TABLE OF CONTENTS

Table of contents	1
Editorial (H.J. van den Herik)	1
Introduction (T.A. Marsland)	5
The game of chess (M.M. Botvinnik)	6
Experience with the second human-computer problem test (L. Lindner)	10
The history heuristic (J. Schaeffer)	16
Knowledge-based move selection and evaluation to guide the search in	
chess pawn endings (H. Horacek)	20
	38
The Election of the new ICCA Board	38
The Third Microcomputer Chess Championship	
The Fourth World Computer Chess Championship	
Report on 2nd International Symposium on "Artificial Intelligence and	
the Game of Chess" (B. Pernici)	42
Call for papers (The Conference on Advances in Computer Chess 4)	

EDITORIAL

This issue of the ICCA Journal is the first under the new Editorial Board. In the April issue, Prof.dr. Mittman transferred the Editorship to me and introduced at the same time Prof.dr. I.S. Herschberg (Delft University of Technology) and Prof.dr. T.A. Marsland (University of Alberta) to the readers. The new Board thanks Dr. Mittman for this introduction and for the confidence he has in us; we also thank him for the enormous amount of work which he has accomplished as Editor. His formidable track record as President of the ICCA will be described in the December issue of the Journal. There, the accomplishment of Ken Thompson, who completes his term of office as Secretary-Treasurer, will also be recognized.

In this year of several highlights in the field of computer chess, the Editorial Board was confronted with the problem of choosing a date of publication for the first issue. Two events with conflicting demands on the publication time had to be reported: the election announcement and the microcomputer chess world championship tournament in October in Budapest.

THE ELECTIONS

According to the rules all names of candidates for the elections to the Board of the ICCA are to be published in the ICCA Newsletter/Journal. As the closing date for presenting candidates was July 24, it was decided to publish the first issue as soon as possible thereafter.

The reader will find (on page 38) a call to participate in the elections of the new ICCA Board. We expect to hold the Triennial Meeting on Monday, October 24, 1983, during the fourth Computer Chess World Championship in New York. Since postal votes are not allowed, we hope that you are able to vote in person in New York.

THE BUDAPEST CONFERENCE AND MICROCOMPUTER CHESS CHAMPIONSHIP

The above-mentioned decision on the date of publication implies that the information on possibilities for participation in the Third Microcomputer Chess World Championship, which will be held from 13 to 20 October in Budapest, Hungary, will not be in this issue. Deliberations have taken place with the organizers and the result is that they have published their announcement in a large number of other magazines (a.o. Computerschaak (The Netherlands) and Rochade (West Germany)) and have informed a number of possible participants in their tournament themselves.

Under the heading 'News, Information and Reports' the reader will nevertheless find several details encouraging his visit this tournament. Dr. László Lindner, organizing the tournament, will report about it in the December issue.

THE CONTENTS

The ICCA Journal will be split into two parts. The first part will contain contributions which refer to computer chess as a research subject. The contents of these contributions can vary significantly; in this issue they range from a review of the best algorithm for computer chess to specialized technical articles; according to the Editorial Board one of them is much too long. The second part will announce tournaments, conferences, etc., and contain reports on conferences and short stories as well as official announcements from the ICCA Board. As in the Newsletter, we shall set aside space for readers' letters commenting on articles in the Journal and other issues of interest.

Although Horacek's contribution was far longer than our requirements, all the alternatives suffered from prolixity too. The Editorial Board appreciates your enthusiasm very much and we shall do our utmost to publish abridged versions of the articles - for this purpose we shall contact the authors -, but we are of the opinion that the ICCA Journal will be made especially at-tractive by short contributions (less than 3000 words). In the ICCA Newslet-ter (Vol. 6, No. 2, pp. 3-5) we stated as a policy: no more than 4000 words as a maximum for full articles. We have no objections to publish an article in instalments, although we know that this may be highly demanding on the reader.

The Editorial Board is very pleased with the contribution of Dr. M.M. Botvinnik, chess world champion 1948-1963 (with some interruptions), as he explains, in terms comprehensible to a broad public, that:

- (i) in writing a computer chess program the emphasis <u>can</u> be placed on developing a program according to the thinking process of a chess player on world champion level;
- (ii) grandmasters <u>can</u> be enthusiastic about computer chess, which narrows the gap between chess-players and computer-chess players.

Concerning the four articles in the first part of the Journal, Dr. T.A. Marsland has written an introduction, which we heartily recommend you to read as he also stresses to be to the point in future contributions. We refer to the inside page of the back cover for a list of addresses to which to send your contributions to the ICCA Journal. On that page we have also published the addresses of the authors of the articles. We believe that this is a good opportunity to promote the communication between a reader with his comments and an author.

THE MEMBERSHIP

It will be clear to the reader that in the future this issue in new style will have to cost more than \$ 10.-- per annum. During the Triennial Meeting this will be one of the points of discussion. For the time being the member-ship will remain at \$ 10.-- (USA) and fl. 30,-- (The Netherlands) for 1983.

For European readers (members and future members) we have created the possibility to pay the membership fee in Europe. For that purpose we have opened a bank account under the name

> ICCA-EUROPE c/o Dr. H.J. van den Herik Bank account no. 45 07 90 878 AMRO-Bank, Mekelweg / Christiaan Huygensweg Postbus 300, 2600 AH DELFT

The membership fee is payable in Dutch guilders (fl. 30,---) (Postgiro account no. of the AMRO-Bank is 460175).

THE CONTINUITY

Finally, we would like to point out that the ICCA Journal should be seen as a logical continuation of the ICCA Newsletter (cf. the article of Lindner and the election procedure). Therefore we have decided not to break the issues' numbering but to continue as Vol 6, No. 3. The idea of an international magazine and organisation on Computer Chess is a brainchild of Barend Swets, which has been realised magnificently by Dr. Ben Mittman and has expanded world-wide.

I am looking forward to a pleasant co-operation with readers, authors and all interested parties. I am aware that your support, individually and collectively, is essential if this publication is to live up to the high expectations all of us share for its future.

Jaap van den Herik

INTRODUCTION

While the Editorial Board will do what it can to help authors prepare their manuscripts for publication, we will not normally explain why papers are selected. However, a few comments on the merits of those included in this first issue may be helpful. Jon Schaeffer's paper is a typical interesting contribution of direct assistance to people actually developing chess programs. It is short and to the point, describing a new technique, and is supported by a table of results. We would like to believe that there is a large number of papers of this type awaiting a suitable publication medium like the ICCA Journal. László Lindner's contribution is the second part of an article which appeared in our predecessor, the ICCA Newsletter, and it presents additional quantitative data. While the chess-problem field may be small and specialized, the paper is not out of place here, and it illustrates our desire to provide some continuity from issue to issue. The article by Dr. Botvinnik is representative of works by world-famous individuals. It is somewhat philosophical in tone, and of interest to a broad spectrum of readers.

The paper by Helmut Horacek, selected for its technical contents, has one thing in common with most of the papers we have received: its length. Its publication must be regarded as an exception. While it will be possible to publish long papers from time to time, the delays will always be greater than for short ones. Substantial works take longer to review, longer to prepare and generally should be of exceptional quality to warrant so much attention. There can be no doubt that a clear, concisely written and understandable short paper has a much better chance of a quick acceptance. We expect that most authors will find it productive to restrict their articles to 2000-3000 words.

5