SELECTIVE SEARCH 92
THE COMPUTER CHESS MAGAZINE

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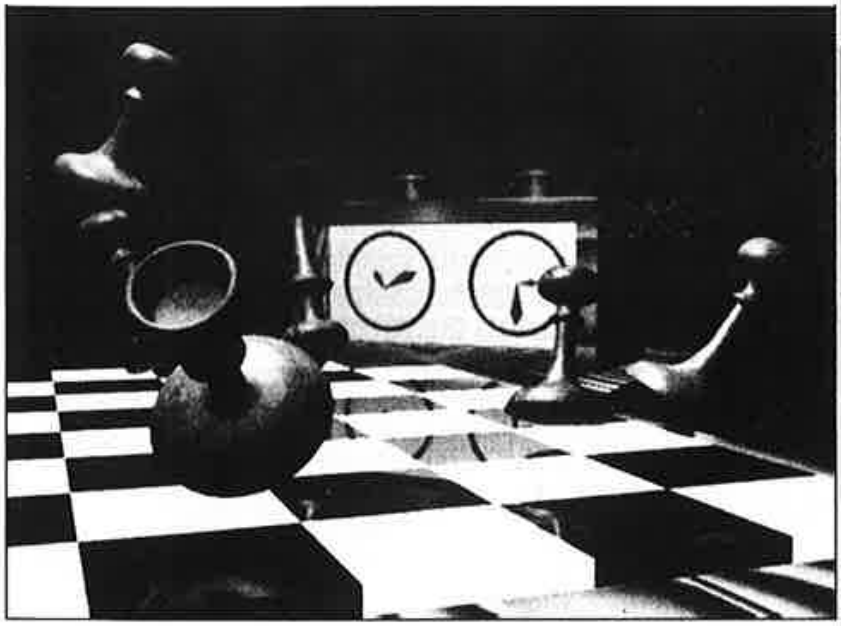

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NEWS & RESULTS - Keeping you right up-to-date in the COMPUTER CHESS world!

First of all I'd like to wish all of my readers a very Happy and Good New Year!

The December through January period has seen many of the new program versions put through their paces, so let's start off by having a look at some results!

Nov 2000. Sarah Bird Tourny. G/60+3secs on 2 x AMD/900

	Program	CT	Ga	F6	H7	J6	N8	S4	Ga	/28
1	Tiger 13.0	x	2½	3½	3	2½	2½	4	2½	20½
2	Gambit 1.0	1½	x	2	2½	3	3	3½	3½	19
3=	Fritz 6b	½	2	x	1½	2½	2	3½	2	14
	Hiarcs 732	1	1½	2½	x	1½	1½	2½	3½	14
5	Junior 6a	1½	1	1½	2½	x	2½	1	3½	13½
6	Nimzo 8	1½	1	2	2½	1½	x	2	2	12½
7	Shredder 4	0	½	½	1½	3	2	x	2	9½
8	Gandalf 432	1½	½	2	½	½	2	2	x	9

Our first result here is a great boost for **Chrilly Donninger**'s two **Tiger** versions, which are a long way clear of 3rd. placed Fritz! In equal 3rd. the 'elderly' Hiarcs also did well, but Gandalf's result is very different to the scores we'd had previously both for *Selective Search* and the *SSDF*.

Jeroen Noomen's Christmas Tourny G/90 on 2 x K6/500

	Program	CT	C3	J6	F6	Ga	S4	H7	N2	/7
1=	Tiger 13.0	x	1	½	½	1	1	½	1	5½
	Century 3.0	0	x	1	1	1	1	½	1	5½
3	Junior 6a	½	0	x	½	1	1	½	½	4
4	Fritz 6a	½	0	½	x	½	0	1	1	3½
5=	Gandalf 432	0	0	0	½	x	1	1	½	3
	Shredder 4	0	0	0	1	0	x	1	1	3
7	Hiarcs 732	½	½	½	0	0	0	x	1	2½
8	Nimzo 2000	0	0	½	0	½	0	0	x	1

Donninger's **Tiger** is joined at the top this time by fellow Rebel, Ed Schroder's **Century 3.0**, which had to beat Fritz in the last round to get there! Gandalf does a little better whilst Hiarcs shows its age a little with only the hapless Nimzo behind it.

Rebel's opening book programmer also ran a 4 games per match Round Robin Blitz Tournament.

Jeroen's Christmas Blitz Tourny. G/5 on 2 x K6/500

	Program	CT	F6	C3	J6	N2	H7	S4	Ga	/28
1=	Tiger 13.0	x	2½	2	2	3	1½	2	4	17
2	Fritz 6a	1½	x	2	1	2½	3	3	3½	16½
3	Century 3.0	2	2	x	3	2	2	3	2	16
4	Junior 6a	2	3	1	x	2	1½	3	3	15½
5=	Nimzo 2000	1	1½	2	2	x	2	2	3	13½
	Hiarcs 732	2½	1	2	2½	2	x	2	1½	13½
7	Shredder 4	2	1	1	1	2	2	x	2½	11½
8	Gandalf 432	0	½	2	1	1	2½	1½	x	8½

This time the **Tiger** win was only down to a 4-0 thrashing of Gandalf. At Blitz the lack of endgame tablebases spoiled the Rebel performances on at least one occasion, whereas at slower time controls their programming appears to overcome this!

Graham White on the Internet

Graham has asked me to let readers know the details of his web address:

http://uk.geocities.com/southbourne_chess/

It's well worth a visit as Graham covers many of the major chess tournaments as well as having a growing computer chess section!

At present he's trying to update it on a weekly basis, and if he can maintain that his site will become a valuable source for current information.

Kasparov Chess Blitz Tourny

After the Deep Fritz and Deep Junior performances on the Internet in scoring 14½/20

against a range of IM's and GM's at G/60 (see 'Deep Trouble for the Humans' in *SelSearch91, page 19* plus further games coverage this Issue), the following gathering of players must have looked forward with some trepidation to the KC Blitz Tournament :-

Judit Polgar (2656), Alon Greenfeld (2574), Boris Alterman (2564), Har Zvi Ronen (2508), and Svetlana Matveeva (2440). These were all joined by **Deep Junior**!

Both Alterman (who is a helper within the Junior team as chess adviser) and Har Zvi had gone 1-1 in the G/60 event, but at Blitz I would expect a quad Deep Junior to play at around 2800 Elo, so against a 2550 field it should be scoring even more heavily and get around 8/10.

Either Polgar or Alterman were expected to come 2nd., but in the event the former USSR woman champion Svetlana Matveeva managed that by exhibiting some tremendous speed play, which included a win v DJ.

Alterman did get 1-1 again against the computer, but had an unhappy time apart from that, and Polgar got a draw with DJ. Former Israeli champion Greenfeld had an altogether awful time!

Here is the final Blitz Table

1	**Deep Junior**	7½/10
2	**Matveeva**	6½
3=	**Har Zvi**	5½
	Polgar	5½
5	**Alterman**	4
6	**Greenfeld**	1

I calculate the tournament rating performance for Deep Junior as being 2748 Elo - just a little below (my) expectations for Quad processors at Blitz.

Andreas Schwartman Young Talents Tourny. G/60 on AMD/9000

We haven't heard from Andreas for some time, but when he runs a Tournament, he really runs one!

This time we have a massive 16 round event involving no less than 24 engines playing under the ChessBase or WinBoard arrangement. Thus the Tournament Title *'Young Talents'* as the entrants also included all of the programs available on the ChessBase CD of the same name.

1	**Nimzo 8**	12/16
2=	**Fritz 6**	11½
	Junior 6	11½
4	**Hiarcs X99**	10
5=	**Ikarus v0.18**	9½
	Z Chess 2.2	9½
	Yace 0.23.08	9½
8=	**Goliath Light 2.0 beta 1.0**	9
	SOS	9
10=	**AnMon 5.07**	8½
	The Crazy Bishop 0.45	8½
	Comet B27	8½
13=	**Amy 0.7**	8
	Phalanx XXII	8
	Gandalf 432	8
	Bionic 4.01	8
17=	**Crafty 17.13**	7½
	Patzer 3.11b	7½
19	**Gromit 3.5.1**	7
20	**Knight X 1.55**	6
21	**EXchess 3.14**	5
22	**Doctor? 3.0**	4
23=	**Ant 6.03**	3
	InmiChess 3.05	3

An incredible effort which must have tied-up Andreas' computer for hundreds of hours!

On this occasion we see Nimzo performing at the top of its form which, otherwise, has been disappointing.

I don't know what Hiarcs X99 is - neither does Mark Uniacke! It seems one of our test versions from the middle of last year somehow did the rounds and reached various testers!

Ikarus, Z Chess and Yace did very well indeed, but Gandalf was again a disappointment.... strange, at its high grading in the December rating lists was already based on a large number of games so seemed a reliable figure!

Another 'Young Talent' tester..... Frank Holt!

Frank has been missing from our pages for a couple of issues, mostly doing comparison tests on specific positions and mates.

Part of this has included testing the top programs on the Young Talents CD, and he's now completed a major Round Robin Tournament with them: 6 matches between each program at his 40/x time controls, and another 6 at his G/x time controls.

His results for SOS and Goliath Light come out in line with our Christmas Issue Rating List, and it's particularly useful to see how Frank's scores for three of the other Young Talents engines compare with the Schwartman result!

	60/45-60-90	SOS	GL	Ika	Anm	Pha	/24
1	**SOS**	x	3½	4	4	5	**16½**
2	**Goliath Light**	2½	x	5½	2½	3½	**14**
3=	**Ikarus 0.18**	2	½	x	4	3½	**10**
	Anmon 5.07	2	3½	2	x	2½	**10**
5	**Phalanx 22**	1	2½	2½	3½	x	**9½**

	G/30-60-90	SOS	GL	Ika	Anm	Pha	/24
1	**SOS**	x	4	4	6	2½	**16½**
2	**Goliath Light**	2	x	3	4	5½	**14½**
3	**Ikarus 0.18**	2	3	x	4½	4½	**14**
4=	**Anmon 5.07**	0	2	1½	x	4	**7½**
	Phalanx 22	3½	½	1½	2	x	**7½**

Adding the scores together:

33 SOS
28½ Goliath Light
24 Ikarus 0.18
17½ Anmon 5.07
17 Phalanx 17

At the time of writing I'm intending to include **SOS** and **Goliath Light** in our Rating List, as both Frank's and other scores I have strongly indicate that these are the 2 best of the *Young Talents* CD, and that they are quite close to the very top programs!

I'll keep a close eye on other results, especially for Ikarus, but I hope readers will understand that it's almost impossible to include all of the new programs - especially with the proliferation of Winboard engines. Even more so as many of the 'amateur' programs have new versions released so regularly.

So please keep sending your results, and I'll continue to search the various computer chess Magazines and the Internet for other results. Anytime I see something which looks as if it may be within around 100 Elo of the top programs, I'll put results into *Selective Search* and, if performance is maintained, I'll add the program to the ratings.

However I reached the maximum array size (254) in my rating program some time ago, so every new program that gets added now has to replace an older program, so changes have to be approached with some care and thought.

In the meantime **Frank** says his next series of matches that the *Young Talents* winner, **SOS**, will now be matched in turn against Fritz6a and Junior6a! I'll look forward to those results.

Charles Palmer tests the Deep programs!

I've shown Charles' results from his Quad 900MHz machine with **Deep Junior** before, and now he's sent me the results following his purchase just before Christmas of the new **Deep Fritz**!

The time control was 40/2, and the testing was done under engine-engine (unfortunately Charles only has one of these machines!!

Deep Fritz - Deep Junior 13½-10½
Deep Fritz - Hiarcs 732 13½-10½

Quite a coup for Hiarcs 732 to match DJ and get so close to Deep Fritz, as Hiarcs would be running as a single 900MHz provessor whereas the other two run at the equivalent of 900 x 1.75 = 1575MHz.

Schumacher's *'Next Generation'* Tournament

Heinz-Josef Schumacher is a well-known computer chess journalist in Germany, and recently ran a Giant 11 machine double-round all-play-all Tournament, which he called the ***'Next Generation Tournament 2001'***.

The time control was 60 moves in 2 hours and 30 in 1 hour thereafter, whilst the PCs were AMD K6-3/400 and Athlon/700. Using the autoplayer, the programs played 1

game with White on the AMD, and 1 game with Black on the Athlon except for Rebel Century 3.0. As its games on the autoplayer have produced some strange results and non-repeatable (poorer) moves, its games were all played manually and with Century 3.0 on the faster hardware for every game. This should be born in mind when assessing the results.

With one round to go, the speed beneficiary Century 3.0 did in fact lead with 12½/18, ahead of Tiger 13.0 on 11½ and Deep Fritz 11.

But the final round match-up was between the top two - Century v Tiger - so Century 3.0 needed just a draw from the 2 games to guarantee a share of 1st. place, whilst a share of the points 1-1 would assure it of 1st. place! But Tiger 13.0, despite the slower hardware, won both games!

Here's the final table:

1	**Chess Tiger 13.0**	**13½/20**
2	**Rebel Century 3.0**	**12½**
3=	**Deep Fritz**	**12**
	Junior 6	**12**
5	**Gambit Tiger 1.0**	**11**
6	**Fritz 6**	**10½**
7	**Hiarcs XY**	**10**
8	**Shredder 5**	**9½**
9	**SOS**	**7**
10	**Nimzo 8**	**6½**
11	**Gandalf 432**	**5½**

Christophe Theron's Tiger13 and Gambit Tiger programs seem to be winning nearly everything so far! Deep Fritz did well on a single processor considering its code is aimed to maximise its dual/quad performances. Hiarcs XY is another version which has somehow escaped Mark Uniacke's security net. Again we don't know how new/old it is, but it seems a 'confidential' tester has shared at least one version with other/s. The Shredder5 result is our first since it won the World Championship and, as with Nimzo and Gandalf, it's a little disappointing.

Pentium 4 - Caution!

According to information I've seen on the Internet, the forthcoming **Pentium4** processor is particularly not suitable for chess!

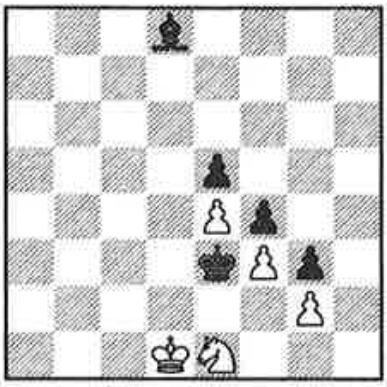
It uses a new instruction set, and software NOT written specifically for it will run SLOWER on a new Pentium4 than on a P3!

One tester claims that Crafty was running slower on a P4/1500 than on a P3/1000 - in fact he calculated that for chess the 1500 MHz was only the equivalent of about 933 MHz - a massive difference.

At present all the chess programs are tuned for and run best on either the AMD or the P3, so I'd recommend *SelSearch* folk to stick with those until we get either some diffeent information, or programmers are writing specifically for the new instruction set.

Let's Finish with some Chess!

Here's a neat endgame position sent to me by regular contributor **Bill Reid**. As we join the game White is in a fine mess, but he finds one idea that's worth a try!



1.♘d3!? *A fine little trap... if you're playing a computer!* **1...♔xd3??** *The king moves out of position and the bishop is the wrong colour to make anything happen, so this cannot work!*

***1...♗a5!** is the only way to win, the whole point being that it stops White's king from getting to e1, from where alone it can stop Black's king from gaining vital access to e2 and then f2. I've tested FIVE programs and ONLY **Rebel Century 3.0** finds this within 10 minutes on my P3/600! Now **2.♘xe5** (or 2.♔c2 ♔e2! 3.♘xe5 ♔f2 4.♘d3+ ♔xg2 5.♘xf4+ ♔xf3 wins) **2...♔f2! 3.♘d3+ ♔xg2 4.♘xf4+ ♔xf3** wins.*

2.♔e1! ♗a5+ *Though it tells White where to move his king, it doesn't really matter, he should just move it to f1 anyway for the draw, e.g. 2...♔e3 3.♔f1=.* **3.♔f1** *From where it cannot be forced out, so it's a draw.*

Developing REBEL *by Ed Schroder*

The following are extracts of comments made by **Rebel/Rebel Century** programmer **Ed Schroder** in two reasonably recent interviews.

Though the one in our first section took place in 1999, during Rebel-10's heyday, and the later one in mid-2000 (i.e. between Century1.0 and the much improved new Century3.0), they remain very relevant, as they give us a good idea of Ed's views on computer chess programming, and especially his aims and ambitions for Rebel itself.

The first interview was in 1999 and with **Detlef Pordzik**, representing *Rochade Europa*.

Q: In 1982 you started with your first own program at the Dutch Computer Championship, & since 1984 you work as a full time programmer, delivering all the above mentioned programs. Today with your own crew of 8 specialists, from bureau over GUI programming, engine developing to opening theory specialists - isn't this a hard job in today's world of specialists, developing only singular products, like databases, GUI's, etc?

ES: Since 1984 (when I started to work for Hegener & Glaser of Mephisto fame) till now (1999) a lot of things have been changed. In those early days I had to make one (or sometimes two) products a year, a very convenient job as it gave me all the time in the world to improve the chess engine.

Programming the UI (user interface) was easy in those days. There was just ONE hardware, one processor, one LCD, one set on LED's all EQUAL material so no compatibility problems.

These days we have DOS, Win 3.x, Win95, Win98, WinNT, Win2000. Next we have 200-300 different brand names of Pc's. All use different materials, 400-500 different types of monitors, 1000 or more video drivers, 300-400 printer drivers, 500 different mouse drivers, different sound cards, different cdrom's and cdrom drivers. All are mixed and put in a mini-midi, or tower model, and it is called a PC!

If that is not complicated enough we also have laptops, different types of processors (Intel, AMD, Cyrix, MMX, Pentium2, Pentium3...), different types of memory (Ram, Dram...). It's really one big miracle that it all seems to work, that is to say in most cases!

In the early (6502) days you developed the program on one prototype. When it was ready the eprom was shipped for duplication and that was it.

These days (in fact since Rebel8) we send beta-versions to at least 25 people and we make sure that our upcoming Rebel is at least tested on 50 different Pc's.

In the early (6502) days when the eprom was sent for duplication there were no worries. Same hardware no compatibility problems, one could relax as the job was done.

These days when we get the cdrom's back from the duplication factory and we start all the shipments to dealers and customers we are worried, as now (although already tested on 50 Pc's) the real test starts. How is the new program doing? Is it bug-free? The first 2-3 days are crucial. If there are no complaints we relax. We could relax after Rebel8, Rebel9 and also with Rebel10.

However Rebel7 was a real disaster as a major bug was over-looked and Rebel7 didn't run on Pc's with some graphical adaptors. We then had to make a patched version. New dealer replacement shipments, dealers sending the Rebel7 patch to customers, hundreds of phone calls. At that time we decided (the first chess company to do so) to hire beta-testers for Rebel8.

Today it's our opinion you can't release a new product without a decent beta team, as a Pc is quite a different world to a stand-alone chess computer.

Q: If you take your time for a moment and review these years, what would you say, among all your successes, was the one that meant the most to you personally ?

ES: Several, really. First of course the world-micro-championship in Vancouver when I got my first world-champion title.

The big surprise was certainly the Madrid event in 1992 when Rebel (then Gideon) gained the world-champion title all classes. We played on a 286 (8 Mhz) laptop with a ChessMachine card of 32 Mhz included. After each game the ChessMachine card was taken out because the prototype was so fragile. We well remember the sayings of our (main-frame) opponents, *"have I just lost from that tiny thing?"*.

As third I like to mention the several first places of Rebel on the SSDF list starting with the *"Mephisto MM4 Turbokit 18 Mhz"*. Being on top of SSDF always gave me more pleasure than my 2 world-titles because tournaments are just about 5-10 games and are sometimes real lucky shots but the SSDF list is about hundreds of games and therefore is more valuable, at least in my eyes.

As fourth of course the Anand-Rebel10 event of 6

months ago. It was a real honor for me to play against the second best player of the world with a rating close to 2800. It never came up in my mind Rebel would be able to win this match. I will never forget the atmosphere in the playing hall after Anand lost 3 games in just one hour. That must be a long long time ago for Anand since such a thing happened the last time. I will also never forget the 2 tournament games. Both were exciting. In both games Rebel10 created chances. What more is there to wish (gain) for a chess programmer?

So, if I have to pick just one, I definitely choose the Anand-Rebel10 event.

Computer - Computer events are nice and very important but the real events are playing against (strong) humans - after all that's why I started in 1981 as I wanted to write a chess program that could beat me, a poor player of just 1850.

Q: 17 years are a long time, Ed - it takes quite a lot to be still on top! Once again, looking back, beside the fact, that the data carriage changed from board computers to PC's along with speed factors, etc - where would you locate the main difference to today's commercial, computerised chess scene?

ES: In the early days the most important item was the playing strength of the chess program. This has all changed, especially the last years. On my old 486/66 machine I still could beat Rebel, but now on my PII-450 with 256 Mb I am without any chance and must deliberately weaken Rebel not to lose all games.

Already at the time of Rebel6 we received more and more requests to add features to Rebel that would lower Rebel's playing strength. That was the world upside down! But we did it, as it is indeed no fun to lose all the time, and then the pleasure playing with (and against) the computer might go away.

More things changed, as (most) people couldn't win from the computer any longer, people started to use a chess program in a totally different way. Instead of playing their games against the machine people want to analyze their (or grandmaster) games so a lot of analysing features have been added since then. These days people buy a chess program not only because of the playing strength (all are strong!) but decisive arguments are *"user friendly"*, *"number of features"*, *"data"* (big databases, big opening books, a big chess tree), *"customer support"* ... and so on.

Also the playing style of a chess program has become more important to people. As they analyze their games, or use a chess program for their correspondence or Internet email tournaments, they want to receive an intelligent (human-alike) response from their chess program. All chess program are good in tactics and are real monsters in this area and that's good for a quick blunder check of a game but what about if you need a plan for a (say) positional position?

I clearly remember a remark of a customer years ago. He said, *"Why buy new chess programs? They only are more better in positions they are already good in!"*.

That came as a real hammer. Of course this man was right and from that time on I have been focused more and more on Rebel's positional understanding and make the program play as human-alike as possible. My favorite program in this respect is MChess. It plays very attractive human-alike chess. Close to Mchess are Rebel and Hiarcs. I consider these 3 chess programs as the best concerning the quality of returned analysis.

Q: One of the major features of REBEL is it's "Anti GM function" possibility. In an R10 review of another German Comp. Chess Mag this function was described as "....tries to reach positions, where it can evaluate very precise + keeping up initiative....." Please describe to our readers, what the aim and the special benefit of this major engine function is - and if mentionable improvement can be seen in reality.

ES: *"Anti-GM"* was born out of fear. Fear of super grandmaster Vishy Anand and the match in Italy I signed for. Having participated in all (I believe 12) AEGON man vs human tournaments I (after years) came to the following conclusion:

[1] Rebel playing against players of 2300 Elo always wins without almost any exception. Rebel is able to get the initiative, can make pressure, the human gets lost in all the complications and loses. It's almost a fixed pattern.

[2] If Rebel plays against humans in the 2300-2500 area we see another picture. The struggle is for the initiative. If Rebel is able to get the initiative Rebel mostly wins, as also here the human gets lost in all the complications and/or time pressure.

If the 2300-2500 rated human gets the initiative Rebel has to defend. Defending is one of the strongest points of todays TOP chess program (not only Rebel). The top chess programs are so tough, they always seems to find the best defence and are real grandmasters in narrow escapes! I have seen this so many times.

The 2300-2500 human has the better position but is NOT ABLE to win because of tiny positional mistakes, allowing the chess program to escape from the attack. Then Rebel strikes back, gets the initiative, the human realises he blew it and starts to make more tiny mistakes (and sometimes real blunders) and mostly the game is over very soon after that. It's a regular pattern.

[3] But then there is the real work, playing against grandmasters. Here I have seen a totally different picture. In nearly ALL games the GM is able to win the struggle for the initiative. They ALWAYS get the better position. Then the above described process starts again, the human attacks and the computer defends in its usual tough style. And here we see the difference, the grandmaster hardly makes a mistake, fulfills the attack and (mostly) wins! Another fixed pattern.

So here I was, I'd obliged myself to play an 8 game match against the world's second best player Anand with a rating of almost 2800. I considered my Rebel without any chance based on what I have seen at AEGON. So something had to be done to avoid Rebel being slaughtered.

I decided to do something on the point where the trouble ALWAYS started. It was my opinion that the real reason Rebel (and others) lose to grandmasters because they are not able to win the struggle for the initiative. I developed a piece of software to make sure Rebel would not lose the initiative, and called it *"anti-GM"* - which is the right term for it!

If you look at the 8 games against Anand you clearly see it works. In all 8 games Rebel10 had chances. What more can a programmer wish? Nothing. Anand himself commented generously on this about Rebel's move 14 in game 8: *"It was a shock for me that such complications suddenly can occur. You think you are playing a quiet positional game but suddenly you are in the middle of all kind of tactics"*. This confirms our views and principals about anti-GM on which we have worked on for so many months.

Q: I would like to ask you a few questions about the daily, inside life of the REBEL crew and their work. To my surprise I never read anybody asking this, but quite a few people asked me if you, Ed, could give our readers a better view of this complicated job: what would you roughly suggest, how long - in hours, weeks or month does it take, to get a - Rebel 9 to a Rebel 10 (just viewing the engine) ready for beta testing phase. What would you say, how many games are needed overall, how many engine concepts and changes are made - which don't turn out to be the best - until it's finally done ?

ES: It depends from year to year but in general the following is true for a typical month, 5 days engine programming, 8-10 days for manual testing the new software. Then the automatic (auto232) testing takes place for which I have 8 Pc's (4 autoplay pairs) available. These auto232 results should confirm my feelings about the changes made. If it all fits, the changes to Rebel are accepted and kept ready for the next commercial release.

Another part of my job is to be in control for all the new features. I do this together with Rob Kemper the GUI programmer of Rebel. We both discuss the framework of the next commercial Rebel release, resulting in a long list of new planned features. To the list is added all kind of useful hints we get from customers either by mail, fax or e-mail. And then Rob can start to program them!

Next I have to coordinate all kind of other things. With Jeroen Noomen about the new Rebel book, with Wybe Koopmans about the new Rebel Database, with Andy Duplain about the Windows version, with Manfred Rosenboom about the manual, the Rebel FAQ, with Jan Willem Schoonhoven who is responsible for all customer questions on the Internet.

Last, together with Manfred and Jan Willem, I am responsible for the Rebel Home Page which is a very time consuming job sometimes, and can eat a lot of my time.

Q: Last week I received an interesting question of a German Correspondence Chess IM - who is naturally especially interested in high qualified opening theory. There are only a handful of these experts world-wide, who can write and tune an opening book, specialised to the product and good enough for common usage/training - your JEROEN NOOMEN is one of them. So, here's the question: which are the major influences, that make the decision for implements of lines to an opening book. Only latest or newest developments - or more ?

ES: It's true, there are only a few good opening specialists in the whole world and I am very lucky to have Jeroen who is completely in charge for 8 years now for the Rebel opening book. It is a real blessing for me not to have any work on this part. Jeroen has a free hand in getting the opening books of his choice, and he usually orders 4 or 5 opening books a year and then starts to type them into the Rebel book and checks them with Rebel for blunders.

The nice thing about these books are that they contain all kind of grandmaster analysis of opening lines which are never practiced. This gives the Rebel book something extra. Next of course the latest opening theory is added, so the Rebel book is always up-to-date. Then a whole bunch of auto232 games are played that checks the new book for possible blunders. Also there is special utility that analyses the whole new book for possible blunders too.

The final part of the above Interview looked at the new co-operation which was then just starting between **Ed Schroder** and **Christophe Theron**. As we covered this in *Selective Search* last year, I've left it out here, which is why Detlef's interview seems to end rather abruptly! The following extracts are from a later interview, in June 2000, with **Marcus Kastner** representing *ChessBits*.

Q: When will you be able to release Rebel for Windows and in which form?

ES: Rebel for Windows is fully in progress. Its base is REBEL-TIGER and many REBEL-DOS functions are ported. Besides of that a new type of EOC database will see the light which we estimate will please many computer-computer lovers.

I can not say much about this as we keep this project secret until release date. The search part of the Rebel chess engine is currently rewritten from scratch resulting in a much faster search as, especially the last 2-3 years, search was neglected because I mainly have focussed to tune Rebel's evaluation (the thing I like to do most!) to perform as best as possible against strong humans (IM/GM).

Now Rebel's evaluation is tuned in a reasonable way I will focus on search. It's a part I do not like by nature, as I believe chess in the end will be solved by chess knowledge and not by search, but it is crystal clear that faster search = deeper depths, and is not only good for better tactics, but also is responsible for better positional play which is a strong motivation for me to put my teeth for one full year in search and search only, and if needed more!

ELH comment: As Selective Search readers will already realise, the full completion of the conversion to true Windows is still 'work-in-progress', but the new EOC system and faster re-written search is all included in the powerful new Century 3.0.

Q: Beside the gui (interface) improvements, I know you also want to work on the engine. I know you were not satisfied with the computer-computer results of Century1.0 so you launched the update 1.2. What are the differences between 1.0 and 1.2, and where are the improvements leading?

ES: A bit is already explained above. To compete in computer-computer you are obliged to spend a great deal of your time to improve search and this part has been neglected for 2-3 years because my main goal was to tune REBEL to play against humans.

You don't need to have a very deep search against humans - of course it helps no doubt, but against humans the playing style is decisive and not a deep[er] search.

In computer-computer it is the other way around and the program with the deeper depth usually wins. So we have made the update Rebel Century 1.2 search faster and usually it hits 1.5 to 2 plies deeper than the orginal Rebel Century 1.0 from cdrom. Unfortunately in the Israeli League, updates were not allowed so Century 1.2 could not play and the slower Rebel Century 1.0 had to play its 8 tournament games, so we cannot compare the full effects. But in the end the 'slow' Century 1.0 still ended as highest rated computer and I honestly believe that the fast Century 1.2 would not have done so much better against the human opposition. Maybe a ½ point more but that's about the maximum.

Playing style is decisive in *"Man versus Machine"* and not deeper depths.

Q: A short time ago you said to us that you have found further improvements for 1.2 and that the 'deep' changes would be the foundation for the new version in autumn (i.e. the new Century 3.0 program). How will this change the game in practice?... do you want to modify Rebel to be a fast searcher?

ES: NEVER in my life Rebel will become a *"fast searcher"* in the sense of the word as most people read it, which is *"fast & dumb"*. Fast search yes, but I will never compromise if a fast search would make Rebel positionally weaker. Fast search and chess knowledge go hand in hand, the first needs the latter, the latter can't do without the first. Of course you can speed-up search even more by removing chess knowledge, but to that I will never compromise.

I am not changing views. Deeper depths guarantee: a) better tactics, but most of all b) better quality positional moves.

Actually I am catching 3 flies in one as improving search will make Rebel a better computer-computer fighter too. Now that the Rebel evaluation has been tuned in a reasonable way I can afford myself to spend at least one whole year to work on search only without compromising one bit to Rebel's playing style and chess knowledge.

QK: In comp-comp Rebel is remarkably behind the very top, but in games against strong humans Rebel is on the top. We have just seen this in Israel. What is the difference competing with GM's?

ES: As already said, it is called *"Human like Playing Style"*. There are several aspects here.

Firstly I like to mention that in comp-comp you (very often!) can afford one or two positional mistakes and still can draw, or even worse win. Try this against a GM on tournament level - one positional mistake is enough to lose the game, a GM simply will not let you escape.

This rule dominates in human-comp, but in comp-comp you most of the time can afford multiple (minor) positional mistakes.

Also in human-comp *"strategy"* is dominant. The chess program which understands *"strategy"* best will have the best chances. In comp-comp strategy is not dominant at all.

The last thing I consider very important against GM's is that a chess program must be able to gain the initiative. If you replay many computer-GM games you will notice the GM almost without exception gets the initiative, as I have seen so many times at the AEGON tournaments.

In this respect I would like to point to Rebel's last game in the GM challenge, when it played against Smyslov. It was Smyslov who got the initiative and Rebel was lucky to get away with the draw.

I have been working on this very hard, resulting in my *"anti-GM"* algorithm which simply tries to avoid these typical weak areas of a chess program's play. It worked several times - Anand-Rebel comes to mind - it did not work against Smyslov.

But a chess program must be able to conquer the initiative, otherwise it is lost to continually defending in each game it plays against a GM, or to only win an occasional game because of a blunder by a GM.

Q: The progress in playing strength is impressing these days. How long will it continue and where will it end? Shay's (i.e. Shay Bushinsky, co-author of Junior) opinion is that in 10 years no human will be able to win a 10 game match!

ES: I agree with the opinion that in 10 years Kasparov will lose against a normal PC chess program. Maybe it is Rebel - that would be a dream!

With a well balanced mixture of chess knowledge and search Rebel nowadays hits 2550 Elo on tournament time control. During the last AEGON tournament (1997) most people estimated chess programs at under or around 2400. So in 3 years that is a gain of at least 150 Elo. I believe this will be a steady process with, as the last human standard bearer, Garry Kasparov, or the then current best player in the world.

I am aware I have said the opposite in the past and that the maximum ever for a computer would be 2600 Elo. How untrue this is showing, as Rebel already has proven to be at 2550 after 30-40 tournament games.

My opinion is also based on the fact that humans have some weaknesses computers don't have (overlooking small things) and the fact that within 10 years computers typically will hit 15-17 plies in the middle game! and I estimate that will be too much to handle, even when your name is Garry Kasparov.

Q: Nearly all top-programmers are using tablebases to make their programs stronger. Only Christophe (Christophe Theron, author of Chess Tiger) and you are not implementing them. Users cannot understand that and want tbs, but you are not putting them into Rebel. For marketing reasons Rebel should use the tb, because you are in danger that people see it as an obsolete program because it also is running under dos, and so easy but very important procedures, such as clip and paste with other applications, are not possible.

ES: This is total nonsense. TableBases in their current state are not more worth than 5-20 elo points and I am in agreement with my colleague Christophe Theron here. Don't forget that TableBases are stored on hard disk and that thousands and thousands of times during search the heads of the hard disk must move to the right position in order to receive the score for the position it is ordered to find by the search. This slows down the search tremendously, resulting in a loss of 2-3 plies or more very often.

Besides that there are only a few people (< 1%) who are willing to spend 2-3 gigabytes of their hard disk to install all the TableBases. I realise that among the computer chess magazine readers the 1% is probably much higher.

I am not anti TableBases, on the contrary. I predict a great future for them as soon as the most common 6 and 7 man TableBases are available, as then the gain suddenly increases to 100-150 Elo. Unfortunately this is not going to happen within the next 4-5 years. But then it makes sense to invest in a big hard disk for a select group of people, but for today I would say that TableBases are a nice thing to have provided you have enough hard disk space. Nothing yet to be excited about.

Of course TableBases will be programmed in Rebel and Chess Tiger, that is self-understood, but for the moment Christophe and I see other promising areas which will gain more than just 5-20 Elo points.

Q: Please tell us something about the idea exchange you have with Christophe - what have you realised, and what do you expect for the future to realise?

ES: One good thing Christophe convinced me about, and this interview is full of it, is to improve on search. He has given me plenty of new idea's.

On the other hand I have told Christophe the main secrets of Rebel's evaluation, so beware the new Tiger!

When Rebel has moved to Windows we are going to work to program a *"multi-engine-search"*. That is that both Rebel (Century) and Chess Tiger are calculating the current position and that a kind of *"referee"* is going to decide which move (from Rebel or Tiger) is going to be played, so a kind of 2-Him system.

The obvious next step is of course multi-processing, and then it will be TableBases.

TURN THE PAGE! In this very Issue we see THE BIGGEST TEST yet of Ed's ideas and *anti-GM* implementation, in the 40/2 6 game Match v *anti-computer* expert, GM **John van der Wiel**!

Rebel CENTURY 3.0 v John van der WIEL

In the biggest computer-involved 40/2 match since Hiarcs-Hergott (IM), the new **Rebel Century 3.0** took on **John Van der Wiel** (GM!) over 6 games between 2-4 Jan and 9-11 Jan. The playing arrangements were sympathetic towards Van der Wiel... a set of 3 games (one a day), then a 4 days rest before the second set of 3 games.

Van der Wiel is no 'ordinary' GM either (oh. to be an 'ordinary' GM!) - his record against computers, particularly at Aegon, has been second-to-none. His actual record is 24½-3½, and even his only ever serious game loss was in a simultaneous display in Brussels.

The **Rebel web site** ran a poll before the match started: 49% predicted a win for the GM, 18% a draw (I was in that group), and 33% a win for the PC-powered Rebel. The only thing I still don't know is the PC specs, but it was probably something around a P3/800MHz I'd guess.

Game 1

Century3.0-Van der Wiel

Rebel makes a positional mistake early in the game, but recovers well with some fine, stubborn defensive play.

1.e4 g6 2.d4 ♗g7 3.♘c3 c6 4.♘f3 d6 5.♗e2 ♘f6 6.0-0 0-0 7.♖e1 ♘bd7 8.♗f4 ♕a5 9.♕d2 e5 10.♗h6

Sokolov tried 10.♗g5 exd4 11.♘xd4 ♘xe4 12.♘xe4 ♕xd2 13.♗xd2 d5 14.♗b4 ♖d8=, and against Van der Wiel himself in the 1985 Interzonal, but lost. Best may be 10.dxe5 dxe5 11.♗g5

10...♖e8 11.♗xg7 ♔xg7 12.♖ad1 ♕b6 13.♕c1 ♘f8!

Starting on its route to the very strong d4 square – see move 20

14.dxe5 dxe5

15.♖d2?!

The prophylactic 15.h3 is correct, stopping Black's next.

15...♗g4! 16.♖ed1 ♗xf3 17.♗xf3 ♘e6 18.b3 ♖ad8 19.a3 ♖xd2 20.♖xd2 ♘d4

This knight on its outpost is clearly stronger than White's white-squared ♗, and gives Van der Wiel an advantage which he nurtures towards a good position, until missing the best choice at move 33

21.♖d3 ♖d8 22.b4 a5 23.♘a4 ♕b5 24.♘c3 ♕b6 25.♘a4 ♕b5 26.♘c3 ♕c4 27.bxa5 ♖a8 28.♗d1 ♖xa5 29.♖h3! ♘e6 30.♕h6+ ♔g8 31.♕h4 ♘f4! 32.♖e3 ♖xa3 33.♕xf6

33...♖xc3?

This misses the win which analysis suggests 33...♕d4 might have given to Van der Wiel

34.♕xe5 ♖xe3 35.fxe3 ♘e6 36.♗g4 ♕c5 37.♕xc5 ♘xc5 38.e5 ♔f8 39.♔f2 ♔e7 40.♔g3 h5 41.♗e2 ♘e4+ 42.♔f4 ♘c3 43.♗f3!

White defends superbly and brings the draw into sight

43...♔e6 44.g3 ♘d5+ 45.♔e4 c5 46.c4 ♘b6 47.♔d3 ♘d7 48.♗d5+

Not 48.♗xb7? ♘xe5+ 49.♔c3 ♘g4 which would leave Black standing well

48...♔f5 49.e4+ ♔g5 50.e6

and the draw was finally agreed, though not until move 90! **½-½**

Game 2

Van der Wiel-Century3.0

The start to game 2 was no doubt slightly dull, at least from the computer team's point of view – the Exchange Variation of the Slav probably wouldn't get many folks' blood boiling – and then Rebel misplaces its rook which allows Van der Wiel to take the initiative in the centre. Just what Ed Schroder's been working against! And when Rebel grabs a poisoned pawn, the GM's central passed pawn seems sure to win the game!

1.c3 c5 2.d4 cxd4 3.cxd4 d5

We have, by a rather strange route, reached the Exchange Variation of the Slav!

4.♘c3 ♘f6 5.♗f4 ♘c6 6.e3 a6 7.♗d3 ♗g4 8.♘ge2 e6 9.♖c1 ♗d6 10.♗xd6 ♕xd6 11.♕d2 ♘b4 12.♘g3 ♘xd3+ 13.♕xd3 0-0 14.0-0 ♖fc8?!

It looks risky for Black's pieces to emigrate from the kingside, and the GM now grabs the initiative in the centre

15.e4! ♕b4!?

To counter White's attack in the centre, Black tries to strike on the queenside

16.h3 ♗h5 17.♘xh5 ♘xh5 18.exd5 ♘f4 19.♕e4 ♘xd5 20.♘xd5 exd5 21.♖xc8+ ♖xc8 22.♕xd5 ♕xb2 23.♕d7 ♖f8 24.d5!

This central passed pawn looks very dangerous

24...b5 25.♖e1 ♕d2 26.♖e3 ♕xa2

Although for a move or two this seems to be okay from the computer evaluations, it soon transpires that it was too greedy! Better maybe was 26...♕d1+!? 27.♔h2 ♕d2 though 28.d6±

27.d6 ♕a1+ 28.♔h2 ♕f6 29.♕c7 ♕f4+

Well done, though perhaps at the last moment?! If 29...♕xf2 had been in mind at move 26, then Century now sees that it would result in a disaster after 30.d7 ♕xe3 31.d8♕

30.♔g1 g6

At this point some computer programs are showing a big minus for Black... they are expecting ♕c6, which seems to be heading for an immediate win! We'll look at that in a moment!

31.g3

Okay then, after the dangerous-looking 31.♕c6!? ♕f6! actually holds according to Jan van Reek's game notes (also F6, Hiarcs8x and Century3!). 32.♖e8 would be the best try and then 32...♖xe8 33.♕xe8+ ♔g7 34.d7 ♕a1+ 35.♔h2 ♕d4 36.d8♕ ♕f4+ and it's perpetual check... a narrow escape!

*Incidentally **Jan van Reek** provided game notes during the play for folk watching on the Internet, and I've made use of those from time-to-time, as referenced in various places*

31...♕d4 32.♕e7

Van der Wiel suggested 32.d7 after the game, but Black can draw

32...♖c8 33.♖f3

Van der Wiel offers a draw, but the Rebel team say 'no'!

33...♕d1+ 34.♔g2 ♕d5 35.d7 ♖f8 36.g4 a5??

Visually this looks a really exciting try for the win... the program seeming to try to vindicate its programmers refusal of John's draw offer! In fact, however, it should probably have lost! 36...f5! was correct, accepting that the position will be a draw after 37.♔g3 (or 37.gxf5!? gxf5=) 37...♕d4=

37.♔g3 ♔g7

38.♖c3??

The first of a series of 2nd. best moves by Van der Wiel, though he still manages to retain winning chances through to at least move 50! Here 38.♖e3 seems to win immediately: Black has no defence against ♕xf8+ or ♕e8.

38...♕a8

Now the Rebel team offer a draw, and Van der Wiel refuses! Not surprising - despite the missed opportunity he can still win!

39.♕e5+ ♔g8 40.♕xb5 ♖d8 41.♖e3 ♔f8 42.♕c5+ ♔g8 43.♕c7! ♔f8

If 43...♖f8 44.♖e7!+-

44.♕d6+

44.f4 should also win

44...♔g8 45.♖e7 ♖f8 46.♕e5??

White misses another immediate win: if John had found 46.♕c7! whatever Rebel plays it's the lovely ♖xf7!

46...♕h1??

Madness! Black should be defending... but then a little panic in the human camp wont go amiss for Rebel - if it can still get through the next few moves safely! 46...♕d8 was objectively best

47.♕d4??

Surely after 47.♕c5! Rebel would be finished?! Readers should analyse the last 3 moves for themselves... my '??' after each one might mean I've

missed something!! But if after 47.♕c5! Black goes ♕a8, as in the actual game continuation from ♕d4, then 48.♕b5!! and Black is in a terrible zugzwang. E.g. if 48...♕d8 49.♖e8!! Can you see what's coming? 49...♕c7+ 50.♔g2 and after White plays, say, ♕d5 Black will have to give up ♕ for ♖ to stop the d7/pawn queening. To stop ♕d5 he could try 50...♕d6 but then 51.♕b7, Black moves and 52.♖xf8+ wins.

Well, that's what I reckon – Van Reek doesn't even mention it at all!

47...♕a8 48.h4 ♕d8! 49.♕e5 h6 50.♕d6 a4

51.f4?

Initially given a '!' in the game notes, but corrected later, this actually removes some protection from checks for White's king. 51.h5 was best, then 51...gxh5 52.gxh5 and I think White has his win back again!

51...a3!

Forces a reaction from White that gives Rebel a moment's breathing space to improve his defences

52.♕xa3 ♕b8 53.♕e3

The Jan van Reek game notes suggest 53.♕d3! was still a good chance for the win, but after 53...♕b6 54.♖e8 ♕g1+ 55.♔f3 ♕h1+ 56.♔e2 ♕g2+ 57.♔e1 ♕h1+ 58.♕f1 ♕xh4+ 59.♔d2 ♕f6 60.d8♕ ♕xd8+ 61.♖xd8 ♖xd8+ 62.♔e3 the indication is that Rebel's ♖ might just be able to hold its pawn fortress against White's ♕

53...♕d6 54.♔h3 ♕d5 55.h5 gxh5 56.gxh5 ♔h7!

The very best defence, as it threatens ♖g8 which would then make Black's centralised queen seem quite dangerous!!

57.♕e4+ ♕xe4 58.♖xe4 ♖d8 59.♖d4 ♔g7 60.♔g4 ♔f6 61.♖d6+ ♔e7 62.♖xh6 ♖xd7 63.♖a6 ♔f8!

Who needs tablebases to find the right endgame moves?!

64.♔g5 ♔g7 65.h6+ ♔h7 66.♖a8?!

Probably 66.f5 would be the hardest to meet

66...♖d6 67.♖f8 ♖g6+ 68.♔f5 ♖xh6 69.♖xf7+ ♔g8 70.♖b7 ♔f8 71.♔g5 ♖a6 72.f5 ♖d6 73.♖a7 ♖c6 74.♖a8+ ½-½

Game 3

Century3.0-Van der Wiel

After Rebel's escape to 1–1, Van der Wiel manages to get another nice, quiet, closed position in the next game. But Rebel plays well and is even quietly looking for a win until Van der Wiel finally opens the position with 31...e5!

1.e4 c6 2.d4 d5 3.♘c3 a6?!

Designed – successfully! – to put Rebel out of book

4.♗e2 b5 5.a3 e6 6.♘f3 ♘f6 7.e5 ♘fd7 8.♗g5 ♗e7 9.♗xe7 ♕xe7 10.b4 a5 11.♘a2 axb4 12.axb4 0-0 13.♗d3 f6 14.exf6 gxf6!?

Riskier than ♖xf6 – both sides seem to be playing to win!

15.0-0 ♖f7 16.♖e1 ♘f8 17.♘h4 ♕d8 18.♖e3 ♖g7 19.♖g3 ♕e7 20.♕f3 ♖xg3 21.♕xg3+ ♕g7 22.♕d6 ♕d7 23.♕f4 ♕g7

Black has a bad bishop, but the pin down the a–file gives good compensation

24.♘f3 ♗d7 25.♕c7 ♗e8!

If Black can exchange his bad bishop, the advantage could turn in his favour

26.♕d8 ♗g6

Forcing the exchange as c2 is unprotected

27.h3?!

Here 27.♘e1!? ♗xd3 28.♘xd3 ♕g4! is unclear, but probably a little better

27...♕f7 28.♗xg6 hxg6 29.♘h2 ♔g7 30.♘g4 ♘fd7 31.♕c7 e5!

A timely freeing Black's position which definitely gives him the advantage

32.♕b7?

Van der Wiel guessed (and hoped) that Rebel might play

this, and it's not the best solution: the threat against a8 is easily met, and White's ♕ is left out of play even though he wins a pawn for a brief time.

F6 and Hiarcs8x produced 32.♕d6! with a triple attack on e5, to which Black must respond: 32...♕f8 33.dxe5 fxe5 34.♕e6 (Van Reek prefers 34.♕c7 but to me 34...♖a4! looks pretty good for Black) 34...♕f7 35.♕d6, and White may be able to hold the draw

32...♖a3 33.dxe5 fxe5 34.♘xe5 ♘xe5 35.♕xb8 ♕f6 36.♖e1 ♖xa2 37.♕xe5 ♕xe5 38.♖xe5 ♖xc2

We're back on level terms materially, but Black has an obvious distant pawn majority advantage on the queenside!

39.♖e1?!

39.♖e6! (Van der Wiel) was certainly best, not only to prevent Black's next, but also vitally to give White a more active defence. In the game notes Van Reek suggests that Black's advantage may then not be sufficient to win

39...♔f6 40.♔f1 d4 41.♖e8 ♖c4 42.♖c8 ♔e7 43.♔e2 ♔d6 44.♖d8+ ♔c7 45.♖g8 ♖xb4 46.♔d3!

White's only hope, but will it be enough?!

46...c5 47.♖g7+ ♔b6 48.♖xg6+ ♔a5 49.h4!

Generating considerable excitement! **49...♖b3+ 50.♔e4 d3! 51.♖d6 c4 52.g4 ♖b2 53.g5**

The best practical chance

53...♖e2+!

Black finds the best as well as the most impressive way to win. 53...♖xf2 looks more obvious and would almost certainly do the job after 54.g6 ♖e2+ 55.♔f5 ♖g2. Then White would have to decide whether to play

(A) a 'go for it' move 56.♖d7? when d2! wins easily;

or (B) or a defensive move 56.♔e4 b4 57.♔f3 ♖g1 58.h5 (58.♖d5+ ♔a4 59.♖g5 ♖f1+ 60.♔e3 ♖e1+ 61.♔f2 d2 wins) 58...b3 59.h6 b2 wins;

or (C) a holding move 56.h5 when 56...c3 57.♖xd3 c2 wins

54.♔f3 ♖e8 55.♖d4 b4!

Another unexpected and lovely move

56.♖xc4 b3 57.♖c1 b2 58.♖d1 ♔b4 59.♔f4 ♔c3

And in the end Van der Wiel has won with ease! **0–1**

Game 4

Van der Wiel-Century 3.0

The GM surely deserved his 2–1 'half–time' lead and, with his record against PC's and two White's to come, was now clearly favourite to win the match. In game 4 Rebel sac's a pawn for a positional advantage and tactical chances. Van der Wiel avoids the sharpest variation, but makes a couple of small errors and has a very slight disadvantage as the players go into the endgame.

1.c4 c5 2.g3 ♘f6 3.♗g2 d5 4.cxd5 ♘xd5 5.♘c3 ♘c7 6.♕a4+ ♗d7

This pawn sacrifice is the sharpest line, which is of course what Rebel must go for

7.♕b3 ♗c6 8.♗xc6+ ♘xc6 9.♕xb7 ♘d4 10.♘f3

A new (& sneaky!) move

10...♖b8

Well played Rebel. Van der Wiel hoped he had lured the computer into 10...♘c2+? 11.♔d1 ♘xa1 12.♘e5! e6 13.♕c6+ ♔e7 14.♕xc5+ ♔e8 15.♕c6+ ♔e7 16.b3, and White has a terrific position

11.♕e4!?

Van der Wiel, having mainly expected the bad line with ♘c2+? had possibly not fully investigated the move now played beyond the idea of 11.♕xa7! But now he decided against it because after 11...♘c2+ 12.♔d1 ♘xa1 13.♘e5 (threatening ♕a4+), he apparently spotted 13...♖b4! However after 14.♘c6 ♕d6 15.♘xb4 cxb4 16.♕b8+! Black would have a real fight on his hands to get the draw despite his material advantage.

An interesting dilemma swaying from 'good' then to 'bad', but it was probably 'okay' all along!

11...f5 12.♕d3 g6 13.0-0 ♗g7 14.♕c4 ♘xf3+ 15.exf3 ♕d4

16.♕a4+?

The truth is that White

doesn't have any advantage here, so the attempt to win is premature. F6 proposes 16.♕e2 c4 17.b3 cxb3 18.♗a3 e5 19.axb3 ♖xb3=. Jan van Reek and Van der Wiel afterwards agreed on 16.d3 when 16...♕xc4 17.dxc4 ♖b4 is also an equal game

16...♕xa4 17.♘xa4 ♘e6 18.♖b1 c4

This isolated pawn is proving to be very strong. It isn't at all easy to work out when a pawn like this is strong and when it is weak, but clearly if left alone here it will greatly impede White in completing his development. Therefore Van der Wiel's next is to overcome this, though as it was accompanied by a draw offer, he also was aware of the strength of Rebel's position – it's playing well!

19.b3 cxb3 20.♖xb3 ♖xb3 21.axb3 ♔f7 22.♗b2 ♗xb2 23.♘xb2 ♘d4

Black regains his pawn and has a very active position... the initiative Ed Schroder wants his anti-GM to produce!

24.♖a1?!

With this White will lose both f3 and d2 – will a queenside advantage compensate enough? Maybe 24.♘c4 would have been better?

24...♘xf3+ 25.♔g2 ♘xd2 26.b4 ♖b8 27.♘d3 ♖b7 28.♖a6

Aiming to keep Black's king away from the action

28...♘c4 29.h4

The exchange by 29.♖c6!? ♖d7 30.♖xc4 ♖xd3 was analysed by van Reek and, after 31.♖c7 ♖b3 32.♖xa7 ♖xb4 33.h4 a theoretically drawn position is reached

29...e5 30.♖c6 e4 31.♖xc4 exd3 32.♖d4

At the moment White looks to be holding this, but Black can now bring his king into the action

32...♔e6 33.♔f3

33.♖xd3!? ♖xb4 34.♖d8 a5 35.♖a8 a4 36.♖a5! is suggested in the game notes, and it's certainly hard to see how Black could then make progress

33...d2 34.♔e2 ♖d7!?

This is a very sophisticated choice by Century3.0, evaluating that the just-better position of his king, along with the slightly better pawn structure, can give him stronger winning chances than they would with the rooks on!

35.♖xd7 ♔xd7 36.♔xd2

36...♔d6 37.♔c3 ♔d5 38.f3 h6! 39.♔b3!?

A last, desperate effort! 39.♔d3 looks the more obvious move, but in fact 39...g5!

Now (A) White needs an extra tempo for 40.hxg5 to work: 40...hxg5 41.♔e3 (41.b5 ♔c5-+) 41...♔c4-+;

or (B) 40.h5 40...g4! 41.f4 (White is also too many tempii behind for 41.fxg4 fxg4 42.b5 ♔c5 wins) 41...a6 and zugzwang decides the game in Black's favour!

39...♔d4 40.♔a4 ♔e3 41.f4 ♔f3 42.♔a5 ♔xg3 43.♔a6 ♔xh4 44.♔xa7 g5 45.fxg5 hxg5 46.b5 g4

A brilliant endgame by Rebel! **0-1**

Game 5

Century 3.0-Van der Wiel

Rebel Century's equalising victory in game 4 was a real *tour de force* as well as a piece of chess history – apart from bringing the match back to life at 2–2, it was also Van der Wiel's first serious 40/2 loss ever! In view of his record in computer chess play, this was a major achievement. What would happen in game 5? Van der Wiel would get his opening move order mixed up – no doubt the result of trying to confuse the computer's opening book! The result was a position which he didn't realise had been played before, and which demanded extreme care by Black!

1.e4 e6 2.d4 d5 3.♘d2 dxe4 4.♘xe4 ♗d7 5.♘f3 ♗c6 6.♗d3 ♘d7 7.0-0 ♗e7

Van der Wiel goes for the sharpest line, but note that the g8/♘ is usually brought out first. Rebel responds aggressively!

8.♖e1 ♘gf6 9.♘eg5!? h6 10.♘xe6!?

The most aggressive move and it transpired afterwards that Van der Wiel did not know the theory for this line, so the Rebel book preparation has done an excellent job!

10...fxe6 11.♗g6+ ♔f8 12.♕e2 ♗xf3 13.♕xf3 ♔g8?

In Sakaev-Tseshkovsky, 1993, Black played 13...♘b6 and 14.♕xb7 ♕xd4 gave him a good game... but Van der Wiel didn't know this game, as we've already mentioned

14.♖xe6 c6 15.♕b3 ♘d5 16.♕xb7

16.c4 ♘c7 17.c5 ♘d5 and

now 18.♕xb7 is possibly even stronger!

16...♘f8 17.♖xc6

17...♘b4?

Ooops. In an already slightly disadvantageous position Van der Wiel messes up! – he must have missed White's continuation. 17...♘xg6 was the best chance: 18.♖xg6 ♗f6! (threatening ♕e8! and then either ♕e1 mate or ♕xg6) 19.♖g4 ♖c8 20.c3 ♔h7, and with the h8/♖ freed, Black is still in the game.

Hiarcs8x suggested 17...♖b8 when 18.♕a6 ♘xg6 19.♖xg6 ♕e8 is also better than Van der Wiel's choice, though White still has an advantage

18.♗f4!

With various threats – one brilliant one is ♖d6! and Black cannot play ♗xd6 because of ♕f7 mate!

18...♕d5

Best

19.♕xa8 ♕xc6 20.♕xc6 ♘xc6 21.♗d3 ♘xd4 22.♗e3 ♗c5 23.♗c4+ ♔h7 24.♖d1 ♘de6 25.♖d5 ♗xe3 26.fxe3

26...♘g6?

Van der Wiel is suddenly in serious decline. Here 26...♔g6 27.♖a5 ♔f6 28.♖xa7 ♘g6 was probably better, though Rebel would still have every chance of the win after 29.♗xe6 ♔xe6 30.♖xg7

27.♗d3!

The pin on the knight will decide the game

27...♖d8 28.♖xd8 ♘xd8 29.g4! ♘c6 30.h4 ♘ce5 31.h5 ♘xg4

If 31...♘xd3 32.hxg6+ ♔xg6 33.cxd3 ♔g5 34.b4 ♔xg4 35.a4 wins

32.♗xg6+ ♔g8 33.e4 ♔f8 34.b3 ♔e7 35.c3 ♘e3 36.c4 ♘d1 37.♔f1 ♘c3 38.a3 ♔d6 39.♔f2 ♔c5 40.♔e3 ♘b1 41.♔d3 ♘xa3 42.e5

42...a5 43.♗f5 a4 44.e6 axb3 45.e7 1-0

Game 6

Van der Wiel-Century 3.0

Amazing – Rebel leads 3–2, and Van der Wiel must go all out for an equalising win in the last game! And it looks as if he's going to do it as Century3.0 makes major commitments on the queen's wing whilst the GM drums up a dangerous attack on the kingside!

1.d4 ♘f6 2.c3 e6 3.♗g5 h6 4.♗h4 b6 5.♘d2 ♗b7 6.e3 ♗e7 7.♘gf3 c5 8.♗d3 0-0 9.♕e2 d5 10.♘e5

People call the Colle System 'dull and boring' but interestingly enough this line was seen in a game with the great Tal as White in 1954... and he played the quieter 0-0 here!

10...♘c6 11.f4 ♘e4 12.♗xe7 ♘xe7 13.0-0 f6 14.♘g4 ♘xd2 15.♕xd2 ♘f5

Once more we have a fairly quiet and rather blocked position – not normally a good thing for a computer! Rebel beware! With the exception of game 5, Van der Wiel's opening preparation has obtained some quite 'human-suitable' positions!

16.♖f3 ♖c8 17.♖af1 ♕d7 18.♕e2 ♖c7 19.♖h3 ♖fc8 20.♘f2

Well, we can all see what computer expert Van der Wiel is up to and, with Rebel having already moved some major artillery to the queenside, the omens don't look at all good to me

20...♘d6 21.♕h5 ♕e8 22.♗g6

With this type of aggressive kingside attack, Gambit Tiger (on the same CD as Rebel Century 3.0) is probably as good a computer judge of the position as any. Here GT shows White +134 ->♕e7

♕a4!?

Whew! This looks very risky and is a major commitment... maybe it should be '?!'

23.g4!?

The game notes gave this a '!' but I wasn't so sure. In fact I'd put the knight on g4 with 23.♘g4! and that gives White

an attacking impetus, whereas the move played may yet be a touch over-ambitious despite Black's debatable favouring of the queenside!

After 23.♘g4! then ♕d7! would be vital, and now 24.f5! is found by Gambit Tiger, and looks dangerous (GT says +282). Myself, I liked the look of 24.♘xf6+. All the programs but GT now think that 24...gxf6 is good for Black, and after my planned 25.♕xh6 ♕g7! 26.♕h5 ♔f8! maybe they're right! But GT suggests 25.f5 and shows +100

23...♗a6!

Forcing one of rooks to leave its support of the pawn attack. Note, not 23...♕xa2? when 24.g5 does look more than just dangerous! GT says +404 in fact!

24.♖e1 ♕xa2 25.g5

25...fxg5!

Century gets it exactly right once more! 25...♕xb2? is probably still too risky, though I haven't looked beyond 26.gxh6 or 26.♘g4 for any specific continuation

26.♘g4?

Van der Wiel is accumulating small mistakes – see Ed Schroder's earlier article in this issue... his remarks about 2300-2500 players may occasionally apply to a GM as well, it seems!

Correct was 26.fxg5!! ♕xb2 27.gxh6! as suggested in Van Reek's game notes, and it does indeed look strong! Van der Wiel apparently considered this, but underestimated it. I put the idea to Gambit Tiger which evaluated White +358, so very possibly there was still a win for White here

John van der Wiel deep in thought during the match!

26...♕xb2 27.♘xh6+ ♔f8!

Well done Rebel! 27...gxh6?? 28.♕xh6 leads to mate

28.♘g4 ♘f7 29.♗xf7 ♕xc3

Ed Schroder, operating his Century3.0, offered a draw here, but Van der Wiel refused. Of course he's pressing for an equalising win AND his attack still has actually has some potency in spite of the question marks over moves 23 and 26

30.♖d1?

That's the end of the win, I think. I like the look of 30.♖b1! ♗d3 (not 30...♖xf7? when 31.♘e5! wins) 31.♗xe6 (31.♕xg5!? ♔xf7 32.♘e5+ ♔g8 33.♕h5 is also good) 31...♗xb1 32.♕h8+ ♔e7 33.♕xg7+ ♔d6 34.♕e5+ ♔c6 35.♕xd5+ ♔b5 36.♗xc8 ♖xc8 37.♖f3 and still there are some chances for the full point

30...♕c2 31.♖a1 ♕b2 32.♖e1??

A blunder: Van der Wiel had needed to find 32.♖xa6 cxd4 33.♘f2 ♖c1+ 34.♔g2, which was clearly better, but 34...♖1c2! 35.♖f3 dxe3 would still very likely win this topsy-turvy game for Rebel.

After the move played 32...♕d2 33.♖a1 cxd4! threatening ♖c1 would have won quickly for Rebel.

Faced with defeat, Van der Wiel immediately offered the draw which, in sympathetic fashion, Ed Schroder accepted. To 'rub in' the Rebel win and go to 4-2 was not necessary – after all Van der Wiel nearly won game 2, and then nearly both won and lost this one! ½-½

*So the final score a victory for **Century 3.0** by 3½-2½ – a great fulfilment of Ed's dream.*

Interview with GM John van der Wiel, after the Match

The following questions were collected from people in the public CCC Internet forum.

[Q1] Realizing that it is position specific, do humans generally have an advantage in seeing drawn positions?

[JvdW] Sometimes, yes, but computers will normally have a reasonable correct assessment too, so it is only a small advantage.

[Q2] Does the computer's clear vision of short to moderate range tactics become an advantage in the sense of freeing up your thinking so as not to examine such variations? That is, do variations and plans arise that you might consider given a human opponent that you would otherwise avoid when playing a computer?

[JvdW] Yes and yes to both

questions in general, but often sharp calculation is also necessary for the human player and sometimes you spurn the best variation (as I did in game 4: Qb7xa7! instead of Qb7-e4) because it looks too complicated against a computer, and then it may become a disadvantage!

[Q3] Do you think it important do prepare for a specific computer opponent or is it enough to be familiar with computer play in general?

[JvdW] For me: enough to be familiar, unless you have access to the computer's opening book, then it becomes interesting to do specific preparation.

[Q4] Do you believe a computer opponent can be pushed into a certain mode of play by strong players or is your frame of mind more, "I will play good moves and react appropriately as the computer opponent mis-reads the position"?

[JvdW] The former. I always try to push the computer into a position it doesn't understand, but don't always succeed.

[Q5] Do you prepare specific openings against a computer or enter the contest with more of a general plan?

[JvdW] More of a general plan. Opening 'philosophy' is important, though.

[Q6] Is it more advantageous for a human to play a computer in a match setup like this one vs Rebel when compared to facing a computer in a tournament? Or no difference?

[JvdW] In a match it is easier to focus on typical computer play, but I am experienced in doing this, so for me it is not a great difference.

[Q7] Which other players do you believe would perform well against computers?

[JvdW] Karpov, Kramnik, Seirawan, Spassky for instance if they want to make an effort. Their styles are already suitable by nature.

[Q8] Ever consider writing a book about how computers play by annotating games and pointing out their shortcomings?

[JvdW] Not really yet, but maybe in the future?

[Q9] What is your most satisfying victory vs a computer and why?

[JvdW] Against HIARCS, AEGON 1995, because it was leading the tournament with 5 out of 5 and I had to win in order to claim the tournament victory and also because my 'Winawer' strategy as Black became a complete success. Second favorite is the win over FRITZ in the Dutch championship because of all the fuss about FRITZ and it saved an otherwise dreadful tournament for me in a nice 'anti-computer' type of game.

[Q10] What can you say about Rebel's play during the match?

[JvdW] It avoided 'anti-computer' type of positions more often than other programs so far. Still it made quite a few mistakes (I have to add that I certainly made more!) and in the middle-game treatment there is a lot to be improved. I was impressed by REBEL's endgame technique, though. Looking back at the match I am convinced that a Van der Wiel "in form" should definitely come out victorious.

Comments on 'The Forecast'

I referred on page 12 to the forecasts made by the many folk who enjoy reading the Rebel pages on the Internet:

www.rebel.nl/edindex.htm

Here is the breakdown:

VdWiel-Rebel	Votes	%tage	Chart
0 - 6	6	1%	
½ - 5½	2	½%	
1 - 5	15	2½%	■
1½ - 4½	21	4%	■
2 - 4	63	11½%	■■
2½ - 3½	76	14%	■■■
3 - 3	102	18½%	■■■■
3½ - 2½	128	23%	■■■■■
4 - 2	74	13½%	■■■
4½ - 1½	35	6½%	■■
5 - 1	14	2½%	■
5½ - ½	8	1½%	
6 - 0	6	1%	

So 48% went for a Van der Wiel win, 33% for Rebel, and 19% for the draw. I expected more votes for Rebel in view of the recent efforts of [Deep] Fritz+Junior, but maybe Van der Wiel's 'computer' reputation (incl. his impressive win over D/Fritz recently) put folk off, or perhaps the 40/2 time control... most 'Deep' wins were at Speed/Blitz chess?! Whatever, Rebel exceeded expectations in every way!

You sense Van der Wiel is disappointed with his own performance - but I wouldn't take anything from the Rebel effort! Losers tend to feel they've played below par, and the games each of us play our best in are mostly the ones we win! Plus it's easier to analyse games afterwards, knowing the results of a move that didn't work out, and wonder how you came to make it at the time! But over the board, faced with tough opposition, this happens. Equally the tougher the opposition, the harder it is to control the game, find good moves (and for 'good' most folk mean 'winning'), and play at ones 'best'. Few play their best against the Kasparov's and Kramnik's of this world... because they're not allowed to! In football, few English teams seem to play their best against Manchester United! So I think Van der Wiel's failure to play at his usual 'best' in this match is quite largely to the credit of Rebel! Maybe he'd like a re-match!?!

At Work on the HIARCS Opening Book! by Eric Hallsworth

As part of my work within the **Hiarcs** team, and in addition to testing new versions which **Mark Uniacke** sends me, each month I go through annotated games in various magazines, particularly the UK's *BCM* and *Chess*.

Very recently I was about to look at **Gary Lane**'s article in *Chess* Magazine re ***'the exciting d3!'***, so I thought I'd tell you a little of how the Hiarcs7 DOS and Hiarcs732 ChessBase opening books work, and then let you follow me as I try to make some decisions regarding *'the exciting d3'*.

The Moves and their Ratings

As we'll be looking in fact at 1.e4 c5 2.d3, let us first see what we already have in the Hiarcs DOS book, as at early December 2000 for its first move (we'll only be looking at the moves for this opening from White's point of view on this occasion).

e4=7 d4=7 c4=6 ♘f3=5 b3=3 f4=3 b4=2 g3=2 ♘c3=1 e3=1 g4=1 d3=0 c3=0 a3=0 h3=0

In Hiarcs DOS, all moves rated from 3 up to 7 can be played, even in Tournament mode. In Normal mode it will play 2 through 7, in Wide 1 through 7 (!) and in Fun anything goes! It wouldn't be fair on Mark Uniacke and myself to tell you exactly either the percentage chances for each move at the opening position, nor exactly how the move ratings are changed according to game results. But I will share with you some approximate details, and then compare these with how the system works under ChessBase.

Before we go further, if you check the above ratings line, you will notice there are no =4. There used to be plenty of these in Hiarcs, but we've had to change our book rating method to suit the program when it runs as a ChessBase engine, so these are being changed slowly but surely, usually dropping them to 3. I will explain why later when we see how the book works under ChessBase conditions.

But for now we'll stick with our original Hiarcs DOS versions, and at move 1, if you square the book figures, you will be able to work out quite closely what the chances are of each move being played in Tournament Book mode:

Move	BookRate	BookRate^2	% chance of being played
e4	7	49	28%
d4	7	49	28%
c4	6	36	20%
Nf3	5	25	14%
b3	3	9	5%
f4	3	9	5%
b4	2	4	-
g3	2	4	-
Nc3	1	1	-
e3	1	1	-
g4	1	1	-
others	0	0	-

I should add that the squaring of the numbers will give you a pretty close approximation of the percentages applying for the Tournament book, but the figure for x as in [BookRate]^x reduces from 2 when in Normal book, then reduces even more for Wide and Fun books, so that 1 and 0 moves do genuinely come into play!

In Hiarcs7 DOS we used to have b3=4, f4=4, and b4=3, which was more fun, and the table then looked like this:

Move	BookRate	BookRate^2	% chance of being played
e4	7	49	25%
d4	7	49	25%
c4	6	36	18%
Nf3	5	25	12%
b3	4	16	8%
f4	4	16	8%
b4	3	9	4%
g3	2	4	-
Nc3	1	1	-
e3	1	1	-
g4	1	1	-
others	0	0	-

If there's another DOS/MAC version of

Hiarcs, I will have to go through the multiple changes made since for ChessBase operation, to restore the wider lines!

Okay, so in our example we've gone 1.e4 c5. Here's what it looks like for White's 2nd move:

♘f3=7 ♘c3=6 c3=5 f4=3 c4=3 d4=3 g3=1 b3=1 ♘e2=1 b4=1 ♗c4=0 ♗b5=0 d3=0 a3=0

You notice that *'the exciting d3'* is =0! and, incidentally, there appear to be only 632 positions in the book relating to this line!

However it is probable that some of the other lines (2.♘f3, 2.♘c3, 2.c3 etc) will have d3 occuring as their White 3rd move... i.e. transpositions. So we need to play 2.d3 and see what the numbers then show:

2...♘c6=6 has 2752 positions
2...d6=5 has 151, but play it and it shows 1653 positions (i.e. to include lines where 2...♘c6 is played first, and 3...d6 later)
2...e6=1 has 121, but play it and it shows 1388 positions

So there are actually a total of at least 3024 unique positions, and at least 5793 positions including transpositions from the move 2.d3!

That's not so bad, so I've decided to make the rating=1. But whether it can be changed further will have to be decided as we go through Gary's article, comparing the Book moves we already have and adding those from his representative games. The Batsford and Nunn Chess Opening books will also be checked and, last but not least, Hiarcs' own evaluation of the positions we reach as we go through!

Hiarcs Changing its own Ratings!

Before we look at 2.d3, let's assume 2.Nc3, a more popular move, gets played and Black replies with e6. Here's what it looks like for White's 3rd. move:

f4=6 ♘f3=6 g3=5 ♗c4=4 ♘ge2=2 d4=0

Finally let's assume we play 3.f4, so I can show you the basics of what happens to the book after the game!

If we draw, everything stays the same:

1. e4=7 d4=7 c4=6 ♘f3=5 b3=3 f4=3 b4=2 g3=2 ♘c3=1 e3=1 g4=1 d3=0 c3=0 a3=0 h3=0

2. ♘f3=7 ♘c3=6 c3=5 f4=3 c4=3 d4=3 g3=1 b3=1 ♘e2=1 b4=1 ♗c4=0 ♗b5=0 d3=0 a3=0

3. f4=6 ♘f3=6 g3=5 ♗c4=4 ♘ge2=2 d4=0

If we win the game, the moves we've played get increased by 1, so:

1. e4=7 d4=7 c4=6 ♘f3=5 b3=3 f4=3 b4=2 g3=2 ♘c3=1 e3=1 g4=1 d3=0 c3=0 a3=0 h3=0

2. ♘f3=7 ♘c3=7 c3=5 f4=3 c4=3 d4=3 g3=1 b3=1 ♘e2=1 b4=1 ♗c4=0 ♗b5=0 d3=0 a3=0

3. f4=7 ♘f3=6 g3=5 ♗c4=4 ♘ge2=2 d4=0

It seems that 1.e4=7 stays the same, but in practice we do also use fractions (!), so it would actually go up to 7.5 which is our maximum. Therefore the chances of e4 being played in the next game would increase very marginally. In fact that's the idea: we've won a game with this opening, so Hiarcs is that little bit more likely to repeat the opening if it can, without going 'over-the-top'.

And if we lose the game, everything gets decreased by 1, so:

1. e4=6 d4=7 c4=6 ♘f3=5 b3=3 f4=3 b4=2 g3=2 ♘c3=1 e3=1 g4=1 d3=0 c3=0 a3=0 h3=0

2. ♘f3=7 ♘c3=5 c3=5 f4=3 c4=3 d4=3 g3=1 b3=1 ♘e2=1 b4=1 ♗c4=0 ♗b5=0 d3=0 a3=0

3. f4=5 ♘f3=6 g3=5 ♗c4=4 ♘ge2=2 d4=0

Now of course 1.d4 becomes our top opening move and, if 1.e4 c5 is played (which is still perfectly possible, of course), 2.Nc3 has become quite a bit less likely than 2.Nf3, though again it remains in contention.

I have commented that =7.5 is the highest rating which can be achieved and I should also mention that no move can drop more than 3 points below its original default figure. So neither 1.e4 nor 1.d4 can ever drop below =4, and are therefore always going to remain with possibilities of being played.

Actually, as I read this, it sounds as if Hiarcs is being prepared for losing a lot! - that isn't the case at all!!... but the examples are helpful so that readers can see how book learning can work.

Other Automatic Changes!

We have a few other tweaks in, but we obviously need to keep a few secrets, hoping they will continue to benefit Hiarcs against 'the opposition'!

However I will share that +1 and -1 after a game isn't totally uniform, as we try to make slightly greater change towards the end of a line than at the beginning. I.e. 1.e4=7 wont be changed as much as the last 2 or 3 moves in a line.

In other words if a particular game starts off 1.e4=7 c5 2.♘f3=7 e6 3.d4=7 c×d4 4.♘×d4=7 ♘f6 5.♘c3=7 d6 6.♗e2=7 etc. and we lose that game, we will make greater adjustments towards the end of the line, to try and get Hiarcs to choose a different variation later on, i.e. at 5.Nc3 or 6.Be2, rather than to stop playing 1.e4 or 2.Nf3 in a Sicilian altogether. We think that makes sense and it seems to work.

The only other thing I'll share is that the +1 and -1 changes to the Book relate to the figures which will be stored in permanent memory on your hard drive as you exit Hiarcs - though you can restore the original figures if you wanted to negate all the Hiarcs learning. But whilst the machine remains switched on, the adjusted figures in temporary memory are actually changed by slightly more than +1 and -1.

In other words when you've just played a game and won, Hiarcs will try pretty hard not to let you repeat the exact opening if you play a second game straight away and, vice-versa, if Hiarcs has just won and you want to play again immediately, it will be a bit more likely to challenge you with the same opening to force you to find something different!

The ChessBase Effect

Unfortunately for us, when the Hiarcs opening book has been converted into ChessBase format, it works rather differently! Mark and I did not realise the implications of this when preparing Hiarcs732, but for the upgrade issued through ChessBase a couple of months later we made some important corrections, which certainly helped!

Basically under the 1999 ChessBase configuration, our moves =4 to =7 are always in contention when the Hiarcs732 book is in tournament mode. 1.e4 and 1.d4 are the most likely to be chosen, but all from 4-7 qualify.

When a line wins, its chances of being played again are immediately increased but, when a line loses, it is removed from the list of qualifying moves until all the other qualifying moves in that position have been used and also lost! I think that's how it works - at least that was it 12 or so months ago in Hiarcs732!

Let's have a quick look at how this would affect the opening we looked at for Hiarcs DOS: 1.e4 c5 2.Nc3 e6 3.f4.

Once we lose a game with that opening, 1.e4 will become dormant until all of 1.d4, 1.c4 and 1.Nf3 have been played, and each in their turn also lost. If we still had 1.b3=4 and 1.f4=4, then they would (unfortunately) get equally played in their turn, and then again within every cycle of defeats! This was happening in Hiarcs732 until the 'upgrade' where we changed the rankings for 1.b3 and 1.f4, along with others later down various lines.

Finally, when Hiarcs732 has lost games using e4, d4, c4 and Nf3, it will come back to 1.e4 again at last!

But when 1.e4 c5 is next played it will see that 2.Nc3 is still a rejected move! So 2.Nf3 or 2.c3 will be tried. Once a game with either of these has been lost - let's say 2.Nf3, then 1.e4 will disappear again for a season and, when it returns, after 1.e4 c5 then 2.c3 is the only qualifier.

You can, I hope, see how the cycle works, and also appreciate why we're busy changing some of our dubious =4 ranks into =3, to remove them from the cycles. We don't mind some [dubious/provocative/questionable] moves in... as long as they genuinely only get played reasonably infrequently and not as part of a constantly repeating cycle! This is why the ChessBase scheme demands that their Fritz/Junior/Nimzo/Hiarcs books need to be narrow rather than generous.

The 'Exciting d3!'

Okay, now we've looked at some basics, let's move back to Gary Lane's actual article on 1.e4 c5 2.d3. He quotes 3 games starting exactly this way, and a fourth with a transposition in which 2.g3 (g3=1) gets played first and d3 later.

We're just looking at game 1 for now!

Lane game 1

[Sicilian with the 'exciting d3', B20]

1.e4 c5 2.d3

2...d5

As I've already shown 2...♘c6 (=6 with 2752 positions) is my top book move, 2...d6 a good possible (=5/1653 positions), and 2...e6 (=1/1388) will only be played on a Fun level. 2...d5 gets no mention!

Additionally I've found that Fritz6 has 2...g6, 2...♘f6, 2...b6, and 2...e5, and these will also need to be studied and added to my Hiarcs book if I decide to make 2.d3 an active (=4) move!

3.♘d2

When 2...d5 is played, Hiarcs is back in book, and there are 490 positions there! Good - I don't have to work completely from scratch! I have 3.exd5 as my top book move, but Lane says Black can force a draw.

Let's see: 3...♕xd5, and now

A) 4.♘f3 (Lane's line, but not previously in my book!) 4...♘c6

A1) 5.♘c3 a non-Book transposition which the PCs prefer (they dislike g3!) 5...♕d8 6.♗e2 ♘f6 7.0-0 e6 *(7...e5 8.♘d2)* 8.♗e3;

A2) If 5.g3 ♘d4 is back in F6 book! 6.♗g2 ♗h3 7.0-0 F6 book, aiming to avoid Lane's draw *(7.♗xh3 ♘xf3+ 8.♔f1 ♘d2+ 9.♔g1 ♘f3+* draw) 7...♗xg2 8.♔xg2;

A2a) 8...♘f6 F6 book 9.♘c3 ♕c6 10.♖e1 e6 11.♘e4 ♗e7 12.♘e5 ♕c7 *(12...♕d5* is F6 book *13.♗f4 0-0 14.c3* and Black plays ♘c6 book or ♘f5 F6);

A2b) 8...♘xf3 Lane 9.♕xf3 ♕xf3+ 10.♔xf3 e6.

B) 4.d4?! my H7 book no.2: 4...♘f6 *(4...cxd4 5.♘c3)* 5.♘f3 g6 6.♗e2 ♗g7 7.0-0 0-0 *(7...cxd4 8.♘xd4 ♘c6)* 8.c4 ♕d8 9.♘c3 cxd4 10.♘xd4 a book line.

C) 4.♘c3 theory's no.1: 4...♕d8 *(4...♕f5 5.♘f3)* 5.g3 *(H7: 5.♗e3 e5; F6: 5.♘f3 ♘c6 6.g3 ♘f6 7.♗g2)* 5...♗d7 6.♗g2 ♗c6 7.♘f3 ♘d7 8.0-0 ♘gf6 9.♕e2 *(9.a4 e6* book).

What Hiarcs values should I give these three, A. ♘f3, B. d4, and C. ♘c3?! For now I've decided on ♘f3=5, d4=0 and ♘c3=7. What would readers do?

And, of course, does 3.exd5 really result in a forced draw (if so we'd need it to be =0 or =1) and stick with Nd2=6. Mmmm!

3...♘c6

4.g3

The only move according to F6!

4.exd5 is a Hiarcs idea: 4...♕xd5 5.♘gf3 ♘f6;

If 4.♘gf3 ♘f6 then 5.g3 is back in theory! 5...g6 6.♗g2 ♗g7 7.0-0 0-0 8.♖e1, and now:

A) 8...dxe4 looks strong say the PCs 9.dxe4 h6 10.c3 ♗e6 11.♕e2,

A1) 11...♕a5 Hiarcs 12.a3 *(12.♘c4* same eval!);

A2) 11...♘g4 12.♘c4.

B) 8...e5!? F6 top rated: 9.exd5 ♘xd5 10.c3 h6 11.♕b3 *(11.♘c4 ♖e8)*.

C) 8...e6 9.c3 b6 is also theory, and the Hiarcs choice.

4...e5?!

This gets a reasonable H7+F6 rating, though it's the game move Davies would criticise... *'it is normally only played in conjunction with and after ♘f6'*

4...♘f6 is indeed the top Hiarcs book move, after which 5.♗g2, and now

A) 5...e5! can be played and is top rated: 6.exd5 ♘xd5 7.♘gf3 ♗e7 8.0-0 0-0 9.♖e1 f6 is all book and about equal.

B) Another theory line is 5...e6 6.♘gf3 ♗e7 7.0-0 0-0 8.♖e1

B1) 8...b6 is book and liked by F6 9.e5 ♘d7

B1a) 10.♕e2 ♗b7 *(10...♕c7* same eval B+13*)* ;

B1b) 10.♘f1 10...♗b7;

B2) 8...b5 9.exd5 *(9.e5* top move but *9...♘d7)* 9...exd5 is also all book and =.

4...e6 is another theory alternative, then 5.♘gf3 *(5.♗g2* second in book *5...♘f6 6.♘gf3 ♗e7 7.0-0 0-0 8.♖e1* and Black plays b5 or b6*)* 5...♗d6 6.♗g2 ♘ge7 all book *(6...♘f6 7.♕e2)* 7.0-0 0-0 8.♖e1 ♕c7 9.♕e2 f6 and it's about =.

5.exd5

5.♗g2 is the F6 main move: 5...♘f6 6.exd5 ♘xd5 7.♘gf3 ♗e7 8.0-0 0-0 9.♖e1 f6 10.♘b3 ♘c7 *(10...♗g4)* 11.♗e3 *(11.c3* book *11...♗e6,* Black a small plus*)*

5...♕xd5 6.♘gf3 ♗e6 7.♗g2

7...♕d7

F6 has 7...f6 as an alternative: after 8.0-0 ♕d7 9.♘e4 ♖d8 10.♗e3 b6 it's transposed except that White has played ♗e3 instead of ♖e1, but see note to move 10 where this variation is the footnote line.

8.0-0 f6

8...0-0-0?! is a Hiarcs idea – on which I am not too keen, though I haven't analysed it any further! Probably ♖e1 or ♕e2 are White's best replies.

9.♘e4

9...♖d8

Again Hiarcs (and F6) like the look of 9...0-0-0 but after 10.♗e3 ♘d4 *(10...♗g4 11.♕e1; 10...b6 11.a4)* 11.♖e1 is good for White I think.

Note that trying to develop the poor knight definitely wont work at present: 9...♘ge7?? 10.♘xc5; 9...♘h6?? 10.♗xh6

10.♖e1

A TN (Theoretical Novelty) to me... it also ends the F6 book. So we'll now have some new lines from the main game to consider for adding to the Book!

A quick look at our diagram shows that Black faces serious problems developing ♗f8–♘g8–♖h8.

Incidentally 10.♗e3 is in the F6 book: 10...b6 11.♘h4 ♘ge7 12.f4 ♘d5 13.♗d2 exf4 14.gxf4 ♗e7, and here its book ends, but Black's development is much better than in the actual game, so the new move may be an improvement.

10...b6

10...c4 suggest H7 and F6: 11.d4 ♘xd4 *(11...♗h3 12.♗xh3 ♕xh3)* 12.♘xd4 ♕xd4 =

11.a3

11...♗e7?!

The ♘ wants to go here as well, but as the ♗ can't go to d6 because of the excellent e4/♘, Black decides it is best to put the bishop here and worry about the knight later.

If 11...♘ge7!? it could then aim for d5, f5 or g6, thus allowing ♗e7 and 0-0 later, to complete development: e.g. 12.♗d2 *(12.♕e2 ♘d5)* 12...♘d5. H7 prefers this!

12.♕e2

12...♔f7?!

12...♗g4 is preferred by both F6 and H7, so this can be added to my Hiarcs book.

13.b4!?

Here there seem to be two moves giving a small 'safe' plus: 13.♗e3 from F6, and 13.♗d2 from H7. Because of our 'two variations if possible' rule, we'll include both!

13...cxb4 14.axb4 ♗xb4

Not 14...♘xb4? 15.♘eg5+ ♔e8 16.♘xe6 ♕xe6 17.♖xa7±

15.c3 ♗e7 16.d4 exd4 17.cxd4

17...♘b4??

An outright blunder. The questions for our opening book and evaluating of both 2.d3 and 2...d5 are: (1) was White winning here anyway? and, if so, (2) did Black play the best moves leading up to this position?

So from the diagram, instead of the blunder, 17...♗d5 is proposed by both F6 and H7, showing =; but of course they probably don't evaluate the still undeveloped ♘ and ♖ correctly! The line to here therefore appears to me to favour White - but that doesn't make 2.d3 a success as there were certainly a few improvements available for Black, especially at moves 4, 11 and 12... not to mention 2...♘c6!

I'm sure readers can already see just how much work is required extending and tuning an opening book - after all, with respect to Gary Lane, this is really just a minor and probably slightly dubious line... and the work isn't even half-way through - we haven't even opened BCO, NCO and MCO yet!

Imagine what's required when we're dissecting a main line of the Sicilian!!

Of course in the actual game White now played **18.♘eg5+** and Black resigned, well... immediately!

1-0

Mephisto ATLANTA v Mephisto RISC

Okay, so I could be in trouble! I know I promised some analysed games from the Deep Fritz & Deep Junior internet challenge. But good friend **Colin Newby** sent me some dedicated computer games... and that has to take precedence!

He played 2 matches, the first being Speed Chess and at which the **Mephisto Atlanta** beat the **Mephisto RISC 1MB** by 6–4. But of more interest to *SelSearch* readers is the G/60 match, over 20 games. Colin sent me just two, so I've analysed them and here they are!

Above: the Franz Morsch programmed Atlanta.
Below: an Exclusive board - in Colin's match it housed Ed Schroder's RISC 1MB program

Atlanta – Risc 1MB

[B23. Closed Sicilian]

1.e4 c5 2.♘c3 ♘c6 3.f4 e6 4.♗b5
4.♘f3 is Book here
4...a6 5.♗xc6 dxc6 6.d3 ♘f6 7.♘f3 ♗e7 8.♘e5 ♘d7 9.♘xd7 ♗xd7 10.♕h5 g6?!
It isn't really necessary to drive the queen away, and this weakens the kingside too much for it to be worthwhile [10...♕c7 looks quite good; I'd imagine that the RISC was put off 10...0-0 because of the h5/♕ and especially f4/♙, but I think that would have okay as well
11.♕f3 0-0?! 12.♗e3 ♕b6 13.0-0-0 ♖fd8 14.h4!

The best move, I'm sure, and the start of a very dangerous attack!
14...f5 15.g4 fxg4?!
The alternatives are not much better! 15...♗f6 and either 16.e5 or h5 is very good for White; or 15...fxe4 16.♕xe4 ♗f8 17.f5+–
16.♕xg4 ♗f6 17.h5! ♗d4 18.♗xd4 cxd4 19.♘b1 g5 20.♕xg5+ ♔f7
Anything else allows a quick mate!
21.♖dg1! ♖f8 22.♕g7+ ♔e8 23.♕xh7 c5?
A bit pointless; but the only worthwhile try 23...♔d8 fails to 24.♕g7 ♔c7 25.♕e5+ ♔c8 26.h6!
24.h6 ♕c7 25.♖g8

25...♕xf4+ 26.♘d2 ♔d8 27.♖f1! ♕xf1+ 28.♘xf1 ♔c7 29.♖xf8 ♖xf8 30.♘g3 ♖f2 31.♕g7
The simple way to end it! **1-0**

Our 2nd. game through to move25 is also an absolute cracker!

Risc 1MB – Atlanta

[C54. Giuoco Piano]

1.e4 e5 2.♗c4 ♘c6 3.d3 ♘f6 4.♘f3 ♗c5 5.c3 d6 6.♗b3 ♗g4

6...a6 is the usual Book move, but Atlanta's choice seems perfectly reasonable

7.♗g5 h6 8.♗h4 g5 9.♗g3 ♘h5 10.h3 ♘xg3 11.fxg3 ♗d7 12.d4 exd4 13.cxd4 ♗b4+ 14.♘c3

14...f5?!

All-out attack, which earns the Atlanta a credit point, but it's also quite risky! The safe move is 14...♕e7

15.d5 ♘e7 16.e5!

Now the RISC program goes on the attack, which of course the position fully warrants!

16...c6!?

The sharpest response possible! 16...0-0 was the 'safe' alternative, but the Atlanta probably didn't want to put its king behind the advanced kingside pawns

17.e6

How strong is this pawn? It's passed and, at the moment, supported... but by a pawn that may not be there for long

17...♗c8 18.♘e5!

The mate threat starting ♕h5 is easily met, but White's position is now very promising. There was also a good alternative in 18.dxc6!

18...0-0

Not 18...dxe5?? of course. It avoids mate by vacating the d6 square as an escape route for the king, but still heads for disaster from 19.♕h5+ ♘g6 20.♕xg6+ ♔e7 21.d6+! ♕xd6 22.♖d1!

19.♘f7 ♕b6 20.♕e2 ♕d4!

Black takes its opportunity and gets its queen into a more threatening position. Now both sides must tread warily

21.♕c4??

A catastrophe for White, and a shame in such an intriguing game – but the whole point in moments like this is that almost anyone can go wrong in them! Even if I tell you that Fritz now evaluates this at +300 for Black, it can be quite tricky seeing exactly why! The move that would have tested the position is 21.dxc6! and now 21...♗xc3+ 22.bxc3 ♕xc3+! 23.♔f2 bxc6 24.♖ad1!?∞

21...♕xc4 22.♗xc4 cxd5!

Eliminating the supporter of move 17's dangerous e6/♙, and simultaneously attacking the c4/♗. Of course the pawn can't be taken because of the pin on the knight at c3, so White has little choice

23.♘xh6+ ♔g7 24.♘f7 dxc4 25.♘xg5

The RISC has achieved the best it could in at least getting a pawn for the bishop. But the Atlanta makes no mistake in wrapping the game up from here in smooth fashion

25...♖e8 26.0-0-0 ♔f6 27.♘b5 ♖b8 28.h4 d5 29.♘c7 ♖d8! 30.♘h7+ ♔g6 31.♘g5 ♗a5 32.♘b5 ♔f6 33.♘xa7 ♗xe6 34.♘xe6 ♔xe6 35.♘b5 ♔e5! 36.h5

Worth a try!

36...d4 37.♖h4?!

37.h6!?

37...♘c6 38.b3 c3 39.♖d3?

39.g4 was a better try, to release his h4/♖ back into play by 39...fxg4 40.♖xg4

39...♖bc8! 40.a3 ♖d5 41.a4 ♗d8! 42.♖f4 ♗g5 43.♖d1 ♘b4

Black has d3! to follow, so White resigned **0-1**

The final Rating List **match** score was a very interesting **11½–8½** in favour of the **Atlanta**!

Colin will play it against the de Koning **Kasparov RISC 2500** next! so I'll certainly be aiming to include that in a future Issue.

PROGRAMMING: BRIDGE AND CHESS compared by MIKE WHITTAKER

Mike Whittaker is co-author/developer of the excellent **BLUE CHIP BRIDGE** program, available on CD for £65.

BLUE CHIP is one of the very strongest all-round ACOL-based programs available, probably second-to-none in its bidding capabilities, and right up with other top programs in the card play and features departments.

While even the more modest chess programs are capable of beating most human players, this has not, so far, been the case for bridge.

However, there are signs that things are changing. The quality of bridge played in the past few computer world championships has improved steadily and some big name sponsors are taking a keen interest in this annual event.

Microsoft Gaming Zone sponsored the most recent contest in Maastricht... and even Bill Gates has started playing.

A $10,000 winner-takes-all contest was played in London in 1999 between seven top programs and **Zia Mahmoud**, a world class player. Zia won, but it was close all the way.

Chess v Bridge!

The advantage of the computer in chess lies in its calculating ability which allows it to see and evaluate positions in the game ahead, generally beyond what the player can manage.

At the start of its search it knows exactly where each piece is, and what its capabilities are.

Add lots of information on openings and endings and you have a very strong opponent, although, for now, the master player might retain an advantage in a complex position.

There are so many more possibilities in chess, why is it that bridge is proving so difficult for computers to play at an expert level ?

There are lots of reasons.

Playing the Hands

The fact that some information about the game is hidden (you don't see your opponents cards until they are played) is a big factor.

Computers try to overcome this by attempting to deal the unseen cards between the other players. This is not a random allocation - it will depend on whether a player might (or might not) have made a bid. If so, the computer will place cards accordingly. Next, this hypothetical layout of the cards is analysed.

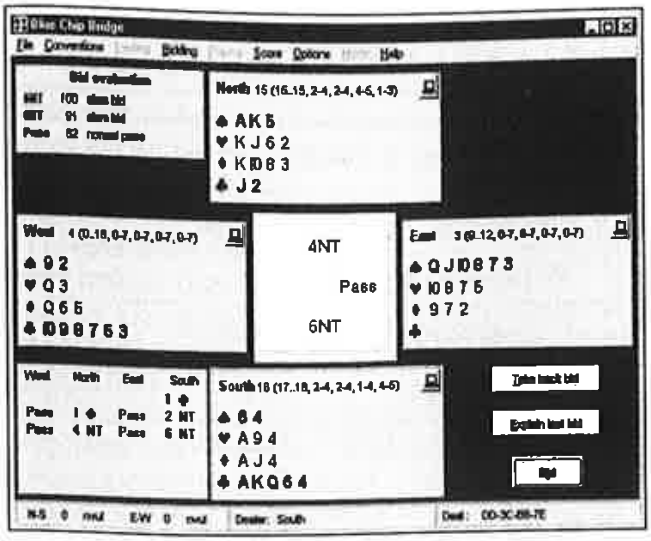
This process might be repeated dozens of times before a card is chosen. It will be the card which is likely to produce the most favourable outcome overall. The whole process will be repeated, with the position being recalculated just as in chess, when the computer has to play its next card. The process is very similar to what a human player does, except the human will have formed a general plan and will not need to recalculate until that plan breaks down.

But in chess, the computer always knows exactly where all the pieces are, and exactly how and where they can move to, so it can make precise calculations and, with a good evaluation function, make very accurate predictions. Whenever a computer can put numbers into boxes with certainty, it is in its element!

Even with the disadvantage of uncertainty in bridge, the quality of the computer's analysis of the play is now becoming very good.

If given sight of all the cards it can analyse the play perfectly, often in under one second. However, it relies on both sides playing optimally, definitely not a common situation in human play.

Nevertheless, it can allow a program to find extremely complex, successful plays which a human non-expert (limited horizon) would simply not see. The program, given time, will consider every play and, as in chess, some pruning rules and other techniques help to speed up the searching process. Complexity doesn't come into it.



Screenshot of Mike Whittaker's BLUE CHIP BRIDGE

The play either works or it doesn't. The best programs are now more capable card players than the majority of club players.

The Bidding

The bidding process in bridge is incredibly complex.

There are usually two or more possible bids that you might consider at any one time, but you have no certainty that your partner, faced with the same decision, would agree with your choice of action!

You can think of it as a fuzzy language where you have a limited number of words and a lot of information to convey.

Unlike humans, computers have no problems about choosing the same bid as their computer partner. Each partner is a clone and will always mirror the other's bids.

A few programs simulate the deal, as described above for card play, before choosing their next bid.

Some rely on a database and select the most appropriate bid from the options.

Others rely on a rule based approach.

All of these methods work but the nuances of the language and the negative inferences it contains are very subtle.

The best programs probably bid more accurately than the average club player. They will improve further, but their bidding quality might never reach that of their card play.

The Future has Potential

The next few years promise to be interesting.

As computer speeds increase, so does the quality of their play. It is expected that the human world champions will soon be challenged by a team of computer programs.

For the moment I would say that the humans are safe but I would not put too much money on the outcome in a few years time.

Bridge in a Chess Magazine?!

Mike tells me that he could occasionally provide more of this type of article, and look more deeply into the subject... if we want!

So it's up to **reader response**! do you want more? Please write, whether you're a *'yes'* or a *'no'*.

From a commercial point of view, bridge is an important part of my livelihood, though I don't pretend to know anything like as much about computer bridge as I do about computer chess! But I could start learning!

We do, of course, sell bridge computers and bridge software at Countrywide, though the range is nothing like as big as it is for chess.

The three ACOL-based dedicated computers all come from Saitek:

Top: the **Pro Bridge Professor** at £79.95 is the perfect tutor for newcomers to bridge and less experienced players. It comes with a large illustrated and integrated teaching manual.

Centre: the **Pro Bridge 310** at £99.95 is the strongest hand-held you can get. With millions of built-in deals - or click for random ones! - it provides perfect opppposition and practice.

Bottom: the de luxe **Pro Bridge 510** at £249.95 is even stronger than the 310 and allows user control over preferrred bidding systems and conventions.

The top ACOL-based software programs for PC are **Blue Chip Bridge** (£64.95) and **Q Plus Bridge** (£69.95).

LATE NEWS!

John Henderson reported the following interesting news in the chess columns of **The Scotsman** recently!

IT SOUNDS more like the premise for a good sci-fi film by Stanley Kubrick and Arthur C Clarke: the year is 2001, and onboard the stricken spacecraft there's a talkative chessplaying computer about to meet its doom.

No, not the cult movie ***"2001: A Space Odyssey"***, where the doomed spacecraft was controlled by HAL, who was more than a match for the astronauts over the chessboard.

Whilst HAL was fictitious, remarkably, the description above is for none other than that of the world's top chess-playing software programme, **Fritz 6**, from the ChessBase stable.

Last year Fritz became the first chess computer to officially play in space when it was sent on a scientific mission to the Mir Space Station by the Russian's in an effort to stimulate the mind of cosmonaut Sergei Avdeev, who has spent longer in space than anyone else.

Mission control therefore decided to send chess-mad Avdeev a stateof-the-art Siemens Scenic notebook computer along with a copy of Fritz 6.

While Avdeev is now safely back on terra firma, the future doesn't look all that bright for his chess-playing partner.

After spending 15 years in space, the Russian's are now planning to crash Mir into the Pacific Ocean next month- with Fritz and the computer still left onboard!

The annual Welser Tournament

The **Welser Tournament**, organised and run as always by the hard-working Franz Wiesenecker, started at the beginning of January, and is being played on P3/400 machines at 60/60.

It will be an **11 round** Event run under the Swiss System.

The scores **after 6 rounds** were:

5	Junior 6	Fritz 6old
4½	Shredder5 BeanCounter	
4	Gambit Tiger 1.0 Rebel Century 3.0 Junior 4.6	Shredder 5 Hiarcs 732
3½	Chessmaster 6000 Rebel 10b	Junior 5 Zarkov 5
3	Hiarcs 6dos. Chess Tiger 13.0 SOS	Fritz 532 Gandalf 432 Shredder5 BruteForce
2½	Nimzo 8 Nimzo 732	Nimzo 2000b Comet B27
2	Hiarcs 7.01dos Fritz 6d	Crafty 17.13 EXchess 3.14
1½	ZChess 2.22 WChess 2000	Genius 5dos
1	Genius 6.5	

Obviously there's still quite a way to go! The TABLE will be updated, probably with the FINAL RESULT, in our next Issue.

The annual Cadaques Tournament

Run each year by **Enrique Irazoqui**, this got started in mid-January involving 6 top programs in an **all-play-all** of 20 game matches. The computers used are Dual P3/933 and the time control is 40/40.

The first scores in are:-

Round 1

Deep Fritz - Gandalf432	**14-6**
Gambit Tiger1.0 - Shredder5	**12-8**
Nimzo8 - Junior6	**11½-8½**

Round 2

Shredder5 - Junior6	**12-8**
Gambit Tiger1.0 - Gandalf432	**11-9**
Deep Fritz - Nimzo8	**12-8**

Fritz should have a useful advantage, being the only one 'Deep' programmed, and playing here on dual processors, but we'll see. This results list will also be updated, with match comments and some games, as the Tournament develops.

RATING LISTS and NOTES

A brief guide to the purpose of each of the HEADINGS should prove helpful for everybody.

BCF. These are British Chess Federation ratings. They can be calculated from Elo figures by (Elo - 600) /8, or from USCF figures by (USCF - 720) /8.

Elo. This is the Rating figure which is in popular use Worldwide. The BCF and Elo figures shown in SELECTIVE SEARCH are calculated by combining each Computer's results v computers with its results v humans. I believe this makes the SS Rating List the most accurate available for Computers and Programs anywhere in the world.

+/-. The maximum likely future rating movement, up or down, for that particular machine. The figure is determined by the number of games played and calculated on standard deviation principles.

Games. The total number of Games on which the computer's or program's rating is based.

Human/Games. The Rating obtained and total no. of Games in Tournament play v rated humans.

A guide to PC Gradings:

386-PC represents a program running on an 80386 at approx. 33MHz with 4MB RAM.

486-PC represents a program running on an 80486 at between 50-66MHz with 4-8MB RAM.

Pent-PC represents a program on a Pentium at approx. 100-133MHz, with 8-16MB RAM.

PPro-PC represents a program on a Pentium Pro, MMX or K6 at 233MHz, with 32-64MB RAM.

Users will get slightly more (or less!) if their PC speed is significantly different. A doubling in **MHz speed** = approx. **40** Elo; a doubling in **MB RAM** = approx. **5** Elo.

RATING LIST (c) Eric Hallsworth. PCProgs SelSearch92 Feb2001

BCF	Computer	Elo	+/-	Games	Pos	Human/Games	
253	FRITZ6A PPRO-PC	2627	11	1519	1	2545	35
250	REBEL TIGER12 PPRO-PC	2603	15	862	2		
250	JUNIOR6A PPRO-PC	2602	13	1123	3	2551	22
248	HIARCS732 PPRO-PC	2587	12	1490	4	2538	9
248	HIARCS7.1 PPRO-PC	2586	12	1316	5		
246	SHREDDER4 PPRO-PC	2574	17	699	6	2530	15
245	NIMZO732 PPRO-PC	2567	14	1038	7		
245	FRITZ532 PPRO-PC	2566	12	1369	8		
245	REBEL CENTURY3.0 PPRO-PC	2561	29	255	9		
244	FRITZ516 PPRO-PC	2559	12	1281	10	2443	6
244	CHESSMASTER 6000 PPRO-PC	2558	24	348	11	2524	22
244	GANDALF432 PPRO-PC	2556	21	479	12		
244	NIMZO98 PPRO-PC	2553	12	1307	13	2405	10
244	SOS PPRO-PC	2552	20	521	14		
243	JUNIOR5 PPRO-PC	2545	12	1493	15		
242	NIMZO99A PPRO-PC	2536	14	986	16		
241	HIARCS6 PPRO-PC	2534	13	1167	17	2522	24
241	GOLIATH LIGHT PPRO-PC	2529	24	360	18		
240	REBEL CENTURY1.2 PPRO-PC	2527	21	458	19	2522	43
240	REBEL-10 PPRO-PC	2525	25	329	20	2528	17
240	REBEL9 PPRO-PC	2524	14	1059	21	2607	14
240	REBEL8 PPRO-PC	2520	20	538	22		
239	MCHESS PRO6 PPRO-PC	2513	17	699	23	2474	12
239	MCHESS PRO7 PPRO-PC	2513	14	1066	24	2530	1
238	CHESS GENIUS5 PPRO-PC	2510	13	1192	25	2389	6
238	SHREDDER3 PPRO-PC	2507	35	169	26	2641	2
238	MCHESS PRO8 PPRO-PC	2505	14	1006	27		
237	SHREDDER2 PPRO-PC	2501	15	875	28	2148	6
235	GANDALF3 PPRO-PC	2480	27	278	29		
232	HIARCS6 PENT-PC	2462	11	1680	30	2540	2
232	FRITZ5.16 PENT-PC	2459	35	170	31		
232	JUNIOR4.6 PPRO-PC	2459	43	115	32		
232	HIARCS5 PENT-PC	2459	19	585	33		
231	KALLISTO2 PPRO-PC	2454	22	412	34		
231	REBEL8 PENT-PC	2452	10	2106	35		
230	REBEL9 PENT-PC	2446	16	805	36		
229	CHESS GENIUS5 PENT-PC	2436	11	1567	37		
229	CHESS GENIUS3 PENT-PC	2435	14	1028	38	2658	10
229	CHESS GENIUS4 PENT-PC	2432	13	1199	39	2387	16
228	REBEL7 PENT-PC	2426	14	1082	40	2242	11
228	HIARCS4 PENT-PC	2426	14	1008	41	2348	6
228	REBEL6 PENT-PC	2424	19	594	42	2403	6
227	MCHESS PRO6 PENT-PC	2422	11	1721	43	2316	4
227	MCHESS PRO5 PENT-PC	2420	15	925	44	2423	19
226	CHESSMASTER 5000+5500 PENT-PC	2414	24	347	45	2401	13
225	NIMZO3.5 PENT-PC	2407	15	961	46	2426	6
225	NIMZO3.0 PENT-PC	2402	16	843	47		
225	HIARCS3 PENT-PC	2401	18	628	48	2631	6
224	CHESSMASTER 4000 PENT-PC	2398	45	104	49	2394	12
224	JUNIOR4.0 PENT-PC	2396	16	844	50		

Approx. guide if PentiumPro2/233 = 0

Quad Pent3/500	120	Dual Pent3/500	80
Pentium3-K7/750	60	Pentium3-K7/500	40
Pent K6-Pro2-Celrn/300	15	Pent Pro2-MMX-K6/233	0
Pent/150	-40	Pent/100	-80
486DX4/100	-120	PentDX2/66	-140
486DX-SX/33	-200	386DX/33	-280

RATING LIST (c) Eric Hallsworth. SelSearch92 Feb2001

BCF	Computer	Elo	+/-	Games	Pos	Human	Games
222	TASC R30-1995	2378	16	764	1	2276	18
218	MEPH LONDON 68030	2347	35	175	2	2272	6
216	TASC R30-1993	2329	12	1346	3	2336	66
215	MEPH GENIUS2 68030	2325	18	657	4	2308	23
214	MEPH LONDON PRO 68020/24	2318	67	47	5		
211	MEPH LYON 68030	2292	15	869	6	2392	51
211	MEPH RISC2 1MB	2291	21	466	7	2237	6
210	MEPH PORTOROSE 68030	2284	20	505	8	2340	82
209	MEPH BERLIN PRO 68020/24	2272	13	1221	9	2217	29
208	MEPH VANCOUVER 68030	2270	18	656	10	2347	54
208	KASP RISC 2500-512K	2267	25	338	11	2384	10
207	MEPH LYON-VANC 68020/20	2262	27	286	12	2327	10
206	MEPH RISC1 1MB	2255	9	2560	13	2232	95
205	KASPAROV SPARC/20	2247	14	1077	14	2251	24
204	MEPH ATLANTA-MAGELLAN	2238	17	686	15	2288	6
204	MEPH MONTREUX	2238	16	821	16	2288	54
202	MEPH LONDON 68020/12	2222	77	36	17	2040	4
202	KASP RISC 2500-128K	2222	9	2641	18	2270	67
200	FID ELITE 68040-V10	2201	53	75	19	2215	21
198	MEPH VANCOUVER 68020/12	2191	9	2334	20	2121	33
198	MEPH LYON 68020/12	2185	8	3349	21	2246	92
196	MEPH LONDON 68000	2170	69	45	22		
195	MEPH PORTOROSE 68020	2164	10	1833	23	2237	198
194	NOV SAPPHIRE2-DIAMOND2	2158	19	566	24		
194	FID ELITE 68030-V9	2153	15	899	25	2169	13
194	MEPH BERLIN 68000	2152	12	1325	26	2221	25
192	MEPH VANCOUVER 68000	2142	12	1383	27	2126	23
192	MEPH LYON 68000	2140	11	1678	28	2083	33
192	MEPH ALMERIA 68020	2136	14	1006	29	2156	241
190	MEPH MILANO PRO-SENATOR	2123	20	514	30	2169	10
190	NOV SAPPHIRE1-DIAMOND1	2123	12	1353	31	2152	77
188	MEPH PORTOROSE 68000	2111	11	1613	32	2111	25
188	FID MACH4-DES2325 68020-V7	2104	9	2265	33	2179	130
185	FID ELITE 2*68000-V5	2084	26	312	34	1888	2
183	MEPH POLGAR/10	2069	18	632	35	2080	54
183	MEPH ROMA 68020	2064	14	1075	36	2033	73
182	MEPH DALLAS 68020	2062	14	971	37	2069	197
182	KASPAROV BRUTE FORCE	2061	14	1070	38	2182	42
180	MEPH ALMERIA 68000	2046	14	1017	39	2093	31
180	NOVAG SCORPIO-DIABLO	2042	10	2067	40	2122	138
178	KASP PRESIDENT-MM6-COUGAR	2026	16	832	41	2072	65
177	MEPH NIGEL SHORT	2020	25	322	42	2136	5
176	FID MACH3-DES2265 68000-V2	2014	6	5537	43	2105	230
176	NOV EMERALDCLASS-AMBER	2010	60	60	44		
175	MEPH DALLAS 68000	2007	11	1526	45	1959	65
175	MEPH MM5/5	2000	11	1764	46	1850	17
174	NOV SUPER FORTE-EXP C/6	1999	8	2920	47	2000	24
174	MEPH POLGAR/5	1999	8	2837	48	2076	17
174	MEPH MILANO	1996	13	1153	49	2063	13
174	MEPH MONDIAL 68000XL	1993	15	852	50	2049	77
173	NOVAG JADE2-ZIRCON2	1990	41	128	51	2032	48
173	MEPH MONTREAL-ROMA 68000	1984	9	2514	52	1968	56
172	MEPH AMSTERDAM	1976	9	2253	53	2054	182
171	MEPH ACADEMY/5	1974	9	2385	54	2023	111
170	FID MACH2B	1961	27	276	55	1960	25
170	NOV SUPER FORTE-EXP B/6	1960	12	1443	56	2005	93
169	MEPH MEGA4/5	1957	8	2709	57	2005	197
169	KASPAROV MAESTRO D/10	1952	12	1303	58	1923	127
168	FID MACH2C	1949	9	2617	59	2059	127
168	KASP GK2000-BARRACUDA	1945	15	954	60	1862	20
167	MEPH MODENA	1941	16	789	61		
167	MEPH MM4/5	1936	8	2723	62	2006	97
166	FID TRAVELMASTER	1928	19	561	63	1917	83
165	NOVAG RUBY-EMERALD	1927	17	723	64	1981	48
165	NOV SUPER FORTE-EXP A/6	1922	12	1406	65	2021	176
165	MEPH SUPERMOND2-COLLEGE-MCARL04	1922	27	284	66	2074	8
164	KASPAROV MAESTRO C/8	1919	27	295	67	1999	98
164	FID MACH2A	1915	26	310	68	1912	35
163	KASP TRAVEL CHAMPION	1911	31	222	69	1862	22
163	MEPH MONTE CARLO	1908	28	260	70	2046	10
163	CONCH PLY-VICTORIA/5.5	1907	16	801	71	1861	22
163	CXG SPHINX/4	1906	9	2393	72	1943	155
162	KASP TURBOKING2	1899	14	982	73		
161	NOV EXPERT/6	1891	32	206	74	2026	22
160	FID CLUB B	1880	12	1309	75	1827	18
159	NOV EXPERT/5	1874	26	305	76	2012	68
159	NOV SUPER FORTE-EXP A/5	1872	11	1530	77	1800	38
158	FID PAR E-ELITE+DES2100	1867	9	2486	78	1916	220
158	NOV FORTE B	1865	10	1836	79	1953	236
157	MEPH REBELL	1863	9	2203	80	1940	69
157	FID AVANT GARDE/5	1863	11	1670	81	1852	80
156	NOV FORTE A	1854	9	2202	82	1908	143
156	FID CLUB A	1853	31	224	83	1767	6
156	KASP STRATOS-CORONA	1850	10	2089	84	1890	48
155	MEPH SUPERMONDIAL1	1846	11	1575	85	1990	6
155	KASPAROV MAESTRO A/6	1845	15	927	86	1864	131
155	KASP TURBOKING1	1840	24	355	87	1900	61
155	CONCH PLYMATE/5.5	1840	9	2201	88	1923	55
154	CONCHESS/6	1839	45	104	89	2017	8
154	KASP SIMULTANO	1834	13	1139	90	1824	36
153	NOV EXPERT/4	1831	14	1020	91	1960	43
153	FID EXCELLENCE/4	1827	11	1671	92		
153	SCI TURBO KASPAROV/4	1827	21	478	93	1933	64
152	CONCH PLYMATE/4	1821	24	372	94	2007	6
151	FIDELITY ELITE C	1812	35	176	95	1869	11
150	FID ELEGANCE	1806	17	700	96	1852	40
150	SCI TURBOSTAR 432	1800	12	1360	97	1872	67
150	MEPHISTO MM2	1800	17	745	98	1776	8
149	FID EXCELLENCE-DES2000	1794	11	1595	99	1828	57
147	CONCHESS/4	1777	20	511	100	1875	28