

# NEW ENGLANDER

## Chess Club Update – October 2009

### Chairman's Chatter

The new season is upon us and we are eager to put our skill to the test. Most of us have computer software to give us grandmaster strength assistance but in this issue, you may find all is not as it seems...

*Paul Hanks*

### AGM Summary

Eight club members attended the meeting on 2nd September and accepted the reports from officials.

The treasurer stated the club's current balance is £70-91 after repaying the debt for acquiring our equipment but we have expected outgoings of £150 in the coming season for team entries and game fees. As a result, current activities and the purchase of trophies for the internal competitions could be funded if the subscriptions were held at last year's level (i.e. normally £24p.a., £20 for those over 65 and only parental membership of NECI for juniors). Payment must be made in September to qualify for club teams.

Club captains and the tournament secretary reiterated the results that have been chronicled in the newsletter. The same competition entries and calendar of events were approved for next season.

The Committee was re-elected en bloc.

Participation in County events was encouraged. Availability for County teams should be notified to the captains via the phone numbers listed in the July newsletter. The Individual Championship can be entered by contacting Marcus Misson (Email: [marqives@yahoo.com](mailto:marqives@yahoo.com) Tel: 01480 354814).

An updated website is due to be launched in the coming weeks.

### Diary Dates

The attached calendar of club events is provisional as some match details in 2010 have yet to be finalised.

### Website to Watch

There is a good crop of chess tournaments on the Internet during October. The World Junior Championship takes place from 21st October to 4th November but I have been unable to find a website yet. On the other hand, Italy stages the World Senior Championship and is ready to go from 27th October to 10th November on [www.arcoworldchess.com](http://www.arcoworldchess.com).

The big beasts of the chess jungle are more likely to be in evidence at either the European Club Cup in Macedonia (see [www.ecc2009.com/eng.htm](http://www.ecc2009.com/eng.htm) from 3rd to 11th October) or in Serbia, the European Team Championship (see [www.eurons2009.com/eng.htm](http://www.eurons2009.com/eng.htm) between 21st and 31st October).

### Result Round-up

Mini-Lightning : 9th September 2009

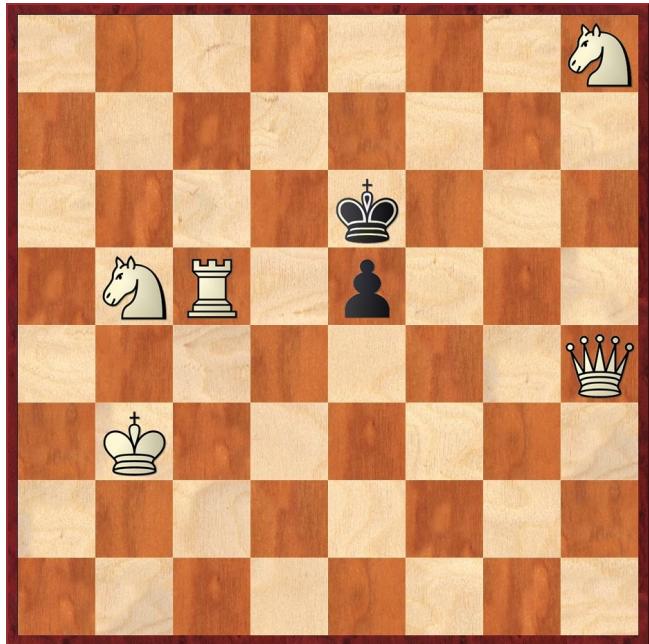
A	CR	AB	MT	HC	Total
C Ross	X	1	1	1	3
A Brookbanks	0	X	1	1	2
M Tarabad	0	0	X	1	1
H Curry	0	0	0	X	0

B	FB	JA	DS	DL	Total
F Bowers	X	1	1	1	3
J Alster	0	X	1	1	2
D Sivell	0	0	X	1	1
D Lane	0	0	0	X	0

Play-Off					
A		B			
C Ross	0	F Bowers			1
A Brookbanks	1	J Alster			0
M Tarabad	1	D Sivell			0
H Curry	0	D Lane			1

### Puzzle Problem

White to play and mate in 2.



Last Month's solution

Position: 2B5/8/4Nn1n/7k/8/5K2/2Q5

1 Qh6 Kh3 2 Qxh5#; 1 ... Nd4 2 Ng6#; 1 ... Nxh6/N other 2 Nf3#

## Computer Chess Analysis

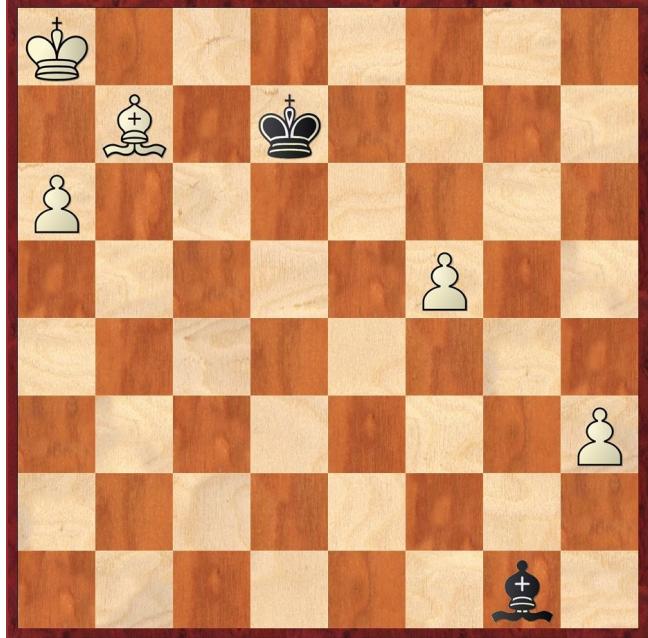
Most of us have computer software to help our chess in various ways. In fact, programs are so strong we have come to accept their pronouncements as gospel. Correspondence chess grandmaster Robin Smith, however, issues a salutary warning, "Don't! It is very dangerous to turn off your brain..."

I felt I should investigate the claim made in his book "Modern Chess Analysis" from Gambit Publications. I shall delve extensively into the examples he gives and try to answer three questions :

1. Why do computers make mistakes?
2. When should we distrust their evaluation?
3. Do the criticisms in this 2004 publication hold good with today's software and hardware?

### 1 Computer errors

Firstly, we need some proof that there is a problem.



This position is taken from a computer chess tournament in 2000. With Black to move, 1 ... Kc7 will imprison White's king and the bishop easily prevents promotion of the kingside pawns from the f8-h6 diagonal. It is a relatively easy draw but the programs insisted that White had such a massive advantage that the human operators had to intervene.

So, what is the difference in approach between computers and humans?

Chess software essentially consists of two parts. Its *search* function generates legal continuations and its *evaluation* function assesses the resulting positions. Because the number of variations rises exponentially with analysis depth, the effort overwhelms even the fastest computers and leads to three shortcomings. Firstly, it creates a horizon effect which limits the distance ahead that the computer can see; secondly, in the quest for optimum speed, the rules used by the evaluation function are simplistic and thirdly, the computer has to prune some avenues of investigation. Let's see what this means in chess terms.

### Spassky v Simagin

USSR Championship, Moscow 1961



With Black to move, which side is better here? Crafty prefers White based on the points scored by the passed pawn and open files. Neither are relevant - the former is currently blockaded and will be nullified by the opposite-coloured bishops in an endgame whereas there is no entry square into the enemy position for the rooks. Simagin played Bg5-d8-c7 since Black's kingside pawn thrusts and subsequent attack are the dominant long term features.

When deciding which continuations to prune, computers look for "quiescent" positions - those with no checks, piece recaptures or imminent pawn promotion. They provide the stable conditions to make a reliable evaluation and terminate a line of analysis. Conversely, forcing and tactical continuations will be extended and this explains why computers are particularly strong in these situations.

Whereas computers generate lines and assess them, humans do the opposite. They employ "*schematic thinking*" i.e. set an objective and then, calculate the moves for achieving it.

A good demonstration arises in the game Botvinnik v Zagoriansky (below). All software sees that Black has a weak pawn on d5 but the problem is Black has adequate defence and White has no obvious way to increase the pressure. The world champion-to-be realised not only this but that if Black's pieces were tied to the defence of d5, they would be helpless to cover a second weakness if one could be developed. As a result, he uncorked the move 1 g4 with the objective of playing against the h6 vulnerability in the pawn shield of Black's king.

The game continued 1 ... Qc6 2 g5 hxg5 3 Qxg5 f6 4 Qg6 Bf7 5 Qg3 f5 6 Qg5 Qe6 7 Kh1 Qe5 8 Rg1 Rf8 9 Qh6 Rb8 10 Rh4 etc. Contrast this with the logic of Fritz's principal variation : 1 h4 Qc3 2 Qf4 b5 3 h5 b4 4 Kh2 Qc6 5 Kg3

**Botvinnik v Zagoriansky**  
Sverdlovsk 1943



## 2 Trustworthy analysis

An important consequence of a computer not employing schematic thinking is that it will *only* follow a plan towards a long term objective if the intermediate positions have intermediate benefits. It cannot change its evaluation criteria - only hope to analyse beyond their pitfalls.

As a summary of the relative strengths of machine and human play, the computer excels in :

- i. complex, open positions where exact short range calculations dominate
- ii. endgames with extremely reduced material.

It is likely to perform less well (and maybe worse than a strong human player) when

- a) the position has static features (piece outposts, locked pawn structures etc) which favour long term planning. Sometimes, programs avoid these positions and sacrifice some analytical honesty for an increase in playing strength
- b) some special circumstance negates an obvious advantageous or disadvantageous formation
- c) there is a material imbalance but with positional compensation. Frequently, this occurs after an exchange sacrifice - positional factors can outweigh less material; a full piece or more often needs the concrete justification of short range tactics.
- d) there are trapped pieces ("prisons"), impregnable endgames resource ("fortresses"), perpetual checks etc
- e) danger accumulates gradually
- f) the computer lacks the support of its opening book.

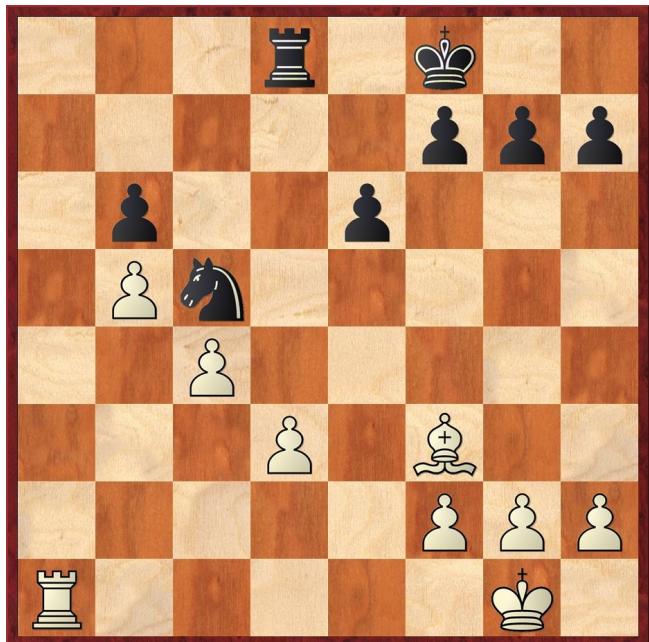
A couple of examples should suffice. In Kramnik v Morozevich, White's position is preferable but the black knight is about to occupy f5. Impregnable, it will threaten d4 necessitating constant defence, hit the forward bishop, prevent advance of the h pawn and guard g7 - the only possible entry point for the white rooks. Once at its outpost, the win becomes very difficult yet Fritz 6 recommends 1 Bf4+ Kxh5 2 f3 Nf5.

**Kramnik v Morozevich**  
Dortmund 2001



Kramnik's solution is far more elegant : 1 Be7 Nf5 2 Bxf6 Nxg3 3 fxg3. White wins by advancing the kingside pawns as the black rooks lack any useful activity (a factor beyond the grasp of most software).

**Timman v Nikolic**  
Belgrade 1987



White is a pawn up but his pawn on d3 is vulnerable. It can be defended by 1 Be2 but 1 ... e5 will give Black

such a grip on the dark squares that realising the advantage will be tricky. This is how Fritz 6 would play but the grandmasters chose **1 Ra6 Nxa6 2 bxa6 Rd7 3 Kf1 Ra7 4 Bb7**. We have reached effectively a king and pawn endgame in which the locked pieces take the role of an outside passed pawn in decoying the black king to the queenside.

Fortunately, Robin offers advice on how to detect when the computer does not understand the position.

- Watch how the evaluation changes with time. As the analysis proceeds to deeper levels, a winning assessment should increase because the computer is seeing positions closer to the eventual win. If the evaluation is stable, declining or even flipping, the initial prognosis is dubious.
- Be aware of the computer indulging in aimless shuffling of the pieces. This has already been seen in the Botvinnik game already mentioned.
- Check the evaluation on multiple analysis engines. This has many advantages not just consistency. Software does have bugs but independent programs are most unlikely to contain the same error. Also, some programs reach a correct continuation thousands of times faster than others and rarely do we run engines for hours to see if the increased depth of vision is necessary. As hardware increasingly has multi-core processors, this is becoming less of an overhead.
- Analyse your proposed continuation backwards from the final position. Computers generate "hash tables" containing positions that have been previously analysed and by identifying transpositions, are used to avoid needless repetition. If the computer can connect to hash tables from later in the game, the horizon effect is extended and the analysis strengthened. This explains why blundercheck features work back from the end of the game.

### 3 The current situation

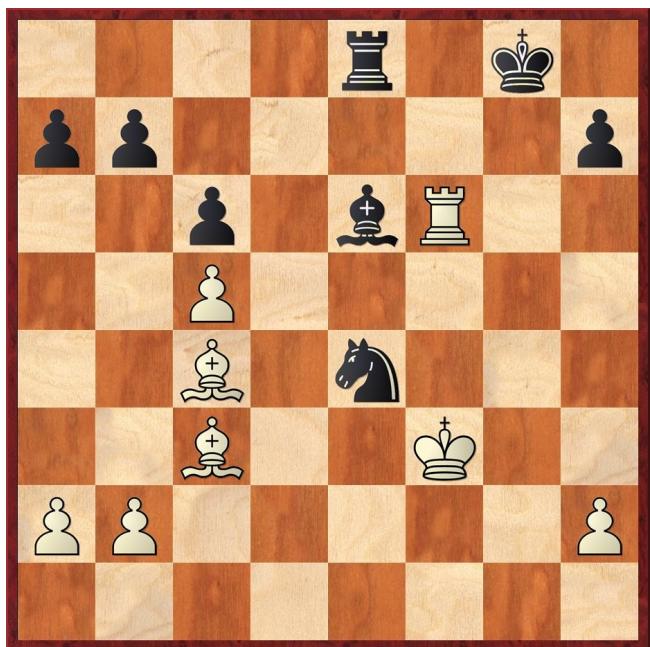
So, let's see how the software performs. Firstly, I took the position given above from the Spassky v Simagin game and let the computer evaluate it for increasing lengths of time. I used the freeware named Crafty and two versions of the popular program Fritz.

Time	Crafty 20.14	Fritz 6	Fritz 11
5 s	-1.71	0.19	-1.66
30 s	-1.81	0.12	-1.88
1 m	-1.77	0.09	-1.89
5 m	-1.74	0.09	-1.92
15 m	-2.11	0.09	-2.04
1 hr	-2.07	0.06	-2.16
Best move	1 ... cxb4	1 ... Bf6	1 ... e4

We are obviously right to mistrust computers! No single move is recommended by all programs and they even disagree on which side is ahead. Fritz 6 is the oldest and cannot see any increasing advantage. Crafty initially favours 1 ... h4 but changes its mind to 1 ... cxb4 after 15 minutes although its superiority gradually evaporates. Fritz 11 is regarded as strongest and its profile looks the most credible.

I have never had much success with backward analysis but let's look at the following position.

**Gillam v Mackintosh**  
Scottish Correspondence Championship 1998



If I allow Fritz 11 only one minute per move to assess this position, it gives White a minimal advantage of 0.39 pawns and recommends **1 Bxe6+**. As White, you might prefer the alternative continuation below.

Move	White	Black	Forward	Backward
	Initial position			0.39
1	Rxe6	Ng5+	0.00	1.66
2	Kg4	Nxe6	0.00	1.64
3	Kf5	Kf7	0.00	1.64
4	Bf6			1.99

As you can see from the "Forward" column, Fritz only sees a draw coming from this variation as the moves unfold. In the final position, however, it suddenly realises that Black's pieces are frozen and will eventually succumb to zugzwang. The assessment jumps to 1.99 but if I click on the "Retract move" arrows to step backwards to previous positions, Fritz has stored the finale and now gives White a significant plus in all positions. When I arrived back at the initial position, it gave White an advantage of 1.59 pawns and recommends **1 Rxe6** as its principal variation. (Note that returning to previous positions using the game moves must clear the hash tables in Fritz as it reproduces the forward evaluations.)

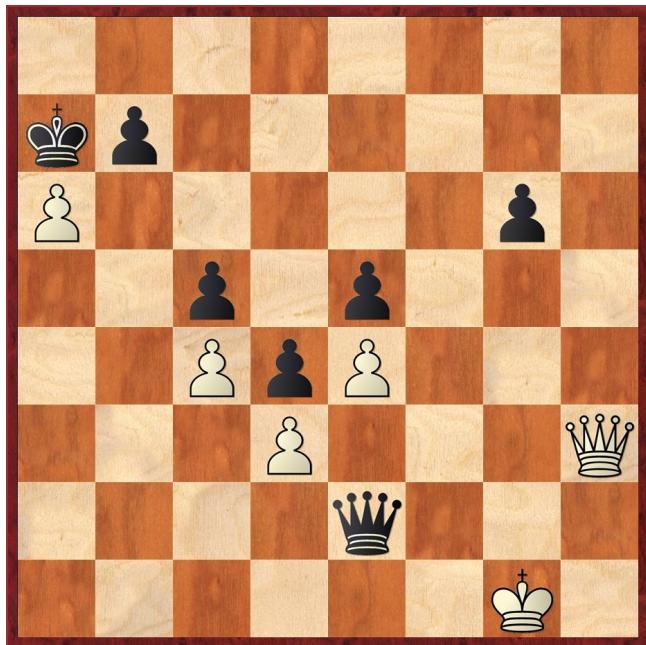
So, how long does Fritz take to find the best move without assistance? I lost interest after 3½ hours in which Fritz had revised its score for Bxe6 to 1.33 but was still only finding draws by repetition after Rxe6.

Many of you may have heard of tablebases. They consist of endgames with much reduced material (typically 5 or 6 pieces) that have already been analysed and for which the result with best play is known. On the basis of the previous example, it might be thought that they will play the part of infallible hash tables. Sadly, this is not necessarily so.

Tablebases occupy several gigabytes of memory and therefore reside on the hard disk of your machine. Accessing them slows down the processing in comparison with routine position assessment and programs often ration how frequently they consult them. This can lead to problems when it comes to making exchanges.

### Keres v Botvinnik

The Hague/Moscow World Championship 1948



On its own, Fritz 11 sees an advantage to Black but plays messily with 1 ... Qe1+ 2 Kg2 Qd2+ 3 Kg1 Qg5+ 4 Kh2 Kxa6 5 Qc8. In fact, the future world champion found a simple procedure 1 ... Qe3+ 2 Qxe3 dxe3 3 axb7 Kxb7 4 Kg2 Kb6 5 Kf3 Ka5 6 Kxe3 Kb4 7 Kd2 g5 0-1 and on being shown the queen exchange, Fritz makes Black's lead leap by the equivalent of 5 pawns!

These three examples have taken some problematic positions and subjected them to the gaze of a recent version of the respected program Fritz. Even so, the software does not uniformly recommend the strongest moves that emerge from grandmaster analysis.

Make no mistake, computers do play very good chess. It is just that they are not without weaknesses and you should try to recognise the signs. They are streetfighters rather than strategists and Robin Smith concludes, "Regardless of how many advances are made in the next decade ... it is clear that the human-

computer partnership will continue to be more powerful for analysis than either could ever be alone."

### Eye Opener

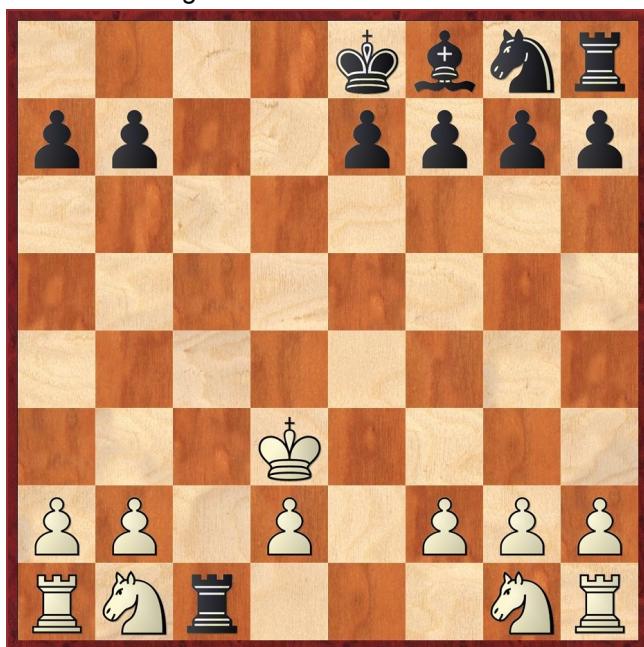
Chess can be cruel. Perhaps the worst fate is to find yourself without useful moves and having to watch helplessly as your opponent slowly squeezes life from your position. This is a frequent fate in the endgame but it takes special talent to suffer in the opening - particularly as White's Caro Kann!

#### Espeli v Andersen

Oslo, 1952

1 e4 c6 2 c4 d5 3 cxd5 cxd5 4 Bb5+ Bd7 5 Qa4 dxe4 6 Bxd7+ Nxd7 7 Qxe4 Nc5 8 Qc4 Nd3+ 9 Ke2 Rc8 10 Qxd3 Qxd3+ 11 Kxd3 Rxc1

The amusing immobilisation of White's entire army deserves a diagram.



12 Ke2 g6 0-1

Black's last move is a refinement to prevent his rook being displaced by d2-d4 and Ke2-d2 since Bf8-h6 maintains the blockade.

The sting in the tail is that I fed the above game into the "Blundercheck" feature in Fritz with a threshold to highlight moves that can be improved by 0.2 pawns. The software could find nothing wrong with White's opening but suggested three ways in which Black could strengthen his play!

## New England Chess Club Fixtures 2009-10

<b>Day</b>	<b>Date</b>	<b>All Club</b>	<b>A Team</b>	<b>B Team</b>	<b>550 A team</b>	<b>550 B team</b>
Wed	2 Sep	Club AGM	←	←	←	←
Wed	9 Sep	Mini-lightning	←	←	←	←
Wed	16 Sep	County ECM				
Wed	23 Sep	Pboro v Cambs at Warboys	←	←	←	←
Wed	30 Sep	Club Championship	←	←	←	←
Wed	7 Oct		H v St Neots			
Wed	14 Oct			A v Warboys B		
Wed	21 Oct		A v Warboys A			
Wed	28 Oct		H v Pboro	H v Spalding		
Wed	4 Nov					
Wed	11 Nov	Club Championship	←	←	←	←
Wed	18 Nov		H v Royston			
Wed	25 Nov	County Individual	←	←	←	←
Wed	2 Dec			A v Buckden B		
Thur	3 Dec		A v Pboro			
Wed	9 Dec		Fenland KO			
Wed	16 Dec	Xmas special	A v Cambridge			
Wed	23 Dec	Christmas	←	←	←	←
Wed	30 Dec	New Year	No meeting	No meeting	←	←
Wed	6 Jan	tbd	No meeting	No meeting	←	←
Wed	13 Jan	tbd				
Mon	18 Jan		A v St Neots			
Wed	20 Jan	tbd				
Mon	25 Jan			A v Buckden A		
Wed	27 Jan	tbd				
Wed	3 Feb			H v Cambs B		
Wed	10 Feb		H v Warboys A			
Wed	17 Feb			A v Warboys B		
Wed	24 Feb	tbd				
Thur	25 Feb		A v Pboro			
Wed	3 Mar	tbd				
Tues	9 Mar			A v Spalding		
Wed	10 Mar	tbd				
Wed	17 Mar	tbd				
Wed	24 Mar	tbd				
Wed	31 Mar			H v Buckden B		
Wed	7 Apr			H v Buckden A		
Wed	14 Apr		H v Cambs A			
Wed	21 Apr	tbd				
Mon	26 Apr		A v Royston			
Wed	28 Apr			A v Cambs B		
Wed	5 May	Jamboree	←	←	←	←
Wed	12 May	tbd	←	←	←	←