# British Endgame Study News 

Special number 50

# K+R+B v K+R : what Zytogorski 

## and Crosskill actually wrote



White to play cannot win; Black to play loses, but it takes White 45 moves to capture the rook

## K+R+B v K+R : what Zytogorski and Crosskill actually wrote

As I reported in our December issue, Timothy Whitworth responded to my quotation of Crosskill's analysis in special number 48 by sending a copy of the relevant pages of the Chess Player's Magazine, which showed that what I had quoted was not in fact what had originally appeared. I subsequently looked into the matter more deeply, and found that the solution now normally given to Zytogorski's position is again not what originally appeared in print in association with his name. It therefore seems to me that we might usefully devotc one of our special numbers to reprinting what they actually wrote. As usual, I am standardizing notation even within quotations.

Let us start by looking briefly at Philidor's position of 1749 (see 1), which illustrates much of the nature of the ending. My copy is of an 1821 edition, but I think the position is unchanged. 1 Rc8+ Rd8 2 Rc7 Rd2 (holds out longest) $3 \mathbf{R b} 7$ (a waiting move to force the Black rook to the first or third rank) Rdl (if $3 \ldots \mathrm{Rd} 3$ then $4 \mathrm{Re} 7+$ etc as from move 8, reflecting left to right) 4 Rg7 Rf1 (4...Kf8 5 Rh7 Rg1 6 Rc7 Kg8 $7 \mathrm{Rc} 8+\mathrm{Kh} 78 \mathrm{Rh} 8+\mathrm{Kg} 6$ $9 \mathrm{Rg} 8+$ ) 5 Bg 3 (see 1a) Rf3 (Philidor gives 5 ...Kf8 6 Rg 4 Ke 87 Rc 4 Rdl 8 Bh 4 Kf 89 Bf 6 etc as the main line, but 9 Rg 4 forces a quick mate) 6 Bd6 Re3+ 7 Be5 Rf3 (7...Kf8 8 Rh7 and mates, see 1b) 8 Re7+ Kf8


1-win (Philidor, 1749) ( $8 \ldots \mathrm{Kd} 89 \mathrm{Rb} 7$ and mates) $9 \mathrm{Rc} 7 \mathrm{Kg} 810 \mathrm{Rg} 7+\mathrm{Kf8} 11 \mathrm{Rg} 4 \mathrm{Ke} 812$ Bf4 (see 1c) and wins. The rook suicide $11 \ldots$ Re 3 and $12 \ldots$ Rxe $5+$ would delay mate for a few moves.


1a - after 5 Bg 3


1b - 7...Kf8, after 8 Rh7


1c - main line, after 12 Bf4

From our point of view, the most instructive positions are 1a, which shows why the first rank is bad for Black (the bishop prevents ...Rel+), and $\mathbf{1 b} / \mathbf{1 c}$, which show why the third rank is bad (the bishop prevents ...Rg3 and ...Re3+). Such subtleties are typical of this ending. The rooks have access to several squares which are apparently equivalent, but there are tactical twists which mean that one of them turns out to be superior to the rest, and the analysis can become quite horrendously complicated.

While Philidor's demonstration of the win from 1 was sound, his later attempt to demonstrate that the ending could be won from a more general position was faulty, and over the years several positions were to be claimed as drawn. Four of these were highlighted in the Chess Player's Chronicle in 1842 (Volume 2, pages 125-7): the position of Lolli which appears on the next page, and positions $2-4$ below. The Chronicle attributes 2-4 to "the best Parisian Players", but I suspect that these are the positions referred to on page 451 of the Chess Player's Handbook in the following terms: "...Mr Cochrane has given three situations, which it appears were sent by two players of Lille to the Café de la Régence, in Paris, as examples where White can only draw the game". There follows a reference "See Cochrane, p. 341 " which presumably refers to his 1822 book A Treatise on the Game of Chess.


2-4, claimed as drawn by "the best Parisian Players" (Chess Player's Chronicle, 1842)
Bc all this as it may, the Chronicle took a different view, and under the heading "CHALLENGE TO THE CHESS CLUBS OF EUROPE" it reported the researches of "M. Zytogorski, whose name will be familiar to our readers as a frequent contributor" as follows: "...this gentleman, after pursuing the investigation with a diligence and devotedness unparalleled, has in the handsomest manner, without solicitation, presented to the conductors of this Magazine the fruits of his labours; these consist of countless beautifully played positions, comprising nearly every possible variation of which the pieces employed are capable, and in our opinion demonstrating incontestably, that, with the best play on both sides, A King, Rook and Bishop, can always win against a KING and Rook." And they were willing to put their money where their mouth was: "With the view of submitting this opinion to the severest test, our chief contributors are prepared to take the four positions to which we have alluded, and, for a stake of twenty guineas upon each, engage to win with the superior force against any Club or party of Amateurs in Europe." And a footnote, "Should this challenge be unaccepted within six weeks or two months, we purpose publishing the wholc of the variations which the skilful inventor has placed at our disposal."

It would seem that the challenge was indeed not accepted, because Zytogorski's analysis of the Lolli position duly appeared in the magazine (his analysis of the other positions did not). On the face of it, therefore, the chess clubs of Europe lost out on eighty guineas, since all four positions are now known to be drawn (positions similar to 2-4 are adduced as examples in modern textbooks), but the attack is always easier to play than the defence and Black might not have survived in practice.


The Lolli position is shown as $\mathbf{5}$, and Zytogorski's analysis is to be found on pages 429-430 of Volume 2 of the Chess Player's Chronicle and pages 13-16, 45-47, 74-77, and 281-288 of Volume 3. It is of course defective, because it purports to prove a win in a position now known to be drawn, but it is his treatment of position 5a that is of interest here. This appears twice in his analysis, in variations which he labels G4 and G22, but in the latter case he simply writes "\&c. as in former variations".

Variation G4 starts with the moves 1 Re8+ (main line) Rf8 2 Re 7 Rf1 3 Rd7 Rf2 $4 \mathrm{Rc} 7 \mathrm{Rf} 15 \mathrm{Bf} 6 \mathrm{Rg} 1+6 \mathrm{Kf} 5 \mathrm{Rg} 2$ (here we branch off into variation G) 7 Be 5 Ra 2 $8 \mathrm{Rg} 7+\mathrm{Kf8} 9 \mathrm{Rd} 7 \mathrm{Kg} 810 \mathrm{Kf} 6 \mathrm{Ra} 6+11 \mathrm{Bd} 6 \mathrm{Ral}$ (here we branch into G 4 ) $12 \mathrm{Rg} 7+$ Kh8 $13 \mathrm{Rg} 2 \mathrm{Rfl}+14 \mathrm{Kg} 6 \mathrm{Kg} 815 \mathrm{Bc} 5 \mathrm{Rf} 416 \mathrm{Rg} 5 \mathrm{Ra} 417 \mathrm{Kf} 6+\mathrm{Kh} 718 \mathrm{Be} 3 \mathrm{Rc} 4$ $19 \mathrm{Rg} 7+\mathrm{Kh} 820 \mathrm{Rb} 7$. Black can now hold the draw by $20 \ldots \mathrm{Kg} 8$, as was to be pointed out by Kling (see for example the Chess Player's Handbook, pages 452-3 in my 1848 edition), but Zytogorski considers only 20...Rc6+ and 20...Re4, and after 20...Rc6+ $21 \mathrm{Kf7} \mathrm{Kh7} 22 \mathrm{Rd} 7$ we have 5 a .

Zytogorski now continues 22...Rc8 with side variations G16 (22...Rc4 $23 \mathrm{Kf6+}$ $\mathrm{Kg} 824 \mathrm{Rd} 8+\mathrm{Kh} 725 \mathrm{Bd} 4$ "\&c. as in former variations"), G17 (22...Rc3 23 Bf 4 Rc 2 "best" $24 \mathrm{Kf} 6+\mathrm{Kg} 825 \mathrm{Rg} 7+\mathrm{Kh} 826 \mathrm{Rg} 4 \mathrm{Rb} 2 / \mathrm{Ra} 227 \mathrm{Be} 3$ "\&c. as in former variations"), and G18 (22...Rc2 $23 \mathrm{Bf} 4 \mathrm{Rf} 224 \mathrm{Kf} 6+\mathrm{Kg} 825 \mathrm{Rg} 7+\mathrm{Kf8} 26 \mathrm{Rg} 4 \mathrm{Re} 2$ 27 Be5 Ra2 28 Ke6 Ra6+ 29 Bd6+ "and wins"), and after 23 Bg5 he plays 23...Rb8 with side variation G19 (23...Ra8 $24 \mathrm{Kf6}+\mathrm{Kg} 825 \mathrm{Kg} 6 \mathrm{Kf} 826 \mathrm{Rf} 7+\mathrm{Ke} 8$ "best" $27 \mathrm{Re} 7+\mathrm{Kf} 828 \mathrm{Re} 6 \mathrm{Kg} 829 \mathrm{Bf} 4$ "\&c. as in former variations"). His main line continues 24 Rd1 Rb7+ 25 Be7 Rb6 26 Bd6 Rb7+ 27 Kf6 Rb6 ("Any other mode of play produces a former Variation") $28 \mathbf{R h 1} \mathbf{~} \mathbf{K g} 829 \mathbf{R g} 1+\mathbf{K h} 7 \mathbf{3 0} \mathbf{R g} 7+\mathbf{K h} 8$ $31 \mathbf{R d 7} \mathbf{R b 2}$ (here there is side variation G20, 31...Rbl 32 Bc 5 Rb 333 Bd 4 " \&c. as in former variations") $32 \mathbf{B c 5} \mathbf{R c} 2$ ("The only move to prevent White resolving the game into a preceding position") 33 Rd5 Rc3 34 Bd6 Re1 35 Rh5+ Kg8 36 Be5 Rb1
 with the comment "As the pieces are relatively with cach other in the same position as in Variation ( Gl ), it is not necessary to pursue this Variation further".

Variation G1 branches off G with the losing move 9...Rc2, and after $10 \mathrm{Kf6} 6 \mathrm{Kg} 8$ $11 \mathrm{Rg} 7+\mathrm{Kh} 812 \mathrm{Rg} 1 \mathrm{Rf} 2+13 \mathrm{Kg} 6+\mathrm{Kg} 814 \mathrm{Bd} 6$ it reaches $\mathbf{5 c}$ which is equivalent to Sb. The analysis now continues 14 ...Re2 (side variation G11, 14...Rd2 $15 \mathrm{Kf} 6+\mathrm{Kh} 7$ $16 \mathrm{Rh} 1+\mathrm{Kg} 817 \mathrm{Be} 5 \mathrm{Rd} 718 \mathrm{Ral} \mathrm{Rf} 7+19 \mathrm{Ke} 6$ "and wins, as in a former variation", also comment "In this position, Black's best mode of defending the game is to play his


Rook to e2 or d2, but if, instead of so playing, he moves the King, White may play as follows:-14...Kh8 $15 \mathrm{Ral} \mathrm{Rg} 2+16 \mathrm{Kh} 6 \mathrm{Kg} 817 \mathrm{Rf} 1$, and wins") $\mathbf{1 5} \mathbf{K f 6}+\mathrm{Kh} 8 / \mathrm{Kh} 7$ 16 Rh1+ Kg8 17 Be5 Ra2 ("Any other move will lose the game immediately") 18 Rg1+ Kh7 19 Bd4 (see 5d) Rc2 20 Kf5 Rc4 (side variation G12, 20...Rd2 $21 \mathrm{Rg} 7+\mathrm{Kh} 622 \mathrm{Rd} 7 \mathrm{Re} 223 \mathrm{Be} 5 \mathrm{Rf} 2+24 \mathrm{Bf} 4+$ "and wins") $21 \mathrm{Rg} 7+\mathrm{Kh} 8$ (side variation Gl3, $21 \ldots$ Kh6 22 Rd7 Rc6 23 Be3+ "and wins") 22 Rg4+ Kh7 23 Rh4+ Kg8 24 Kg6 Rc6+ 25 Bf6 "and wins".

Even when viewed in the light of definitive computer analysis, this is impressive. After 20...Rc6+, the main line gives optimal play right through to 41 Bf 4 and then from $14 \ldots \mathrm{Re} 2$ as far as 19 Bd 4 , a remarkable total of 26 White moves and 25 Black. However, the computer now plays the natural and obvious $19 . . \mathrm{Ra} 6+$, which would have delayed the end for a further dozen moves, and Zytogorski does not mention this possibility. I cannot believe that he overlooked it , and a search elsewhere in his analysis discloses (1 Re8+Rf8 2 Re7 Rf1 3 Rd7 Rf2 4 Rc7 Rf1 5 Bf6 Rgl+ 6 Kf5) $\mathbf{R b}$ (variation E) 7 Bd 4 , giving a reflection of $\mathbf{5 d}$ except that the White king is on f 5 instead of 66 and the rook on c 7 instead of a7 (see 5e). This time Zytogorski does look at the check, the move 7...Rf1+ leading into variation E1, and the different positions of king and rook soon cease to matter; he continues 8 Ke6 Rf7 9 Re1 Rf8 10 Rh 1 , and if the rook is on a7 the moves 9 Ra and $\mathbf{1 0} \mathrm{Rh} 1$ give the same result. So let us imagine this line slotted into place. It continues $\mathbf{1 0}$...Re8+11 Kf6 Re2 (variation E8), and $12 \mathrm{Rg} 1+$ would soon have wrapped things up (12..Kf8 13 Be 5 followed by 14 Ke6 and a Philidor win, or $12 \ldots$ Kh7 13 Kf7 Kh6 14 Bf6 Kh5 15 Rg5+ Kh6 16 Rg 4 Rh 217 Rg 8 and $18 \mathrm{Rh} 8+$ ). Unfortunately the line given is $\mathbf{1 2} \mathbf{~ B e 5 ~ R g 2}$ 13 Ke6 Kf8 14 Rb 1 thinking to win more quickly, overlooking that $12 \ldots \mathrm{Ra} 2$ would take White back to the position after move 17 of G1 and make him think of something else. A genuine oversight, or merely a slip when preparing the final text?

This appears to be the only significant error in Zytogorski's analysis of $\mathbf{5 a}$. Other apparently good moves to which he gives no reply can be met by a quick transposition into a variation already given. There is a minor error in line G17, where $23 \ldots \mathrm{Rc} 2$, far from being "best", allows $24 \mathrm{Rd5} / \mathrm{Rd} 3 / \mathrm{Rdl}$ with a quick mate, but this is unimportant. But did he recognize 5a as reciprocal zugzwang? There is nothing in his analysis to suggest that he did, and one very good reason for thinking that he didn't: he believed $K+R+B \vee K+R$ to be a general win, and if an ending is generally won a position where the stronger side is under no pressure won't be reciprocal zugzwang.

Now to Crosskill (Chess Player's Magazine, October 1864, pages $305-311$ ). All variations are Crosskill's, but I have silently corrected a few obvious misprints.
"The April number of the Chess Player's Magazine contained a paragraph calling attention to some new rules adopted by the chess club recently established in Hanover with reference to the 50 moves usually allowed for bringing certain end-games to a conclusion. That the old law fixing that number is not sufficient to meet all cases has long been the opinion of many experienced players, and the foregoing position is a good illustration of its correctness, for although White has undoubtedly a forced won game, he cannot against the correct defence win the adverse Rook in less than 56 moves, and requires then 8 more moves to give checkmatc.


6 - "White having to play first can win the game, but requires 64 moves if Black makes the best defence."
"It would be impossible within the limits of the Chess Player's Magazine to give all the variations on Black's moves, or to prove exhaustively that White's attack is carried on in the best manner possible; but Herr Kling, who is one of the highest living authorities on this branch of chess science, is, after carefully examining the analysis, of opinion that White has no quicker way of winning.
"It should also be mentioned that many of the positions which occur after the 12 th move of this solution have already been published-see Mr. Zytogorski's contributions to the old Chess Player's Chronicle, vols. 2 and 3, and their subsequent improvement by Herr Kling, given in Mr. Staunton's Handbook, pages 466, 467, \&c., but neither of these works has any consecutive arrangement of the different situations showing the great number of moves required to win the game."

1 Be3 (1 Be5 Ra6+ $2 \mathrm{Kf7}+\mathrm{Kh} 7$ and Black draws) Rd1 (1...Ra6+ $2 \mathrm{Kf7}$ "as at move 10 below", $1 \ldots \mathrm{Ra} 82 \mathrm{Bd} 4$ and wins [the text is corrupt but I think this is what was intended], $1 \ldots \mathrm{Kg} 82 \mathrm{Rb} 8+\mathrm{Kh} 73 \mathrm{Bd} 4$ "with a won position", $1 \ldots$ else 2 Kg 6 and wins) 2 Bc5 Rd3 (2..Rd2 3 Rb3 and wins, 2...Rel 3 Bd4 and wins, 2...else 3 Kg 6 and wins) 3 Be 7 Kg 8 ( $3 . . \mathrm{Rg} 34 \mathrm{Bd} 6 \mathrm{Rg} 75 \mathrm{Rb} 2 \mathrm{Kg} 86 \mathrm{Be} 5$ "with a won position") 4 Rb 4 Rg3 (4...Rf3+5 Kg6 Rg3+ 6 Bg5 Rf3 7 Bf4 and wins) 5 Bd6 Rg2 (5...Rgl 6 Rb8+ Kh7 $7 \mathrm{Rb} 7+\mathrm{Kg} 88 \mathrm{Be} 5$ "and wins soon") 6 Bf 4 . "A position like this, but with White's Rook at a4 instead of b4, occurs again after White's 17 th move." If 6 Rb8+ Kh7 7 Rb7+, "Black draws by $7 .$. Kh6, because White cannot win Black's Rook by $8 \mathrm{Bf} 4+\mathrm{ctc}$ as he would do if it was at gl ". 6...Ra2 $7 \mathrm{Rb} 8+\mathrm{Kh} 78 \mathrm{Rb} 7+\mathrm{Kh} 8$ (8...Kg8 $9 \mathrm{Rg} 7+\mathrm{Kh} 810 \mathrm{Rg} 1 \mathrm{Kh} 711 \mathrm{Be} 3 \mathrm{Rc} 212 \mathrm{Bd} 4$ "as at move 37 "). "The pieces now stand as in the original position, except that Black's Rook is here at a2 instead of al, from where he has no ninth move better than the one given below:" 9 Be3 Rab+ 10 Kf7 Rc6 (10...Rd6 11 Bg 5 and wins, $10 . . . c \mid s e 11 \mathrm{Rbl}$ and wins) 11 Ra 7 Kh 7 (11...Rc2 $12 \mathrm{Bd} 4+\mathrm{Kh} 713 \mathrm{Kf} 6+$ and wins, $11 \ldots \mathrm{Rc} 812 \mathrm{Bf} 4$ and wins, $11 \ldots$ else 12 Bg 5 and wins) 12 Rd7 and again we have 5a. "This is a very remarkable position, because if White has to play, the game is drawn, and a situation of similar character occurs after White's 32nd move." 12...Rc8 (12...Rc3/Rc2 13 Bf 4 and wins, $12 \ldots \mathrm{Rc} 4$ $13 \mathrm{Kf6}+\mathrm{Kg} 814 \mathrm{Rd} 8+\mathrm{Kh} 715 \mathrm{Bd} 4$ and wins) 13 Bg 5 Rb 8 (13...Ra8 $14 \mathrm{Kf6}+\mathrm{Kg} 8$
$15 \mathrm{Kg} 6 \mathrm{Kf} 816 \mathrm{Rf} 7+\mathrm{Ke} 817 \mathrm{Rc} 7+\mathrm{Kf} 818 \mathrm{Re} 6$ with a won position). "If White now tries 14 Kf6+ etc, which wins when Black's Rook is on a8, the game is drawn, because Black can safely play 17..Kd8." 14 Rd1 Rb7+ 15 Be7 Rb6 16 Bd6 Rb7+ (16...Kh6 $17 \mathrm{Rd} 5 \mathrm{Rb} 7+18 \mathrm{Be} 7 \mathrm{Ra} 719 \mathrm{Rb} 5$ and wins) $\mathbf{1 7 \mathrm { Kf } 6 \text { . "The pieces are now in }}$ the same position as after White's 6th move, except that White's Rook is here at d1 instead of d 2 , which prevents Black from prolonging the game by $17 \ldots$ Rb1, but he has the choice of playing either $17 \ldots \mathrm{Rb} 3$ or the move given below, which both lead to the same result." 17...Rb6 (17...Rb2 $18 \mathrm{Rh} 1+\mathrm{Kg} 819 \mathrm{Bc5}$ "and wins soon") 18 Rh1+ Kg8 $19 \mathbf{R g 1}+\mathbf{K h} 720 \mathrm{Rg} 7+\mathrm{Kh} 8$ (20...Kh6 21 Rd 7 "and wins easily") $21 \mathrm{Rd} 7 \mathbf{R b} 2$ (21...Rb1 22 Bc 5 Rb 323 Bd 4 and wins) 22 Bc 5 Rc 2 (22...Rbl/Rb5/Rb8 23 Kg 6 and wins, 22...else 23 Bd 4 and wins) 23 Rd5 ( $23 \mathrm{Bd} 4 \mathrm{Rc} 6+24 \mathrm{Kf} 7+\mathrm{Kh} 7$ "and White must then proceed by 25 Be 3 , making the same position again as after his 12 th move") Re3 (23...Rc4 $24 \mathrm{Rd} 8+\mathrm{Kh} 725 \mathrm{Bd} 4$ and wins, $23 \ldots \mathrm{Rcl} 24 \mathrm{Kg} 6$ and wins, 23...Kh7 24 Kf 7 and wins, $23 \ldots \mathrm{Kg} 824 \mathrm{Rg} 5+\mathrm{Kh} 725 \mathrm{Kf7}$ and wins) 24 Bd 6 Kg 8 (24...Kh7 $25 \mathrm{Rh} 5+\mathrm{Kg} 8$ "as at move 26 ", $24 \ldots \mathrm{Rb} 325 \mathrm{Kf} 7 \mathrm{Rf} 3+26 \mathrm{Kg} 6$ and wins) $25 \mathrm{Rg} 5+$ Kh7 26 Rh5 + ("White may here play 26 Rg7+ Kh8 27 Rd 7 Rc 2 , but Black then gets the result given below by 28 Be 5 Kg 8 ") Kg8 27 Be 5 Rb 3 (27...Ra3 28 Kg 6 Kf 8 29 Bd6+ Kg8 30 Rc5 "and wins soon", 27...Rc6+ 28 Ke7 Rh6 29 Rg5+ "and mates in six moves") $28 \mathbf{R g 5 +}$ (if 28 Bd 4 , "Black prolongs the game by $28 . . . \mathrm{Rb7} 7$ ") $\mathbf{K h} 7$ ( $28 . . \mathrm{Kf} 829 \mathrm{Bd} 6+\mathrm{Ke} 830 \mathrm{Ke} 6$ and wins) $29 \mathbf{R g} 7+\mathrm{Kh} 8$ ( $29 \ldots \mathrm{Kh} 630 \mathrm{Bf} 4+$ and wins) $\mathbf{3 0} \mathbf{R a} 7 \mathrm{Rb} 6+31 \mathrm{Kf7}+\mathrm{Kh} 732 \mathrm{Bf} 4$ and again 5b. "The position is now similar to that after White's 12 th move, and would be drawn if White had to play first." 32...Rb5/Rb4 (32...Rb3/Rb2/Rb1 $33 \mathrm{Ra6} \mathrm{Rb} 7+34 \mathrm{Kf} 8$ and wins) $33 \mathrm{Kf6}+\mathbf{K g 8}$ 34 Ra8+ Kh7 35 Be5 Rb1 (if Black played $32 \ldots$ Rb4 and now plays $35 \ldots \mathrm{Rg} 4$, White plays 36 Ral and wins) $\mathbf{3 6} \mathbf{R a 7 +} \mathbf{K g 8}$ ( $36 \ldots \mathrm{Kh} 637 \mathrm{Br} 4+\mathrm{Kh} 538 \mathrm{Kf5}$ and wins) 37 Bd4 Rf1+ (37...Rel/Rcl 38 Ra8+ Kh7 39 Kf5 and wins, $37 \ldots \mathrm{Rdl} 38 \mathrm{Ra} 8+\mathrm{Kh} 7$ 39 Rd 8 and wins, $37 \ldots \mathrm{Rb} 338 \mathrm{Ke} 6$ "with an easily-won game", $37 \ldots \mathrm{Rb} 538 \mathrm{Kg} 6 \mathrm{Kf} 8$ 39 Bf6 Ke8 40 Re7+ Kf8 41 Rd 7 Rb 842 Rh 7 "and wins Rook") 38 Ke6 Rf7 (38...Rf8 $39 \mathrm{Rg} 7+\mathrm{Kh} 840 \mathrm{Rc} 7+\mathrm{Kg} 841 \mathrm{Be} 5 \mathrm{Re} 8+42 \mathrm{Kf} 5$ "and soon wins Rook") 39 Ral Rf8 (39...Rf4 40 Bc 5 and wins, 39...Rb7/Rc7 $40 \mathrm{Ra} 8+\mathrm{Kh} 741 \mathrm{Kf5}$ and wins) 40 Rh1 Re8+ $41 \mathrm{Kf6} \operatorname{Re} 2$ ( $41 \ldots \mathrm{Rd} 842$ Be5 "with a won position") $42 \mathrm{Rgl}+\mathrm{Kf8}$ (42...Kh7 43 Kf7 "as in last note to move 37") 43 Be5 Rf2+ 44 Ke6 Ke8. "It is now a variety of the celebrated "Philidor" position, a complete analysis of which is given in Mr Staunton's Handbook, pp. 449, 450, and 451, so that further notes to the moves below are not necessary." 45 Ral Rd2 46 Ra7 Rd1 47 Rg7 Rf1 48 Bg3 Rf3 49 Bd6 Re3+ 50 Be5 Rf3 51 Re7+ Kf8 $52 \mathrm{Ra} 7 \mathrm{Kg} 853 \mathrm{Rg} 7+\mathrm{Kf8} 54 \mathrm{Rg} 4 \mathrm{Re} 3$ (Crosskill sacrifices to delay mate) 55 Rh4 Rxe5+ 56 Kxe5 Kf7 57 Rg4 Ke7 58 Rg7+ Kf8 59 Rd7 Ke8 60 Ke6 Kf8 61 Kf6 Kg8 62 Rd8+ Kh7 63 Ra8 Kh6 64 Rh8 mate.

There are only two significant errors. At move 6 , Crosskill overlooks Rb 3 saving 22 moves, and the optimal line at move 1 is 1 ...Ra6+ 2 Kf 7 going straight to move 10 . At move 24, he consciously diverges from Zytogorski, thinking that $24 \ldots \mathrm{Kg} 825 \mathrm{Rg} 5+$ Kh7 holds out one move longer and overlooking the shortening line $26 \mathrm{Rg} 7+\mathrm{Kh} 8$ 27 Rg 1 . Less importantly, after 28 Bd4 Black doesn't just prolong the game by 28 ...Rb7, he draws, but this and one or two other inaccuracies in sidelines don't alter the overall result. And Crosskill does recognise $\mathbf{5 a}$ as reciprocal zugzwang.

Let's put all this together. Zytogorski made one significant error in this part of his analysis, failing to take account of $12 \ldots \mathrm{Ra} 2 \mathrm{in}$ his variation E8. Crosskill, who was not content merely to cstablish the result but who tried to find the best play for both sides, overlooked a shortening line for White at move 6 and another at move 26, but only the second of these errors affected the play after 5a. Zytogorski's analysis can be made sound by playing $19 \ldots \mathrm{Ra}+$ in his variation Gl and then slotting in a reflection of Crosskill's finish from his move 38 onwards, and my private opinion is that he was aware of this winning line and went wrong in print only because he thought he had found something quicker and tried to gild the lily. Crosskill's can be made optimal by playing $24 \ldots \mathrm{Rcl}$ and replacing his moves $25-30$ by moves $35-39$ of Zytogorski's variation G4. Had either of them made the appropriate change, we would have had a completely optimal pre-computer line from the position after move $20 .$. RcG+ in variation G 4 (Zytogorski) or 6 Bf 4 (Crosskill) right through to a mate which was respectively 53 and 57 moves away. And we notice that Crosskill explicitly recognised positions $\mathbf{5 a}$ and $\mathbf{5 b} / \mathbf{5}$ c as reciprocal zugzwang.

So where did the Oxford Companion line come from? The 1922 edition of Berger's Theorie und Praxis der Endspiele has the rellected position on page 245 (he cites "D. Schachz., 1864, S. 387" which I haven't seen); he follows Crosskill's solution as far as 41 Kc 6 (equivalent to Crosskill's Kf6), but then appears to consider only the inferior moves ...Re8 and ...Rd4. Chéron improved on this by substituting $38 \ldots$...R8 (Lehr- und Handbuch der Endspiele, Volume III, 1969, pages 277-8) and the Companion understandably followed him, but Crosskill's original, with the equivalent of $38 \ldots \mathrm{Rc} 7$ and $41 \ldots \mathrm{Rd} 2$, was more accurate than either. The change at the end postpones the rook capture rather than the mate.

And the people involved? According to Szachy od A do $Z$ (Gizycki and Litmanowicz, Warszawa 1986-7), Adolf Żytogorski (1807-1882) was a Pole who left his country after the failure of the uprising of November 1830 and settled in England. Berger spelt his name with a final " $y$ " and most other writers seem to have copied this, but it would appear to be clearly wrong. So for that matter is the dropping of the dot over the Z , but people coming to live in this country from abroad have long had to come to terms with our habit of omitting accents from names in foreign languages.

Alfred Crosskill (1829-1904) was British from birth. His 1864 analysis appeared anonymously, but a further $\mathrm{K}+\mathrm{R}+\mathrm{Bv} \mathrm{K}+\mathrm{R}$ analysis appeared in the Chess Player's Magazine in 1866 under the pscudonym "Euclid" and Berger associates both analyses with Crosskill (pagcs 237/238 of the 1922 edition, and John Roycroft tells me that there is a similar reference on page 175 of the 1890 edition). I do not know what his authority was. Jeremy Gaige's Biobibliography' of British Chess Personalia cites the Beverley Independent for 7 May 1904, which I haven't seen, but Berger's 1890 edition will have predated this.

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