The Dawn of the Post-Deep Blue Era

2

With Deep Blue retired, the new monarch of the computer chess world was up for grabs. In 1995 and leading up to the first Deep Blue versus Kasparov match, the 8th World Computer Chess Championship (WCCC) was held in Hong Kong. IBM planned to use this event to showcase the new Deep Blue and to establish formal recognition of its position at the top of the computer chess world. Deep Blue's earlier version called Deep Thought had won the 6th WCCC in 1989 in Edmonton, winning all five of its games and dominating the competition. Then in 1992, the Deep Blue team skipped participating in the 7th WCCC. The team preferred to dedicate itself to honing Deep Blue's talents against human grandmasters while aiming for the ultimate target, Garry Kasparov.

Now, while leading the field in Hong Kong and seeming to be a sure winner of the championship, Deep Blue – more specifically, an experimental version of Deep Blue, called Deep Blue Prototype – was upset in its final-round game by Fritz. Fritz ran on a far smaller 90 MHz Pentium 3 processor. The IBM engine wound up in third place, a major disappointment to the Deep Blue team and IBM. Fritz finished at the top of the pack tied with Star Socrates, each having four of five points. Fritz then defeated Star Socrates in a one-game playoff to claim the title. The computer chess pundits all recognized the IBM engine as the strongest, but it failed to capture the title. It thus played Kasparov in its two matches not as world champion, but only as the recognized world's best chess engine. Fritz, the winner in Hong Kong, reigned as world champion throughout the two Deep Blue versus Kasparov matches.

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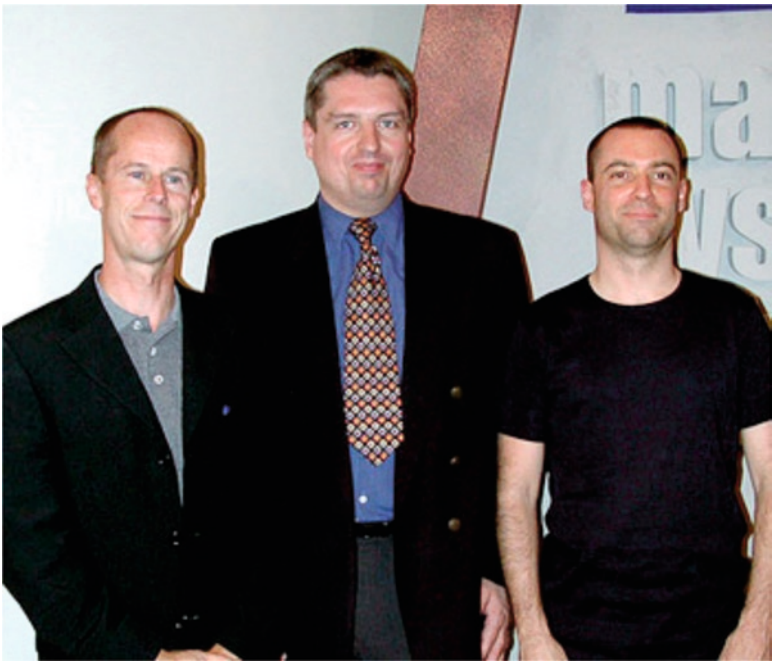
The International Computer Chess Association (ICCA), the governing body in the computer chess world, normally held a tournament to determine the world champion every three years, but the general frenzy surrounding the Deep Blue versus Kasparov matches resulted in a one year delay. It did hold three World Microcomputer Chess Championships (WMCCCs) following Fritz's win in Hong Kong – in 1995, 1996, and 1997 – though world champion Fritz was unimpressive in these events. Its programmer, Franz Morsch, entered a predecessor of Fritz, Quest, in the 1995 championship, finishing sixth. Fritz finished eighth in 1996 and 16th in 1997. There was no championship in 1998 and 1999. The two WMCCCs in 2000 and 2001 ended the series of championships for microcomputers as by then, PCs were competing on an equal footing with larger computers, and there was no need to separate computers based on size. In 1995, three other chess engines of note competed in the WMCCC: Ferret, developed in the USA by Bruce Moreland, finished third; Junior, developed in Israel by Amir Ban and Shay Bushinsky, finished 12th; and Shredder, developed in Germany by Stefan Meyer-Kahlen, finished 13th. The following year, Shredder showed its stuff for the first time when it finished in first place, followed by Ferret. A year after that, in 1997, Junior rose to the top of the pack, with Shredder finishing third, Ferret fifth, Hydra eighth, and as mentioned before, Fritz 16th.



The Fritz Team: Frans Morsch, Mathias Feist, and Alexander Kure.
(Photo courtesy of chessbase.com)

By the time the 9th World Computer Chess Championship was held June 14–20, 1999, in Paderborn, Germany, Fritz had a number of valid challengers, in particular, Junior, Shredder, Ferret, and Cilkchess. The event was held at the Heinz Nixdorf Museums Forum and co-organized by the museum and the University of Paderborn. While five rounds had been played in the previous world championship, seven would be played in this one. There had been concern that five rounds were too few to decide the championship with so many participants.

Shredder was developed by Stefan Meyer-Kahlen in 1995 as a university project. Its first major success occurred a year later when it won the 1996 WMCCC in Jakarta. It was third at the 5th French Computer Chess Championship in Paris in 1997. Shredder was programmed in C as are many chess engines.

Ferret was developed in the USA over a period of four years by Bruce Moreland in his free time. It, too, was programmed in C. When running on a 66 MHz Pentium processor, Ferret searched approximately 18,000–32,000 nodes per second. During the competition, Ferret ran on a faster 450 MHz processor and searched a correspondingly larger number of nodes. Ferret was a derivative of Moreland's open source engine GNU Chess.

Shredder's Stefan Meyer-Kahlen.
(Photo courtesy of Gian-Carlo Pascutto)

Cilkchess was a rewritten version of Star Socrates. As such, it figured to be a contender. Cilkchess ran on a large 256-processor SGI Origin 2000 supercomputer at NASA Ames.

In Paderborn, Fritz, the reigning world champion, won five of its first six games, losing only to Shredder in Round 2. It led the field by a half point entering the final round with five of six points. Just behind were Shredder, Ferret, and Junior with 4.5 points. In the final round, Shredder played Junior and won while Fritz was upset by Ferret. Fritz played with the black pieces and needed only a draw with Ferret to finish at worst tied for first place. It played the same line as it did in Round 1 when it defeated Ikarus (1: 1 e4 c5 2 Nf3 d6 3 d4 cxd4 4 Nxd4 Nf6 5 Nc3 a6); but the stronger Ferret replied 6 Be3 rather than Ikarus's 6 f3, and went on to defeat Fritz. Shredder's victory over Junior left it tied with Ferret – the two finished with 5.5 of seven points. They drew a second time in a one-game playoff for the championship. Shredder, however, was given the title of world champion on tie-breaking points, having played tougher opponents than Ferret.

That Fritz lost its title here was consistent with what had happened to all but one of the previous world champion engines. With one exception, they were all unable to successfully defend their titles. Only Cray Blitz was able to do so in 1986. Thus, in 1999, Fritz's reign ended, and Shredder was crowned the new world computer chess champion.

Chess engines have been rated for many years by the Swedish Chess Computer Association (SSDF), dating back to the middle 1980s. The ratings currently appear quarterly in the International Computer Games Association (ICGA) Journal. Prior to 2002, they appeared in the International Computer Chess Association (ICCA) Journal. In 2002, the ICCA renamed itself the ICGA. While good arguments can be made that there are better rating lists, the SSDF is the oldest and will be the one referred to throughout this book when ratings are discussed.

The table below shows the rating of the top-rated engine at two year intervals from 1986 to the turn of the century. The rightmost column shows the rating increase over each two year period. The data also shows the processing speed of the computer on which the engine was rated. On average, every year, the strongest engine's rating increased by approximately 50 points. Computer processor speeds went from 12 MHz in 1986 to 450 MHz in 2000, an increase of a factor of 37.5. This speedup would have yielded an increase in search depth of between two and three ply. In addition to speed, there was a significant increase in memory sizes by a factor paralleling the increase in processor speeds. The increase in memory sizes permitted the use of much larger hash tables. In addition, dual-processing systems and more generally, multiprocessing systems were becoming more common. The effective improvement from just the improving hardware probably added one or two additional plies to the search depth. Of course, there have been steady improvements on the software side as well, with improved search heuristics, more efficient data structures, and more knowledgeable scoring functions. These improvements also led to more extensive searches. The increased memory sizes led to larger hash tables and the incorporation of endgame databases into the engines.

SSDF top rated engine in March of alternate years from 1986 to 2000

Engine	Computer	Year	Rating	Increase
Fritz 6.0	AMD K6-2 128 MB 450 MHz	2000	2721	+132
Fritz 5.0	Intel Pentium MMX 200 MHz	1998	2589	+149
MChess Pro 5.0	Intel Pentium 80 MHz	1996	2440	+095
Mephisto Genius 2.0	Intel 486/50 66 MHz	1994	2345	+086
Mephisto Lyon	Motorola 68030 36 MHz	1992	2259	–073
Mephisto Portorose	Motorola 68030 36 MHz	1990	2332	+195
Mephisto MM4	Hitachi 6301Y 16 K, 12 MHz	1988	2137	+134
Mephisto Amsterdam	Motorola 68000 12 MHz	1986	2003	

Opening books, which were part of the earliest engines, were increasing in importance. Ken Thompson's Belle in the mid-1970s was the first to use a relatively massive book of a half million moves. The books, at least initially, helped chess engines avoid disastrous lines of play and saved time for middle and endgame game play. They had to be carefully designed so that lines in the book wouldn't end in positions that the chess engine didn't understand. This could happen if lines were added indiscriminately, without thoroughly checking out how compatible they were with the engine's style of play. Gradually, the idea of "outbooking" one's competition came into play, and it became an important theme of the post-Deep Blue era. Michael Buro's work on incorporating learning along with the opening book spread quickly to many of the chess engines in this competition.

The 1999 championship may be regarded as the first in which endgame tables were in widespread use. Those developed by Thompson in the 1980s, and more recently, by Steven Edwards and Eugene Nalimov, were used by the majority of chess engines; a few had developed their own tables.

The March 2000 SSDF Rating List showed Fritz at the top with a 2721 rating; Junior followed with a rating of 2689 and Shredder was further down the list with a rating of 2496. These ratings also suggest that Deep Blue, clearly the best of the crop when it played Kasparov, deserved a 2700 rating as an absolute minimum, and perhaps one as high as Kasparov.

Thus, at the dawn of the post-Deep Blue era, Shredder found itself at the top of the computer chess world, although Ferret, Fritz, and Junior were not far behind. They were not that far off from Deep Blue's strength as technology continued to advance and hard work by the programmers was leading to improved scoring functions, better books, bigger endgames and opening databases, and more efficient searches with fewer bugs. Deep Blue was quite ragged, with many little bugs in its code; it had played only a handful of games in its history, far fewer than engines now at the head of the pack.

While Kasparov would never get a chance to avenge his loss to Deep Blue, he and others of his ilk would soon get their chances against Deep Blue's successors. Given the data from the Swedish Rating Lists, one might conclude that the reign of the brain was coming to an end.

Data on entries to the 9th WCCC: Name, country of origin, authors, opening book, endgame tables, hardware

Name	Origin	Authors	Opening book	Endgame tables	Hardware
Shredder	DEU	Stefan Meyer-Kahlen	200 K; w/L	All 3,4,5 pc.	Intel Pentium 3 550 MHz
Ferret	USA	Bruce Moreland	<100 K; wo/L	All 3,4; some 5 pc.	Intel 4x Xeon 450 MHz
Fritz	DEU	Frans Morsch Mathias Feist	>150 K; w/L	All Nalimov	Intel 4x Xeon 500 MHz
Cilkchess	USA	Reid Barton, Don Beal, Don Dailey, Mattro Frigo, Charles Leiserson, Phil Lisiecki, Ryan Porter, Harold Prokop	24 K; wo/L	All 3,4; some 5 pc.	240 x MIPS 250 MHz
Junior	ISR	Amir Ban, Shay Bushinsky	5 M–1 M lines; w/L	All 3–5 Nalimov;	Intel 4x Xeon 500 MHz
Darkthought	DEU	Ernst Heinz, Markus Gille	50 K+ lines; wo/L	All 3,4 pc.	DEC RISC Alpha 21264 500 MHz
Rebel	NLD	Ed Schrôder	400 K; w/L	None	Intel Pentium 3 600 MHz
Nimzo	AUT	Chrilly Donninger, Helmut Weigel (co-author, tuning, testing), Alexander Kure (book), W. Zugrav (hardware), Bernhard Biberle (operator), Cock de Gorter (special book)	Data Not Available	Yes; not specified	Intel Pentium 3 600 MHz
Chesstiger	GUA	Christophe Théron	350 K moves; wo/L	None	AMD K6–3 350 MHz
Hiarcs	GBR	Mark Uniache, Eric Hallsworth (book), Matthias Wullenweber (GUI, op), Erdogan Gress (GUI, op), Mathias Feist (GUI)	Data not available	All 3,4; some 5 pc.	Intel Pentium 3 550 MHz
LambChop	NZE	Peter McKenzie	1 K; wo/L	None	Intel Pentium 2 450 MHz
Francesca	GBR	Tom King	Data not available	None	Intel Pentium 2 450 MHz
VirtualChess	FRA	Marc-Francois Baudet, Jean-Christophe Weill	No data on size; wo/L	None	Intel Pentium 2 450 MHz

GromitChess	DEU	Frank Schneider	100 K; wo/L	Edwards 3,4 pc.	Intel Pentium 2 450 MHz
Eugen	SPN	Eugenio Castillo Jimenez	250 K; wo/L	Some 3 pc.	Intel Pentium 2 450 MHz
Zugzwang	DEU	Rainer Feldmann, Peter Mysliwietz, Heiner Matthias	No data on size; wo/L	Thompson's tables	512 x DEC RISC Alpha 21164 300 MHz
MChess	USA	Marty Hirsch, Sandro Necchi (book), Peter Schreiner (operator)	Data not available	Data not available	Intel Pentium 3 500 MHz
P.ConNerS	DEU	Ulf Lorenz, Heiner Matthias (book)	1 Mb; wo/L	Thompson's non-trivial 4 pc.	186 Intel Pentium 2 450 MHz
Isichess	DEU	Gerd Isenberg	Data not available	None	Intel Pentium 3 500 MHz
Diep	NLD	Vincent Diepeveen	200 K; wo/L	Data not available	Intel 4x Xeon 400 MHz
Patzer	DEU	Roland Pfister	30 K; wo/L	Most 3–4 Nalimov	Intel Pentium 2 450 MHz
Mini	USA	Larry Kaufman, Don Dailey	10 K; wo/L	KPK	Intel Pentium 2 400 MHz
Now	USA	Mark Lefler	5–6 K	None	Intel Pentium 2 450 MHz
SOS	DEU	Rudolf Huber	70 K; some learning	All Nalimov	Intel Pentium 2 450 MHz
Arthur	NLD	Walter Ravenek	Data not available	All Nalimov	Mac G3 420 MHz
Ikarus	DEU	Muntsin Kolss, Munjong Kolss	Data not available	All Nalimov	Intel Pentium 2 450 MHz
Centaur	RUS	Victor Vikhrev, Alexey Manjakhin	2 M moves; wo/L	None	Intel Pentium 2 450 MHz
Ruy Lopez	SPN	Alvaro Begue, Jose Manuel Moran	200 K ; wo/L	Edward's 3–4 pc.	Intel Pentium 2 450 MHz
XXXX2	DEU	Martin Zentner	170 K ; wo/L	Edward's 3 pc, some 4 pc.	Intel Pentium 2 450 MHz
Neurologic	DEU	Jochen Peussner	4 Mb; some learning	Edward's 3–4 pc.	Intel Pentium 2 450 MHz

Note: w/L denotes with learning, wo/L denotes without learning

Final standings of the 9th WCCC, Paderborn, Germany

#	Name	1	2	3	4	5	6	7	Pts	TB
1	Shredder	30wW	3bW	7wW	8bD	10wD	2bD	5wW	5.5	29.0
2	Ferret	20bW	14wW	10bL	24wW	12bW	1wD	3wW	5.5	28.0
3	Fritz	27bW	1wL	26bW	13wW	5bW	10wW	2bL	5.0	27.5
4	Cilkchess	21wW	24bW	5bL	12wD	11bW	6wD	10bW	5.0	26.5
5	Junior	15wW	6bW	4wW	10bD	3wL	8wW	1bL	4.5	32.5
6	Dark Thought	12bW	5wL	21bW	11wD	16bW	4bD	7wD	4.5	28.5
7	Rebel	25bW	11wW	1bL	18wW	8bL	13wW	6bD	4.5	28.0
8	Nimzo	26bD	22wW	16bW	1wD	7wW	5bL	9wD	4.5	27.5
9	Chess Tiger	10bL	13wL	29bW	22wW	14bW	19wW	8bD	4.5	23.5
10	Hiarcs	9wW	17bW	2wW	5wD	1bD	3bL	4wL	4.0	33.5
11	LambChop	18wW	7bL	15wW	6bD	4wL	24bW	16wD	4.0	27.0
12	Francesca	6wL	28bW	17wW	4bD	2wL	16wD	20bW	4.0	26.5
13	VirtualChess	24wL	9bW	19wW	3bL	26wW	7bL	18wW	4.0	24.5
14	GromitChess	28wW	2bL	18wL	23bW	9wL	27wW	25bW	4.0	22.0
15	Eugen	5bL	29wW	11bL	21wW	24bD	20wD	19bW	4.0	21.0
16	Zugzwang	19wD	23bW	8wL	17bW	6wL	12bD	11bD	3.5	26.5
17	MChess	29bW	10wL	12bL	16wL	25bD	26wW	24wW	3.5	19.5
18	P.ConNerS	11bL	20wW	14bW	7bL	19wL	21wW	13bL	3.0	25.5
19	Isichess	16bD	26wD	13bL	25wW	18bW	9bL	15wL	3.0	23.5
20	Diep	2wL	18bL	30wD	28bW	22wW	15bD	12wL	3.0	22.0
21	Patzer	4bL	27wW	6wL	15bL	30wW	18bL	29wW	3.0	20.5
22	Mini	23wD	8bL	28wD	9bL	20bL	30wW	27bW	3.0	19.5
23	Now	22bD	16wL	27bL	14wL	28wD	29bW	26bW	3.0	17.0
24	SOS	13bW	4wL	25bW	2bL	15wD	11wL	17bL	2.5	28.5
25	Arthur	7wL	30bW	24wL	19bL	17wD	28bW	14wL	2.5	20.0
26	Ikarus	8wD	19bD	3wL	27wW	13bL	17bL	23wL	2.0	25.0
27	Centaur	3wL	21bL	23wW	26bL	29wW	14bL	22wL	2.0	21.0
28	RuyLopez	14bL	12wL	22bD	20wL	23bD	25wL	30bD	1.5	20.5
29	XXXX2	17wL	15bL	9wL	30bW	27bL	23wL	21bL	1.0	21.0
30	Neurologic	1bL	25wL	20bD	29wL	21bL	22bL	28wD	1.0	19.5

#	Name	Playoff	Pts
1	Ferret	2bW	0.0
2	Shredder	1wL	1.0

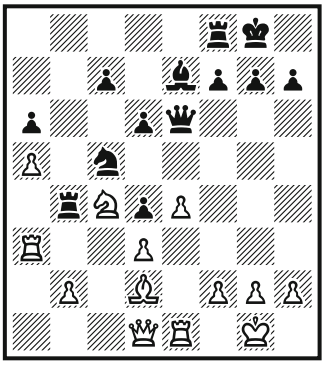
9th WCCC, Paderborn
Round 2, June 15, 1999
Fritz (W) versus Shredder (B)
Ruy Lopez (C88)

Fritz, the defending world champion, was about to receive its first dose of medicine in the second round.

1 e4 e5 2 Nf3 Nc6 3 Bb5 a6 4 Ba4 Nf6 5 O-O Be7 6 Re1 b5 7 Bb3 O-O

Deep Blue had defeated Kasparov when the latter played 7 … d6 here in Game 2 of the Rematch, but Shredder chose another direction.

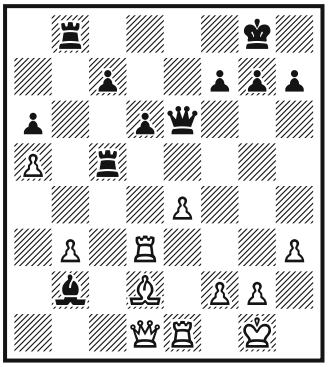
8 a4 b4 9 d3 d6 10 a5 Be6 11 Nbd2 Rab8 12 Bc4 Qc8 13 Nf1 Nd4 14 Nxd4 exd4 15 Bf4 Nd7 16 Nd2 Bxc4 17 Nxc4 b3 18 cxb3 Nc5 19 b4 Rxb4 20 Ra3 Qe6 21 Bd2



Position after 21 Bd2.

Most of the action took place on the queenside.

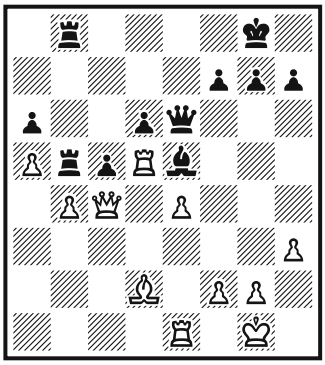
21 … Nxd3 22 Rxd3 Rxc4 23 b3 Rc5 24 Rxd4 Bf6 25 Rd3 Rb8 26 h3 Bb2



Position after 26 … Bb2.

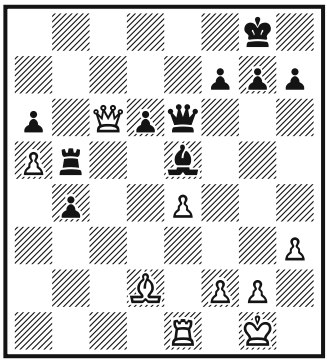
Shredder's move was one more example of the unique mind of the machine.

27 Qe2 Rcb5 28 Rd5 Be5 29 Qc4 c5 30 b4



Position after 30 b4.

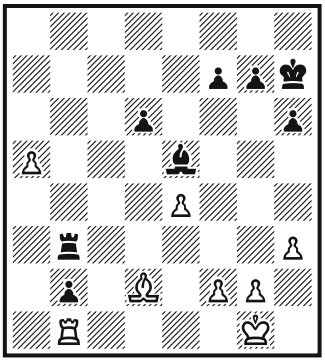
30 … cxb4 31 Rxb5 Rxb5 32 Qc6



Position after 32 Qc6.

While Shredder wouldn't fall for mate-in-one, Fritz would neglect the threat of Shredder advancing its b-pawn.

32 … h6 33 Qxa6 Qd7 34 Rc1 b3 35 Qc8+ Qxc8 36 Rxc8+ Kh7 37 Rc1 b2 38 Rb1 Rb3



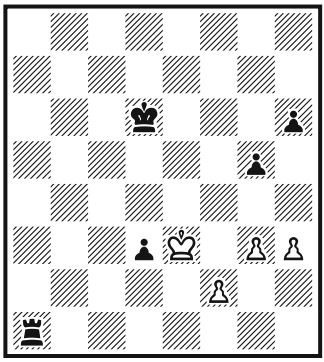
Position after 38 ... Rb3.

The material is even at this point, but Fritz must now give up a bishop for a pawn.

39 Bc1 bxc1=Q+ 40 Rxc1

Shredder had an easy win from here, and its opponent could have resigned to spare the operators from carrying on for another 15 moves.

40 … Kg6 41 g3 f5 42 exf5+ Kxf5 43 Rc6 Ra3 44 Kg2 Ra2 45 Ra6 Ke4 46 Ra8 d5 47 Rc8 d4 48 Rc4 Rxa5 49 Rb4 g5 50 Rc4 Ra1 51 Rb4 Bd6 52 Rb6 Kd5 53 Kf3 d3 54 Rxd6+ Kxd6 55 Ke3 White resigns.



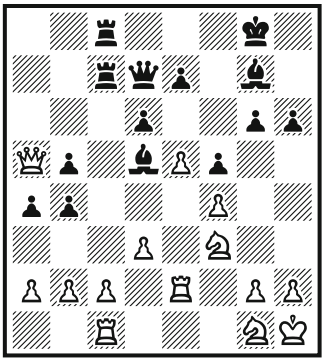
Position after 55 Ke3,
White resigns.

After this loss, Fritz found itself in an uphill struggle to retain its title. Six other engines had perfect 2–0 records at this point.

Event: 9th WCCC, Paderborn
Round 5, June 18, 1999
Junior (W) versus Fritz (B)
Sicilian Closed (B23)

Junior was tied for first place with Shredder and Hiarcs when it took on Fritz in the fifth round. It came up short and this loss, along with a loss to Shredder in the final round, left Junior one half point behind Fritz, who finished one half point behind Shredder and Ferret.

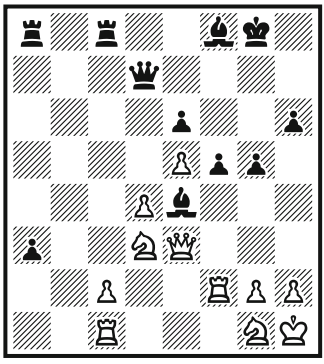
1 e4 c5 2 Nc3 Nc6 3 f4 g6 4 Nf3 Bg7 5 Bb5 Nd4 6 O-O Nxb5 7 Nxb5 d6 8 Qe1 a6 9 Nc3 b5 10 d3 Bb7 11 Kh1 Qd7 12 Bd2 Nf6 13 e5 Nd5 14 Ne4 f5 15 Neg5 h6 16 Nh3 O-O 17 Qh4 Nb4 18 Bxb4 cxb4 19 Nhg1 Rac8 20 Rf2 Rc7 21 Re2 Rfc8 22 Rc1 Bd5 23 Qf2 a5 24 Qb6 a4 25 Qa5



Position after 25 Qa5.

Junior's queen had managed to hide herself in the strangest way.

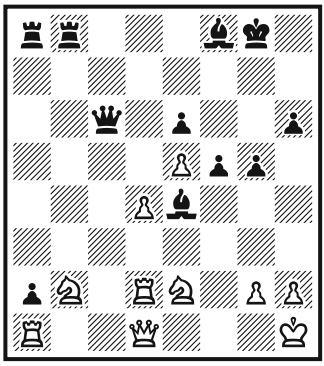
25 … b3 26 axb3 Bxb3 27 Ne1 dxe5 28 fxe5 g5 29 Qb6 e6 30 Qf2 b4 31 Ra1 Bd5 32 Qe3 Rc5 33 Qd2 33 ... Rb8 34 Qe3 Ra5 35 d4 Bf8 36 Nd3 a3 37 Rb1 Raa8 38 Rf2 Rc8 39 Rc1 Be4 40 bxa3 bxa3



Position after 40 … bxa3.

Fritz's strong bishops and rooks along with the passed a-pawn would force a resignation soon.

41 Rd2 Qc6 42 Qe1 Rd8 43 c3 a2 44 Ra1 Qxc3 45 Ne2 Qc4 46 Qd1 Rdb8 47 Nb2 Qc6 White resigns.

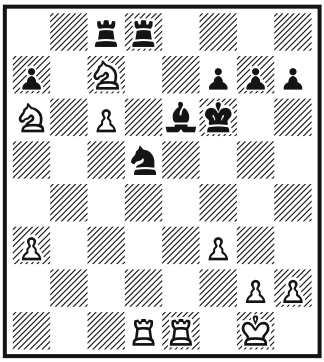


Position after 47 … Qc6,
White resigns.

9th WCCC, Paderborn
Round 6, June 18, 1999
Ferret (W) versus Shredder (B)
Evans Gambit (C52)

With two rounds to go, Ferret, Shredder, Fritz, and Hiarcs were tied for the lead with four of five points.

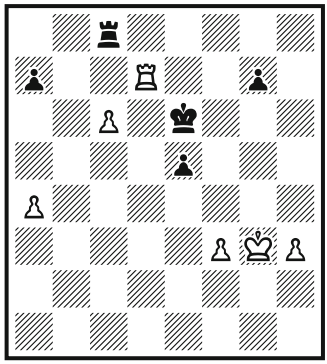
1 e4 e5 2 Nf3 Nc6 3 Bc4 Bc5 4 b4 Bxb4 5 c3 Ba5 6 d4 exd4 7 O-O Nge7 8 cxd4 d5 9 exd5 Nxd5 10 Ba3 Be6 11 Bb5 Bb4 12 Bxc6+ bxc6 13 Bxb4 Nxb4 14 Qa4 Qd6 15 Nc3 Nd3 16 d5 Nc5 17 Qxc6+ Qxc6 18 dxc6 Ke7 19 Rfe1 Nd3 20 Re3 Nb4 21 Nd4 Rhd8 22 Rd1 Kf6 23 a3 Nd5 24 Ne4+ Ke7 25 Ree1 Bg4 26 f3 Bc8 27 Nc5+ Kf6 28 Nb5 Be6 29 Na6 Rac8 30 Nbxc7



Position after 30 Nbxc7.

Both sides now became temporarily distracted from the tactics that had dominated the game thus far.

30 … h5 31 h3 h4 32 a4 Nxc7 33 Rxd8 Rxd8 34 Nxc7 Rc8 35 Nxe6 fxe6 36 Rc1 e5 37 Kf2 Ke6 38 g3 hxg3+ 39 Kxg3 Kd6 40 Rd1+ Ke6 41 Rd7



Position after 41 Rd7.

Ferret, up a pawn, seemed to be in a position to win the king, rook, and pawns endgame, but Shredder's king had other ideas.

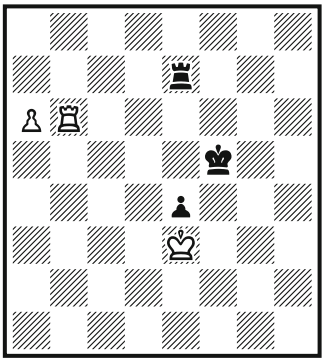
41 … Rxc6 42 Rxg7 Rc3 43 Rg4 Kf5 44 h4 Rc1 45 h5 Rc6 46 Rg7 Ra6 47 Rg4 Rc6 48 Rg7 Ra6

Shredder proposed a draw.

49 Rg8

Not quite! Ferret, with an extra pawn, wasn't quite ready to settle for a half point.

49 … Rb6 50 Kh4 Rb4+ 51 Kg3 Rb6 52 Kh4 Rb4+ 53 Rg4 Rb2 54 Kg3 Rb6 55 a5 Rd6 56 Rg7 Ra6 57 Rg8 Rd6 58 Kh4 Rd4+ 59 Kg3 Rd6 60 Rb8 Kg5 61 Re8 Rd5 62 a6 Ra5 63 Re7 e4 64 Rxa7 Ra3 65 Kf2 Rxf3+ 66 Ke2 Kxh5 67 Ra8 Rf7 68 Ke3 Re7 69 Rb8 Kg6 70 Rb6+ Kf5 Drawn by agreement.



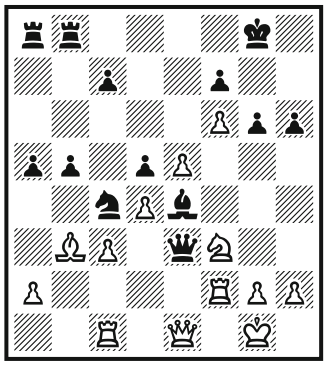
Position after 70 … Kf5,
Drawn by agreement.

The draw left Ferret and Shredder tied for second place after six of the scheduled seven rounds. Fritz, who defeated Hiarcs, regained the lead.

9th WCCC, Paderborn
Round 7, June 19, 1999
Shredder (W) versus Junior (B)
Ruy Lopez, Worrall Attack (C86)

Fritz, with five of six points, led Shredder, Ferret, and Junior by a half point with one game to go. It seemed on its way to successfully defending its title.

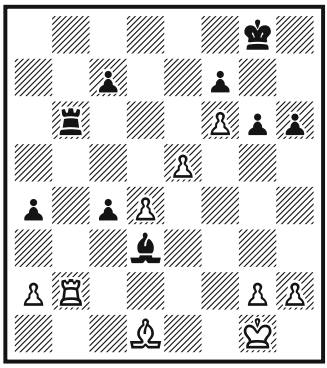
1 e4 e5 2 Nf3 Nc6 3 Bb5 a6 4 Ba4 Nf6 5 O-O Be7 6 Qe2 b5 7 Bb3 d6 8 c3 O-O 9 d4 Bg4 10 Rd1 exd4 11 cxd4 d5 12 e5 Ne4 13 Nc3 Nxc3 14 bxc3 Bf5 15 Bf4 Na5 16 Bc2 Qc8 17 Bg5 Bxg5 18 Nxg5 h6 19 Nf3 Nc4 20 Bb3 Qe6 21 Nh4 Be4 22 f3 Bh7 23 f4 Be4 24 Qf2 Rfb8 25 f5 Qe7 26 Rf1 Qd7 27 f6 g6 28 Rad1 Qg4 29 Nf3 Qf4 30 Rc1 a5 31 Qe1 Qe3+ 32 Rf2



Position after 32 Rf2.

Junior seemed to have a good attack, but it traded away its primary troublemaker here.

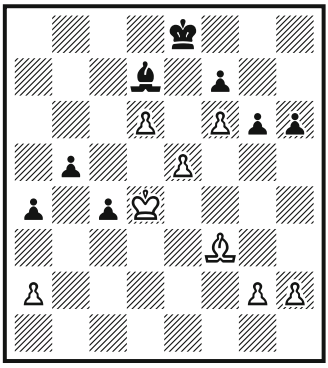
32 … Qxe1+ 33 Rxe1 Ra6 34 Nd2 Nxd2 35 Rxd2 b4 36 cxb4 Rxb4 37 Rc1 a4 38 Bd1 Rc4 39 Rxc4 dxc4 40 Re2 Bd3 41 Rb2 Rb6



Position after 41 … Rb6.

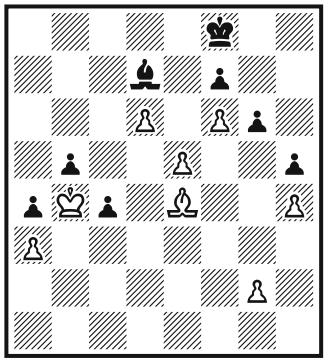
Junior was about to straighten up its pawns, but the net result was that it gave too much strength to Shredder's advanced pawns.

42 Rxb6 cxb6 43 d5 Be4 44 d6 Bc6 45 Kf2 Bd7 46 Ke3 b5 47 Kd4 Kf8 48 Bf3 Ke8



Position after 48 … Ke8.

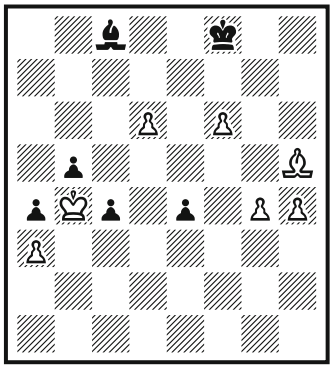
49 Bd5 h5 50 h4 Kf8 51 a3 Ke8 52 Kc3 Kf8 53 Kb4 Kg8 54 Be4 Kf8



Position after 54 … Kf8.

Junior's roof is about to collapse.

55 e6 fxe6 56 Bxg6 e5 57 Bxh5 e4 58 g4 Bc8 Black resigns.



Position after 58 ... Bc8,
Black resigns.

Fritz now needed to win its final game with Ferret to hold on to its title. A draw would leave it tied with Shredder, and a loss would leave it a half point behind Shredder and Ferret.

9th WCCC, Paderborn
Round 7, June 19, 1999
Ferret (W) versus Fritz (B)
Sicilian, Najdorf (B90)

Fritz's second dose of medicine was about to be delivered by Ferret. The soon-to-be ex-world champion would have to settle for tying for third place, a half point behind Shredder and Ferret.

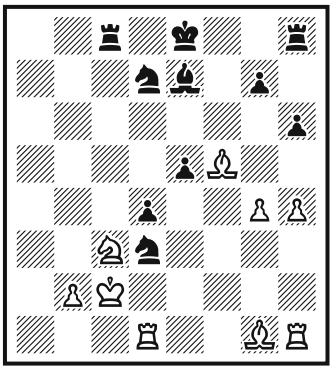
1 e4 c5 2 Nf3 d6 3 d4 cxd4 4 Nxd4 Nf6 5 Nc3 a6 6 Be3 e5 7 Nb3 Be6 8 f3 Be7 9 Qd2 Nbd7 10 g4 h6 11 h4 b5 12 O-O-O Nb6 13 Be2 b4 14 Nb1 Nfd7 15 Qxb4 d5 16 Qa5 d4 17 Bf2 Qc7 18 f4 Bxb3 19 axb3 Rc8 20 c3 Nc5 21 Kc2 Nxe4

Fritz's pieces were well developed, though it had not yet castled, and that became a problem.

22 Bg1 f6 23 Bd3 Nc5 24 Bg6+ Kf8 25 fxe5 fxe5 26 b4 Ncd7 27 Qa2

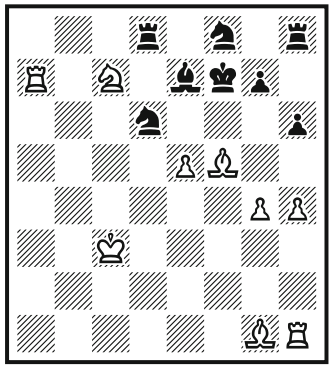
A mate threat on f7.

27 … Qc4 28 Qxc4 Nxc4 29 Kb3 a5 30 Bf5 Ke8 31 bxa5 Nxa5+ 32 Ka2 Nc6 33 cxd4 Nb4+ 34 Kb3 Rb8 35 Nc3 Nd3+ 36 Kc2



Position after 36 Kc2.

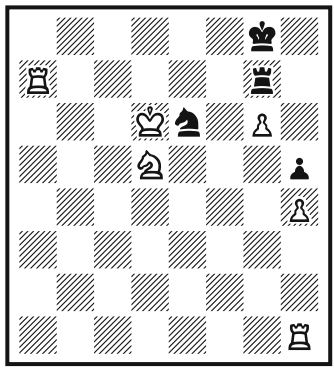
36 … Nxb2 37 Ra1 Nc4 38 Ra7 Rd8 39 Nb5 Nf8 40 Kc3 Nd6 41 Nc7+ Kf7 42 dxe5



Position after 42 dxe5.

Ferret managed to win a pawn and develop a strong attack on Fritz's king.

42 … Nxf5 43 gxf5 Kg8 44 Bd4 Rh7 45 e6 h5 46 Kc4 Rc8 47 Kd3 Rd8 48 Ke4 g6 49 fxg6 Rxd4+ 50 Kxd4 Rg7 51 Nd5 Nxe6+ 52 Ke5 Bd6+ 53 Kxd6 Black resigns.

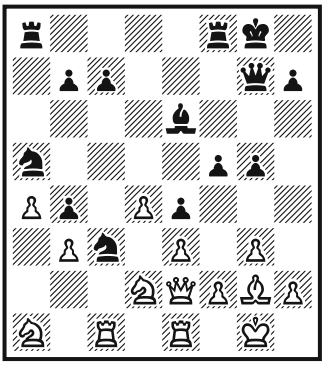


Position after 53 Kxd6,
Black resigns.

9th WCCC, Paderborn
Playoff, June 19, 1999
Shredder (W) versus Ferret (B)
English, Four Knights, Kingside Fianchetto (A29)

Shredder and Ferret finished the seven-round competition tied for first place with five and a half points. In this long game, they played to a draw. Shredder was the only entry to finish undefeated.

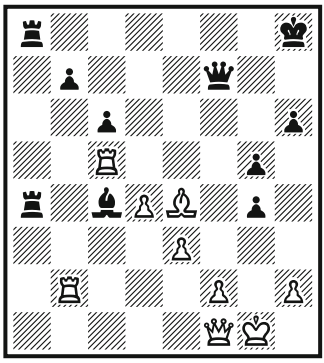
1 c4 e5 2 Nc3 Nf6 3 Nf3 Nc6 4 g3 d5 5 cxd5 Nxd5 6 Bg2 Nb6 7 O-O Be7 8 d3 O-O 9 a4 a5 10 Be3 Ra6 11 Rc1 Bb4 12 Re1 f6 13 Bd2 Be6 14 Ne4 Nd7 15 Bxb4 axb4 16 e3 Bd5 17 Ned2 Qe7 18 b3 Raa8 19 d4 e4 20 Nh4 f5 21 Bh3 g6 22 Rf1 Qe6 23 Ng2 g5 24 Qh5 Qe7 25 Ne1 Qg7 26 Qe2 Nb6 27 Nc2 Be6 28 Bg2 Na5 29 Na1 Nd5 30 Rfe1 Nc3



Position after 30 … Nc3.

Neither side had any idea how to proceed; a slugfest loomed.

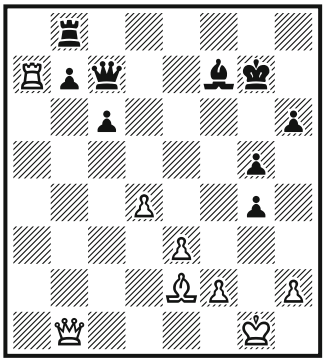
31 Qf1 c6 32 Rc2 Kh8 33 Nb1 Nxb3 34 Nxc3 bxc3 35 Rxc3 Qf7 36 g4 fxg4 37 Nxb3 Bxb3 38 Bxe4 Rxa4 39 Rc5 Be6 40 Rec1 h6 41 R1c2 Rfa8 42 Rb2 Bc4 43 Qc1 Be6 44 Qf1 Bc4



Position after 44 … Bc4.

Were they dancing to a draw?

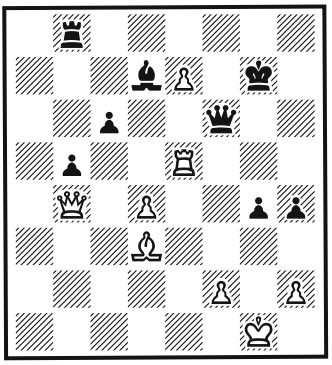
45 Qc1 Ra1 46 Rb1 Rxb1 47 Qxb1 Be6 48 Re5 Rf8 49 Qb2 Qf6 50 Ra5 Kg8 51 Ra7 Bc8 52 Ra8 Qe7 53 Bb1 Be6 54 Ra7 Rb8 55 Bd3 Qc7 56 Qb1 Bf7 57 Be2 Kg7



Position after 57 … Kg7.

Ferret couldn't hang on to the pawn. Shredder seemed to have the upper hand.

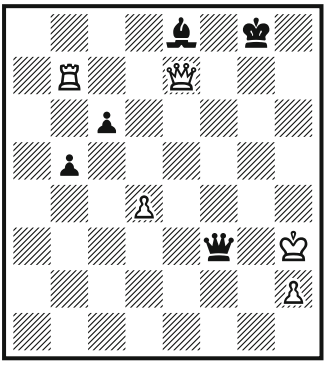
58 Bxg4 Bg6 59 Qb3 Bf7 60 Qb4 Kh8 61 Bf5 Kg8 62 e4 Kg7 63 Qb2 Kg8 64 Qa3 Kg7 65 Qa1 Kg8 66 Qa4 Qd6 67 e5 Qd8 68 e6 Bh5 69 Qc4 Qf6 70 e7+ Kg7 71 Qc5 Be8 72 Bg4 Qf4 73 Bf3 Kf6 74 Be2 Bd7 75 Bh5 Be8 76 Bf3 h5 77 Be2 g4 78 Bd1 h4 79 Qb4 Bd7 80 Ra3 Re8 81 Re3 Kg7 82 Be2 Qf6 83 Bd3 Rb8 84 Re5 b5



Position after 84 …b5.

Shredder now won an exchange, but then allowed Ferret's queen to force a draw!

85 Bf5 Bxf5 86 e8=N+ Rxe8 87 Rxe8 Bg6 88 Re7+ Kg8 89 Rd7 Be8 90 Qe7 Qg6 91 Rb7 Qb1+ 92 Kg2 h3+ 93 Kg3 Qg1+ 94 Kf4 Qxf2+ 95 Kxg4 Qg2+ 96 Kh4 Qf2+ 97 Kxh3 Qf3+ 98 Kh4 Qf4+ 99 Kh3 Qf3+ 100 Kh4 Qf4+ 101 Kh3 Qf3+ Drawn by repetition.



Position after 101 … Qf3+,
Drawn by repetition.

While the two drew, Shredder was awarded the title of World Champion, having played tougher opponents.

Suggest Readings

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