

British Endgame Study News

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This issue. We have news of major developments in 6-man endings (see below and pages 142-3), and a special number on British studies from 1980-83.

How to demoralize your opponent. An annotation in *Variant Chess*, by the player who had White: "It is axiomatic that Black, who devotes his life to creating Machiavellian endgame studies, can win any ending from either side. It is well known that White, who devotes his life to failing to solve Machiavellian endgame studies, can lose any ending ..."

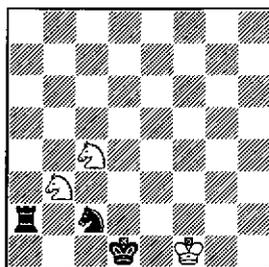
Spotlight (1). Alain Pallier tells me that Albert van Tets's study on page 134 of the March issue was anticipated by Selesniev, *Fizkulturnik Ukrainy* 1933: wKf8, Ph6/h4, bKg6, Pg7/h7/h5, 1 hxc7 Kh6! etc.

Spotlight (2). This was a bad one: sorry. In March 1999, relying on a report in *EG* 117, I gave Noam Elkies's position above as a six-man pawnless position in which whoever is to move loses. In fact the report in *EG* 117 was corrected in *EG* 128, but I overlooked the correction. It is probably best if I quote Noam verbatim.

"[...] When in early 1992 Lewis Stiller ran his exhaustive supercomputer search on 0105 [R + N v 2N], and found to his and everybody else's astonishment that this class contained wins in 243 moves, I expected soon to find out whether **No 10965** is indeed a loss WTM by looking for it with colors reversed in the computer-generated list of mZZ's. Alas there are thousands of mZZ's, and the computer was only instructed to print out the first 100 [...]. So I didn't find out the status of **No 10965**, and now six years have passed and I still do not know whether **No 10965** is a full-point mZZ.

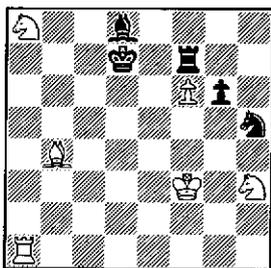
"Thus, contrary to the report in *EG*-117, I did *not* intend to claim **No 10965** as an achievement of AJR's task. I did, however, point out that adding a Black Bishop on b1 produces a 7-man position which certainly does work: BTM still gets mated in one, and WTM must release the bind, whereupon Black's material advantage easily decides." (Noam Elkies, *EG* 128, April 1998, p 320.)

Noam now reports that Ken Thompson's latest research shows a **WTM draw** by Nc5 (*EG* 136, p 59). So there is *no* known six-man pawnless position where whoever moves loses, though of course the seven-man position with bBb1 added remains valid.

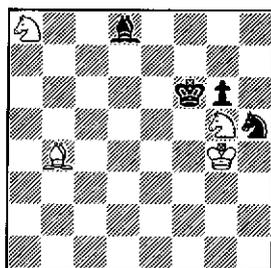


EG 10965 (Noam Elkies)
Not "he who moves loses"

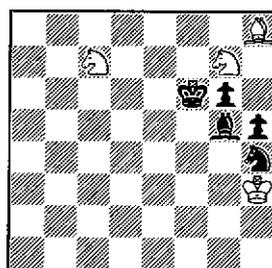
Recently published British originals



1 - win



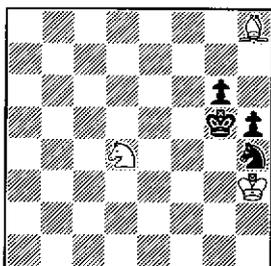
1a - after 4 Kg4



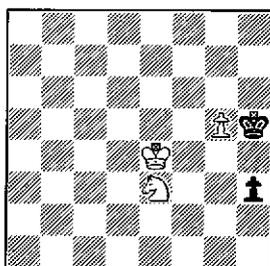
2 - win

Once again Mike Bent has been carrying our flag almost alone, and the short and sweet 1 appeared in *The Problemist* in March last year. Play starts **1 Ra7+ Ke8 2 Rxf7 Kxf7 3 Ng5+ Kxf6**, and now **4 Kg4!** suddenly leaves Black without resource (see 1a). Most Black moves lose a piece either to an immediate capture or to a fork or skewer, and the only exception 4...Be7 allows **5 Bc4 mate**. Studies like this are sometimes denigrated as pot-boilers, but speaking as a columnist with a pot which has to be kept boiling I have lost count of the times when a plea to Mike has brought something by return of post which my solvers have enjoyed teasing out. There is always a move somewhere along the way which raises a smile when it is spotted.

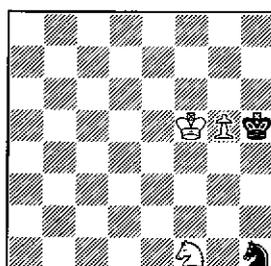
Mike's not dissimilar 2 appeared in the January-March 1999 issue of *diagrammes*. Play starts **1 Nge6+ Kf5 2 Nxg5** (2 Nd4+ Ke4 is only a draw) **Kxg5 3 Ne6+ Kf5 4 Nd4+ Kg5**, and we have 2a. Now comes the quiet **5 Bg7!** and Black is helpless: if the knight moves to safety, **5...Nf5**, White has **6 Ne6 mate**.



2a - after 4...Kg5



3 - win



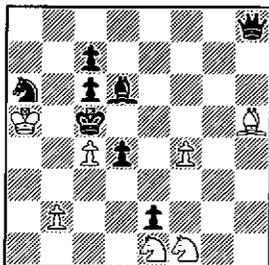
3a - reciprocal zugzwang

I shall be discussing computer-assisted composition on the next two pages, and shall be pointing out that the lists of computer-generated positions of reciprocal zugzwang which are being published in *EG* are bringing computer-assisted composition even within the reach of those who do not have a computer. 3, which I published in *diagrammes* in 1998, was discovered by precisely this means. Let's look at it as a solver would, and try the natural **1 Kf5 h2 2 Nf1** (to meet **2...h1Q** by **3 Ng3+**)

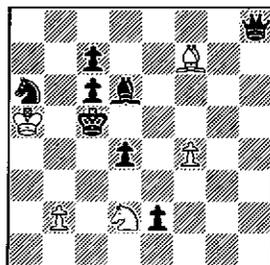
h1N. This has brought us to **3a**, which is in the definitive list of 4121 (!) positions of reciprocal zugzwang with N + P v N published in the supplement to *EG* 122 in 1996, and if we like we can verify that with White to move there is no win (3 Kf6 Nf2 4 Ng3+ Kh4 5 g6 Ng4+ 6 Kf5 may seem promising, because the apparently obvious 6...Kxg3 will be met by 7 Kg5 putting Black in zugzwang, but Black has 6...Nh6+ and 7...Ng8 with a draw).

All right, let's lose a move: **1 Kf4! h2 2 Nf1 h1N 3 Kf5**. Now we have **3a** with Black to move, and everything works: **3...Nf2** (nothing else is better) **4 Ng3+ Kh4 5 g6 Ng4 6 g7 Nh6+** (surely the Black knight has stopped the pawn) **7 Kg6 Ng8 8 Nf5+** (yes, but the White knight can cover h6 and stop its escape) **Kh3 9 Kf7** and the Black knight is trapped.

This, of course, is merely a pot-boiler of a different kind; but what is the point of *EG*'s publishing lists of reciprocal zugzwangs if composers are not going to make use of them?



4 - win



4a - after 5 Bf7

Mike Bent's mating study **4** appeared with **2** in the January-March 1999 issue of *diagrammes*, and gave a fair amount of trouble to solvers: "I spent a long time on 1 Nd2? Qh7!" wrote one. In fact the correct line is **1 Nd3+ Kxc4 2 Bf7+ Kxd3 3 Bg6+ Kc4 4 Nd2+ Kc5** (best), and now the quiet **5 Bf7** threatens two mates (see **4a**). Black's only defence is **5...e1Q** pinning the knight, but White plays **6 b4+** and the pin is released: **6...Nxb4 7 Ne4 mate**.

This little frolic was widely enjoyed, but as always when I publish such a composition I received a comment that since White has a forced mate in 7 it is really a problem and not a study. In fact the two forms of composition are wholly different. In a typical contemporary "mate in *n*" problem, White has a vast material advantage, so winning in itself is not difficult and everything revolves around the giving of mate within the prescribed number of moves. In a forced-mate study, by contrast, White doesn't have a material advantage at all, and a quick mate provides the only way of winning the game; if White goes wrong, Black cannot just delay the mate, he can avoid it altogether.

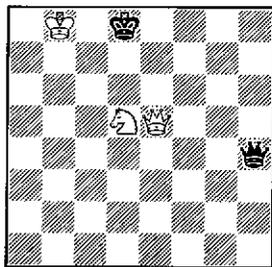
Although I trawl the obvious sources for this column, I do not see everything that appears in print, and I am always grateful when composers and their friends bring relevant material to my attention. - JDB

Finding studies with computer assistance

Those who read *EG* will have seen a discussion paper "Proposal for the guidance of tourney organisers, composers and judges" (*EG* 135, pp 9-10), whose main thrust is that studies which are or could have been extracted from definitive computer databases should not be permitted to compete in normal study tourneys. This is hardly a controversial proposition; the relation between "ordinary" and "computer-assisted" composition is somewhat akin to that between painting and photography, and nobody would dream of allowing a photograph to compete in a painting competition. But its practical effect will be that as of today no four-man or five-man composition will be able to compete in a conventional study tourney, and within a year or two the same will be true of six-man positions as well. The exclusion of seven-man positions will have to wait until around 2015-2020.

In itself, such exclusion is not a matter of importance. Those of us who examine computer output for interesting studies do so because we think our friends will share our enjoyment in what we have found, not because we want to get some cheap prizes. But some parts of the study world appear to have become obsessed with tourneys and tourney awards, and I fear that the effect of the proposal will be to relegate "computer-assisted" composition to a secondary place, some way below "real" composition.

This would be most unfortunate. Some people see study composition as "creating a work of art". I see it rather as uncovering a small part of the intrinsic beauty of the game, and if the use of a powerful mechanical aid will help to uncover beauty the only sensible thing to do is to take advantage of it. The computer first came into prominence in the endgame field though its ability to perform analyses which had defeated human endeavour, but of at least equal importance has been its disclosure of positions which *could* have been discovered by unaided human effort but in practice were not. I have in mind positions such as the remarkable 1, extracted from a computer database by John Nunn and published in *Československý šach* in 1991. Most wins with Q + N v Q involve sequences of checks with only an occasional non-checking move, but this is a short and sweet win by king triangulation. Black to play would have no good move (1...Qh7 2 Qg5+ and a fork, 1...Kd7 2 Nf6+ and mate in a few); White to play, **1 Kb7! Qh7+ 2 Ka8! Qh4** (2...Qd7 3 Qg5+ and a fork, 2...Qf7 3 Qd6+ Qd7 4 Qb6+) **3 Kb8**. This is far easier to follow than most human-produced studies with the same material, but how many composers would have thought it worth spending time *looking* for such a position? It is only a computer, churning blindly through all possible positions whether promising or not, which turns up discoveries of this kind.



1 - win

The technique of "computer-assisted composition" is in fact wholly different from that of conventional composition. The conventional composer starts with an interesting idea, and his task is to find a sound setting; and all too often he is unable

to do so, or is able only at the cost of a charmless and artificial position whose crudity outweighs any beauty in the subsequent play. The explorer who looks at a pile of computer output attacks the problem from the opposite end; *he* starts with a set of positions which are guaranteed to be sound, and his task is to find those which are interesting.

"Yes," you will say, "but how can the computer help us to identify 'beautiful' and 'interesting' positions? These are not terms which computers understand." Indeed they are not, but there are certain criteria which computers *do* understand and which in practice point the investigator towards interesting positions. A typical computer analysis of an endgame with given material produces, *inter alia*, (a) a specimen "longest win" assuming that the defence tries to hold out as long as possible and (b) a list of positions of reciprocal zugzwang (Black to move loses, but White to move cannot win). Not all such positions turn out to be interesting, but some certainly do; for example, the now famous Arabic chess position of as-Suli, whose solution Yuri Averbakh so splendidly rediscovered in 1986, would have been thrown up by a computer analysis of the endgame "king and fers against king and fers" had it not already been discovered, because all the "longest wins" with this material come down to this position after seven moves. And the investigator who is a competent computer programmer can examine the database and list at least three further classes of position: (c) positions in which White wins more quickly without the move than with it, (d) positions demanding sequences of unique winning moves, and (e) positions in class (d) where the winning sequence includes one or more non-checking move. I don't know how John Nunn discovered **L**, but if he had written a program to extract all the positions whose solutions required more than one unique non-checking move I would have expected this to be among a fairly small number reported.

And it isn't even necessary to have a computer (let alone to be a computer programmer) to take advantage of computer discoveries. *EG* has been publishing computer-generated lists of reciprocal zugzwangs, and anyone can examine these and produce studies based on them just as he can produce a study based on any other target finishing position. In my experience, only one reciprocal zugzwang in a hundred gives rise to a really convincing study, but *EG* has already published over ten thousand reciprocal zugzwangs, so even a hit rate of one in a hundred leaves over a hundred good studies to be found.

Paul Byway, who has no axe to grind in this matter, wrote when publishing some computer endgame discoveries in *Losing Chess* that they had "a gem-like quality that seems to be missing from most of our more laboured, human constructions" (*Variant Chess* 28, p 168). This view was to receive striking support in David Pritchard's recent book *Popular chess variants*, where the chapter on *Losing Chess* contains five illustrative endgame positions: three elementary one-against-one positions where a specific pawn promotion is needed in order to win, and two studies discovered by computer. The impact of computers on ordinary chess endings has not been as dramatic, because much more had been discovered before they came on the scene, but they have a great deal to contribute, and I hope that the entirely reasonable exclusion of their discoveries from conventional composition tourneys will not cause attention to be diverted away from them.

From the world at large

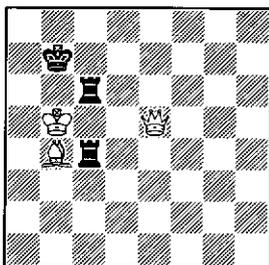
Noam Elkies's column in *EG* 136 reports that the computer analysis of 6-man endings has resumed, and that Ken Thompson is posting his results on the Web as they emerge (a generous act in the best traditions of scientific research). A table at

<http://cm.bell-labs.com/cm/cs/who/ken/chesseg.html>

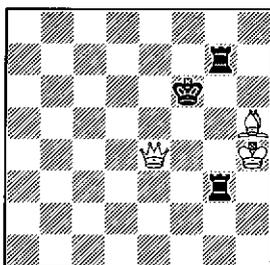
contains "longest wins, deepest mutual Zugzwangs, and statistics for a growing list of pawnless 6-man endings", and "pointing a Web browser" at something typified by

<http://plan9.bell-labs.com/magic/eg/wke1wqd1wne2bke6brc5bre5>.

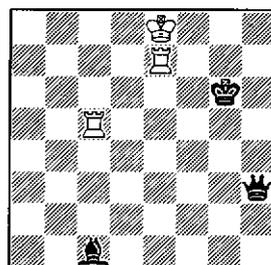
provides an analysis of the position specified (this example gives **9** below, and the final full stop is omitted if we want White to move). The user receives a diagram with every move listed and the result "6nnn" (White wins in *nnn* moves, counting to capture) or "9999" (White does not win), and clicking on a move plays it and gives an analysis of the new position. The result with the other side to move is also given.



1 - win (K & H 1851)



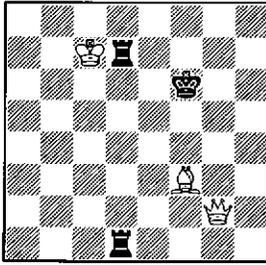
2 - draw only (K & H 1851)



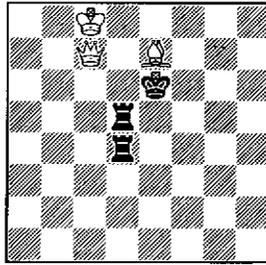
3 - Black to move wins

Noam highlights the resolution of the R + N v 2N position on our front page; my own first investigations concentrated on Q + B v 2R. This had been examined by Kling and Horwitz, who gave **1** as won (1 Bd6 Rc8 2 Qg7+ Ka8 3 Qa1+, or 1...Rc1 2 Qe7+ Ka1 3 Qd8+ Rc1 4 Qa5+) with the comment "Q and B against two Rooks generally win" and **2** as drawn with the comment "White cannot win ... in consequence of the confined position of his King" (I am quoting from the 1889 edition, pp 228-9). But Black's position in **1** is already cramped, and composers have tended to assume the ending "generally drawn" on the argument (a) Q + B v Q is only drawn, (b) 2R are usually stronger than Q, and (c) if Black places his rooks guarding each other on squares inaccessible to the bishop, what can White do? When **3** was found to be won for Black, thereby demolishing an attractive study by Sergei Rumyantsev, the general feeling was that the composer had been very unlucky.

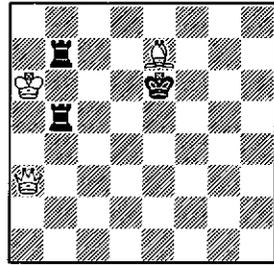
Now the definitive results are available, and I think we must change our minds. Mere counts of "wins" and "not-wins" are difficult to interpret (they are too heavily influenced by positions in which a loose man is picked up at once), but the computer gives **4** as a longest win and **5** as a longest reciprocal zugzwang, and the fact that



4 - win in 85 moves

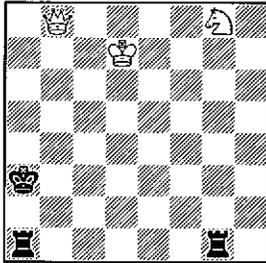


5 - reciprocal zugzwang

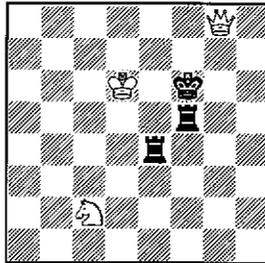


6 - win in 65 moves (!)

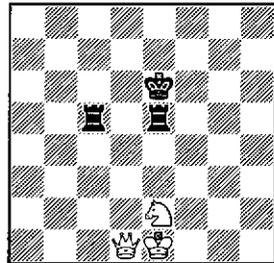
White can win even from positions like these is to me clear evidence that the ending should be regarded as “generally won”. 5 strikes me as particularly revealing. White to play in this unfavourable position must concede a draw (1 Bh4 Rxb4, 1 Ba3 Rd8+, 1 Qb7 Rd7, 1 Kb8 Rb5+ 2 Kc8 R5d5 repeating), but Black to play cannot hold the bind (1...Rd3 2 Bh4, 1...Rd7 2 Qc5) and after 1...Rd7 2 Qc5 R7d5 3 Qa3 Rc4+ 4 Kb8 Rb5+ 5 Ka7 Rc7+ 6 Ka6 R7b7 we have 6. If White can win from here, he can surely win from almost anywhere. It remains possible that Black has exceptional fortress positions (to identify them would require counts of wins and not-wins classified by position of Black men, data which are not currently provided), but in general I think we should now regard Q + B v 2R as a win unless the defender can prove otherwise.



7 - win in 153 moves, BTM



8 - reciprocal zugzwang



9 - BTM draws by 1...Rc3

So what about Q + N v 2R? This is not as clear-cut. 7 shows a longest win and 8 a longest reciprocal zugzwang, and the win BTM from 8 (Black centralized, White disorganized) suggests that this ending also is “generally won”. But then I tried 9 as a “typical position”, and found that Black could draw by 1...Rc3 (he threatens 2...R3e3 doubling the pin, and if wK tries to escape to the right he will be checked back again). Even so, the pin can be regarded as making this position atypically unfavourable to White, and I suspect that further examination will show Q + N v 2R also to be won unless Black has either a fortress position or a forced draw by tactical means.

Research will continue, and *BESN* will report the most important developments. But I can only report a fraction of what happens, and *EG* will be the main channel of communication. Those who subscribe to *EG* (see March, p 136) can expect to obtain much more comprehensive and up-to-date information than I can provide here.

News and notices

The Editor at home. This year my “at home” will be on **Saturday July 8** from 1100 onwards. Do come and introduce yourselves. Harpenden is 25 miles north of London (M1, A1, Thameslink railway) and I will send a map on request (01582-715858). Stay for a modest buffet lunch (please tell me if you are coming, it isn't essential but it helps if we know roughly how many to expect) and meet the problem fraternity afterwards if you feel like it. I double as Librarian of the British Chess Problem Society, and the society's “Library Day” will take place in the afternoon.

Other meetings. The next *EG* readers' meeting will be at 17 New Way Road, London NW9 6PL, on **Friday July 7** at 6.00 pm. Non-subscribers are welcome, but please bring £5 towards the buffet (except on a first visit). Bring the latest *EG* with you!

Tourneys. A set of three problem and study tourneys is announced to celebrate the 225th anniversary of the Ukrainian city Kryvyi Rig. The study theme as stated is “move paradox”, but I suspect that “paradoxical move” would be a better translation. Send to Anatoly Svitylsky, v. Lepeshinskoye 41, 50023 Kryvyi Rig, Ukraine (I can supply this in Cyrillic), to arrive by **14 October**. Prize fund: US \$90. Judge: Viktor Syzonenko.

Harold van der Heijden tells me of a study tourney with handsome prizes (750/500/250 NLG) to celebrate the 100th birthday of Machgielis (Max) Euwe. Send to him at Michel de Klerkstraat 28, 7425 DG Deventer, NL - Nederland, or by e-mail to harold_van_der_heijden@wxs.nl, to arrive by **1 January 2001**. Limit two entries per composer (the notice I have received says nothing about joint entries, so I presume they are permitted but count towards each composer's limit). Judge: Jan Timman.

Wallace Ellison's endgame books. Wallace's nephew has donated his books on endgames and endgame studies, to go into the BCPS Library where appropriate (see above) and otherwise to be passed on to someone who will appreciate and make good use of them. Some of them are outside the BCPS Library's terms of reference and I am offering these for sale by postal auction, proceeds to help defray the costs of producing *BESN*. A list accompanies this issue. Bids should reach me (either by post or by e-mail, see below) by **1 July 2000**. All bids will be acknowledged.

Dragging oneself into the 21st century. I am now on e-mail:

johnbeasley@mail.com

There were some initial difficulties, but connection now seems reasonably reliable.

Anybody wishing to give notice here of any event, product, or service should contact the Editor. There is no charge and no account is taken of whether the activity is being pursued for commercial profit, but notices are printed only if they seem likely to be of particular interest to study enthusiasts. Readers are asked to note that the Editor relies wholly on the representations of the notice giver (except where he makes a personal endorsement) and that no personal liability is accepted either by him or by any other person involved in the production and distribution of this magazine.