

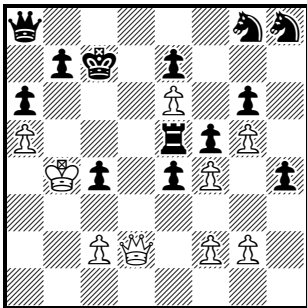
Chapter 18 The Shinkman-Bláthy Matrix

18.1 The preceding chapter was devoted to dual-free length records. There are some even longer problems with duals which satisfy the requirements of 1.31, the duals being neither so numerous nor so important as to obscure the basic logic of the solution. The most remarkable of these is O. T. Bláthy's famous 'self-endgame', published in 1922 as a selfmate in 342 moves. Its matrix, which we shall explore in detail in this chapter, generates the longest of all conventional problems.

BLÁTHY'S LONG DIRECT MATE

18.2 Before we come to the selfmate, we should consider the length record for direct mate with duals. This used to lie with another of Bláthy's extraordinary inventions, **934†**. The WK first uses the successive tempos gained by the WQ to cross the bottom half of the board and remove Black's pawn advantage by capturing BPh4; then returns to b4 so that the WQ can capture BSh8 without losing control of the BQ; and finally makes his breakthrough on the right-hand side of the board. The soundness of this problem was vindicated by R. M. Kofman in an article in *Shakhmaty v SSSR* in 1972. In 2000, however, Ken Thompson's researches by computer into unresolved endgames threw up a position with WR+WS versus BS+BS which requires five moves more to mate than **934†**. Noam Elkies then added three pieces and three introductory moves to produce the 265-mover **935**. An outline of the computer's solution is given here, showing that it proceeds via some duals to the capture of the two BSs: the final mating position is 4k1R1, 8, 1S3K2, 40. A slightly longer 270-mover by Nenad Petrović can be found in the anthologies, but this has three WBs in the initial position, which breaches the convention in 1.17 and puts it outside the scope of this book.

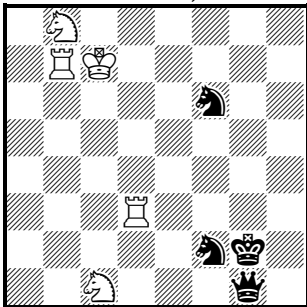
934†) O. T. Bláthy

Vielzügige Schachaufgaben, 1889 (V)

#257

1-2.Qd7-d8+ 3.Qd4+ Rc5 4.Qxc5+ Kb8 5.Qe5+ Kc8
 6.Qd5 (not 6.Qd4? Pb5!) 6...Kc7 7-8.Qd7-d8+ 9.Qb6+
 (not 9.Qd4+? Kb8 10.Qxh8 Pb5 11.Qxg8+ Ka7
 12.Qxa8+/Qxg6 Kxa8/Qd5!) 9...Kb8 10.Pc3 (not
 10.Kxc4? Kc8 11.Qc5+ Kd8 12.Qd4+ Ke8 13.Qg7 Qc8+
 14. Kd4/Kd5 Qxe6/Qc6+! nor 10...Kc3? Kc8 17.Kd2
 Pc3+ 18.Ke1 or Ke2 Kc8 53.Kxh4 Kc8 95.Kd1 Kc8
 96.Qc5+ Kd8 97.Qd4+ Ke8 98.Qg7 Qd8+ 99.K any Qd2+!
 nor 10...Ka3? Pc3!) 10...Kc8 11.Qc5+ Kb8 (if 11...Kd8
 12.Qd4+ Ke8 13.Qg7) 12-16.Qe5-d5-d7-d8-b6+ 17.Ka3
 Kc8 24.Kb2 Kc8 31.Kc1 or Kc2 Kc8 38.Kd1 or Kd2
 Kc8 45.Ke1 or Ke2 Kc8 66.Kh2 Kc8 (fifty-move rule
 not applying as White has no shorter way to win)
 80.Kxh4 Kc8 87.Kg3 or Kh3 (not 87.Pg4? Pxg4
 88.Kxg4 Kc8 95.Pf5 Pxf5 96.Kxf5 Kc8 103.Pg6 Sh6+
 104.Kg5 Sxg6 105.Kxg6 Sg4 106.Kf7 Se5+107.Kxe7
 Sc6+ 108.Kd7 Qa7 109.Qc7+ Ka8 110.Qc8+ Qb8! nor
 106-7.Qd8-d4+ 108. Kf7 Sh6+ 109. Ke8 Pb5!) 87...Kc8
 88-9.Qc5-e5+ 90.Qd5 (not 90.Qxh8? Kc7 91.Qe5+ Kc6!)
 90...Kc7 91-3.Qd7-d8-b6+ 94.Kh2 (not 94.Pg3? Kc8
 101.Kg2 Pe3 102.Pxe3 Kc8 103.Qc5+ Kb8 104.Qe5+ Ka7
 105.Qd4+ Pb6+!) 94...Kc8 150. Kb4 Kc8 151.Qc5+
 Kb8 152.Qe5+ Ka7 153.Qd4+ Kb8 154.Qxh8 Kc7 (if
 154...Pb5 155.Qxg8+ K any 156.Qxa8(+)) or if 154...Qa7
 155.Qxg8+ Kc7 156.Qe8) 155.Qe5+ Kc8 156.Qd5 Kb8
 (if 156...Kc7 157.Qd7+ 158.Kxc4) 157-8.Qd8-b6+
 159.Ka3 Kc8 215.Kh3 Kc8 222.Pg4 Kc8 229.Pxf5
 Pxf5 230.Kh4 Kc8 251.Kf7 Kc8 252.Ke8 Kb8
 253.Kd7 Pe3 254.Pxe3 Sf6+ 255.Pxf6 Pxf6 256.Pe7
 or Qc5 or Kd6 or Ke7 or Ke8 257.White#

935) K. Thompson & N. Elkieš

ICCA Journal, 2000

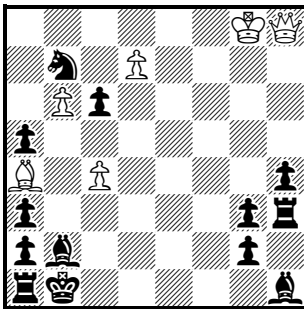
#265

1.Rg3+ Kxg3 2.Se2+ Kg2 3.Sxg1 Kxg1 4.Kd6 6Sg4 5.Kd5
 18.Kc4 or Kd4 31.Ra4 32.Ke4 (these moves are
 reversible) 68-9.Rg1-g7 or Rh1-h7 245.Kxb3 257.Rxa4
 265.Rg8

BLÁTHY'S LONG SELFMATE

Origins

18.3 Very long problems usually involve the repetition of one or more manoeuvres designed either to gain a tempo for White or to force Black to use up a tempo; the mechanism of **864***, for example, combines both. At the centre of Bláthy's long selfmate **937†** is a beautiful 19-move tempo-gaining manoeuvre by the WQ, a shuttle up and down two adjacent staircases. A thorough historical survey by Frank Müller in *Die Schwalbe* in 2005 showed that his shuttle was not invented by Bláthy but by Shinkman in **936**. Shinkman's WQ manoeuvre is a little shorter at 17 moves, and he composed the problem as a 240-mover in response to a call from the chess editor of the *New York Clipper* for a worthy offering for the paper's 2,400th problem. By 1922 it had been cooked in 225 (since further reduced to 223) moves; and the same year Bláthy published in *Deutsches Wochenschach* his greatly extended **937†** alongside two other shorter settings by H. Rohr (S#204, sound but dualled) and E. Schildberg (S#268, later cooked in 242 moves with duals).

936) W. A. Shinkman*New York Clipper*, 1903

S#240 (223)

Composer's solution: 1-8.Qh7-h6-g6-g5-f5-f4-e4-e3+ 9.Pd8=Q Sxd8 10.Pb7 Sxb7 11-27.Qe1-e4-e5-f5-f6-g6-g7-xb7-h7-h6-g6-g5-f5-f4-e4-e3-g1+ 28.Pc5 Kb2 29-45.Qd4-e4-e5-f5-f6-g6-g7-b7-h7-h6-g6-g5-f5-f4-e4-e3-g1+ 46.Kf8 Kb2 64.Ke8 Kb2 118.Kb8 Kb2 136.Ka7 Kb2 172.Kxa5 Kb2 173-7.Qd4-b4-e4-e3-g1+ 178.Kb6 Kb2 184.Kxc6 Kb2 190.Kd5 Kb2 196.Pc6 Kb2 197-9.Qd4-b6-g1+ 200.Pc7 Kb2 204.Pc8=Q Kb2 205.Qh8+ 206.Ke4 Rh2 207.Kf3 Rh3 208.Kg4 Rh2 209.hQd4 Rh3 210.Qe4+ 211-2.Qb6-a5+ 213-5.Qd4-b6-g1+ 216.Kxh3 Kb2 220.Kxh4 Kb2 224.Kxg3 Kb2 228.Kh2 Kb2 229-30.Qd4-b6+ 231.Kg1 Ke1 232-4.Qe3-e1-e4+ 235.Qb6+ 236.cQb4+ 237.6Qd4+ 238.Bb5+ 239.Qe4+ 240.Qe3+ Bxe3

(Corrected solution: 1Qh7+ 208.Kg4 Rh2 209.Qf6 Ph3 210.Qf8 or Qf7 or Qh6 Kb2 211-3.Qd4-b6-g1+ 214.Kh5 Kb2 215-7.Qg7-xg3-g7+ 218.Qh6 Kb2 219-20.gQb6-b3+ 221.Qd6+ 222.Bc6+ 223.Qxh3+ Rxh3)

- (e) *A White piece*, to assist the WQ in the final stages. In Bláthy's main line this is the WS, which also holds the SE net when parked at f1. In some shorter lines it is the WQ promoted on a8.
- (f) *Other pieces added*, while remaining just within the limits of legality, to extend the first part of the solution.

Bláthy's Solution

18.5 The main line falls into three parts. After a prologue in which White mops up Black's free pieces, the WK uses the successive tempos gained by the WQ shuttle to release WPa5, which promotes and helps to prepare the selfmate. The order of the all-checking 62-move prologue is uniquely determined: capture of BSd1 to open right staircase; parking of WS off-staircase at f1; mop-up of WB and BR on h6 to open left staircase; capture of BBb5 by WS and its reparking on f1; full WQ shuttle up left staircase to capture BSb7 and down right staircase for tempo-gaining 62.Qd1+. In the central part of the solution, White uses the first tempo to complete the SE net by 63.Pg4, after which the WK creeps along the edge of the board so as not to interrupt the WQ shuttle, captures BPa6, and then gets out of the way to allow 303.Pa8=Q. In the final part of Bláthy's solution, shorter tempo-gaining manoeuvres get the promoted WQ to d4 or e5 (i.e. within two checking moves of e3) and the WK to b4, after which White exchanges off queens on d1 and forces selfmate with his remaining WQ and WS.

18.6 Black has various alternative moves after each quiet White move, and the demonstration that they all lead to selfmate in less than 342 moves is not easy. It is best to work backwards, starting with replies to 323.Kb4 other than Qg1 or Qh1. They are:

- (a) Qxf1 324.Qe4+ Qd3 (best) 325-7.eQxd3-d4-e4+ 328.Qd2+ Bxd2#.
- (b) Qxf3 324.Qxf3 Bd2+ (if Ph3 325.Qb3+→ #332 as (d) below or if B~ 325-6.fQd1-b3+→ #333 as (d) below) 325.Sxd2+ 326.Qxa1+ 327.Qxf2+ 328.Ph3 329.Bd1 330.Kb3 331.Qf1 332-3.Kc2-c1 334.Qc3 335.Qg2 336-8.Qf6-e5-e4+ 339.Qb2+ Pxb2#.
- (c) Qxh2 324.Sxh2 Pf1=any (best) 325-6.Sxf1-g3 327.Qe4+

328.Qd2+ Bxd2#.

- (d) Qg3,Qg4 324.PxQ 325.Qb3+ 326-7.dQd3-e3+ 328-9.Sd2-b1+ 330.Qd1+ 331.Qe4+ 332.Qd2+ Bxd2#.
- (e) Qh3,Ph3 324.Qb3+→ #331 as (d) above.

After earlier quiet moves by White, Qg1, Qh1, Qh3 and Ph3 all give White a tempo, while other BQ moves (including Qxf1) lead to its immediate capture. Selfmate can always eventually be forced by Bxd2, aPxb2 or hPxb2. The variety of these lines justifies Bláthy's own description of the problem as a kind of 'self-endgame'.

18.7 The main line of the solution contains a fair number of duals – not such as to invalidate the problem but not altogether trivial – between moves 243 and 325, as follows: 243.Kb8 *or* Pa6, 263.Pa6 *or* Kb8, 309.Ka7 *or* Kb7, 315.Ka6 *or* Kb6, and 310, 312-13, 316 and 318-19 can be varied in several ways to produce 322.Qd4+ (followed by 325.dQd3+ *or* Qe4+) *or* Qe5+. Also the arrival of the WK on b4 allows 338.Qxa3+ *or* Qc3+.

Corrected Solution

18.8 In the 1980s some remarkable analysis by Michel Caillaud and Jacob Mintz (between whom I acted as a post office) demonstrated that Bláthy's problem solves more shortly in 313 moves. Attacking the final part of Bláthy's solution, Caillaud showed a quicker selfmate by 309.Ka7 (not Kb7 since if Black replies with Qxf3 White must be free to play Qb7+) Kb2 310.Qg7+ (retaining access to b7) 311.Ka6 312.Ka5 313.Qf6 (to be able to recapture on f3 if necessary) 314.Kb4 Qh1 (the BQ must move to the bottom rank and Qg1 shortens the line by one move) 315.Qf4 Qg1 316.fQd4 (no longer needing to guard f3) Qh1 317.Qxf2 Qxf1 (best) 318.fQxf1 Kb2 319-20.Qd4-d3+ 321.fQe2+ 322.Qc3+ 323.Qd1+ 324-6.cQd3-d4-e4+ 327.Qd2+ Bxd2#. Only two of the variant lines are longer, those after 313...Qxf1 and 309...Qxf3 both taking 329 moves. Consequently, as Mintz established, Black can hold out longest by 303...Qxf1 304.Qxf1 Kb2 305.Qxf2+ Kc3 (Kb1→ #323 and Bd2→ #328) 306.Qc2+ Kd4 (Kb4→ #332) 307.Qe4+ Kxc5 308-9.aQxc6-b5+ 310.eQe5+ Kd3 311-14.Qb3-b4-d6-c5+ 315.Bb5+ 316.eQd4+ 317.cQe5+ 318.dQxe3+ 319.Qxal+ 320.Qxa3 324.Kf4 Kd2 325.~ Kc2/Ph3 326.Ke3/Kg3 329.Kh1 330.Ba4 331.3Qc3 332.aQb2+ 333.Qg2+ Pxb2#.

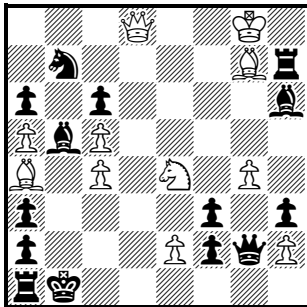
18.9 Mintz also investigated Bláthy's solution at an earlier stage and showed that Black needs to play Ph3 by move 143 at latest, thus losing a tempo worth 19 moves: otherwise there is a conventional 'win', i.e. White can force selfmate, in at most about 260 moves by 160-61.Sd2-e4 162-5.Qd3-d2-d1-d3 166.Qe2 Kb1 (best) 167.Sxf2 (after which Black does best to play either Ph3 or Qxh2). The full analysis is too long for this book. With the BP already on h3 by move 143, the final sequence at the end of the preceding paragraph is shortened by one move, the waiting move 325 being no longer necessary. Hence **937†** solves in 313 moves, as shown in the corrected solution. There are perhaps fewer duals than in Bláthy's solution, but 224.Kb8 and 244.Pa6 remain interchangeable, and there are many alternative lines in the last five moves.

Longest Version

18.10 Following this analysis the length record for selfmate with duals appears to lie with **938**, a version of Bláthy's problem by Mintz published in 1986. This starts with BP on h3 rather than on h4, and has WPe2 and BPf3 to give the tempo move 61.Pxf3. It was originally presented as a 340-mover, but the analysis in the preceding paragraphs reduces the solution to 330 moves, with the same duals as in the corrected solution of Bláthy's problem.

938) O. T. Bláthy

Deutsches Wochensach, 1922 (Version by Y. Mintz)



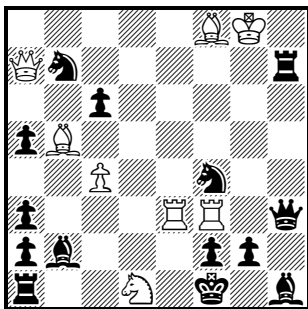
S#330

1.Qd1+ 2-4.Qb3-d3-e3 61.Pxf3 Kb2 301.Pa8=Q Qxf1
330.Qg2+ Pxd2, as corrected solution of **937†**.

OTHER PROBLEMS FROM THE SHINKMAN-BLÁTHY MATRIX

Selfmates

18.11 Half a century after **937†**, Ljubomir Ugren set out with **939** to extract a long dual-free selfmate from the matrix. To this end he reverted to Shinkman's simple SE net, eliminating Bláthy's obscure byplay. His problem made its way as a 252-mover into the FIDE Album, but was subsequently shown to solve in 233 moves with duals in both prologue and ending, the former being remediable but the latter not. This highlighted the imperative need to fit the matrix with a dual-free ending, and over the next 35 years a handful of dedicated composers sought to do so. For half that period Michel Caillaud appeared to have found the answer with his 242-move **940** with its dual-free coda of 18 moves; but in 2005 Karlheinz Bachmann discovered that it had a slightly shorter solution in 240 moves, diverging as far back as move 198 and with a dual on move 223. Naturally Bachmann set to work to find a dual-free version of this new ending, and in due course he produced **941** which has survived testing to date.

939) L. Ugren*Mat*, 1975

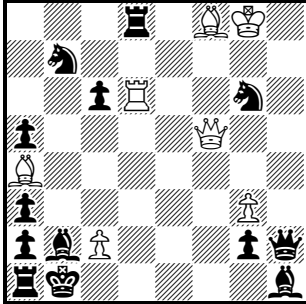
S#252 (233)

Composer's solution: 1.Re1+ 2.Qxf2+ 3.Ba4+ 6.Qxf4+ 15.Qd1+ 16.Rb3+ 17.Qxb3+ 26.Qxh6+ 40.Qxb7+ 49.Qg1+ 50.Pc5 68. Kf8 194.Kxa5 195-9.Qd4-b4-e4-e3-g1+ 200.Kb6 212.Kd5 218.Pc6 219-21.Qd4-b6-g1+ 222.Pc7 226.Pc8=Q 227.Qh8+ 228-9.Kd4-c4+ 230-31. Bd7-f5+ 232.Qf2+ 233-4.hQd4-xa1+ 235.Kd3 236-8.Qc2-xc1-xg1+ 239.Qxh1+ Kf2 240. hQg1+ 241.Kd2 242.Bc2 243.Kc1 244-5. aQd4-f6+ 246.Bdl+ 247-9.Qf5-c5-d5+ 250-51.Qe3-b6+ 252.Qb2+ Pxb2

(Corrected solution: 1.Re1+ 17.Qxb3+ 21.Qe4+ 25.Qg6+ 26.Bg7+ 27-8.Qxg7-xb7+ 37.Qg1+ 38.Pc5 210.Pc7 211-12.Qd4-b6+ 213.Pc8=Q 214.Qxg1+ 215.Qxh1 216.cQh8+ 217-218.Ke5-e4+ 219.Qg8 220.hQh8+ 221.Qb3+ 223.hQf4+ 224-5. Ke3-f2+ 226. Qd1+ 227.Ke1 228-9.dQd4-e4+ 230.Qb8+ 231.Qc6+ 232.bQd6+ 233.Qd2+ Bxd2)

940) M. Caillaud

The Problemist, 1987



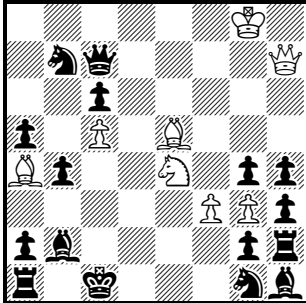
S#242 (240)

Composer's solution: 1.Pc4+ 2-12.Qg5-xg6-g5-f5-f4-e4-e3-d3-d2-d1-b3+ 13.Rd1+ 14-22.Qxd1-b3-d3-e3-e4-f4-f5-g5-g6+ 23.Bh6+ 24-47.Qxh6-g6-g5-f5-f4-e4-e3-e1-e4-e5-f5-f6-g6-g7-xb7-h7-h6-g6-g5-f5-f4-e4-e3-g1+ 48. Pc5 49-65.Qd4-e4-e5-f5-f6-g6-g7-b7-h7-h6-g6-g5-f5-f4-e4-e3-g1+ 66.Kf8 84.Ke8 102.Kd8 120.Kc8 138.Kb8 156.Ka7 174.Ka6 192.Kxa5 193-7.Qd4-b4-e4-e3-g1+ 198.Kb6 204.Kxc6 210.Kd5 216.Pc6 217-19.Qd4-b6-g1+ 220.Pc7 224.Pc8=Q 225.Qh8+ 226-7.Kd4-d3+ 228.Qb6+ 229.Qc8 230.Qxg1+ 231.Qb8+ 232.Ke2 233-5.Qd4-b4-e1+ 236.Kf2 237-9.eQe5-f5-b5+ 240.8Qe5+ 241.Qb4+ 242.Qe3+ Bxe3

(Corrected solution: 1.Pc4+ 197.Qg1+ 198.Pg4 Kb2 204.Pg5 Kb2 222.Pg8=Q Kb2 223.Qh8+ or Qg7+ 224.Qd8/d7 or Qh4/g4 Kb2 225.d/4Qd4+ 226-7.Bxc6-e4+ 228.Qd3+ 229.Qf2+ 230-1.dQxd2-d5+ 232-4.Qg3-g7-h6+ 235.Qe5+ 236.Qh3+ 237-9.Bd5-xa2-d5+ 240.Qxa3+ Rxa3)

941) K. Bachmann

2nd Prize, *Die Schwalbe*, 2006



S#223

1.Qh6+ 2-3.Sd2-c4+ 12.Qd1+ 13.Sa3+ 14-17.Qb3-d3-e3-e4+ 18.Bf4+ 19-22.Qxf4-e4-e3-e1+ 29.Qxb7+ 38.Qxg1+ 39.Pxg4 Kb2 (if 39...Pxg3 40.Kf8) 47.Qb7+ 56.Qg1+ 57.Kf8 Kb2 75.Ke8 Kb2 183.Kxa5 Kb2 184-8.Qd4-b4-e4-e3-g1+ 189.Pxh4 195.Ph5 207.Ph7 208.Ph8=Q+ 209.Qd8 210.dQd4+ 211-12.Bxc6-e4+ 213.Qd3+ 214.Qf2+ 215.dQxd2+ 216.Qg3+ 217-8.dQd3-d6+ 219-21.Bd5-xa2-d5+ 222.dQe5+ 223.Qxa3+ Rxa3

18.12 Meanwhile, however, Mintz was pursuing a different line and, as we have seen in 17.9, it is his **877†** which currently holds the dual-free length record. The solution starts with a 64-move prologue in eight stages (sacrificing WR, removing BSb1, shifting WB to a4, removing BPf3, sacrificing WS on a3 to clear b-file, removing BQ, removing BSb7, getting WS to g3). Thereafter Mintz has incorporated three new features which improve the chances of soundness:-

- (i) the incarcerated BRh4 strengthens Black's defences against a conventional cook;
- (ii) there is only one WP available to promote; and
- (iii) the WK has a short final journey via b7 (to allow 234.Qb6+)

to a6 (a new mating square for the matrix).

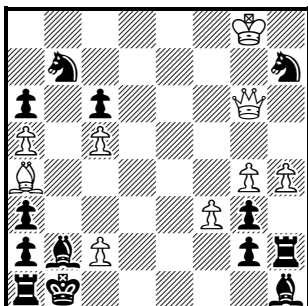
A 12-move coda completes this magnificent task.

Stalemates

18.13 Since selfmate and stalemate are often closely related forms, it is not surprising that the matrix can be adapted to produce long stalemates. We have already seen the dual-free length record in **873**, and **942** adds another 54 moves at the cost of a few duals.

942 C. J. Morse (after O. T. Bláthy)

The Problemist, 1987



1.Pc4+ 3.Qxh7+ 18.Qxb7+ 27.Qg1+ 28.Ph5 Kb2 46.Kf8 Kb2 154.Kxa6 Kb2 190.Kb8 or Pa6 Kb2 208.Pa6 or Kb8 Kb2 244.Pa8=Q Kb2 245.Qd4+ 246-8.Qb7-h7-h6+ 249.Qg1+ 250.Qg7 253.Ph8=R Rh2 254.White~ 255.Q/RxR=. If 252...Rxxh7 253-4.Qxxh7-g7+ 255.White~ =

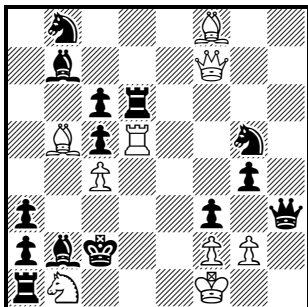
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Selfstalemate

18.14 A number of attempts have been made to use the matrix to create a long dual-free selfstalemate, but the longest which has so far escaped unsoundness is **943**, which falls far short of the length record set by **885†**.

943 C. J. Morse

The Problemist, 2002



1.Ba4+ Kc1 2-12.Qf4-f5-xg5-f5-f4-e4-e3-d3-d2-d1-b3+ 13.Rd1+ 14-22.Qxd1-b3-d3-e3-e4-f4-f5-g5-g6+ 23.Bh6+ 24-50.Qxh6-g6-g5-f5-f4-e4-e3-e1-e4-e5-f5-f6-g6-g7-xb7-h7-h6-g6-g5-f5-f4-e4-e3-e1-e4-e5-xb8+ 51.Pg3 52-5.Qf4-e4-e3-e1+ 56.Kg1 57-8.Qe5-b8+ 59.Kh2 60.Qf4+ 61.Bc2+ 62.Qd2+ Kb3 63.Qc3+ Ka4 64.Qxa3+ Black xa3=

S=64