

Thank you, Monty

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Tony Marsland



Left: Monty Newborn

THANK YOU, MONTY

David Levy
London

Jaap van den Herik
Maastricht

This article is meant to thank Professor Monroe M. Newborn, Past President of the ICCA (1883-1986) for all his contributions to the ICCA (ICGA) and the *ICGA Journal* at the occasion of his stepping down from the Editorial Board.

The seminal work on computer chess is called *Computer Chess*. It is by Monroe Newborn and dates back to 1975. The book is a real gift to the computer-chess community, since it has opened many eyes and inspired many researchers in the late 1970s to find their way through the search trees of that time. The α - β was only conjectured to be an actual improvement of the minimax. (The proof by Knuth and Moore appeared in 1975.) In Chapter X, Section H, Monty suggests a supplement to Shannon's type-B strategy in combination with the alpha-beta algorithm, namely the *gamma* algorithm (see pp. 177-178 of that publication).

Together with David Levy he continued to inform the computer-chess community by the following publications: *More Chess and Computing* (1980), *All About Chess and Computers* (1982), *How Computers Play Chess* (1991). Moreover, Monty completed the above four books by three more books, viz. *Kasparov versus DEEP BLUE: Computer Chess Comes of Age* (1997), *DEEP BLUE: An Artificial Intelligence Milestone* (2001), and *Automated Theorem Proving: Theory and Practice* (2002).

Monty started his career in the computer-chess community in 1972 in the third United States Computer Chess Championship in Boston, MA. with the program OSTRICH. At that time the team consisted of George Arnold and Monty Newborn. OSTRICH was running on a Data General Nova 800 at the site of the tournament. It was runner-up after CHESS 3.6, since it won the play-off match against TECH. Two years later OSTRICH came within a whisper of defeating KAISSA at the first WCCC in Stockholm. In two positions, there was a forced mate, but it was too deep for the hardware of that time and the timeframe in which the moves had to be played. Later on OSTRICH was the first program to compete in major tournaments on multiprocessing systems. Owing to this computing power it drew to BELLE once (ACM, 1986).

Next to research and science in games and computer chess, Monty did also well in stimulating young researchers. He gave Claude Jarry the opportunity to write the computer program L'EXCENTRIQUE as a master thesis and to participate in the 3rd WCCC in Linz. Remarkably, the author (Jarry) was not a chess player himself. He had to learn the rules before he started to work on his M.Sc. project. A second example of his stimulating actions was his invitation to Jaap van den Herik to spend half a year at McGill University in Montreal, Quebec, Canada as Visiting Assistant Professor (1984).

Monty Newborn served our community as ICCA Vice-President (from 1980 to 1983) and as President from (1983-1986). Thereafter he became Associate Editor of the ICCA Journal (later ICGA Journal). He was awarded ACM Fellow in 1992 for his work in computer chess, organized the 1996 ACM challenge Match

between Kasparov and DEEP BLUE, and served as Head of the Officials at the IBM Rematch between Kasparov and DEEP BLUE.

In this overview we would also like to provide the reader with some background. Monty Newborn received his Ph. D. in Electrical Engineering from The Ohio State University in 1967. He was an assistant professor and then associate professor at Columbia University in the Department of Electrical Engineering and Computer Science from 1967 to 1975. In 1975, he joined the School of Computer Science at McGill University and has been with the School since then, serving as its Director from 1976 to 1983. He has been an ACM Fellow since 1994.

In the mids of the 1990s Monty started to develop interest in automated theorem proving. OCTOPUS and THEO, two automated theorem-proving programs developed over the last fifteen years, are the current focus of his work. They both competed in the recent 2006 World Championship for ATP Systems in Seattle, Washington. OCTOPUS, a multiprocessor version of THEO, ran on 133 PCs in the School's laboratories during the competition, searching in parallel for proofs of theorems chosen by the competition's organizers. In the 2004 competition, OCTOPUS performed admirably, solving more theorems (among those that no entry had seen before) than any other entry. OCTOPUS and THEO finished best of the North American entries.

(see www.cs.miami.edu/~tptp/CASC/J3/ and www.cs.miami.edu/~tptp/CASC/J3/wwwfiles/divisionsummary.html.)

Obviously, his activities have shifted somewhat from computer games to theorem proving, therefore he communicated to us as follows: "I am delighted to retire officially to be replaced by younger more vigorous blood. Actually, my blood is doing quite well, as reflected by my tennis career, which is continuing in good stead." All in all, we were happy to have received this quotation and in a personal way the authors are delighted to state: "Thank you, Monty."