Chess Bibliography: The New Chess Computer Book

The New Chess Computer Book
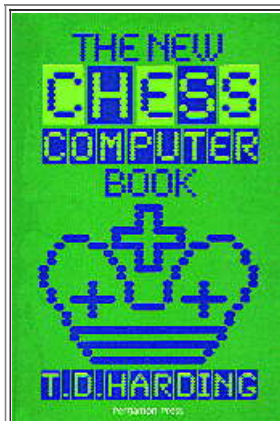

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    Title:  The New Chess Computer Book
   Author:  T.D. Harding
Editorial:  Pergamon
     ISBN:  0-08-029768-4, 312 pages
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 Abstract:  This is the revised edition of The
            Chess Computer Book, with much new
            material. It includes a good story
            of chess computer, predicts likely
            developments and features many full
            games between computers and humans,
            analyzed and commented with diagrams
            and a lot of interesting opinions
            by its knowledgeable author.
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Review:

Let's face it from the start. This book was printed in 1985, and the chess programs and dedicated machines it deals mainly with are absolutely outdated 12 years later. Why would it hold any interest for today's readers ? Many reasons.

First of all, it's a very dense, comprehensive 312 page book, written clearly and with a *good sense of humour* by knowledgeable Tim Harding, which by the way is still quite actively in chess things.

It discusses the history of computer chess, then goes to great lengths to test the best programs and dedicated machines of that time, both playing among themselves, and against human players. It includes *many full games*, very well analyzed, as well as *many test positions* for the readers to try. I also discusses the pros and cons of chess programs and offers valuable hindsights on their chess playing ways.

The book opens with Chapter 1, **2001 and all that**, where the origins of computer chess are presented briefly, then we are introduced to some of the best chess programs, such as Tech, Kaissa, Chess 4.x, Nuchess, Belle, Cray Blitz, etc. The chapter includes a number of games among themselves, and also games against David Levy, all commented with detail.

Then Chapter 2, **Hullo, Mr. Chips** introduces the first microcomputer programs, and we get to know about the Chess Challenger series, Boris, Scysis, Atari, Sargon, Mychess, Chess Champion Mark V, Cyrus, and other well known programs and dedicated micros of the time. The chapter features some games among them, as well as classification tables.

Chapter 3, **Make mine modular** discusses the advantages of having a modular prgram or machine, which can be fitted with different modules to change its style of play. Several modules are tested and discussed, and we also get to know about the problem solving contest between John Nunn, world's number two at that, and Chess Champion Mark V, a popular dedicated micro, which finally won the contest. Also, several games between Cyrus, Mephisto X, Superconstellation, Sensory 9, and several other micros are analyzed.

Chapter 4, **On the origin of species and their differentiation** begins with a list of desirable features in a dedicated machine or chess program, ordered by price ranges. Then, it goes on to discuss the strength, merits, and other characteristics of the most popular machines of the time: Boris, Capablanca endgame module, Chess Challenger, Chess Champion Mark V/VI, Chess King Master, Chess Partner 2000/3000, Chess Traveller, Companion II, Computachess, Conchess, Constellation, and so on up to more than 40 different models!

Chapter 5, **The state of the art** states the important question of how to do to reliably measure a program's strength, and then goes on to analyze in great detail the tournament games played by the best programs of the time, pointing out their good and bad points.

Chapter 6, **But can they beat people ?** is the reverse of the coin. Once the previous chapter showed how well chess programs did while playing themselves, in this chapter a tournament is held confronting those best micros against human players. The games are fully discussed and analyzed, and the results commented afterwards.

While the previous two chapters dealt mainly with dedicated chess machines, Chapter 7, **It crawled out of the video screen** focuses on chess programs running on general-purpose microcomputers, such as the old, venerable, fondly-remembered ZX81 (Timex

Sinclair), ZX Spectrum, Vic 20, Oric, Atari, Texas Instruments, etc. It also gives some hints at how to program a computer to play chess, and what kind of hardware is needed for optimal results.

In Chapter 8, **Chess computers are almost human**, the anatomy of a chess computer is discussed, its ROM, RAM, CPU speed, etc. Then, the problem to solve is presented, with all necessary ingredients: the opening book, positional evaluation, the horizon effect, endgame issues, what to do about draws and resignations, etc., all of them with plenty of sample positions and some games to illustrate the topic.

Chapter 9, **Is that 'book' ?** centers on teaching the reader how to improve his/her opening knowledge by training with the computer, and then shows typical opening traps which can be used against most chess computers, so that the human player learns to gain an advantage from the very beginning, so defeating otherwise stronger computer opponents.

Endgame play is then discussed in Chapter 10, **Why did it make that silly move ?**, where we learn of a number of pitfalls and weaknesses of computers in that crucial phase of the game. Many sample positions are given and the programs' performances are evaluated. This chapter also shows how the best mainframe programs are able to deal with very difficult endgames: a KNvsKBB endgame is shown, which is a mate in 69, as discovered by BELLE. A number of test positions are given for the reader to try.

Chapter 11, **It's you against the computer** gives some tips on how to use your chess computer or program: apart from straightforward playing, you can try blinfold chess, randomized chess, analysis, or problem solving contest against it. This chapter features a number of difficult test positions, for you to try to solve or analyze faster than your computer, or to benchmark its capabilities.

Chapter 12, **Are you another computer ?** discusses uses of the 'Infinite level' or 'Analysis level' of chess programs, such as its uses in postal chess, or to help analyze adjourned games, showing the advantages and some caveats of this approach.

The closing chapter, Chapter 13, **Mighty nicros march ever onward** presents the best micros/programs at the time the book went to press, and to show their marked improvement, comments in detail several games against human players. Also, it tells us about the match between IM David Levy and Cray Blitz, then World Champion program. The match ended with a convincing win 4-0 by Levy, and one of the games is presented and thoroughly commented.

Finally, the book ends with a **Further reading** list and an **Index of computers**.

Here is a sample position from this book: quoted from pag. 273, **It's you against the computer**:

*... the longest variation I have ever had to calculate in a tactical middle-game in an important tournament, is shown in the following diagram ... White now played the move he wanted to make on positional grounds, although it looks as first sight like an obvious blunder: **1. Qc4 !** . This threatens 2. b4, and also sets a trap which I think every computer and about 99.5 percent of human players would fall into ... ...*

<p align="center">**Diagram pag. 273: T.D.Harding vs. NN**</p>
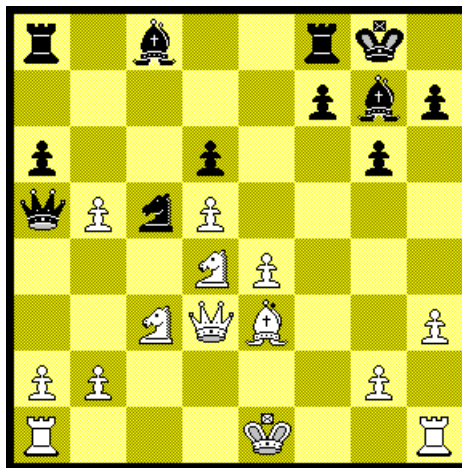
<p align="center">FEN: r1b2rk1/5pbp/p2p2p1/qPnP4/3NP3/2NQB2P/PP4P1/R3K2R/ w</p>

<p align="center">**White to play: 1. Qd3-c4**</p>

Reviewer Notes:

The trap the author mentions consist in that, after **1. Qc4**, black would be tempted to capture the now undefended pawn with the Knight, **1 ... Nxe4 ?**. Computer programs of that time would certainly fall into this trap, as the winning line is too deep for the processors, memory and speeds available then. But modern programs consider the knight move for a mere fraction of a second, then switch to something more profitable. Also, analyzing this position, most of them do not chose the author's move, even when looking at the position for a long time.

Chess Master 2175, running on a P100 and with 16 Mb for the hash table, choses **1. Qd3-c2** after searching to 11 plies in 30 min. It evaluates this move at +1.36, and only liked Harding's move at low ply depths.

Chess Genius 1.0, running on a P100 and using a hash table of just 320 Kb, after searching to 10/22 plies in some 3 hours, choses instead **1. Qd3-c2**, evaluated at +0.87, nothing to write home about.

Crafty 12.7, running on the same hardware, but with a 12 Mb transpositions hash table and a 5 Mb pawn structures hash table, searches to 11/14 plies in 35 minutes, and finds the same move as CG1.0, namely **1. Qd3-c2**, evaluated at +0.528 this time, also nothing special. However, it does see the author's move **1. Qd3-c4** with a search of 7/9 plies, valued at +0.404, but after that, for depths 8,9,10, and 11 plies it changes its mind and selects the text.

The only program which agrees with Harding is **Rebel Decade 1.2**, which does the opposite: it likes **Qd3-c2** for low ply depths, then prefers Harding's **1. Qd3-c4** for depths of 8,9, and 10 plies, taking 3, 6, and 17 min. respectively. The final evaluation at 10 plies is +0.99.

NEW➡ Addendum:

Tim Harding, author of this book, sent a supportive e-mail telling me he intended to write about this site in his printed chess magazine, and also said something that may be of interest to the readers of this review:

*" ... Thanks for the nice remarks about my book. I find I have **four spare copies** of this. If you think anybody would like them, I will be willing to sell them for a few pounds each plus mailing cost ..."*

It goes without saying that I have no commercial relationship with anyone, I just think this may be of interest to some gentle visitor, so if you are interested you can contact Tim directly, via e-mail. I *never* give e-mail addresses of any of my kind visitors to avoid spamming, but you can find his address, as well as a lot of chess information at his chess site, **"Chess Mail, the unique magazine for correspondence and Internet chessplayers"**.

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