Kramnik vs. Deep Fritz

by Karsten Müller



Russell Enterprises, Inc. Milford, CT USA Kramnik vs. Deep Fritz

by Karsten Müller

Copyright © 2000-2006 Russell Enterprised, Inc.



All rights reserved under Pan American and International Copyright Conventions.

> Published by: Russell Enterprises, Inc. PO Box 5460 Milford, CT 06460 USA

info@chesscafe.com http://www.ChessCafe.com

Table of Contents

Introduction	4
Game One	5
Game Two	11
Game Three	16
Game Four	20
Game Five	23
Game Six	26
Game Seven	29
Game Eight	31

Introduction

The chess world had to wait quite a long time for revenge following Kasparov's loss against Deep Blue in New York 1997. Kramnik had learned from this match and demanded to have a copy of the program two weeks in advance for his preparation. ChessBase could only change the opening book and the size of the hash tables during the match. Kramnik chose Germany's highest rated player, GM Christopher Lutz as his second, and headed off to the Gulf state Bahrein at the beginning of October 2002.

At the start, the match had many similarities with Kramnik's win over Kasparov in the Braingames World Championship, London 2000. Kramnik drew easily in the first round using the Berlin Wall. In the second game, he won because of his fantastic endgame technique, as in his second game against Kasparov in London. In the third game, he again managed to defeat the computer program and with such ease that everyone expected Kramnik would coast to victory. But in games 5 and 6 the computer showed its teeth. Its tactical abilities and toughness brought it two straight victories and a psychological advantage for the remaining two games. But Kramnik probably remembered Kasparov's disastrous loss in the last round game against Deep Blue in New York 1997 and decided to aim for two draws to at least draw the match. Now we will wait and see if Kasparov manages to win against Deep Junior in Jerusalem, December 2002.

I want to thank ChessBase for allowing me to use my annotations from their website (www.chessbase.com), and Hanon W. Russell and Mark C. Donlan for preparing the e-book and PDF version.

GM Dr. Karsten Müller Hamburg October 2002

Game One

Deep Fritz – Vladimir Kramnik (2807) Brains in Bahrain (1), 04.10.2002 [C67]

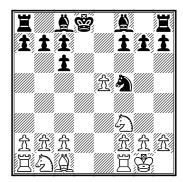
Can Kramnik beat Deep Fritz and avenge Kasparov's defeat against Deep Blue in New York in 1997? The tension was increased by the postponement of this match, but we can hope that Kramnik will strike back first and that Kasparov will win his upcoming match against Deep Junior, so that the ball will be back in the machines court.

A match against a machine is very different from a match against a human, so Kramnik's strategy will be to aim at closed, controlled positions that are difficult to play for a tactical-oriented computer program. But he could also use his preparation from the World Championship match against Kasparov. The Berlin wall is a good weapon, if you are: A) Kramnik and B) the opponent is a computer program (it also worked very well in his match against Kasparov). See for yourself.

1.e4 e5 2.2f3 2c6 3.2b5 2f6

The Berlin Defense – also called the Berlin Wall. 3...a6 is the main line.

4.0-0 ②×e4 5.d4 ②d6 6.鼻×c6 d×c6 7.d×e5 ③f5 8.曾×d8+ 曾×d8



Black's bishop-pair compensates for his weakened pawn structure on the queenside (the pure pawn ending would be lost!) and White's advantage in development. There is a heated debate at the moment as to whether Black's compensation is sufficient, but this is not the interesting question in this match. It is more important how Fritz plays such positions, if it feels at home or not. And so today Kramnik's choice was correct, especially as I think that Kramnik is satisfied with four draws as Black and will try for more with White. We will soon find out.

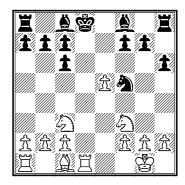
9.公c3 h6 10.b3

GM Ronen Har Zvi also played the Berlin in a Man vs. Machine event at Kasparov Chess. He did quite well with it, and I'm sure that Kramnik has studied this game carefully.

10. Qd2 \$\equiv 88 11. \exists ad1 \overline 6 12. \exists fe1 \exists d8 13. a4 \overline b4 14. \overline 4 \overline xd2 15. \exists xd2 \exists xd2 16. \overline f xd2 \$\overline 6 17. f3 \exists d8 18. \overline f 2 b6 19. b4 g5 20. g3 \exists d5 21. c4 \exists d3 22. \exists b1 \exists a3 23. a5 \exists a2 24. g4 \overline b4 25. \overline 83 \exists a3 + 26. \exists b3 \exists xb3 + 27. \overline xb3 \overline xc4 28. \overline d4 \overline d5 29. a6 \overline g6 30. \overline f5 + \overline 86 31. \overline xb6 \overline xc4 32. \overline xc4 \overline xc5 37. \overline 2 c4 38. f4 \overline d3 39. fxg5 fxg5 40. \overline f5 \overline f2 41. \overline xg5 \overline xb3 + 42. \overline b5 \overline d6 43. g5 \overline xg5 \overline xc5 45. \overline f4 \overline b6 46. \overline 5 \overline xa6 \frac{1}{2}-\frac{1}{2}, Deep Junior-Har Zvi, R KasparovChess, Internet 2000.

10.h3 Kramnik has done well with this move: 10...&d7 (10...&e8 11.&e4 c5 12.c3 b6 13. $\exists e1 \&e6 14.g4 \frac{1}{2}-\frac{1}{2}$, Kasparov,G-Kramnik,V London 2000) 11.b3 &c8 12.&b2 b6 13. $\exists ad1 \&e7$ 14. $\exists d2$ c5 15. $\exists fd1 \&e6$ 16.&e2 g5 17.h4 g4 18.&h2 h5 19. $\exists d8+ \&b7$ 20. $\exists \times a8 \&\times a8$ 21. $\exists d8+ \&b7$ 22.&f4 &g6 23.g3 c4 24.b×c4?? An unbelievable blunder by Anand. 24...&xf4 25.g×f4 g3!! 26.&f1(26.f×g3 $\&c5+ 27.\&g2 \exists \times d8-+)$ 26...g×f2+ 27. $\&h2 \&\times c4$ 0-1, Anand,V-Kramnik,V Mainz 2001.

Judit Polgar was able to defeat Garry Kasparov with 10.\Zd1+!? in a rapid event. Kasparov was apparently so impressed with Kramnik's treatment of the Berlin Defense that he introduced it into his own repertoire.



 c5 29. Q×d6 c×d6 30. 三e6 三ah8 31. 三e×d6+ 當c8 32. 三2d5 三h3+ 33. 當g2 三h2+ 34. 當f3 三2h3+ 35. 當e4 b6 36. 三c6+ 當b8 37. 三d7 三h2 38. 當e3 三f8 39. 三cc7 三×f5 40. 三b7+ 當c8 41. 三dc7+ 當d8 42. 三×g7 當c8 1-0, Polgar, J-Kasparov, G Moscow 2002.

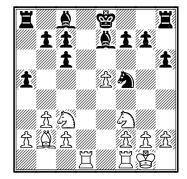
10...&e8

Kramnik voluntarily leaves the d-file and goes for a very solid setup with his bishops on e7 and e6, and pawns at h5 and a5. This position can only be stormed with very long-term plans that are difficult for the computer to find. So it is an ideal position against Deep Fritz, but a disappointment for chess fans who want to see fiery combinations.

11.負b2 鱼e7

Kramnik has certainly studied the following game: 11...a5 12. 2e2 a4 13. 2f4 @e6 14.g4 &e7 15. 2xe6 fxe6 16. 2d4 (16. 2g2!?) 16... 2f7 17.c4 (17.f4 2d5) 17...h5!= 18. 2f3 2g6 19. 2g5+ 20. 2a3+ 2e8 21. 2xf8 2xf8 22. 2d1 hxg4 23. 2d4 2h6 24. 2xg4 axb3 25. axb3 2a3= 0-1, Klovans, J-Dautov, R Minsk 1986.

12.莒ad1 a5



Kramnik cleverly holds back his bishop on c8 to retain the bishop-pair.

12....&e6 13.&e2 \exists d8 14. \exists ×d8+ &×d8 15. \exists d1 \exists g8 16.&f4 g5 17.&×e6 f×e6 18.g4 &e7 19.&d4 \exists g6 20.c4 c5 21.&e2 \exists g8 22.&g3 &g6 23.&h5 &e7 24.&g2 \exists f8 25.&g3 \exists f7 26. \exists d3 &d8 27.f3 b6 28.&f2 \exists d7 29. \exists ×d7 &×d7 30.&e3 &e8 31.&e4 &f7 32.&c1 c6 33.&e3 &f8 Now the white pawn majority is a clear danger. 34.f4 g×f4 35.&xf4 &g6 36.&f6 &xf6 37.e×f6 &d7 38.h3 b5 39.f7 h5 40.g×h5+ &×f7 41.&d3 &f6 42.a4 a6 43.a5 &f5 44.&e3 &f6 45.h6 b×c4 46.b×c4 &g6 47.&e5 &h7 48.&f4 &f6 49.&f5 50.h4 &g6 51.&e5 &g8 52.&g7 &e7 53.&e4 &f5 54.h5+ &f7 55.&e5 &×h6 56.&f4 &f5 57.&g5 &g8 58.&g6 &h4+ 59.&f6 1-0, Klovans,J-Reichenbach, W Berlin 1998.

13.a4

13.g4?! doesn't achieve anything: 13... h4 14. h4 14. h4 15.h3 h5 and Black has no problems.

13...h5

Secures the f5-knight and allows \(\Beta\)h6, if needed.

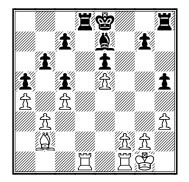
14. De2 de6 15.c4

15.2f4!? g5 16.2×e6 f×e6 17.2d2 was also possible (or 17.Ed3).

15...莒d8!

This is a good strategy, since the black rooks are uncoordinated and White has control of the d-file.

16.h3 b6 17.2fd4 2×d4 18.2×d4 c5 19.2×e6 f×e6



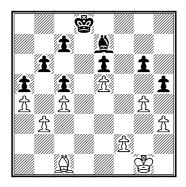
The bishop-pair has been halved, but the black position is very solid. An important detail is that the e5-pawn is on the same color square as the bishop on b2. This makes it a weak piece with no prospects on either wing (an important restriction technique). Does Fritz see and understand this?

20.闫×d8+ 當×d8 21.真c1 當c8

Kramnik plans to exchange the other rook as well, so that Fritz only has the bishop left.

22.闫d1 闫d8 23.闫×d8+ 岱×d8 24.g4 g6

After 24...h×g4?! 25.h×g4, White has the plan f4, g1-g2-h3 and c1-d2-e1-h4 etc. For this reason Kramnik leaves the white pawn on h3.



25.h4?

A human would not play this move, as it leads to an immediate draw. In the post-game press conference, GM Danny King was eager to find out whether such a "poor" move could be avoided by Fritz in future versions. Deep Fritz operator Matthias Feist acknowledged this and provided adequate explanations and excuses. Most were in agreement until the proverbial bubble was burst when Kramnik politely pointed out that 25.h4 was surely White's best move in the position!

An alternative strategy would have been 25. 22 288 26. 263 27. 27. 24, with the idea f2-f4-f5. Kramnik will certainly have checked such endgames, but I am unable to quickly find the correct defense. After seeing the analyses of Notkin and Stertenbrink, I reexamined the endgame and found the following lines: 27... @d8 (27...h×g4?! 28.h×g4 White plans @f3-g3-h3 followed by @g3h4. So 28...g5 (28...@h4 29.@e3 (29.f4 @e1 30.f5 g×f5+ 31.g×f5 @e7 32.@g5+ 當d7 (Notkin) 33.f6 (33.皇f6 皇c3 34.當f4 皇d2+ 35.當g4 皇e3=) 33...當e8 34.f7+ is wrong, e.g. 30. 2d3 2g6 31. 2e2 2h6 32. 2d2 2g6 33. 2e1 2h6 34.f3 2×e1 35. \$\vee ve1 \$\vee g6 36. \$\vee f2 \$\vee h6 37. \$\vee g3 \$\vee g7 38. f4 gx f4 + 39. \$\vee xf4 \$\vee g6 40. \$\vee g3 \$\ ෂීg5 41.ෂීh3 ෂීf4 42.ෂීh4 ෂੈ×e5 43.g5 ෂීf5 44.ෂීh5+-) 30.ෂීf3 (30.g5 鼻×f2 31.@×f2 is drawn (Stertenbrink): 31... @d7 32. @d3 @c6 33. @c2 @b7 34.b4 a×b4 35.a5 &a6 36.a×b6 c×b6 37. &b3 &b7 38. &a4 &c6 39. Qe1 &c7 40. &b5 ቄb7 41. Id2 ቄc7 42. ቄa6 ቄc6 and White can't make progress as 43. ቄa7?? b5-+ even loses.) 30... \$f7 31. \$g2 @e7 32.f4 @d8 33. \$h3 @e7 34. @f2 \$g7 35.鼻h4 (35.當g2 當f7 36.當f3 鼻d8 37.當e4 鼻e7 38.f5 g×f5+ 39.g×f5 鼻g5=) 35... @ xh4 36. @ xh4 @ h6 37. @ g3 @ g7 38. @ f3 @ f7 39. @ e4 @ e7 40. f5 g5= and Black's fortress is impregnable because of the reserve tempo c7-c6.) 29.f4 g×f4 30. @×f4 &g6 31. &f3 c6 32. &g3 @d8 33. &h3 with the idea @f4-g3-h4.) 28.f4 △e7 29.f5 h×g4 30.h×g4 c6 31.f6 △d8 and the black position should be quite impenetrable, since the following plan does not succeed: 32. @e3 @c7 33.b4? a×b4 34.a5? b3-+; 25.g×h5?! g×h5 26.@g2 @e8 27.@f3 @f7 28.@e4 @g6 29.f4 c6 is totally drawn of course.

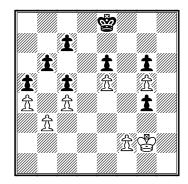
25...h×g4!

If Deep Fritz was a human being, one would think that it was hoping for $25... \& \times h4??$. The danger is 26.g5 and the bishop will never see the light of day. However, Kramnik later told us that he actually considered it, although White can capture the bishop with Bg1-g2-h3, this does not give him a path to penetrate. In fact, Guenter Stertenbrink, Bjoern Frank and Maxim Notkin proved that the position is still drawn after $26... \pounds \times f2+ 27. \oiint \times f2$.

26.<u><u>@</u>g5 <u>@</u>×g5 27.h×g5</u>

The pawn endgame is totally drawn, as there is no way for either king into the enemy camp.

27....🔮 e8 28.🔮 g2 ½-½



Game Two

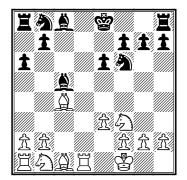
Vladimir Kramnik (2807) – *Deep Fritz* Brains in Bahrain (2), 06.10.2002 [D27]

Kramnik has found a good strategy against Deep Fritz. As in his match against Kasparov, he exchanges queens quickly to reach an endgame with just one or two open files that are both firmly under control. This minimizes the danger of tactical surprises by the computer and retains the chance of winning the endgame with his fantastic technique. Well done Vladimir!

1.d4 d5 2.c4 d×c4 3.
 剑f3 剑f6 4.e3 e6 5.
 鱼×c4 c5 6.0-0 a6 7.d×c5
 營×d1 8.
 邕×d1

This move looks modest, but Kramnik knows how to keep increasing the +/= in such positions.

8....鼻×c5 9.皆f1!?



Did Kramnik want to bring Fritz out of his opening database? Here are some of Kramnik's previous games: 9.2bd2 b6 10.4e2 2bd7 11.2c4 (11.2b3 4e7 12.2bfd4 4b7 13.f3 0-0 14.e4 ffc8 15.4e3 8f8 16.2d2 2e5 17.2db3 ffc6 18. fac1 fac8 19. for the field for th

9...b5 10.@e2 @b7 11.@bd2 @bd7 12.@b3 @f8?

This move is unconvincing. A human would just not play it. Apparently the computer believed that 12. (2)b3 was to be followed by 13. (2)d2, repeating for a draw of all things! The Fritz team did not look happy.

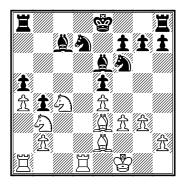
13.a4!

A typical strategy to create squares for White's pieces, along with weaknesses in Black's camp.

13...b4 14. 4) fd2

Kramnik immediately sends his knight to the newly available c4-square.

14... @d5 15.f3 @d6 16.g3 e5 17.e4 @e6 18. () c4 @c7 19. @e3 a5



Don't play this kind of move cavalierly! The b5-square and the a5-pawn are now very weak. White has a nice +/= position, which is even nicer against a machine, as Black has almost no counterplay. Black wants to castle and bring his king's rook into play, so Kramnik decides to prevent this and keep the initiative.

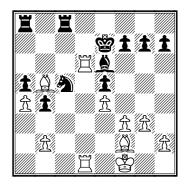
20.公c5 (20.罝ac1!?) 20...公×c5 21.鼻×c5 公d7 22.公d6+ 當f8

22...當e7? 23.包f5+ 當f6 24.鼻e7+ 當g6 25.莒ac1±.

23.負f2 鼻×d6

Deep Fritz cedes Kramnik the bishop-pair to ease the pressure, but the bishops constitute a long-term advantage. 23... $e^{7}24.$ $f^{5+\pm}$.

24.闫×d6 曾e7 25.闫ad1 闫hc8 26.真b5 公c5!



This looks like a tactical mistake, but computer programs do not commit such errors. So think hard and you will see what Fritz had up his sleeve.

27. Qc6 Qc4+!

27...Ξa6?? 28.₫×c5 Ξa×c6 29.Ξ×c6++- with check.; 27...Ξ×c6? 28.Ξ×c6 ᡚ×a4 29.Ξd2±.

28.@e1 @d3+ 29.\[]1×d3 @×d3 30.@c5! (30.\[]×d3?? []×c6-+) 30...@c4

30...@c2 31.@d2 @×a4?? 32.\d5+ @f6 33.@×a4+-.

31.罝d4+ 曾f6 32.罝×c4 罝×c6 33.鱼e7+ 曾×e7 34.罝×c6

The rook ending is better for White, as Black's rook must passively defend the a-pawn. The main principle of rook endings is: activity at all costs.

34...🕲d7

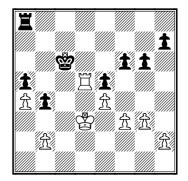
34... ²d8 35. ²e2 does not help.

35.邕c5 f6?

Now Black has to stay passive. Notkin showed in *Chess Today* No.699 that $35...\Xi c8!$ is stronger, as the rook is activated after $36.\Xi \times a5 \Xi c2$. The pawn

endgame after $36.\Xi \times c8$ is drawn, but the points are very deep – so even Deep Fritz has difficulties spotting them. The main line of Notkin's analysis goes: $36.\Xi \times c8 \cong \times c8 37.\cong d2 \cong d7 38.\cong d3 \cong d6 39.\cong c4 \cong c6$ and Black has the opposition. White can't win the fight for tempi, e.g. $40.h4 g6 41.g4 h5 42.g5 \cong d6$ $43.\cong b5 f6! 44.g \times f6 g5 45.h \times g5 \cong c6 46.\cong \times a5 h4$ and the resulting queen endgame is drawn.

36.當d2 當d6 37.邕d5+ 當c6 38.當d3 g6?!



This weakens Black's position. 38... ℤa7 is better.

39.當c4 g5 40.h3 h6 41.h4 g×h4 42.g×h4 邕a7 43.h5

Kramnik has all the time in the world and improves his position as much as possible before playing $\mathbb{E}d8$.

43....Äa8

Now Kramnik maneuvers to lose a tempo and thus bring Fritz into zugzwang. He could do this by b2-b3, but this may waste an important reserve tempo. Rubinstein and Capablanca would certainly be impressed!

44.**¤c5**+

44. Cd3, with the plan Ce3 and f4, also comes into consideration.

44...當b6 45.邕b5+

45.當d5?? 莒d8+ 46.當c4 莒d4+-+.

45...曾c6 46.闫d5 Zugzwang. 46...曾c7?!

46...트a7 47.트d8 트c7 48.트f8 當d6+ should lose as well, but at least it is more active.

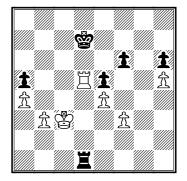
47.當b5 b3 48.買d3 買a7 49.買×b3 買b7+ 50.當c4 買a7

The pawn endgame after 50...罝×b3 is lost because of White's distant passed pawn: 51.뽭×b3 \$b6 52.\$c4 \$c6 53.b4+-.

51. 闫b5 闫a8 52. 曾d5 闫a6 53. 闫c5+ 曾d7 54.b3 闫d6+

54... 萬a7 55. 邕b5 當e7 56. 當c6 邕a8 57. 當b7 邕d8 58. 邕×a5+-.

55.曾c4 邕d4+ 56.曾c3 邕d1 57.邕d5+ 1-0



Game Three

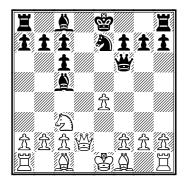
Deep Fritz – Vladimir Kramnik (2807) Brains in Bahrain (3), 08.10.2002 [C45]

This time Fritz decided to circumvent the Berlin Wall, but Kramnik had another good anti-computer strategy prepared. He seems to have done a very thorough job of adjusting to playing against computers!

1.e4 e5 2.ᡚf3 ᡚc6 3.d4 e×d4 4.ᡚ×d4 鼻c5 5.ᡚ×c6

The principled reply. White hopes to neutralize Black's initiative, and then win with his pawn majority on the kingside after d×c6.

5...皆f6 6.皆d2 d×c6 7.公c3 公e7



Kramnik probably wanted to bring Fritz out of his opening book. Did he already know that a2-a3 would follow? In the Kasparov-Short match, the following line was discussed: 7...Qe6 8.2a4 Ed8 9.Qd3 Qd4 10.0-0 2e7 (10...a6 11.2c3 De7 12.2e2 2b6 13.8f4 2g6 14.8×f6 g×f6 15.2g3 h5 16.2e2 h4 17.2f5 @xf5 18.exf5 2e5 19.2e1 &f8 20.2f4 2d4 21.g3 &g7 22.2ad1 2e4 23.當g2 h×g3 24.h×g3 鼻×f2 25.當×f2 莒h2+ 26.當f1 莒e×e2 27.莒×e2 莒h1+ 28.當f2 邕×d1 29.b3 邕d7 30.邕d2 邕×d2+ 31.鼻×d2 c5 32.當e3 c6 33.當e4 c4 34.b4 b5 35.皇f4 包d7 36.當d4 當f8 37.皇c7 當e7 38.g4 當f8 39.皇d6+ 當g7 40.@c7 &f8 41.a3 1/2-1/2, Kasparov, G-Short, N London 1993) 11.c3 b5 12.c×d4 曾×d4 13.曾c2 曾×a4 14.曾×a4 b×a4 15.皇c2 皇c4 16.邕e1 皇b5 17.皇e3 包c8 18.鼻c5 幻b6 19.菖ad1 菖×d1 20.菖×d1 a6 21.f4 幻d7 22.鼻a3 h5 23.當f2 菖h6 24.e5 c5 25.鼻f5 Ib6 26.Id2 g6 27.鼻c2 Ie6 28.ቄg3 원b6 29.鼻×c5 원c4 Ld5 42.h5 2e5 43.h6 L×a2 44.Lc5+ Sf7 45.Lc2 Lc4 46.h7 Sg7 47.Lf8+ 當h8 48.鼻e7 鼻d3 49.鼻×f6+ 當×h7 50.鼻×e5 鼻×c2 ½-½, Kasparov,G-Short,N London 1993.

8.曾f4 鱼e6 9.曾×f6

Of course Fritz does not fall for 9.\arrow xc7?? \arrow xf2+ 10.\arrow d1 \arrow d8+-+.

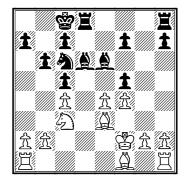
9...g×f6

Kramnik has again succeeded in exchanging queens to reach a position that he understands much better than Fritz. It all looks so easy, but then I think about my own blitz games against Fritz.

10.@a4 @b4+

It is good to weaken the d3-square, and the a4-knight now looks a bit out of place.

```
11.c3 鼻d6 12.鼻e3 b6 13.f4 0-0-0 14.曾f2 c5 15.c4 勾c6 16.勾c3 f5!
```



The position should remain closed for the moment.

17.e5 **Af8**

This introduces the idea 2g7, followed by f6.

18.b3?!

This is weak, more than it is useful. 18.2d5 came into consideration.

18...\Db4!

18...&g7?! 19. $\textcircled{a}d5 \& \times d5$ 20.c×d5 $\boxtimes \times d5$ 21.&c4 $\boxtimes d7$ 22. $\boxtimes ad1$ and Fritz understands the position much better.

19.a3?

I do not like this move; it weakens a3 and b3 and loses time. Furthermore, Black can now remove White's bishop-pair. $19.\Xi c1$ looks much better. White should try to get control first and then use the weaknesses on Black's kingside.

19.... 公 c2 20. 邕 c1 公 × e3 21. 當 × e3 单 g7!

With the idea f6, to open the position for the bishops.

22.勾d5?! c6! 23.勾f6 鼻×f6 24.e×f6 岂he8

White neglected his development too much, and Black now has complete control.

25.曾f3 闫d2 26.h3?!

An odd move, a human would not have found it. But matters were very difficult anyway. Now Kramnik's superb technique takes over.

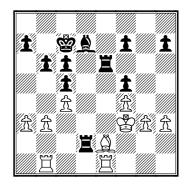
26...負d7 27.g3 筥e6

First, he eliminates any counterplay based on the far advanced f6-pawn. Capablanca would applaud, I am sure.

28.宫b1 邕×f6 29.鱼e2

The first move of this bishop, but it still makes a sad impression.

29....莒e6 30.莒he1 當c7!



Activating the king, this is a very important fighting unit in the endgame! Then Black will mobilize the queenside pawns or attack the white pawns. This plan can't be stopped in the long run.

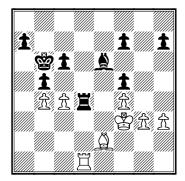
31.**負f1 b5**!?

31... \mean xe1 32. \mathbb{\mathbb{Z}} xe1 \mathbb{\mathbb{E}} b2 33. \mathbb{\mathbb{E}} e3 b5 also came into consideration. But Kramnik does not want to give White any counterplay, and why should he?

32.罝ec1 曾b6 33.b4?!

Fritz fires back, but what else was there?

33....c×b4 34.a×b4 筥e4! 35.莒d1 筥×d1 36.莒×d1 鱼e6! 37.鱼d3 莒d4 38.鱼e2?!



38.當e3 c5 39.b×c5+ 當×c5 40.c×b5 总c4 41.总c2 ї×d1 42.总×d1 总×b5 and Black should win.

38...莒×d1 39.c5+ 當b7 40.鼻×d1 a5!-+ 41.b×a5 當a6 42.當e3 當×a5 43.當d4 b4 44.g4 f×g4 45.h×g4 b3 46.當c3 當a4 47.當b2 f6 48.鼻f3 當b5 49.g5 f5 50.當c3 當×c5 51.鼻e2 0-1

A fantastic achievement! Bravo Vladimir! 51... \$b6 52. \$d1 \$b5 53. \$e2+ \$a4 54. \$b2 \$b4 55. \$f3 c5-+.

Game Four

Vladimir Kramnik (2807) – *Deep Fritz* Brains in Bahrain (4), 10.10.2002 [D34]

Somehow Kramnik again managed to exchange queens and to create a position that is easy to play. He seems very well-prepared!

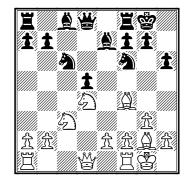
1.d4 d5 2.c4 e6 3.公f3 c5

It is easy to understand that Fritz did not want another Queen's Gambit Accepted, but I am sure the Tarrasch Defense did not come as a surprise to Kramnik.

4.c×d5 e×d5 5.g3

This is considered best, as the bishop (from g2) can create further pressure against d5.

5.... 包c6 6. 眞g2 包f6 7.0-0 眞e7 8. 包c3 0-0 9. 眞g5 c×d4 10. 包×d4 h6 11. 眞f4



Kramnik keeps his bishops, as Fritz could be extremely powerful with the bishoppair.

11.... 鱼g4 12.h3 鱼e6 13. 芭c1 芭e8 14. 剑×e6!? f×e6 15.e4

A typical transformation, which is especially useful against a computer, as the exchange of queens becomes a possibility.

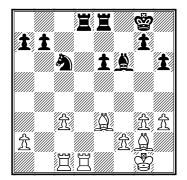
15....d4 16.e5 d×c3

16... 원h7?! is unconvincing: 17. 원e4 원f8 18. 발g4 \$h7 19. 발h5 원d7 20. h4 원d×e5 21. 원c5 월×c5 22. 필×c5 원d7 23. 필g5 \$h8?? 24. 필×g7 \$xg7 25. 鼻×h6+ \$h8 26. 鼻g5+ \$g8 1-0, Nogueiras, J-Klinger, J Graz 1984.

17.e×f6 鼻×f6 18.b×c3 營×d1 19.邕f×d1

White is better because of his two bishops and more active pieces, which is very nice against Fritz when you lead $2\frac{1}{2}-\frac{1}{2}!$

19....筥ad8 20.鱼e3



20...邕×d1+

20...當f7 21.買b1 罩×d1+ 22.買×d1 鼻×c3 23.買c1 鼻b4 24.鼻×c6 b×c6 25.買×c6 a5 26.當f1 罝d8 27.買c7+ 當f6 28.當e2 罝d5 29.鼻c1 鼻d6 30.罝c4 g5 31.h4 g×h4 32.買×h4 h5 33.罝c4 當f5 34.鼻d2 罝b5 35.鼻c3 鼻e5 36.罝h4 當g6 37.鼻×e5 罝×e5+ 38.當f3 罝b5 39.當g2 e5 40.罝a4 當f5 41.當h3 罝d5 42.f3 當g5 ½-½, Dlugy,M- Petursson,M Nordic-USA 1986; 20...a6 21.c4 罝×d1+ 22.罝×d1 皂a5 23.c5 罝d8 24.罝b1 罝d7 25.當f1 當f7 26.當e2± Muir,A-Sathe,B BCF-ch 1987.

21.邕×d1 鼻×c3 22.邕d7

Was this still part of Kramnik's preparation?

22... \Begin{bmatrix} b8 23. \Dots \times c6 (23.f4!? Notkin) 23...b \times c6 24. \Begin{bmatrix} xa7 \Begin{bmatrix} b2 25. \Begin{bmatrix} a6 \Dots d2! \\ Dots d2!

Fritz understands this endgame well and draws it easily because of his active pieces. 25.a4!? $\exists a2 \ 26. \exists a6 \ also \ came \ into \ consideration, \ but Black \ should \ be able to \ draw \ this, \ too.$

26.邕×c6

Kramnik plays it safe. This makes perfect sense as he leads. 26.Qd4 Ec2 27.Ea7 g5=.

26... 🚊 ×e3 27.f×e3 🔮f7

27...邕×a2 28.邕×e6 當f7 is drawn.

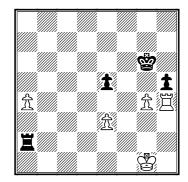
28.a4 闫a2 29.闫c4 曾f6 30.曾f1 g5

Fritz starts active counterplay on the kingside, which is an important technique in such positions, as it may become a race.

31.h4 h5 32.h×g5+

32. Ic5 g×h4 33.g×h4 I×a4 34. I×h5 2g6 35. Ih8 2g7 36. Ih5 2g6=.

32...當×g5 33.當e1 e5 34.當f1 當f5 35.買h4 當g6 36.買e4 當f5 37.買h4 當g5 38.當g1 當g6 39.g4



Kramnik simplifies into a completely drawn position, with his king on the first rank he can't make real progress anyway.

39...h×g4

39...當g5 40.罝×h5+ 當×g4 41.罝×e5 罝×a4=; 39...罝×a4?? 40.g×h5+ 當g5 41.罝×a4+-.

40.邕×g4+ 曾f5 41.邕c4 ½—½

Draw offer by Vladimir Kramnik. 41... \Ze2 42. \Zc3 \Za2=.

Game Five

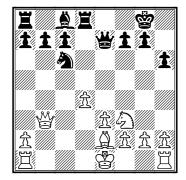
Deep Fritz – Vladimir Kramnik (2807) Brains in Bahrain (5), 13.10.2002 [D57]

Will Kramnik be able to exchange queens early and keep everything under control?

1.d4

No, this time it is different, as Fritz's experience with 1.e4 has been unpleasant.

The Lasker variation has a rock-solid reputation, another advantage is that some pieces are usually exchanged early.



Deep Fritz does not want to exchange his bishop after 2a5, of course.

14...b6!?

The following bishop fianchetto secures Black's queenside.

15.0-0 **鼻b**7

"Curiously this position already arose in the game between Kramnik (White) and his second in Bahrain, Christopher Lutz, in 1994. Kramnik evaluated it as completely equal in his notes in *ChessBase Magazine*." (Schulz)

16.莒fc1

16.亘ac1 包a5 17.營b2 亘ac8= Kramnik, V-Lutz, C Germany 1994.

16...,莒ac8 17.皆a4 勾a5

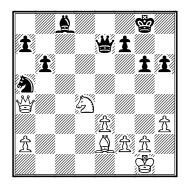
A typical maneuver to get rid of the backward pawn on c7 and to activate Black's rooks. In the following game, Black became too active: 17.皆2 莒d5 18.亘c3 莒a5 19.a3 臺d8 20.틸ac1 臺e6 21.臺e5 莒d8 22.臺c4 c5 23.d×c5 莒×c5 24.f4 ඛd5 25.皨f1 莒dc8 26.營b4 營b7 27.莒×c5 氫×c5 28.틸d1 鼻e6 29.鼻e2 營e4 30.營d4 營c2 31.急f3 營b3 0-1, Kummer,H- Ostrowski,A Oberwart 1998.

18.宫c3 c5 19.宫ac1 c×d4 20.公×d4

In the game Kosyrev-Podgaets, Moscow 2002, a draw was agreed here.

20... 莒×c3 21. 莒×c3 莒c8

Kramnik wants to exchange more pieces to emphasize his queenside majority.



I don't like this move, as White gets pressure and the initiative, and both are very dangerous against a computer. Instead 23... d7!?.

24.**<u>Å</u>f**3

"Deep Fritz has some pressure. The 公a5 is badly placed." (Schulz)

24....負d7 25.皆c2 皆c5 26.皆e4

Of course, Fritz does not want to exchange queens: 26.≝×c5? b×c5 and Black clearly has the better endgame.

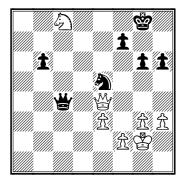
26...曾c1+ 27.曾h2 曾c7+ 28.g3 公c4

The knight has to come back to help defend the dark squares around Black's king.

29.鼻e2 匀e5 30.鼻b5

30. If 1 is interesting as well, to keep more pieces on the board.

30... 鼻×b5 31. ④×b5 曾c5 32. ④×a7 曾a5 33. 曾g2 曾×a2 34. ④c8 曾c4??



An unbelievable tactical blunder. I think that Kramnik would have seen this against a human. 34... (2024)! 35. (2020) 27. (2020) 36. (2020) 44. (2020) 44. (2020) 45.

35.公e7+ 1-0

35...[®]f8 36. [®]×e5+-, as the e7-knight is protected by White's queen.

Game Six

Vladimir Kramnik (2807) – *Deep Fritz* Brains in Bahrain (6), 15.10.2002 [E15]

Deep Fritz again showed that it is very strong tactically and that it defends tenaciously. If Kramnik doesn't manage to get easier positions and complete control, then Deep Fritz will win the match.

1.d4 🖾 f6

This time Fritz avoids d7-d5, which makes it easier for Kramnik to play quieter systems.

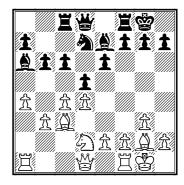
2.c4 e6 3.公f3 b6 4.g3 鱼a6

Black wants to provoke b3 to create weaknesses on the dark squares on White's queenside.

5.b3 <u>@b4+</u> 6.<u>@d2</u> <u>@e7</u>

This looks like a loss of tempo, but White's bishop on d2 is badly placed.

7.負g2 c6 8.負c3 d5 9.包e5 句fd7 10.句×d7 句×d7 11.句d2 0-0 12.0-0 邕c8 13.a4



Kramnik wants to stop any counterplay based on b6-b5. Also possible is 13.e4 d×c4 (13...c5 14.e×d5 e×d5 15.d×c5 d×c4 16.c6 c×b3 17. Ξ e1 &b5 18.a×b3 &×c6 19.&×c6 Ξ ×c6 20. Ξ ×a7 ± 1-0, Kamsky,G-Karpov,A Elista 1996) 14.b×c4 b5 15. Ξ e1 b×c4 16.ec2 ec7 17.ef1 e5 18.ee3 e×d4 19.e×d4 ec5 20.e×c5 e×c5 21.e×c4 Ξ fd8 22. Ξ ad1 Ξ ×d1 23. Ξ ×d1 Ξ d8 24. Ξ ×d8+ \oiint ×d8 25.h4 ed4 26.eb2 e×b2 27.e×b2 f6 28.f3 ef7 29.ef1 eb5 30.ef2 ee6 31.ec4 ed6 32.ee3 ed7 33.f4 eb6 34.eg8 h6 35.ed3 ed7 36.ed4 c5+ 37.ec3 ec6

38.2f2 2b6 39.2b3 2a8 40.2d3 2b6 41.2c2 2b5+ 42.2d3 2a4+ 43.2d2 c4 44.e5+ fxe5 45.2e4+ 2e6 ½-½, Karpov,A-Kasparov,G URS 1986.

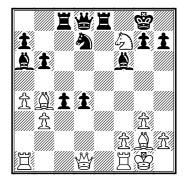
13....負f6 14.e4 c5 15.e×d5 c×d4 16. 負b4 邕e8

16... 鱼e7 17. 鱼×e7 營×e7 18. d×e6 f×e6 19. 營c2 邑ce8 20. 邑ae1 e5 21. 鱼c6 鱼c8 22. h4 營h8 23. 包e4 邑d8 24. 包g5 包f6 25. 鱼g2 h6 26. 包e4 鱼f5 27. 營d3 邑fe8 28. 邑e2 鱼g4 29. 邑d2 包d7 30. 營b1 a5 31. 邑e1 0-1, (41) Morrison, G-Miles, A Amsterdam 1978.

17.@e4!? e×d5

Deep Fritz is playing with fire, but the computer is comfortable with the tactical complications.

18. 公d6 d×c4 19. 公×f7?!



19....皆×f7

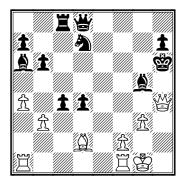
19. \underline{a} d5!? was a serious alternative: 19... \underline{c} c5 20. \underline{a} ×e8 (20. \underline{a} ×f7+?! is answered by 20... \underline{e} f8.) 20. \underline{a} ×e8 \underline{a} ×d5 (20... \underline{e} ×e8 21.b×c4 \underline{a} b7 22. \underline{E} e1 \pm) 21. \underline{a} ×f6+ g×f6 22.b×c4 and the position is very complicated, but probably easier to play for Kramnik than the game continuation.

20.Ad5+ &g6

21.@g4+ @g5 22.@e4+

22.f4? h5 23.ዿf7+ ७×f7 24.f×g5+ ७g8 25.৬×h5 ᡚe5 26.g6 ᡚ×g6 27.⊕×g6 ⊕d7-+ (Schulz).

22...買×e4 23.增×e4+ 當h6 24.h4 真f6 25.真d2+ g5 26.h×g5+ 真×g5 27.皆h4+?



After this mistake, White's attack will come to nothing. It is a pity that Kramnik's courage was not rewarded! 27.營e6+! was called for: 27...⑤f6 (27...營f6? 28.急×g5+ ⑤×g5 29.營×d7±) 28.營h3+ ⑤h5 29.f4 爲h4 (29...爲f6 30.g4) 30.g4 ⑤g3 31.f5+ ⑤g7 32.f6+ (Schulz) and the position is difficult to assess. It is very difficult for a human to solve all these problems – even for Kramnik.

27...當g6 28.營e4+ 當g7 29.眞×g5 營×g5 30.莒fe1 c×b3 31.營×d4+ 勾f6 32.a5 營d5?

32...\^{the}c5 should win easily.

33.\" ×d5
 ∆×d5 34.a×b6 0-1

This position is not as easy as I first assumed. Professor Ingo Althoefer has drawn my attention to analysis of the Computer Chess Club, which indicates that Kramnik should have played on: 34...a×b6 35.罝×a6 b2 36.罝a7+ 鸷g6? (36...�af8! 37.罝d7 氧c3 38.罝d2 b1營 39.罝×b1 氧xb1 氧0.罝b2 氧c3 41.罝×b6 (Althoefer) offers good winning chances, of course. But Kramnik should have continued to see if Fritz found this line.) 37.罝d7 팈c1 38.罝d6+ 勾f6 39.罝dd1 b1營 40.罝×c1 營f5. My analysis ended here, but White has 41.罝c6! b5 42.罝ee6 b4 43.罝b6 h5 44.罝×f6+ 營×f6 45.罝×b4= and White's fortress is impregnable.

Game Seven

Deep Fritz – Vladimir Kramnik (2807) Brains in Bahrain (7), 17.10.2002 [E19]

Fritz again chooses 1.d4, but Kramnik's Queen's Indian is very solid.

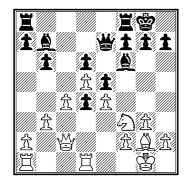
1.d4 소f6 2.c4 e6 3.소f3 b6 4.g3 요b7 5.요g2 요e7 6.0-0 0-0 7.소c3 소e4

Black occupies the center and plans to reduce the pressure by exchanging knights.

8.曾c2 公×c3 9.曾×c3 c5 10.莒d1 d6 11.b3 負f6 12.負b2 曾e7 13.曾c2 公c6 14.e4 e5 15.d5

Good news for Kramnik: the position is closed.

15....勾d4 16. Q×d4 c×d4



16...e×d4 17.營d3 (17.莒ab1 莒ae8 18.包e1 g6 19.包d3 鱼g7 20.莒e1 鱼c8 21.f4 營c7 22.包f2 莒e7 23.鱼h3 f5 24.莒e2 g5 25.鱼×f5 g×f4 26.g4 鱼×f5 27.g×f5 f3 28.莒ee1 鱼e5 29.營h1 莒g7 30.包d3 營e7 31.營f2 莒g2 32.莒g1 營h8 33.莒×g2 f×g2+ 34.營×g2 莒g8 35.營f3 鱼f6 36.莒e1 營g7 37.莒f1 營g5 38.包f4 鱼e5 39.包d3 鱼f6 40.營f2 營g4 41.營f3 營g5 ½-½, Drasko,M- Marjanovic,S Sarajevo 1984) 17...트ae8 18.莒e1 鱼c8 19.營f1 鱼g4 20.h3 鼻×f3 21.鼻×f3 ½-½, Friedrichs,K-Breder,D Paks 2000.

17.**Ah**3

17.a4 a5 18. Del 1/2-1/2, Vaganian, R- Petrosian, T Tallinn 1983.

17...g6 18.a4 a5!?

This stops White from playing a5 and makes it much more difficult for White to open the queenside. It seems that Kramnik doesn't want to go into an open

fight again. 18....皇g7?! 19.a5!? b×a5 20.罩×a5 f5 21. 公d2 皇c8 22.c5 f×e4 23. 皇×c8 冨a×c8 24. 纪×e4 d×c5 25.d6 營f7 26.營c4 營×c4 27. b×c4 莒fd8 28. 冨×a7 莒c6 29. 罝b1 罝c×d6 30. 纪×d6 罝×d6 31. 罝b8+ 鼻f8 32. 營f1 罝e6 33. 登e2 1-0, (41) Polugaevsky, L-Gulko, B Moscow 1976.

19.邕ab1

Planning b3-b4.

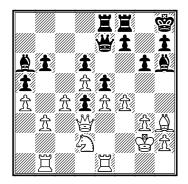
19...**@a6**!

Kramnik takes measures against White's plan.

20.邕e1

Fritz did not like 20.b4?! @c7, as it is very difficult to make further progress on the queenside.

20...當h8 21.當g2 眞g7 22.營d3 莒ae8 23.勾d2 眞h6 24.f4!?



Fritz does not just want to sit and wait. But it can't simply open the position, as this might favor Black's bishops.

24...₩c7

Kramnik just makes with good prophylactic moves.

25.邕f1 曾g8 26.邕be1 曾d8 27.曾g1

Fritz does not see a way to make progress. His pieces are on good squares and it is not easy to realize pawn breaks.

Game Eight

Vladimir Kramnik (2807) – *Deep Fritz* Brains in Bahrain (8), 19.10.2002 [D68]

Kramnik allows early simplifications, so as to avoid any risks, and not suffer the same fate as Kasparov did in his last game against Deep Blue.

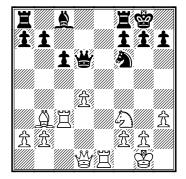
$1.d4 \,\textcircled{0}f6 \,2.c4 \,e6 \,3. \textcircled{0}f3 \,d5 \,4. \textcircled{0}c3 \,c6 \,5. \textcircled{0}g5 \,\textcircled{0}e7 \,6.e3 \,00 \,7. \textcircled{0}d3 \,\textcircled{0}bd7 \\8.00 \,d\times c4 \,9. \textcircled{0}\times c4 \,\textcircled{0}d5$

An old maneuver to reduce the pressure.

10.鼻×e7 眥×e7 11.邕c1 ⑤×c3 12.邕×c3 e5

This solves the problem of Black's c8-bishop.

13.鼻b3 e×d4 14.e×d4 勾f6 15.邕e1 營d6 16.h3



Not very aggressive, other choices were: $16.2e5 \ \text{@}f5 (16...\ \text{@}e6 17.\ \text{@}e6 17.\ \text{@}e6 fe6 18.\ \text{@}b3 \ \text{B}ab8 19.\ \text{E}ce3 \ \text{@}d5 20.\ \text{E}e4 \ \text{E}f6 21.\ \text{@}d3 b6 22.g3 \ \text{E}c8 23.\ \text{E}1e2 \ \text{E}c7 24.h4 h5 25.a3 g6 26.\ \text{@}c4 c5 27.d \times c5 b \times c5 28.\ \text{@}c2 \ \text{@}h7 29.\ \text{E}c4 \ \text{E}f5 30.\ \text{E} \times c5 \ \text{B} \times c5 \ \text{$

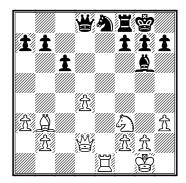
16....負f5 17.凹ce3 凹ae8

17.... 莒 ad8 18. 營 d2 a6 19. 莒 e5 鼻g6 20. 營 a5 莒 d7 21. 莒 1e3 莒 fd8 22. g4 常f8 23. 營 e1 h6 24. d5 c×d5 25. 鼻×d5 當 g8 26. 鼻b3 莒 c7 27. ④ h4 鼻c2 28. 鼻×c2 莒×c2 29. 莒 e8+ 莒×e8 30. 莒×e8+ ⑤×e8 31. 營×e8+ 營 f8 0-1, Selensky, A-Chekhov, V Orel 1998.

18.筥e5 鱼g6 19.a3

White has an isolated d-pawn, but this weakness is of no consequence, as all his pieces are active.

19...曾d8 20.邕×e8 公×e8 21.曾d2 ½-½



Kramnik's draw offer was accepted. Kramnik started very well in the match and was leading 3-1, but he suffered two defeats because of the machines tactical power. So man and machine have completely different strengths and weaknesses in chess, which makes these matches all the more fascinating. I am already curious as to whether Kasparov will manage to beat Deep Junior in December.