

TABLE OF CONTENTS

Table of Contents	53
Edmontonia, Mostly (I.S. Herschberg and H.J. van den Herik)	53
Parallel Analysis of Certain Endgames (L. Stiller)	55
Distributed Game-Tree Search (R. Feldmann, B. Monien, P. Mysliwicz and O. Vornberger)	65
Notes:	74
Retrograde Analysis and Two Computerizable Definitions of the Quality of Chess Games (I. Althöfer)	74
The KPK Database Revisited (H. Zellner)	78
Information for Contributors	82
Literature Received:	83
T.A. Marsland (ed.): New Directions in Game-Tree Search; Workshop Report	83
News, Information, Tournaments and Reports	84
The Sixth World Computer-Chess Championship	84
Report on the Tournament (G.E. Courtois)	84
General Information	86
Results and Games (K. Thompson)	89
The Tournament Rules in Force	100
New Directions in Game-Tree Search, First Workshop Session (J. Gillogly)	101
New Directions in Game-Tree Search, Second Workshop Session (M. Campbell)	103
Invited Speakers: Donald Michie and John McCarthy (D. Slate)	105
Deep Thought vs. Spraggett Exhibition Games (The Editors)	106
Report on the ICCA Triennial Meeting (J. Schaeffer)	107
Deep Thoughts from Edmonton (R. Keene)	108
The Netherlands versus the Computer World (D.N.L. Levy)	111
Report on the 1 st International Chess-Computer Tournament in the USSR (A.A. Timofeev)	115
The Sixth Conference on Advances in Computer Chess (London, England)	116
The Swedish Rating List (T. Jansson and H. Pahlén)	117
The 20 th ACM North-American Computer-Chess Championship	118
The 1989 World Microcomputer Chess Championship (D.N.L. Levy)	120
Correspondence:	122
The Giant Awakes (V.I. Murakhveri)	122
History of the "Safety" Algorithm (D. Heisman)	122
The 50-move Rule Adapted (1) (E. Mednis)	123
The 50-move Rule Adapted (2) (B.M. Kažić)	123
How the Journal Reaches You	124

EDMONTONIA, MOSTLY

The ICCA meets no more often than once in three years. But when it meets, o brother, will the sparks fly! In 1986 we met by the broad and pleasant waters of the Rhine in Cologne, 1989 saw a rather more turbulent convention in Edmonton, Alberta, on the livelier banks of the Saskatchewan River. The contrast may be telling of acceleration: from slow eddies, the computer-chess world is moving into larger whirlpools.

Three years, conventional between meetings, are, in these dynamic times, better than the half-life of any given hardware. This showed: there was barely a program that did not outperform its ancestor of only three years' standing. Again, there was some hardware that outperformed anything available, even on the drawing board, as little as three years ago. Our dear readers will have to judge for themselves whether this undoubted

trend is progress or technology push. Whatever you deem it to be, it is faster, cleverer and most of all it is here, echoing the 1940's British joke about American airmen: "They're overdressed, oversexed and over here!"

Expectations about the programs' playing strengths were largely confirmed. Those who had rooted for speed rather than ingenuity had their day. The fastest of them all, Deep Thought, at around one million nodes generated, evaluated and backed up in each precious second, outdid them all with the perfect score of 5 out of 5. Yet, this is not an unambiguous score for the speediest: the last but one issue of this Journal had a deep and convincing article on how Deep Thought embraced human ideas on selective search, going by the name, style and title of Singular Extensions. Hence, Deep Thought's undoubted victory has a halo of ambiguity hovering over it: speed, craft, or a mixture of them? We do not know. Yet, the same venue assembled no fewer than 24 programs at a general level almost inconceivable three years ago. It seems that not only our standards are drifting happily upwards, but also that participants previously unheard of are speedily working their way into the ranks of fully-fledged competitors. Even the Russian team, Centaur, though scoring an ignominious nought out of five, were there as co-equal competitors. The remarkable thing is not that they lost wildly, but that they competed fairly on hardware that was no stranger to the Western World, though it was a mite faster than that in regular use beyond the bit curtain.

Chess, for a long time, has been claimed to be an Eastern prerogative. So, by reaction, has computer chess been claimed as a preserve for the Western world as cumulating in the United States. Edmonton, itself multi-racial in population, was quick to belie these conceptions: just consider that among the authors of Deep Thought, the senior hardware designer Feng-hsiung Hsu is Vietnamese by extraction, the senior software guru Thomas Anantharaman is from the Indian continent. May we conclude - and we shall be happy to do so - that chess is truly international, neither despising the Indian 1, 2, 4, 8, 16 ... grains nor ignoring the substantial Fredkin intermediate prize, dealing in dollars which are Megagrains. To your Editors, the Edmonton meeting was more than a meeting of programs: it went far beyond, being a meeting of minds. A Workshop, so called, we presume, because it allowed talking shop about work done, presented not only outstanding papers, but first and foremost outstanding persons.

The ICCA has a standing tradition of inviting distinguished pioneers to address their successors. We had Dr. Claude Shannon in 1980, Dr. Mikhail Botvinnik and Dr. Hans Berliner in 1983, and Dr. Adrian de Groot in 1986. Continuing this tradition, Edmonton saw as guests of honour Professor Claude Shannon who wowed them all and Professor John McCarthy. It is a rare occasion indeed that Shannon as the founder of computer chess in the abstract, due to his 1949 presentation at Bell Labs, can be cheered forty years on, hale, hearty and obviously enjoying the occasion. Professor John McCarthy is another founder member of computer chess, pioneer in chess-related algorithms and the applicability of predicate logic to game playing. Your Editors think it greatly to the credit of the ICCA that it has extended its cordial welcome to its forty-year old pioneers, allowing them their due honour while still alive. The series of distinguished speakers was rounded off by Professor D. Michie, who threw out a new challenge to the thin intersection of Artificial Intelligence and the Chess World. Construct, he prodded, a program capable of providing intelligent commentary to chess games, be they played by human beings or by computers. The only limitation is that the comment should be understandable in human terms, a major rider as we see it.

The organizers, Tony Marsland, Jonathan Schaeffer and their team, deserve rich compliments for uniting in Edmonton the founders, the theoreticians and those practicing chess programming in a meeting unique in the history of computer chess and all too rare in the history of the sciences in general. And where but in Edmonton can one meet the top of the Russian chess programmers?

Bob Herschberg
Jaap van den Herik