British Endgame Study News

Endgames in

Chess Variants (4)
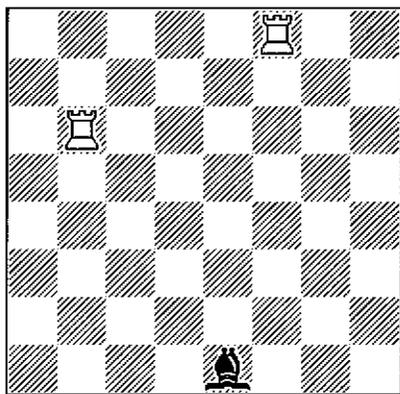
Losing Chess: White to move cannot win!

Paradoxical play in the Losing Game

Losing a move in Shatranj

K+P v K in Alice Chess

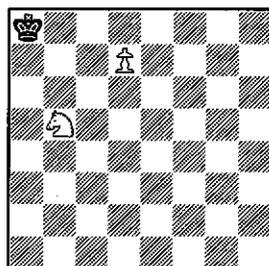Putting a man back on the board

Paradoxical play in the Losing Game

Long-term readers of *BESN* will need no reminding of the rules of the Losing Game. Capturing is compulsory, and a player's object is to lose all his men; the king is an ordinary man which can be captured, and a pawn may promote to it. Of all variants of chess, it has proved to be the richest in fascinating endgames.
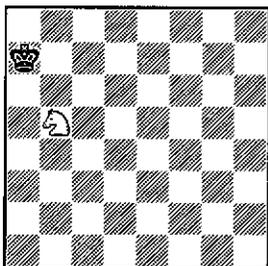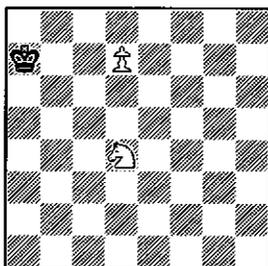

| 1 - Black to move | 2 - win in 5 moves | 2a - after 1...Ka8 |

King against knight is usually a win for the king, but **1** shows an exceptional position; Black to play cannot sacrifice bK, and White will sacrifice on a7 next move. Stan Goldovski's **2** (*The Problemist*, March 1999) shows an exception to the exception. Play starts **1 Nb5 Ka8** (see **2a**), but now White must *not* play 2 Na7 (after 2...Kxa7 he will have nothing better than 3 d8K with a draw); instead, he must repeat the procedure, **2 Nc7**, and only after **2...Ka7** can he sacrifice wN: **3 Na8 Kxa8 4 d8B** and wB can be sacrificed next move. 3 Na6 Kxa6 4 d8R also wins, but not in 5.
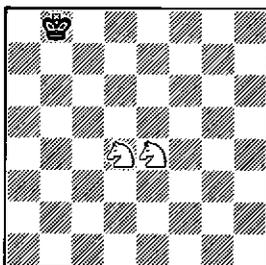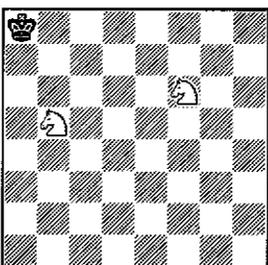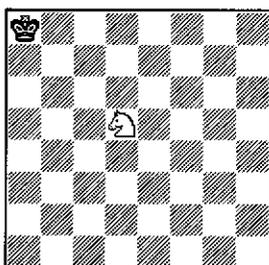

| 3 - win | 3a - after 2...Ka8 | 3b - after 5 Nd5 |

2 was a deliberate composition, but Fabrice Liardet has pointed out that the "longest wins" with 2N v K and B+N v K, discovered by my computer analysis of three-piece endings in December 1997, involve the same manoeuvre. (Although not formally published until 1999, **2** had been circulating among friends since mid-1997, and I acknowledge its priority.) It perhaps appears at its neatest in **3**, which is one of the longest wins with 2N v K: **1 Nf6 Ka7** (best) **2 Nb5 Ka8** (see **3a**) **3 Nc7!** (3 Na7 loses) **Ka7 4 Na8** (4 Na6 loses) **Kxa8 5 Nd5** and bK is dominated (see **3b**).
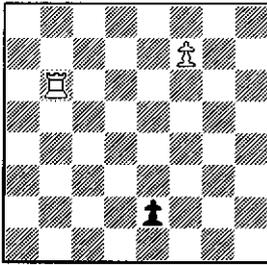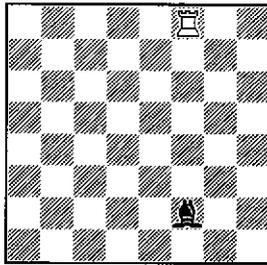
4 - win   **4a** - 1...e1B, after 3 f8R   **4b** - after 1 f8R e1B
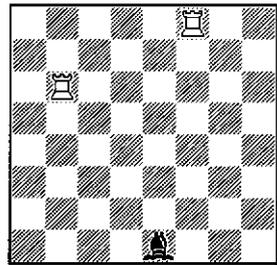
Fabrice Liardet's **4** (*phénix* 1998) shows paradoxical play of a different kind. The solution is **1 Rf6**, and most promotions give White little trouble: 1...e1N 2 Rf3 Nxf3 3 f8R, 1...e1K 2 Ra6 (say) and 3 f8B with a book win. The interesting line is **1...e1B**, when **2 Rf2 Bxf2 3 f8R** gives one of the exceptional positions in which a bishop to play loses against a rook (see **4a**), and the interest of this line is heightened by the try **1 f8R**. This is refuted only by **1...e1B**, which gives the truly remarkable position **4b**. Either wR independently can sacrifice itself to bB, and the sacrifice of the other wR would normally follow at once; but here the first sacrifice leaves bB *attacking* the remaining wR (**2 Rb4 Bxb4, 2 Rf2 Bxf2**), and this must move away and allow bB to sacrifice itself instead!
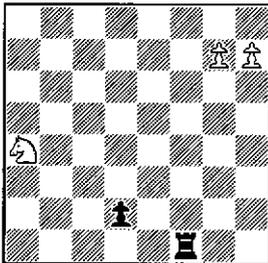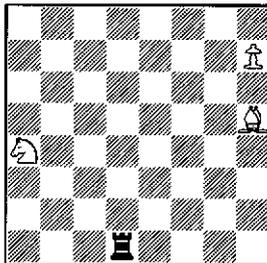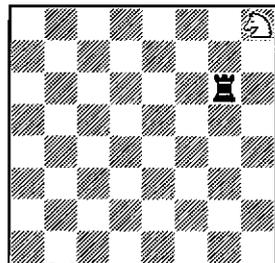
**5 - win**   **5a** - after 3 Bh5   **5b** - 3...Rb1/Rd6, 6 h8N

Fabrice has an enviable eye for unusual finishes. Play in **5** (*Variant Chess* 1998) starts **1 g8B Rf7** (White threatened 2 Bxf7 etc, and the only other non-trivial lines are 1...Rb1 2 Nb6 Rxb6 3 Be6 Rxe6 4 h8R Rh6 5 Rxh6 with a win against any promotion, 1...Re1 2 Be6 similarly, and 1...Rd1 2 Be6 leaving bR with no good move) **2 Bxf7 d1R** (2...d1N 3 Nb2 Nxb2 3 Bc4 Nxc4 4 h8R, 2...d1K 3 Nb2! K-- 4 Nd1 Kxd1 5 h8R) **3 Bh5!** with a remarkable domination of bR (see **5a**). The only non-trivial lines are **3...Rd2/Re1 4 Be2 Rxe2 5 Nb2 Rxb2 6 h8B!** with an exceptional winning position with B v R, **3...Rd3 4 Bf3 Rxf3 5 Nc3 Rxc3 6 h8B** similarly, and **3...Rd6/Rb1 4 Nb6 Rxb6 5 Bg6 Rxg6 6 h8N!** with one of the exceptional winning positions with N v R (see **5b**).

Once again we see the remarkable ability of Losing Chess to generate unexpected results from apparently simple starting positions.

Losing a move in Shatranj

The game of Shatranj (Arabic chess) is not so much a variant of chess as its immediate predecessor, and many authors (including Timothy Whitworth and myself) have taken the view that positions from it can fairly and properly be included in modern books. When writing *Le zugzwang dans l'étude* for *diagrammes* in 1995, I included no fewer than six examples from shatranj, and I think they added colour no less than historical respect. The address lists suggest that *diagrammes* and *BESN* have relatively few readers in common, and perhaps these few will excuse me if I repeat some of the examples here.
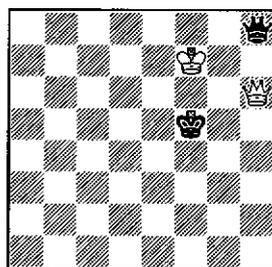
The main differences between shatranj and modern chess were that the "queen" (firzan) moved one square diagonally and the "bishop" (fil) two squares diagonally with the power of jumping over the intervening square, and that promotion was only to firzan. The game was won by giving mate or stalemate, or by reducing the opponent to just a king *provided that he could not do the same on his next move*. It was in satisfying this latter condition that much of the endgame subtlety resided.
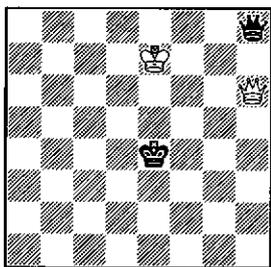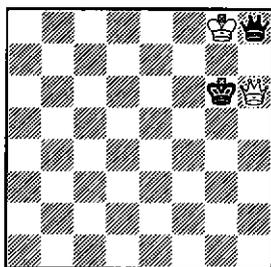
**1** - win (firzans h6/h8) **1a** - 1 Kf7, after 2...Kg6 **1b** - reciprocal zugzwang

For example, consider **1**, which is due to al-Adli, *fl.* 840 (see Murray, *A history of chess*, p 306). If we try the obvious attack, 1 Kf7, we have 1...Kf5 2 Kg8 Kg6 (see **1a**), and White's 3 Kxh8 will be answered by 3...Kxh6 with a draw. Al-Adli therefore manoeuvred wF round to f8, **1 Ke6 Kf4 2 Kf6 Kg4 3 Kg6 Kh4 4 Fg5+ Kg4 5 Ff6 Kf4 6 Kf7 Kf5 7 Fe7 Ke5 8 Kg8 Ke6 9 Ff8 Kd7** (what else?), and now White can play **10 Kxh8** without suffering a capture in reply.

This is perfectly valid, but al-Adli's successor as-Suli found a simpler way to win: **1 Kf8!** Black must still play **1...Kf5** (else 2-3 Kxh8), and now **2 Kf7!** gives the same position as after 1 Kf7 Kf5 but with Black to move (see **1b**). Black's only hope is **2...Kg4** ready to meet **3 Kg8** with **3...Kh5** (4 Kxh8 Kxh6), but White has **4 Kh7!** and bK must retreat. There follows **4...K-- 5 Kxh8**, and once more Black has no capture in reply.

The apparently simple ending of K+F v K+F has many subtleties, and my computer analysis in 1990 disclosed no fewer than 116 positions of reciprocal zugzwang.
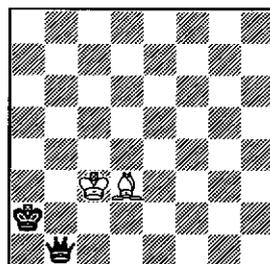
The anonymous **2** (Murray, p 326) looks like a race to the bottom left-hand corner, but direct methods fail: 1-3 Kc5 Ka5 (see **2a**) 4-5 Kc3 Ka3 6 Kc2 Ka2 7 Kc3 (what
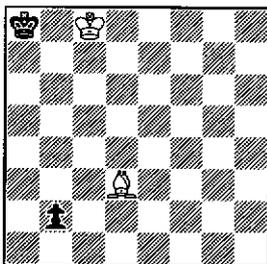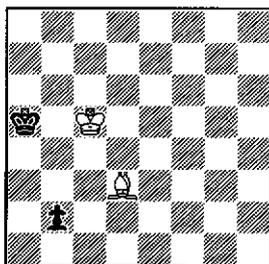
**2** - win (fil e3)   **2a** - reciprocal zugzwang   **2b** - reciprocal zugzwang

else?) b1F (see **2b**), and even though Black has only been able to take a firzan White has no way to win. Now let's try losing a move. **1-2 Kc6 Ka6 3 Kd5!** (the move can be lost earlier, but this is simplest) **Ka5** (the fil controls b5, and other bK moves allow 4 Kc4 and 5-6 Kxb2) **4 Kc5** (now we have **2a** with Black to move) **Ka4 5-6 Kc3 Ka2 7 Kb4! b1F** (7...Ka1 8 Ka3! b1F 9 Kb3 leads to the same position) **8 Kc3** (now it's **2b** with Black to move) **Ka1 9 Kb3 Fa2+ 10 Kc2** and the firzan must give itself up (note that the fil continues to attack b1 even over the White king).
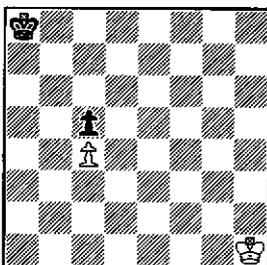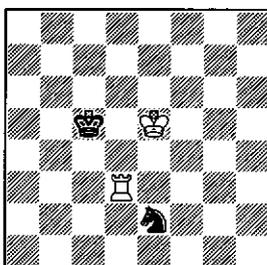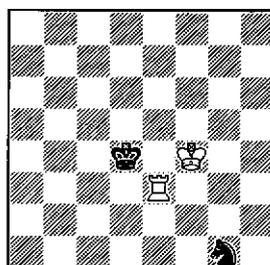
3 - win   **4** - win   **4a** - reciprocal zugzwang

Also anonymous is **3** (Murray, p 323). This seems to be the earliest surviving example of the famous *trébuchet*: **1 Kg2 Kb7 2 Kf3 Ka6** (2...Kc6 3 Ke4 Kd6 4 Kf5 etc) **3 Ke4 Ka5 4 Ke5! Ka4 5 Kd6 Kb4 6 Kd5** and bP will fall. **3** is only drawn in modern chess (Black can hang back and meet Kxc5 with ...Kc7, whereas in shatranj the capture of bP was enough to win), but the *trébuchet* itself is unchanged.

4 does have a known author; Murray (p 314) quotes an attribution to ar-Razi, who lived in 850. **1 Re3** forces **1...Ng1**, and now not the natural 2 Kf4, when 2...Kd4 forces wR to release the pressure (see **4a**), but **2 Kf5!** (threat 3 Kg4 and 4 Re1) **Kd4** (no other defence) **3 Kf4** and we have **4a** with Black to play. This little study may be over a thousand years old, but I have shown it to audiences ranging from endgame specialists to near-beginners and have given pleasure to both.

Additionally, of course, there is the incredible and now famous study of as-Suli, quoted in *Endgame magic* and in many other books, whose solution remained hidden for over a thousand years until Yuri Averbakh rediscovered and published it in 1986. Truly there was virtue in shatranj!

K+P v K in Alice Chess

Alice Chess, invented by V. R. Parton in 1953, is one of the more curious versions of the game. It is played on two boards A and B side by side, board B being initially empty, and after each move the piece moved goes "through the looking glass" to the corresponding square on the other board, which must be empty to receive it. Unlike many chess variants, Alice has proved to be a survivor, having appealed to successive generations of players and having given rise to a steady stream of good problems. Its interest starts in the opening, where there are many amusing traps for the unwary. I quote from Dennison Nixon's 1954 *BCM* review of Joseph Boyer's book *Nouveaux jeux d'échecs non-orthodoxes*, which first brought the game to general attention (notation converted): "For example, after **1 d4** White threatens **2 Qxd7** (not check as the Queen transfers to Board B) and **3 Qb5 mate**. **1...d6** loses Black's Queen and **1...Nf6** allows **2 Bg5**, threatening **3 Bxf6** and repetition of original threat. However, Black can safely play **1...Nc6** as after **2 Qxd7** then **2...Be6** wins White's Queen!"

The diagrams may help to clarify this. **1** shows the position after 1 d4 and White's threatened 2 Qxd7, and **1a** the projected mate by 3 Qb5. Black cannot interpose on c6 or d7 because the man he puts down promptly goes to the other board, neither can he play 2...Kd7 because a move must be legal on the board on which it is played. Conversely, after 1 d4 Nc6 2 Qxd7 Be6 we have **1b**, and although wQ appears to have plenty of safe squares on B all are occupied or commanded on A!
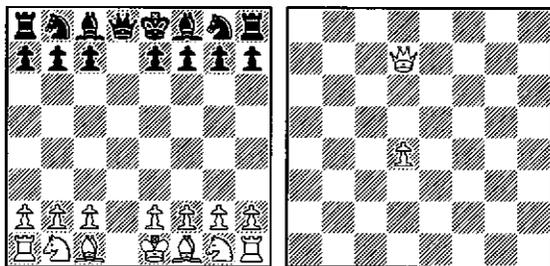

A   1 - 1 d4, 2 Qxd7   B
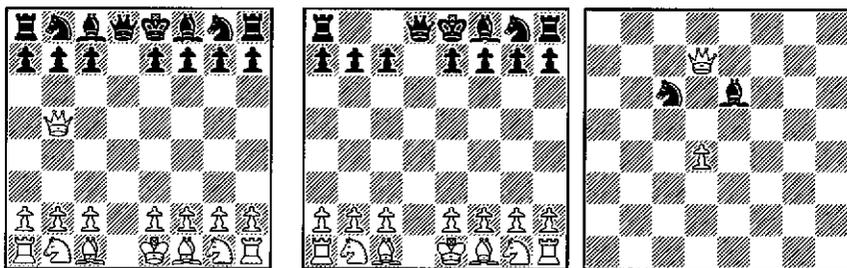
1a - Board A after 3 Qb5   A   **1b** - 1 d4 Nc6 2 Qxd7 Be6   B
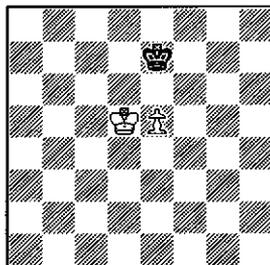
However, our concern here is with the endgame. The endings with K+Q, K+R, K+2B, and K+B+N against K are all won, much as in ordinary chess; White has to ensure that the mating man ends up on the same board as the king it is trying to mate, but there is no real difficulty. K+P v K is more interesting, and some positions which are hopelessly drawn in ordinary chess can be won in Alice.
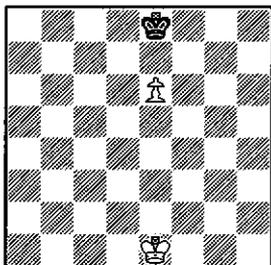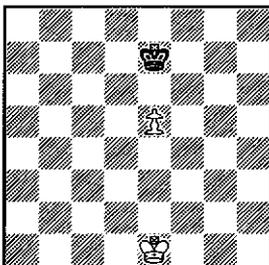

**2** - White wins (B empty)   **3** - draw only (B empty)   **4** - White wins (B empty)
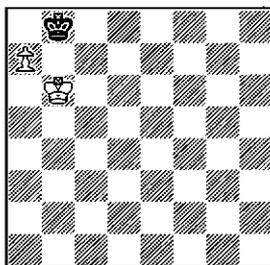
Consider **2**. In ordinary chess, wP soon falls; in Alice, we have **1 e7** (wP escapes gleefully to B) **Kd7/Kf7** (bK also goes to B, but to no avail) **2 e8Q** coming back to A, and the rest is easy. In **3**, however, we have **1 e6** (B) **Kd8/Kf8!** (B) **2 e7** (A) **Ke8** (A) and now wP does fall (bK's diagonal retreat has brought him to e8 on the right board), and bringing up wK is no better { 1 Ke2 (B) Kd7! (B) 2 Ke3 (A) Ke6! (A) 3 Ke4 (B) Ke7! (B) 4 Kd5 (A) Kd7 (A) 5 e6 (B) Ke7! (B) 6 Ke5 (B) Ke8! (A) and Black will hold the draw}. But in **4**, White can defeat bK's diagonal retreat: **1 e6** (B) **Kd8** (B) **2 Kd6** (B) **Ke8** (A) **3 e7** (A) **Kf7** (B) **4 Kd7** (A) and wins as in ordinary chess.
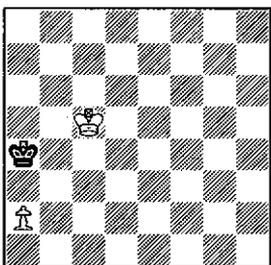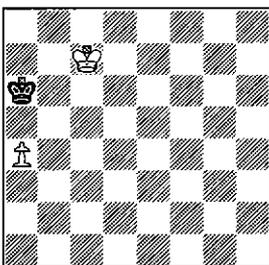
**5** - White wins (B empty)   **5a** - after 4...Ka6 (B empty)   **5b** - after 8 a7+ (A empty)

5 is another win. In an article in *diagrammes*, Ronald Turnbull put my name over a version of this, but in truth it owes at least as much to him as to me. **1 a3** (B) **Ka5** (B) {1...Kb3 (B) 2 a4 (A) and wP will run} **2 Kc6** (B) **Ka6** (A) {2...Ka4 (A) 3 Kb6 (A) Kb3 (B) 4 a4 (A) etc} **3 a4** (A) **Ka7** (B) {3...Ka5 (B) 4 Kb7 (A) etc} **4 Kc7** (A) **Ka6/a8** (A) {see **5a**} **5 a5** (B) **Ka7** (B) **6 a6** (A) **Ka8** (A) **7 Kb6!** (B) **Kb8** (B) **8 a7+** (B) {see **5b**} **Ka8** (A) **9 Kc5!** (A) {quickest} **Kb7** (B) **10 a8Q** (A) and soon mates.

And there are several other curious wins and anomalies, as he who investigates the ending for himself will discover.

Putting a man back on the board

The game of Replacement Chess, in which a player capturing a man puts it straight back on the board, has long been a popular chess relaxation (David Hooper once told me that he and Jack Creed used to play it back in the 1930s). In itself it is purely a fun game and the question of an endgame hardly arises, but it is a different matter if the replacement is made optional.
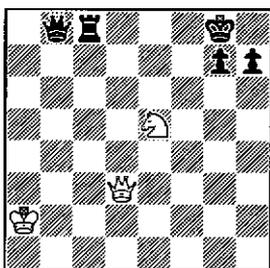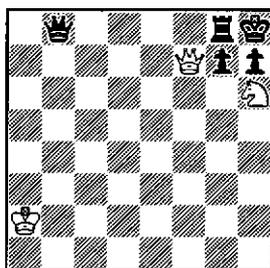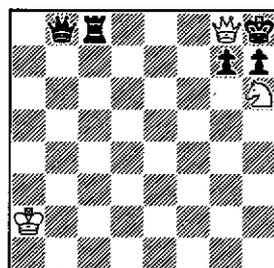


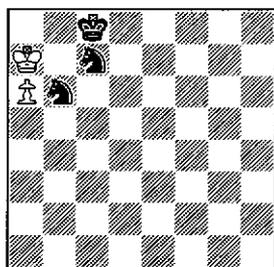| **1** - win? | **1a** - after 4...Rxg8 (Qf7) | **1b** - after 5 Qg8+ (Rc8) |

Consider **1**, which is based on the famous smothered mate of Lucena. In ordinary chess, this is won, as every book on chess tells us: **1 Qd4+ Kh8 2 Nf7+ Kg8 3 Nh6+ Kh8 4 Qg8+! Kxg8 5 Nf7 mate.** But with optional replacement, Black can put the captured wQ back on the mating square, giving **1a**, and now what is White to do? If he repeats the sacrifice, Black will recapture with bQ, and everything will collapse. Ah, sauce for the gander: **5 Qxg8+** replacing bR on say c8 to block bQ (see **1b**), and the game will be drawn by repetition: **5...Rxg8 (Qf7) 6 Qxg8+ (Rc8)** etc.
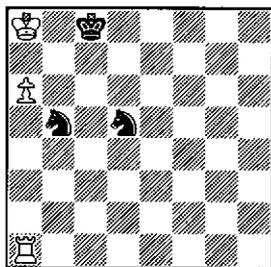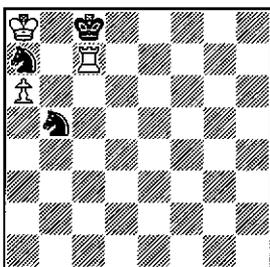
| **2** - draw! | **2a** - after 2 Rxc7+ (Na7) | **2b** - after 3 Kxa7 (Nb6) |

In 1992, I used this game for a *BCM* solving competition, and among the positions set was **2**. This was discovered completely by accident. In ordinary chess, White loses: **1 Rc1+ Ndc7+ 2 Rxc7+ Nxc7+ 3 Ka7 Nd5** etc. With optional replacement, he has **2 Rxc7+ (Na7!)** (see **2a**) **Nxc7+ (still nothing better) 3 Kxa7 (Nb6!!)** (see **2b**). White is now threatening 4 Kxb6, taking bN for the third move running and this time removing it from the board, and if Black moves it or defends it he gives stalemate.