Recently, I have been requested to construct a database on Queen versus Rook and Pawn (KQKRP). My work was initiated by a study-solving contest in Skakbladet. One of the studies presented was by Yuri Bazlov, first prize, Chervony Girnik 1984 (see Diagram 1).

Diagram 1: White to Move Draws?


The database was to decide on the matter: what was the correct outcome after 4 .... Qxc7. Since time was very short, I found myself constraint to ignore the endgames arising after promotion of the Pawn. For convenience of reporting the strongest side has been relabeled White so that KQKRP was in fact to be constructed. Failing analysis of the promotion I arbitrarily declared the game to be drawn when Black can promote his Pawn without White being able to capture the promotee (leading to a winning position) in the very first subsequent ply.

This, of course, places additional artificial constraints on White’s choice of moves; as a consequence the database thus constructed records some winning positions wrongly as draws. This drawback did not prevent the database from demonstrating Bazlov’s study to be a win for Black in that author’s terms. The demonstration ran as follows:


Black’s manoeuvre was not intended to capture the Rook (24. ... Qxf7? 25. c8=Q), but to force White to give up control of the h rank.

24. ... Ke5! 25. Kh4 Qh6+ 26. Kg3 Qg6+ 27. Kh2 Qg8 28. Re7+ Kd6 29. Rf7 Ke6 30. Rf2

After 30. Rg7 Qh8+ the Rook will be captured with check.

30. ... Qh7+ 31. Kg3 Qxc7+, and the capture of the Rook in KQKR endgame resulting, will take another 20 moves.

Hence, the database proved that the published draw by stalemate was in fact a win for Bazlov’s Black.

As a curiosity arising out of the same database, we present a KQKRP position where 80 moves are required to win (subject to an incomplete analysis of converted positions leaving some doubt as to its optimality). The position quoted is given in Diagram 2.

As long as White’s King is this far from the Queenside, he cannot allow Black to move the Pawn. Therefore he must check with the Queen until a position arises where the Pawn temporarily cannot move. Then White moves his King one square, and the whole procedure is repeated. After 27 moves the King arrives at f6, and now Black gains control of the e-file with his Rook to prevent White’s King from getting closer. After another 26 moves a position arises which can be found in Chéron (1969) as no. 1445c, and which is wrongly asserted to be a draw by that author. Twelve moves later, notwithstanding, White has achieved Chéron’s winning position no. 1445b.

After 10. Kg5? Kb4 White cannot prevent 11. ... c3 and the game is drawn.

10. ... Rh4 11. Qa3+ Rh3 12. Qc5 Rh4 13. Kg7!!

The only winning move, see the comment to Black’s 18th move.

13. ... Kb3 14. Qd5 Ka3 15. Qe6 Kb3 16. Qe6 Ka3 17. Qe3+ Kb2 18. Qe4 Ra4!

If White had played 13. Kg5? or 13. Kg6?, Black could hold on to the draw with a check followed by 19. ... c3.


Diagram 2: White to Move.


24. ... Rh3?! (as in move 9) does not work here, since White’s King is too close now: 25. Kf6! Kb4 26. Ke5, and Black must play 26. ... Rd3, because 26. ... c3? is met by 27. Kd4 Ra3 28. Qe4+ Ka5 29. Kc5.


Square f5 is reserved for the Queen, see the comment to Black’s 31st move.

30. ... Kd3 31. Qd7+ Kc3.

If White had played 30. Kf5, Black could have played 31. ... Ke2 thus avoiding blocking his Pawn, but in this position it is countered by 32. Qf5+ Kd3 33. Qd5+ Kc3 34. Qa5+.


This position also arises from Chéron (1969) no. 1445c after 2 moves on each side. Chéron erroneously suggests 54. Qa8+ Kc2 55. Qb4? Re5+ 56. Kf2 c3! mistakenly declaring position 1445c a draw. However, the true lie of the land is otherwise:

54. Qa8! Rd3 55. Qa3+ Kd4.

Now 55. ... Ke2 56. Qb4 Re3+ (56. ... c3?? 57. Qe4!) 57. Kf2 does not lead to draw, because White gains a tempo by attacking the Rook.


This position also arises from Chéron (1969) no. 1445b after 1. Qd5-d6.

65. ... Rh2+ 66. Ka3 Rb3+ 67. Kc4 Rb2 68. Qe5+ Kc2 69. Qc4 Rd3.

So 69 moves had to pass before the Pawn moved for the first time!

70. Qe4+ Kc1 71. Ka3 Kd2 72. Qd4+ Ke2 73. Qc4 Kb1! 74. Qf1+!

74. Qc3?? Ra2+ 75. Kb3 Ra3+! 76. Kxa3 stalemate.

74. ... Ke2 75. Qe2+ Kc1 76. Qd3 Re2 77. Qd4 Kc1 78. Qd1+ Re1 79. Qb3+ Ka1 80. Qa2 mate.

Conclusion

The value of this analysis is not so much that Chéron was occasionally at fault, rather it is that, in optimal play, it may well happen that the Pawn is immobile for 69 moves in omniscience. It is inhuman to have this long a foresight. Bazlov’s study presents fewer problems; it was flawed by 1. ... d1=Q! being possible without, at the time it was posed, anybody having knowledge of the consequences of the resultant KQKRP endgame.

Reference