



INTER~GALACTIC MOVES

Tony Harrington finds out what the future augurs for the Novag Constellation Chess Computer.

1983 will probably go down as a vintage year in the history of computer chess. Several suppliers have already released, or are about to release, machines that are significantly stronger than the best of their predecessors.

There is the new Mephisto, the prototype of which is competing in the PCW tournament. There is the Fidelity Prestige, which is already on the shelves (and which is not competing, for reasons best known to Fidelity). And there is the Novag Constellation which is available now. At the time of going to press it is thought likely to compete in the Tournament. Negotiations, as they say, are underway.

I had an opportunity recently to play against the Constellation, and to talk to Peter Auger, the chairman and founder of Novag. At less than £150 (£149.95 to be exact), the Novag Constellation must be a likely contender for the title of the strongest machine in its price range. My game against it does not really count. I tell myself, since it was played between pauses while talking to Paul Cohn, the UK distributor of Novag chess computers. At sometime during the discussion I suddenly found myself in the middle of various awkward tactical complexities and reverted to being a journalist instead of a chess player.

If Novag does pluck up the courage to submit its current pride and joy to the test, I will be very interested to see how it fares over nine rounds. But as Auger explained, a commercial supplier has a huge disincentive against entering any tournament it is not certain of winning. And who can be certain?

'The majority of the chess playing public,' he pointed out, 'cannot beat even the last generation of chess computers, never mind machines like the Constellation. But human nature is such that everybody wants to own the strongest machine. If I put my little Constellation against some other supplier's prototype machine which is based on hardware that will never be sold to the public, and it loses, then I get bad publicity in seven countries.'

It is a consideration. But fortunately for the future of tournaments like the European Microcomputer event, it is also true that suppliers who don't enter competitive events, don't get seen at all. It is nice to have experimental entries from suppliers, since it makes the tournament what it should be — a forum where ideas can be

tested in competitive play. But it is also important that the tournament include a sample of the best of the currently available machines, to provide a standard, a kind of Benchmark, against which the new ideas can be measured.

At the time of writing Auger was torn between entering a prototype model only, or entering a prototype and the Constellation as Cohn was urging him to do, or entering nothing at all in any tournament before the Budapest World Championship in October. It's a difficult life, being a supplier.

So how did Auger become involved in computer chess in the first place? Unlike many of the other suppliers profiled in this column, Auger's involvement with computer chess can be seen as the logical development of a family tradition.

The Auger family is a long established firm of toy makers in Nuremberg. Auger's father was a toy maker of the old school, where high technology meant clock-work mechanisms, not computers. After the Second World War Auger moved to Montreal and set up his own toy distributing business.

The Far East was then, perhaps even more than now, the centre of the toy industry. Many of Auger's supplies came from there, and this led to what military men call 'uncomfortably extended lines of supply'. Distribution and trade problems kept Auger flying to and fro often between Canada and Hong Kong so that inevitably it soon came to seem more sensible to move there permanently.

Besides being the toy mecca of the world, Hong Kong was also a boom town for the electronics industry. Add the development of the microchip, and it was merely a matter of time before someone decided to connect all three. Chess stood out as a game that would obviously benefit from a good deal of computing power and Auger decided to see what could be done.

His first venture into computer chess has already featured in this column, in a profile of SciSys. Ernest Winkler and Auger teamed up to produce and market this first model. Auger asked Winkler to do the technical research while he looked after the packaging and distribution side of things.

That was in 1978. After several months a machine appeared, but Winkler and Auger found the edges on each other's personalities a little too sharp for comfort

and decided to part company — in the best of spirits, of course. Winkler went off on his own and founded SciSys, while Auger carried on with Novag.

The first machine to be produced by the Winkler-less Novag was displayed at the Las Vegas exhibition in January 1981. A spate of new products followed, including Micro Chess (a pocket computer set), Savant, the Super Sensor 4 and a prototype of Novag's self moving set, with a robot arm (though problems with the latter meant that it was only shown at the 1982 Show).

1982 saw Novag produce a cheap, simplified version of the Super Sensor 4, called the Dynamic, as well as a second, more powerful version of Micro Chess called, not surprisingly, Micro Chess II. Last year turned out to be a pleasant one for the company, since it won two packaging awards for the quality and appearance of its products. Gabriella Auger looks after this side of things.

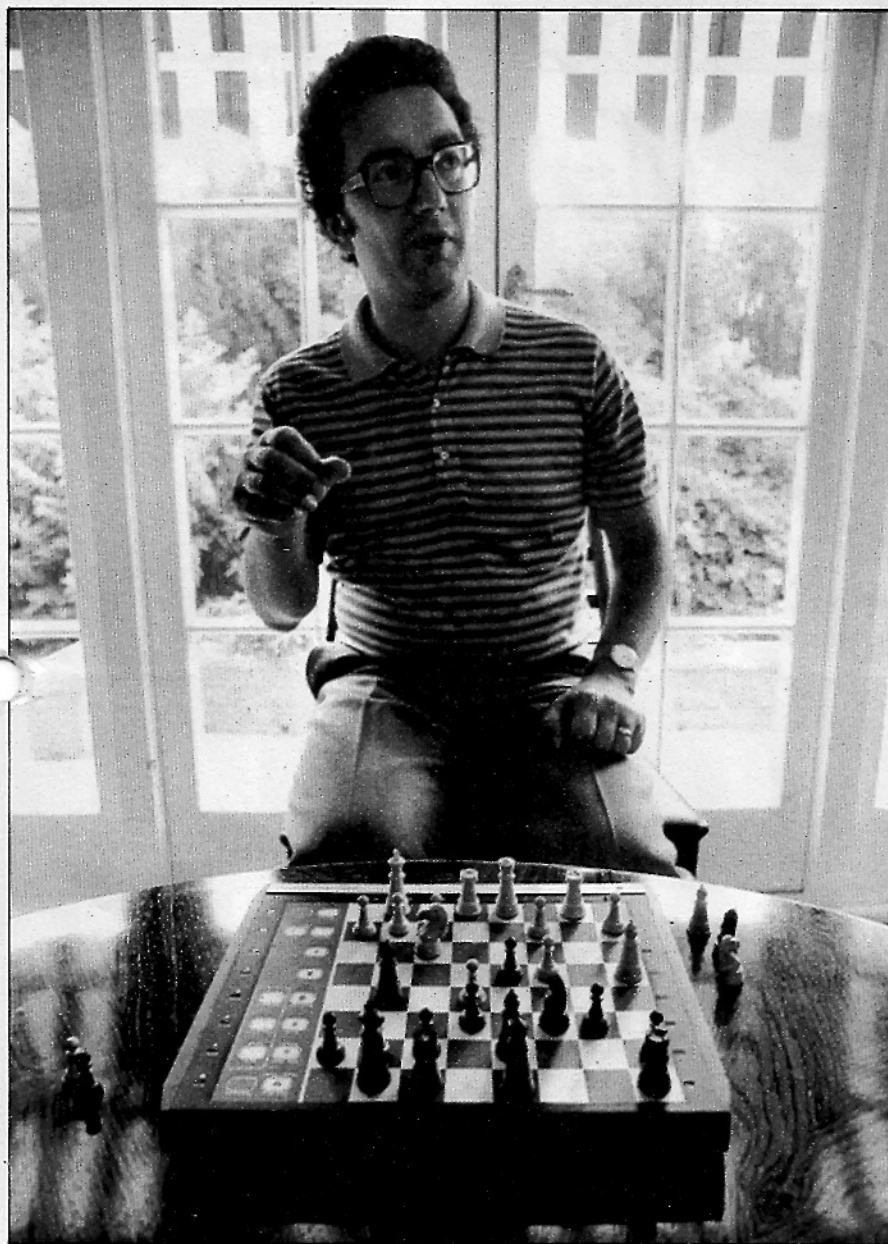
Although Novag has sold well in the rest of Europe, especially in West Germany, it is still not particularly well known in the UK. Paul Cohn, who acquired the UK distribution rights for Novag towards the end of last year, intends to change that — and the strength and price of the Constellation should help him achieve his aim.

Cohn is unique among the distributors that I have met in that computer chess for him is not simply a product. It's a passion. His company, Eureka Electronics, was in the electronics instrument business, selling oscilloscopes, function generators and multi-meters to schools, colleges and polytechnics.

Then, back in 1978, a friend by chance showed him one of the earliest Challenger 3's to reach the UK (priced at that stage at £140 for a three-level machine). Someone else, shortly after, gave him a Chessmate machine by the Hong Kong based supplier Cassia, and Cohn was hooked.

'During a conversation one day, this friend of mine said that he thought there must be two thousand people in Britain who would want to buy the machine,' Cohn said. 'I thought at that time that there were only one or two other lunatics like myself about, who enjoyed playing chess against computers. It occurred to me then, that perhaps I was wrong. Perhaps I wasn't so unique, after all!'

Cohn asked Cassia for 25 samples. He had no idea then how any potential market



Peter Auger, chairman of Novag, decides his next best move.

Paul Cohen

for chess computers could be reached. But the electronics shops in Tottenham Court Road, London, struck him as a possible outlet. A long day spent going up and down that road resulted in one manager ordering five sets. Ten days later that same manager rang up Cohn and asked for 12 more. This continued, and Cohn developed other outlets. By the end of his first year (1979) Cohn reckons he sold well over the 2,000 sets forecast by his friend.

In September 1981, Cohn went to Hong Kong and got Cassia's first sample version of Computer Chess, a pocket set priced at £29.95. While in Hong Kong, he met Peter Auger for the first time. They talked, but it was only in late 1982 that a mutually satisfactory arrangement was reached, and Cohn took over the UK distribution of Novag products.

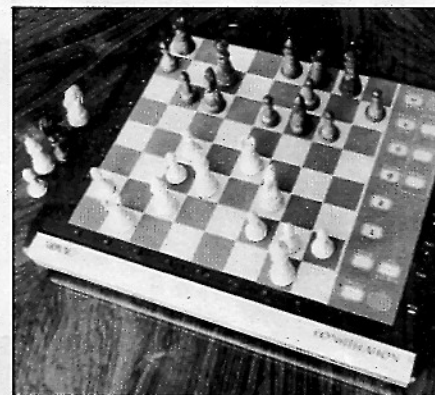
According to Cohn, his experience in the UK indicates that the demand for chess computers is split into two different levels. Sales of the cheap pocket chess computer, Micro Chess II, run into five figures, he claims. Sales of the more expensive Constellation are a long way short of this.

'People buy the machine that suits their

pocket and their playing strength. Of the three million or so people who play chess in the UK only the top 60,000 or so can get the full benefits of a strong chess computer. But every player can enjoy a game against the travelling sets.'

Cohn pointed out that recent breakthroughs in computer chess concerned the length of playing time, as well as the strength of programs.

'You can now get 20 hours playing time on one set of batteries on the Constellation



Close up of the Constellation.

instead of the six hours or so which were all the previous generation of machines could muster,' he said.

This bodes well for those who like taking their sets on long train or plane trips.

Games section

White: Constellation. Black: Fidelity Elite. Queen's Gambit Declined. Notes by David Levy.

1	d2-d4	d7-d5
2	c2-c4	c7-e6
3	Nb1-c3	Ng8-f6
4	Bc1-g5	Bf8-e7
5	Ng1-f3	0-0
6	Qd1-c2	c7-c5
7	d4xc5	d5xc4
8	e2-e4	Nb8-a6

(Not 8...Be7xc5? 9 e4-e5 h7-h6 10 c5xf6 h6xg5 11 Nf3xg5 (threatening mate on h7) 11...g7-g6 12 Ng5-e4, with a clear, possibly winning advantage for White.)

9	Ra1-d1	Na6-b4
10	Qc2-b1	Nf6-d7
11	Bg5-e3	Qd8-a5
12	Bf1xc4	Be7xc5
13	Bc4-b5	

(If 13 a2-a3 Nb4-c6 14 b2-b4? Qa5xa3 15 Be3xc5 Qa3xc3+, when White is a pawn down.)

13	...	Bc5xc3
14	Bb5xd7	Be3-h6??

(An unnatural square for the bishop. It would have been more sensible to retreat to c5 or b6. On h6 the bishop is out of play.)

15	Bd7xc8	Ra8xc8
16	a2-a3	Nb4-a6

(Why not retreat to c6?)

17	0-0	Bh6-f4
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(Intending to deploy to a better diagonal, but White has other ideas.)

18	Rd1-d7	Qa5-b6
19	e5-e5!	

(Keeping the black bishop shut away from c7 and b8.)

19	...	Na6-c5
20	Rd7-d4	Bf4-h6

(So now this bishop is doomed to a dismal future.)

21	b2-b4	Nc5-a6
22	Nc3-e4	Rf8-d8
23	Nc4-d6	Rc8-b8
24	Rf1-d1	Rd8-f8
25	Qb1-d3	

(Completing White's domination of the d-file.)

25	...	Na6-c7
26	Nd6-c4	Qb6-b5
27	Qd3-c2	Nc7-d5
28	Nc4-d6	Qb5-a6
29	Qc2-b2	

(Protecting the a3 pawn and preparing Nd6-f5.)

29	...	Rb8-d8??
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(A terrible positional blunder. Black should have prevented White's next move with 29...g7-g6, which would also help to improve the position of the h6 bishop which could then come onto the long diagonal at g7.)

30	Nd6-f5!	
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(This move forces liquidation to a

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position in which Black is under intolerable pressure. If now 30... Bh6-f4 31 g2-g3 e6xf5 32 g3xf4 Qa6-c6 33 Qb2-d2, and White wins a piece.)

30 ... e6xf5
31 Rd4xd5 Rd8xd5
32 Rd1xd5 Rf8-c8
33 Qb2-c2!

(So that 33... Rc8xc2 is met by 34 Rd5-d8

mate.)

33 ... Qa6-e6
(Black might have tried 33... Rc8-f8, when 34 Qc2xf5 Qa6xa3 would prolong the struggle considerably.)

34 Nf3-d4 Qe6-e8
35 Rd5-c5 Rc8xc5
36 Qc2xc5 g7-g6
37 Qc5-d5 Qe8-c8
38 g2-g3 Qc8-c1+

39 Kg1-g2 Qc1-b2
(Pointless, but there was little that Black could do. If 39... Qc1-c8 40 e5-e6 f7xe6 41 Nd4xe6, and if 41... Qc8-c6 42 Qd5xc6 b7xc6 Ne6-d8, winning a pawn.)
40 e5-e6! f7xe6
41 Qd5xe6+ Kg8-f8
42 Qe6-c8+ Kf8-e7
43 Qc8xb7+ Ke7-f6
44 Qb7-a6+ Kf6-f7
45 Qa6xa7+ Kf7-g8
46 Qa7-b8+ Bh6-f8
47 Nd4-e6 Qb2-f6
48 Qb8-c8 f5-f4
49 g3xf4 Qf6-f5
50 Qc8xf8+ Qf5xf8
51 Ne6xf8 Kg8xf8
52 a3-a4
(and White won easily.) **END**

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For example:

100 REM — Silly example

110 X=10

120 WHILE X>0

130 PRINT "The current value of X =";X;"."

140 X=X-1:WEND

150 REM — X is now zero and the WHILE test fails

In a WHILE-WEND loop, the loop is repeated while the test expression is true. A REPEAT-UNTIL loop works the other way around. All statements between REPEAT and UNTIL are executed until the test expression is true. Thus the above example would be written:

100 REM — Same silly example

110 X=10

120 REPEAT

130 PRINT "The current value of X =";X;"."

140 X=X-1:UNTIL X=0

150 REM — X is now zero and the REPEAT test is satisfied

Converting from one structure to the other is thus straightforward. But the majority of present-day Basics offer neither of the above. To create the same effect, we have to use a statement that causes purists to gasp in horror and head straight for the reassurance of their BBC micro: the GOTO.

Thus:

100 REM — Here we go again

110 X=10

120 PRINT "The current value of X =";X;"."

130 IF X>0 THEN X=X-1:GOTO120

140 REM — X is now zero and the test fails

While somewhat less elegant, the net result is the same. We can see that rewriting a WHILE-WEND or REPEAT-UNTIL structure is simply a matter of manually inserting the test (using IF-THEN) and pointer (GOTO).

STRINGS is a statement which allows you to repeat a given sequence of characters. The format is STRING\$(number of times to print string,string). If you wanted to print a line of asterisks across an 80-column screen, for example, you would state: STRING\$(80,"*"). If your machine doesn't support this statement, then we fall back once again on the ever ready FOR-NEXT loop. Thus: FOR A=1 TO 80:PRINT"*";NEXT, the string is simply duplicated, and the numeric argument placed in the FOR-NEXT loop.

TAB. This is supported by most machines, except that on the BBC micro the TAB function is performed by SPC while TAB prints in predetermined screen fields.

Next month: Graphics and sound! **END**

MASTER PROFILES

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seems more healthy and personally satisfying than Bushnell's pathological compulsion to be doing something interesting.

Both men feel that governments should resist the urge to interfere in business activities. It only has the effect of slowing things down and this applies equally to development of new, or to the demise of existing, activities. They both feel that education needs a bit of a shake-up. Bushnell reckons that kids are being trained to become functionally useless in the twenty-first century while Sinclair feels that more emphasis should be placed on the art of living and a broader-based education for all covering both the arts and the sciences. Sinclair is particularly peeved that universities don't fulfil their potential. He describes university departments as being suspended in aspic. Each one

pursues its own discipline and there is nowhere near enough intermingling between them. He has a dream of some future time when he can create a 'Paralab' containing multi-disciplinary people, people with deep and varied experiences, people who are keen to explore and develop ideas and pet theories for a few years with others of a similar outlook.

As well as these active people, Sinclair would like to have a group of wise people, savants, who would be there to listen, reflect and generally act as guides and sounding-boards. A well-stocked library would contain a wide and interesting selection of books, including some which would probably be regarded as somewhat eccentric by less open-minded people. His dreams for a Paralab reflect some of his frustrations with our 'system'. His preference for classically-educated employees in his Metalab suggests that they currently offer the best chances of success. The Paralab sounds just about the most

exciting environment in which to work. I've no doubt that there will be few places available and that applicants will be vigorously screened. Imagine it: three years free of normal financial pressures, and the ability to pursue your own dreams and studies. If Sinclair is prepared to take that risk, and I'm sure he will, I think it could pay off handsomely.

Neither man seems to be terribly interested in money for its own sake, which is a refreshingly healthy attitude. They both regard it as a tool which must be put to work. Bushnell does admit, however, that it is a convenient way of keeping the score in his favourite game, business. They are each prepared to risk millions on their judgements of what products people will want in the future.

Bushnell talks about the day when you'll be able to jump into a machine in one of his Pizza Time Theatres and actually experience being anywhere in the world. Anywhere, that is, where he has installed