



## Inside Chess

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## 1997 Rematch

### Garry Kasparov versus Deep Blue

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#### Game 4 - Annotations by GM Yasser Seirawan

**White: Deep Blue**

**Black: Garry Kasparov**

**1.e4 c6**

The moment that Garry reached for his c-pawn I was certain that we see a Sicilian Defense and one of Kasparov's first line weapons. It was quite a surprise when the pawn stopped on c6 for a Caro-Kann Defense.

**2.d4 d6!?**

In trying to get Deep Blue out of its opening preparation is Kasparov going too far? OK, the so called Pribyl Defense isn't that bad, but, neither is it that good!

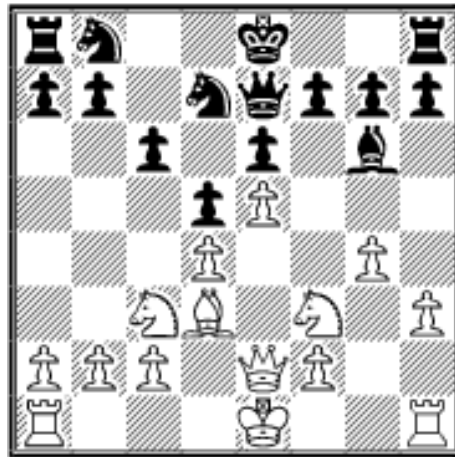
**3.Nf3**

Not the most challenging choice. Best is 3.f4 which puts the most pressure on Black's center. It is intriguing to speculate what Garry had in mind in that case.

**3...Nf6 4.Nc3 Bg4 5.h3 Bh5 6.Bd3 e6 7.Qe2**

Deep Blue's operator played this move quickly, a clear sign that the game had transposed back into the computer's opening book library. The strategic motifs will be drawn up shortly.

7...d5 8.Bg5! Be7 9.e5 Nfd7 10.Bxe7 Qxe7 11.g4 Bg6



**12.Bxg6?**

A clear mistake. The game has transposed into patterns that are very similar to a Steinitz French. In the French Defense (1.e4 e6 2.d4 d5 3.e5) the light squared c8-Bishop plays a passive role in Black's plans. Black usually attacks White's center with ...c7-c5 and expands on the

Queenside. White with his nice e5-pawn leverages this advantage by storming the Kingside with f2-f4-f5.

This backdrop provides us with understanding the position at hand. Black has wasted several moves (...c7-c6, ...d7-d6 and ...d6-d5) in order to activate his c8-Bishop outside of his central pawn structure. This loss of time has meant that White has better mobilized his pieces. An interesting trade-off for both sides. But the text ruins White's overall strategy of pressing a Kingside initiative. After Black recaptures the Bishop, the plan of f2-f4-f5 loses all of its effect. Standard was 12.0-0-0 Bxd3 13.Qxd3 Na6 14.Ne2 0-0-0 15.Nf4 with both sides having their plans.

After the trade of Bishop's on g6, Black has a very comfortable game. As a French Defense player myself I will go further and state that I now prefer Kasparov's position.

**12...hxg6**

"Recapture towards the center," is one of the oldest and most important principles in chess. However, in this particular position 12...fxg6 opening up the f-file had its points also. After this natural recapture, Black's Kingside is so solid, Deep Blue will be banging his head against a brick wall trying to get anywhere.

**13.h4 Na6**

Kasparov had two more aggressive modes of development:

a) 13...a6 (Defending the b5-square in order to prevent Nc3-b5.)

14.0-0-0 c5 intending the follow-up ...Nb8-c6 pressuring White's center. And my preference;

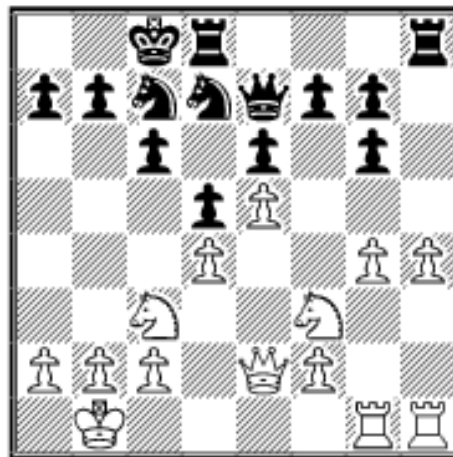
b) 13...Nb6 14.0-0-0 N8d7 preparing to jump to the c4-square by ...Nb6-c4 and ...Qe7-b4 with good attacking prospects.

Kasparov's whole approach to the match has been one of extreme restraint. Rather mystifying and in many ways unsatisfying.

### 14.0-0-0 0-0-0 15.Rdg1?!

Suggestions don't come easily as I'm not sure what White is supposed to be doing for a plan. One thing is clear, White is going nowhere on the Kingside. In any case, it is not certain that this move will ever prove itself useful. Perhaps 15.h5 gxh5 16.gxh5 should be played in this case the g-file compensates for the weakened h5-pawn.

### 15...Nc7 16.Kb1



### 16...f6?

A disgusting move by Garry! If I were his trainer, I'd whack him on his hands for reaching for his f-pawn. Deep Blue is fishing for a plan and doesn't know what to do. Why not let the computer fish around for a plan? Garry should be improving his Queenside possibilities by quietly

building up his position. The move 16...Kb8 vacating the c-file and preparing ...c6-c5 is one idea. Another plan is 16...b6 preparing ...Kb8-b7 and ...c6-c5 in order to recapture with the b6-pawn. Finally, if Garry wants to be cruel and stop any of Deep Blue's active Kingside options he can play 16...Rh6 preparing ...Rd8-h8 and then turn his attentions to the Queenside. My suspicion is that Deep Blue would have been left with making "pass" or "null" moves by Kb1-a1 waiting for an active plan by Black.

What is particularly offensive about the text is that it hits the e5-pawn where White is the strongest as opposed to the "base" d4-pawn. Now, Deep Blue has a clear strategic plan, recover the

previous waiting moves and return to the center and support the e5-square. In general, I'd adorn Kasparov's move with a second question mark, but, since it doesn't lose material, I won't. Does Garry understand how to play against computers? The text tells me he does not.

### **17.gxf6 Qxf6!**

A quick recovery from his previous move! Had Garry played 17...gxf6 18.g5 f5 19.Ne5 Nxe5 20.Qxe5 he might have found himself with a large strategic deficit. White is all set for Nc3-e2-f4 with a winning game. The text seeks tactical compensation down the f-file for having ruined his own pawn structure. I now felt certain that the game would be decisive. Either Garry prevails in a tactical battle or loses a strategic game. All a consequence of his previous move.

If we go back to move twelve for a moment, Garry had the opportunity for ...f7xg6 with a similar idea of playing down the f-file. In that case, White wouldn't have the strategic threat of occupying the central e5-square.

### **18.Rg3 Rde8 19.Re1 Rhf8 20.Nd1?!**

Computers love to win material and the text, which prepares Nf3-e5 (now that the f2-pawn is protected), obliges Black to sacrifice a pawn. The point is that such a sacrifice is going to be obliged anyway! Black would be in for a difficult time after 20.Qe3! (stopping ...e6-e5 due to the a7-pawn) and covering the f4-square. It isn't obvious what Garry can do. The most reasonable continuation is 20...Qf4 21.Qxf4 Rxf4 22.Ne2 Rf7 (22..Re4?? 23.Nd2 wins an Exchange) 23.Neg1 (Preparing Ng1-h3 and Nf3-e5) Ref8 24.Re3 when White has a clear positional plan.

### **20...e5!**

Forced moves can also be good ones! The text seeks to blockade the center at the cost of a pawn while activating both Knights. Black gets excellent long-term compensation. Combined with Black's play along the f-file, the game takes on a character of being "unclear" in terms of which side has the advantage.

### **21.dxe5 Qf4 22.a3?!**

Black's Queen is far too powerful and for the next several moves

Deep Blue chooses to ignore her presence. It is necessary to remove Black's Queen by 22.Qe3 with a trade in view. As a result of the computer's ensuing play, Kasparov begins to gain control over the position.

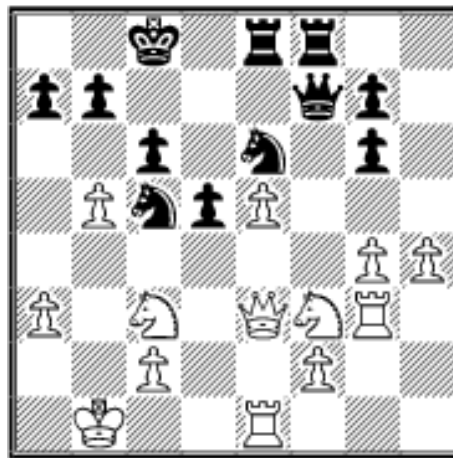
**22...Ne6 23.Nc3 Ndc5 24.b4?**

As we saw in Game one, the computer is not against weakening the pawns protecting its King. The text however takes on too many long-term disadvantages. Black's pieces should be able to take advantage of this mistake by planting a Knight on the c4-square. Garry looked puzzled and happy by the new opportunities the text offers. For the computer however, the text fits perfectly into its algorithm. Pushing pawns are supposed to be an objective and the computer pushes the b-pawn with tempo.

**24...Nd7 25.Qd3 Qf7 26.b5?**

Another amazing decision. After denying Black the c5-square it promptly gives it up to launch the ghost of an attack. Things have gone really wrong for Deep Blue and I now thought that Garry had all the ingredients for victory.

**26...Ndc5 27.Qe3**



**27...Qf4**

A very surprising move by Garry. He invites an ending instead of pursuing his middlegame attacking possibilities with 27...Qc7 preparing ...Qc7-a5 seeking to get at White's King. While the ending is in his favor, I can't understand why he didn't go for the attack.

**28.bxc6 bxc6 29.Rd1**

In order to prevent ...d5-d4 driving White's pieces backwards.

**29...Kc7 30.Ka1?**

A perplexing move. White's exposed King dictates that he must

trade Queens and in the upcoming ending keep his King close to the center in order to play Kb1-c1 keeping an active role. The text utterly ignores the threats that White faces.

### 30...Qxe3

Again, Kasparov chases victory in the ending. His pre-match strategy must have convinced him that the computer's vulnerability in the ending is his road to match victory. Against any other player, I'm convinced Garry would play 30...Qc4 angling for ...Rf8-f4, ...Re8-b8 and ...Qc4-a6 all with the intent of encircling White's embattled King. I see no way for White to keep the position. For instance 30...Qc4! 31.Nd2 Qa6 32.Ndb1 Rf4 setting up ...d5-d4 and a Rook shift along the f-file or b-file are all terrific attacking possibilities.

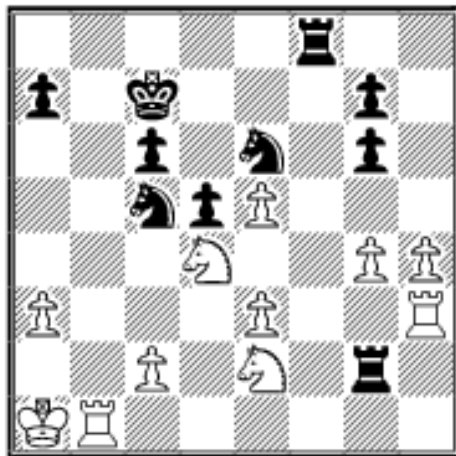
### 31.fxe3 Rf7 32.Rh3?!

Another weak move in the face of Black's building up of threats. With 32.Kb2 Ref8 33.Nd4 Rf2 34.Kc1 intending Rd1-d2 White has better defensive chances than in the game. For instance 34...Rh2 35.Nf3 Rhf2 36.Nd4 only invites a repetition.

### 32...Ref8 33.Nd4 Rf2 34.Rb1 Rg2

Courtesy of White's weak 32nd move, the text is possible. Besides setting up ...Rg2xg4, Black is ready to sweep down the board with ...Rf8-f2 with decisive threats.

### 35.Nce2



### 35...Rxc4?!

Garry was under a little time trouble at this stage and quickly snapped off the g4-pawn regaining material equality. In the post-mortem he correctly questioned this decision and indicated that 35...Rff2 was correct when 36.Nxe6+ Nxe6 37.Nd4 Nxd4 38.exd4 Rxc2 39.Rb4 a5!

would have given himself excellent winning chances.

### **36.Nxe6 Nxe6 37.Nd4 Nxd4 38.exd4 Rxd4 39.Rg1?!**

Another strange move. While White has made a number of dubious and poor decisions, magically White can link all of his bad moves together and come out smelling like a rose with 39.Rhb3! Kd7 40.Rb7+ Ke6 41.Rxg7 preparing to wipe out Black's structure. A draw would be the most likely outcome. The text allows Kasparov further opportunity.

### **39...Rc4 40.Rxg6 Rxc2 41.Rxg7+ Kb6 42.Rb3+ Kc5 43.Rxa7**

This is the position that Deep Blue had calculated. White has gained a pawn advantage but should not be happy. It is not simply a matter of one side having three pawns and the other side two. This is one of the weaknesses of the computer's ending ability. Black's passed pawns are united while White's pawns are all isolated. It is actually Black that has the better winning opportunities.

### **43...Rf1+**

What could be better than introducing a Rook with check? Serious consideration had to be given to 43...Kc4 gaining a tempo. If 44.Rb4+ Kd3 45.e6 c5 46.e7 Rf1+ 47.Rb1 Rxb1+ 48.Kxb1 Re2 49.h5 c4 50.h6 c3 (Black always has a perpetual check.) 51.h7 when it appears that White is just in time to save the game. Kasparov could still try for the win with 51...Rb2+ hoping for 52.Ka1? Rb8 53.Rd7 c2 winning. Deep Blue would have to play 52.Kc1 Rh2 53.Kb1 with a likely draw. Black can't pursue victory with 53...c2+ 54.Kb2 Kd2 55.Rc7 Kd1 56.Kb3! When White escapes his fate. So close and yet so far! These endings are almost study-like problems and I ask readers for their indulgence in case I've missed something in this ending. In closing it is hard to criticize Kasparov's choice as the text continues to give him the edge.

### **44.Rb1 Rff2 45.Rb4!**

Gaining control of the seventh is more impressive than it looks. White now threatens Ra7-a5 checkmate! A stunning threat indeed.

### **45...Rc1+ 46.Rb1 Rcc2 47.Rb4 Rc1+**

The try 47...Ra2+ 48.Kb1 Rxa3 49.Rxa3 Kxb4 50.Rh3! Re2

51.h5 Rxe5 52.h6 Re8 53.h7 Rh8 54.Kc2 with a comfortable draw for White. Play the position out yourself and you'll realize that Black's Rook is so passive that Black can't force his pawns up the board with only the support of the King alone.

#### **48.Rb1 Rxb1+ 49.Kxb1**

Endgame databases have made remarkable strides. Once the Rooks were traded, this precise ending was in Deep Blue's endgame database and the computer "knows" that with best play by both sides the position is a draw. Unfortunately at the time the game was being played none of us knew this to be the case and thought that Garry still had chances of victory.

#### **49...Re2 50.Re7 Rh2**

GM Ilya Gurevich who was in the auditorium's audience didn't understand why Garry didn't play 50...d4 hoping to push the pawn for a touchdown. Without the benefit of the computer's perfect database analysis, I think the answer is 51.h5 Rh2 52.Rd7! Rxh5 53.e6 Re5 54.e7 Kc4 55.Kc2 Re2+ 56.Kd1 Kc3 57.Rc7 with a draw in sight. We didn't see this line during play and had expected Kasparov to try it.

#### **51.Rh7 Kc4 52.Rc7 c5 53.e6 Rxh4 54.e7 Re4 55.a4 Kb3 56.Kc1 1/2-1/2**

At the end of the game, Garry didn't offer a draw. Rather he began to explain to Deep Blue's operator why he couldn't win the position and did he miss something. After further discussion the operator was relieved to understand he could accept a draw. An error-filled game which left me wondering just how much Garry would let Deep Blue get away with before clobbering the computer. Two narrow escapes by Deep Blue in a row has got to leave Garry dissatisfied.

The score remains equal, 2-2. With only two games to go and with \$1,100,000 (\$700,000 for the winner) at stake the tension rises but not for Deep Blue. The heat is on for Garry in Game 5 where he plays with the White pieces.

Garry Kasparov, who appeared in front of the audience after the 5-hour-long battle was over, explained that due to various reasons, he was not in a good mood before the game started. He said that he was worse in the opening, that the game was tough but that he

outplayed the machine completely. "Perhaps I shouldn't take on g4 (35...Rxf4). I believe there is a win but I was tired and couldn't figure it out". When asked about 51...d4 instead of 51...Kc4 Garry said: "Somehow it didn't work, I didn't believe it was winning. It should be checked".

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