift) **w,x,y,z** of the original order **x,y,z,w**). The table below highlights this ***cyclic*** shift.

2 × 4 Cyclic change of black continuations (Lacny Cycle)

White first move	Black second move continuation	
	Diagram a)	Diagram b)
1...♕b1(X)	2.♖xb6(x)	2.♖b5(w)
1...♕h1(Y)	2.♗xd5(y)	2.♖xb6(x)
1...♕xe2(Z)	2.♘xd6(z)	2.♗xd5(y)
1...♕xg3(W)	2.♖b5(w)	2.♘xd6(z)

Moreover, two thematic lines (c_{s_1}) and (d_{s_1}) from Diagrams **c**) and **d**), respectively complete ***double 3×1 Zagoruiko*** with two ***reciprocally transferred*** continuations. First, thematic lines (a_{s_4}), (b_{s_4}), and (c_{s_1}) form a ***3×1 Zagoruiko***. Analogously, thematic lines (a_{s_2}), (b_{s_2}), and (d_{s_1}) form another ***3×1 Zagoruiko***. In fact, one can actually view the entire complex that consists of (a_{s_4}), (b_{s_4}), (a_{s_2}), (b_{s_2}), (c_{s_1}), and (d_{s_1}) as a ***2+2+1+1 Zagoruiko*** with continuations 2.♖xb6(x) in (c_{s_1}) and 2.♖b5(w) in (d_{s_1}) even being ***reciprocally transferred***.

Also, two additional thematic lines, the second solution in Diagram **c**), (c_{s_2}), and the thematic try in Diagram **d**), (d_{t_1}), together with thematic lines (a_{s_3}) and (b_{s_3}) from Diagrams **c**) and **d**) form two pairs of thematic lines with ***reciprocally changed*** strategy. The key that highlights this strategy reversal is the ***reciprocal*** change of the ***second white moves*** (Z_1) and (Z_2).

The core of the idea is to show how powerful twins can be as active, necessary parts of the mechanism. In this particular case, the presented ***Lacny*** concept makes sense only in a twinning configuration. The mechanism is ***fully strategically harmonious*** and has several key components. Black continuations 2.♖xb6(x) and 2.♖b5(w) are preceded by 1...♕b1(X) in lines where they are enabling ♕'s passage through b-file and mates on b6 and b5. These same continuations are alternatively preceded by 1...♕h1(Y) and 1...♕

xg3(W) in lines where the goal is to control all squares around ♚ and enable 2...♙d4≠ mate. These two white first moves are alternatively followed by 2.♗xd5(y) and 2.♘xd6(z), respectively in lines where the goal is to annihilate pawns on d5 and d6 and enable ♕ to mate on these squares. Finally, these two black continuations are alternatively preceded by 1...♕xe2(Z) in lines where the goal is to simultaneously mate and control b6 or b5, respectively.

Technical comments:

A general technical comment is certainly in place. This helpmate belongs to a class of helpmates that put emphasis on the overall strategy rather than on an artistic approach typically seen in modern helpmates that have been prevalent over last several decades. Of course, a ***Lacny*** concept is typically seen in problems that don't assume a cooperative play. Here the idea is to highlight the fact that such a concept can be as effective in helpmates as well. While cooperative play does give a bit of help in designing the mechanism, it also brings a lot of obstacles in avoiding by-solutions. Moreover, the fact that one has to keep all white pieces involved in any of the solutions (thematic lines) complicates things. Still, the freedom of cooperative play also allows for deepening the strategy, extending the typical size of the ***Lacnys***, and even insisting on ***strategically harmonious*** play which often is missing in the orthodox ***Lacnys***. In my view, this is the ***best helpmate that I have ever composed***.

5

Mihailo Stojnic

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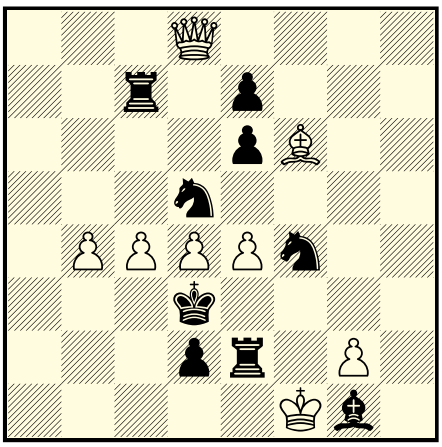

h ≠ 2 C^+ 8 + 9

a) Diagram
b) ♗f6 → f5

Content:

a) Diagram

1.♖xe4 (x) ♕g8 (X) 2.♚e3 ♕g4≠ (a_{s_1})

1.♗xd4 (y) ♕xd5 (Y) 2.♚e3 ♕xd4≠ (a_{s_2})

1.♚xe4 ♕xd5 2.♚e3 ♕f3≠ (a_{s_3})

1.♖xc4 ♕xd5 2.♖xe4? ♕b3≠ (a_{t_1})

1.♚xe4 ♗g5(Z) 2.♞d3 ♕xd5(Y)≠? (a_{t_2}) ← ***echo 1***

1.♚e3 ♕xd5(Y) 2.♞d3 ♗g5(Z)≠? (a_{t_3}) ← ***echo 2***

b) Diagram a) +♗f6 → f5

1.♖xe4(x) ♕xd5(Y) 2.♚e3 ♕xe4≠ (b_{s_1})

1.♗xd4(y) ♕g8(X) 2.♚e3 ♕g4≠ (b_{s_2})

1.♚xd4 ♕h8 2.♚e3 ♕c3≠? (b_{t_1})

1.♖xc4 ♕xd5 2.♖xd4 ♕b3≠ (b_{s_3})

1.♞c3 ♕xc7 2.♚xd4 ♕c5≠? (b_{t_2}) ← ***echo 1***

1.♞c3 ♕xd5 2.♗e3 ♙e5≠? (b_{t_3}) ← ***echo 2***

Comment: There are two main and one additional complex presented in Diagrams **a**) and **b**). The two main complexes are: 1) Solutions (a_{s_1}), (a_{s_2}) in Diagram **a**) and solutions (b_{s_1}), (b_{s_2}) in Diagram **b**); and 2) Solution and try (a_{s_3}), (a_{t_1}) in Diagram **a**) and try and solution (b_{t_1}), (b_{s_3}) in Diagram **b**). Finally, tries (a_{t_2}), (a_{t_3}) in Diagram **a**) and tries (b_{t_2}), (b_{t_3}) in Diagram **b**) form an additional, third complex of content.

Main complexes:

1. *Diagrams* **a**) *and* **b**) *((a_{s_1}),(a_{s_2}),(b_{s_1}),(b_{s_1}))* ← ***Complex 1***

   This complex shows a ***reciprocally*** changed white first moves 1...♕g8 (X) and 1...♕xd5 (Y) after black first moves 1.♖xe4 (x) and 1.♗xd4 (y). The mechanism revolves around guarding/self-blocking d4 and e4, and annihilating ♙d4 and ♙e4.

2. *Diagrams* **a**) *and* **b**) *((a_{s_1}),(a_{t_1}),(b_{t_1}),(b_{s_1}))* ← ***Complex 2***

   This complex shows a ***reciprocal inharmonic*** in its full power. The idea is to get ♕ to mate on the third row. One can enable that by having white pawns c4, d4, e4 annihilated by ♖c7 or ♚ which eventually opens lines for ♕ to get to the third row (the annihilations of ♙c4 by ♖c7 are also carefully connected to guarding squares d4 and e4 through their complementary self-blocking). In Diagram **a**), the annihilation of ♙e4 by ♚ opens d5-f3 line for ♕ and this king's pawn annihilation works. On the other hand, the annihilation of ♙c4 by ♖c7 does not work. By capturing ♙c4 and leaving to e4, ♖c7 would open d5-b3 line and self-block on e4. ♕ would then be able to get to b3 (via first capturing on d5 and later moving through the just opened line d5-b3) and together with ♗ conveniently guarding d4 this would be enough to have the whole mechanism work. However, ♖ can't get over ♙d4 to reach e4 and this annihilation on c4 fails. In Diagram **b**) things are exactly ***reciprocally inharmonic***. Namely, the analogous/harmonic king's annihilation (this time on d4) doesn't work (queen can get to the third row via h8 and just opened line h8-c3, but c3 and d3 are now directly guarded by ♞'s). On the other hand the ♖'s annihilation on c4 now does work as ♖ now needs to self-block on d4 which this time can be reached (of course, the whole catch is that now ♗ conveniently guards e4 and the self-block by ♖c7 is indeed needed on d4 instead of e4 as was the case in Diagram **a**)).

3. *Diagrams* **a**) *and* **b**) *((a_{t_2}),(a_{t_3}),(b_{t_2}),(b_{t_3}))* ← ***Complex 3***

   The complex shows two pairs ((a_{t_2}),(b_{t_2})) and ((a_{t_3}),(b_{t_3})) of thematic lines that end with ***echo*** mates. In tries (a_{t_2}),(b_{t_2}) that form the first of the two pairs, ♚ gets mated on the neighboring squares (of

different color) e4 and d4, respectively. It is mated by ♕ that arrives to also neighboring squares d5 and c5, respectively. Moreover, these mates are supported by the ♗'s located on the neighboring squares g5 and f5, and by the ♘'s also located on neighboring squares d3 and c3. On the other hand, in tries ($\mathbf{a}_{t_3}$),($\mathbf{b}_{t_3}$) that form the second of the pairs, ♚ gets mated on the neighboring squares e3 and d3, respectively. It is mated by ♗'s again located on neighboring squares d5 and c5, respectively and the mates are again supported by the ♘'s located on neighboring squares d3 and c3. Moreover, in tries ($\mathbf{a}_{t_2}$),($\mathbf{a}_{t_3}$), one actually has almost identical play that gets differentiated through a tiny difference in the black's second move (2.♚xe4 versus 2.♚e3) which eventually leads to a ***reciprocal*** change of white moves 1...♕xd5(**Y**) and 1...♗g5(**Z**).

6

Mihailo Stojnic

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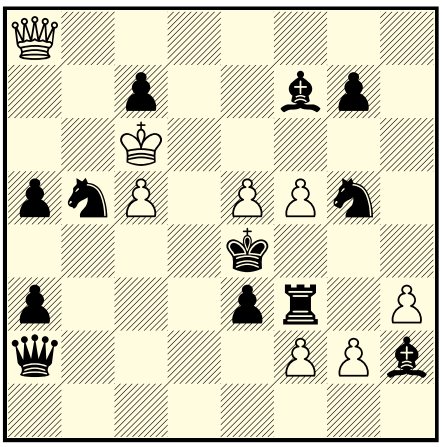


h ≠ 2 C^+ 8 + 12

Zero position, see text

Content:

a) Diagram – zero position – no solution

a_1) Diagram a) + ♙e5 → c2

1.♖xf5(x) ♕e8(X) 2.♚f4 ♕xe3≠ (a_{1s_1})

1.♗e5(y) ♕d8(Y) 2.♖f4 ♕d3≠ (a_{1s_2})

a_2) Diagram a) + ♙f5 → c3

1.♖f5(x) ♕d8(Y) 2.♞d4+ ♕xd4≠ (a_{2s_1})

1.♗xe5(y) ♕c8(Z) 2.♚f4 ♕g4≠ (a_{2s_2})

a_3) Diagram a) + ♘e7

1.♖xf5(x) ♕c8(Z) 2.♚f4 ♕xf5≠ (a_{3s_1})

1.♗xe5(y) ♕h8(W) 2.♚f4 ♕h4≠ (a_{3_2})

a_4) Diagram a) + ♘d7

1.♖xf5(x) ♕h8(W) 2.♚f4 ♕h4≠ (a_{4s_1})

1.♗xe5(y) ♕e8(X) 2.♚f4 ♕xe5≠ (a_{4s_2})

Comment: This problem shows a **4 × 2** ***Cyclic Zagoruiko*** (or ***Rice theme***) concept in helpmate twomover. After black moves 1.♖(x)f5(x), 1.♗(x)e5(y), white continues with 1...♕e8(X), 1...♕d8(Y) in Diagram **a_1**). Then on the same defenses white continues with 1...♕d8(Y), 1...♕c8(Z) in Diagram **a_2**), with 1...♕c8(Z), 1...♕h8(W) in Diagram **a_3**), and with 1...♕h8(W), 1...♕e8(X) in Diagram **a_4**). The table below highlights in parallel the full cycle.

4 × 2 Cyclic Zagoruiko (Rice Cycle)

Black first move	White first move continuation			
	Diagram a_1)	Diagram a_2)	Diagram a_3)	Diagram a_4)
1.♖(x)f5(x)	1...♕e8(X)	1...♕d8(Y)	1...♕c8(Z)	1...♕h8(W)
1.♗(x)e5(y)	1...♕d8(Y)	1...♕c8(Z)	1...♕h8(W)	1...♕e8(X)

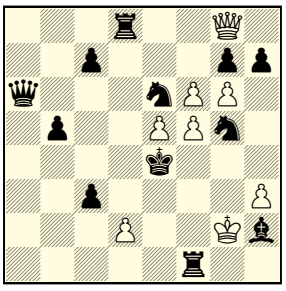
Of course, the key point is not only that a **4 × 2** ***Cyclic Zagoruiko*** is created but that it is created through a ***highly structured*** and ***harmonious*** mechanism. The entire mechanism is actually built on a collection of fully analogous principles and it is possibly useful to see in full details how it was conceived. The discussion below will hopefully provide as many details as one could expect. To start things off, we first present and discuss a scheme that contains a ***double reciprocally*** changed white continuations mechanism. Restructuring that mechanism eventually produces the above **4 × 2** ***Cyclic Zagoruiko***.

In **Twins 1** and **2**, Diagram **6**v + ♙e5 → c2 and Diagram **6**v + ♙f5 → c3, respectively, after black moves 1.♖(x)f5(x), 1.♗(x)e5(y), white continues by ***reciprocally*** changing 1...♕xe6(U) and 1...♕xd8(Y) (in the first twin the order is (U), (Y) and in the second twin it is (Y), (U); this is not a complete problem but rather just a scheme which is given for illustration purposes, so a few duals and additional solutions that appear here and there shouldn't be a determent to fully grasping the main ideas). In **Twins 3** and **4**, Diagram **6**v + ♙g6→♗g6 and Diagram **6**v + ♙f6→♗f6, respectively, after black moves 1.♖(x)f5(x), 1.♗(x)e5(y), white continues by ***reciprocally*** changing 1...♕xe6(U) and 1...♕xh7(W) (in the third twin the order is (U), (W) and in the fourth it is (W), (U); 1...♕xh7(W) is not exactly identical to 1...♕h8(W) above but it is rather clear that its strategic purpose is literally the same). Now, carefully looking at these two pairs of ***reciprocally*** changed continuations one can

6v

Mihailo Stojnic

Scheme



h ≠ 2 8 + 12

notice that they have two things in common: 1) they happen after the same pair of black defenses (which makes sense only in a twinned helpmate) and 2) one of the white continuations (U) is common for both pairs. The table below highlights this.

Double reciprocally changed white continuations (Scheme 6v)				
Black first move	**White first move continuation**			
	Twin 1	**Twin 2**	**Twin 3**	**Twin 4**
1.♜(x)f5(x)	1...♕xe6(U)	1...♕xd8(Y)	1...♕xe6(U)	1...♕xh7(W)
1.♝(x)e5(y)	1...♕xd8(Y)	1...♕xe6(U)	1...♕xh7(W)	1...♕xe6(U)

Double reciprocal change is of course a strong concept on its own. However, one would in such a concept typically prefer that there are two different pairs of blacks moves. So, looking from a purely ***reciprocal*** change point of view this mechanism is a bit inferior. On the other hand, looking at the table above, if somehow within each pair of twins (the first pair being **Twins 1** and **2** and the second pair being **Twins 3** and **4**) one can split the move (U) into two separate moves, say (X) and (Y) and do so in a so to say reciprocal fashion (say in **Twins 1** and **2** into (X) and (Z) and in **Twins 3** and **4** into (Z) and (X)) then the whole complex would be a **4** × **2** ***Cyclic Zagoruiko***. Of course this is exactly what Diagram **6** does.

Now, I should also add a few words as to what are the main ideas behind the both sets of ***reciprocal*** changes. In the first set the change is based on alternative self-blocking on f5 and e5 and utilizing the opening of white lines e6-e3 and e6-g4 and guarding of d3 and d4. The strategy is actually fully analogous. In **Twin 1** ♜ self-blocks on f5 and ♕ utilizes that to via e6 and opened e6-e3 line arrive and mate on e3. On the other hand ♝ self-blocks on e5 and ♕ mates on d-file by utilizing the guarded d3 square. In **Twin 2** things are reciprocal. First ♜ self-blocks on f5 and ♕ mates on d-file by utilizing the guarded d4 square and then ♝ self-blocks on e5 and ♕ utilizes that to via e6 and opened e6-g4 line arrive and mate on g4. In the second set we have a slightly different strategy. In addition to alternative self-blocking on f5 and e5 white can now utilize the fact that ♘'s are now alternatively guarding f5 and e5 as well. Namely, instead of reciprocal self-blocking on f5 and e5, white can take 1.♜xf5 and 1.♝xe5 as ♙'s annihilators and utilize that as a second part of the mechanism. Stated a bit more precisely, in **Twin 3** ♜ annihilates ♙f5 and ♕ utilizes that to via e6 arrive and mate on f5. On the other hand ♝ self-blocks on e5 and ♕ utilizes that to via h7 arrive and mate on h4. In **Twin 4**, things are again reciprocal, ♜ self-blocks on f5 and ♕ utilizes that to via h7 arrive and mate on h4. On the other hand ♝ annihilates ♙e5 and ♕ utilizes that to via e6 arrive and mate on e5.

This ***double reciprocal*** concept is restructured into a ***Cyclic Zagoruiko*** by splitting 1...♕xe6(U) into two separate moves 1...♕e8(X) and 1...♕c8(Z) (1...♕c8(Z) is not possible in Diagram **6v**, but after a bit of juggling it is in Diagram **6**). The catch is of course in an appropriate splitting order. In the first two twins of Diagram **6** (Diagrams $\mathbf{a}_1$) and $\mathbf{a}_2$)) the role of 1...♕e8(X) is to maintain access to e6-e3 line and the role of 1...♕c8(Z) is to maintain access to e6-g4 line; the access to both of these lines is provided by a single move 1...♕xe6(U) in the double-reciprocal scheme in Diagram **6v**. On the other hand, in the third and fourth twin of Diagram **6** (Diagrams $\mathbf{a}_3$) and $\mathbf{a}_4$)) the role of 1...♕e8(X) is to maintain access to e5 and the role of 1...♕c8(Z) is to maintain access to f5; of course, the access to both of these squares is provided by 1...♕xe6(U) in the double-reciprocal scheme in Diagram **6v**. However, the entire point is that the access to e6-e3 line is needed after 1.♜xf5 whereas the access to e5 is needed after 1.♝xe5 and reciprocally, the access to e6-g4 line is needed after 1.♝xe5 whereas the access to f5 is needed after 1.♜xf5. This ultimately enables a reversed splitting of 1...♕xe6(U) into 1...♕e8(X) and 1...♕c8(Z) between the first pair of twins (Diagrams $\mathbf{a}_1$) and $\mathbf{a}_2$)) and the second pair of twins (Diagrams $\mathbf{a}_3$) and $\mathbf{a}_4$)), which is exactly what is needed to complete the **4** × **2** ***Cyclic Zagoruiko***.

Technical comments:

I should also add a couple of comments related to technical realization. Besides a perfect logical harmony in the design of the entire mechanism, I tried to simultaneously achieve a similar visual impression as well. So, the choice of the location of key ♙'s on neighboring squares f5 and e5 is well matched with their respective twinning moving to neighboring squares c2 and c3 with the purpose of guarding the neighboring squares d3 and d4. Moreover it is also well matched with the choice of the locations of ♘'s on neighboring squares e7

and d7 with the purpose of guarding f5 and e5. Finally, having ♕ and all of its first moves to be on the eighth row was among the imperatives as well.

I should mention a bit of additional content enabled through the appearance of the ♘'s as well. Namely, in Diagram $\mathbf{a}_3$), the following try appears: 1.♚xe5 ♕e8 2.♚f4 ♕xe3≠? Correspondingly, in Diagram $\mathbf{a}_4$), its a perfect analogue appears as well: 1.♚xf5 ♕c8 2.♚f4 ♕g4≠? These tries are also a very nice strategic complement to the content already presented in Diagrams $\mathbf{a}_3$) and $\mathbf{a}_4$). For example, in Diagram $\mathbf{a}_3$), the presence of ♘e7 enables ♜xf5 to act as the ♙f5 annihilator and ♝xe5 as a self-block. The above try then enables the ♙e5 to be annihilated as well and with none other but the ♚! Analogously, in Diagram $\mathbf{a}_4$), the presence of ♘d7 enables ♝xe5 to act as the ♙e5 annihilator and ♜xf5 as a self-block. The second of the above tries then enables ♙f5 to be annihilated as well and again by none other but the ♚!