

Tilburg University

The Bell Captain

van den Herik, H.J.

Published in:
ICGA Journal

Publication date:
2001

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
van den Herik, H. J. (2001). The Bell Captain. *ICGA Journal*, 24(2), 73-74.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

THE BELL CAPTAIN

*H.J. van den Herik*¹

Maastricht, The Netherlands

Here, in complementing other retrospectives in this issue of the *ICGA Journal*, we highlight further the multifaceted nature of Ken's contribution to the computer games community, and the 'Man and Technology' theme which has characterised his approach to life.

ICCA Secretary/Treasurer

In 1977, the ICCA was founded during the Second World Computer-Chess Championship in Toronto. The organisation was the brainchild of Barend Swets and many participants supported the idea, among them Ken Thompson who then tied for 4th place amongst 16 participants with his program BELLE. CHESS 4.6 won the title but Ken received credit for BELLE's KQKR endgame play against IGM Walter Browne (Fenner, 1979). Further, Ken agreed to serve as Secretary and Treasurer of the new organisation alongside Ben Mittman, the first ICCA President, and did so successfully and with much enthusiasm for six years.

His motive was to build a strong organisation so that computer chess could flourish and, at that time, he did everything he could to support this aim. Being a chess player of some capability himself, he was thrilled by the idea that a machine might play chess at a level that would be recognised by the chess world. To this end, and since acceptance is usually earned by actual results, he went with the continually improving BELLE from one weekend tournament to the next. Then he had the idea of moving much of its functionality to hardware (Condon and Thompson, 1982).

World Champion

In 1980, BELLE was the odds-on favourite of the 3rd World Computer-Chess Championship. However, it was not a walk-over: the 2nd-round game against NUCHESS ended in a draw and a play-off against CHAOS was needed before BELLE secured the title. Although so much was at stake, Ken was not at all nervous: together with Joe Condon, he had carefully prepared for the tournament and was convinced that they had done their utmost. Their attitude was that it should be sufficient or they would do better next time.

Opening Book Compiler

For Ken, building a chess machine was just one aspect of a large computer-chess project. Many other considerations had to be taken into account. For instance, chess players should be helped. Long before CHESSBASE and NICBASE started their activities, Ken had begun to collect Grandmaster, Master and computer games. First, the collection was meant only for retrieval but later Ken incorporated it in BELLE itself to provide it with an outstanding opening book. As a result many questions arose, for instance, "Is 1. ... a6 a good move after 1. e4"? It scored 100 percent (1 out of 1), the sole example being the famous game Karpov-Miles played in Skara, 1980 (Matanović et al., 1980). According to Ken, a move should feature in at least ten games before being considered seriously.

Chess Reader

Despite many great stories of halls of typing secretaries supporting US computer specialists to perform their tasks, Ken himself had to enter all the chosen games in BELLE's book. Of course, this was a thankless chore so Ken developed a program that could read the chess moves in all the relevant languages — English, Spanish, French, German, Dutch and so on. Since humans are fallible, the game scores were correctly assumed to be full of mistakes. Therefore, next to the optical-character-recognition program, Ken developed a program that analyzed the moves for consistency and made as many corrections as possible. It is one of his less-known achievements but fortunately, he later co-authored a commendable paper on this topic (Baird and Thompson, 1990). Other communities, wishing to capture their heritage electronically, could well emulate this feat of domain-intelligent character recognition.

¹ Department of Computer Science, Universiteit Maastricht, 6200 MD Maastricht, The Netherlands.
E-mail: herik@cs.unimaas.nl.

Bell Captain

In 1982 Ken supported the participation of our program PION (Delft University of Technology) in the 12th ACM Championship in Dallas, Texas. He received the program by email, fixed some bugs, restructured the program and gave some advice. Our question on his opinion was answered by “it plays”. In the hotel hall of the tournament site, there was one impressive place – obviously meant as the seat of the Chairman of the hotel’s Board of Directors. Indeed, it was reserved for ‘The Bell Captain’ and Ken was duly photographed as such, standing behind the bell, by Tom Fürstenberg. Unfortunately, the picture has disappeared but 19 years later, the memories remain.

Inspiration and Author

In my role as Editor-in-Chief, I have had many talks with Ken, for instance on the publication of his results. He never cared to publish them but was always prepared to provide them for publication, especially in the *ICCA Journal*. So, it happened that the Editors (Herschberg and van den Herik) often phoned Ken at Bell Labs to receive the latest information to be included in the next issue of the Journal. Time and again he refused to be credited as an author and stated, “Do with it what you think is possible.” In the circumstance, the best we could was to put his name in the title (cf. Herschberg and van den Herik, 1986; van den Herik and Herschberg, 1987; The Editors 1992, 1993); Tamplin and Haworth (2001) continue the tradition. We were therefore delighted when Ken eventually authored his own contributions to the Journal (Thompson, 1986, 1996).

Player Grader

Another of Ken’s achievements was the development of an improved rating system. It was more sophisticated than but never replaced the Elo system (Elo, 1978). However, it re-addressed the principles of grading (q.v. Beasley, 1989; Glickman, 1995) and was adopted by the PCA, the Professional Chessplayer’s Association.

Combining science, literature and art, I would say “Ken has initiated more scientifically than James Joyce would be able to report in his stream of consciousness. He is a hero of modern times of which Chaplin must have dreamed. Thank you, Ken, for your many and varied contributions.”

REFERENCES

- Baird, H.S. and Thompson, K. (1990). Reading chess. *IEEE Trans. Analysis and Machine Intelligence*, Vol. 12, No. 6, pp. 552-559.
- Beasley, J.D. (1989). *The Mathematics of Games*, esp. Ch. 5. O.U.P, Oxford. ISBN 0-1928-6107-7.
- Condon, J.H. and Thompson, K. (1982). Belle chess hardware. *Advances in Computer Chess 3* (ed. M.R.B. Clarke), pp. 45-54. Pergamon Press, Oxford. ISBN 0-0802-6898-6.
- Elo, A.E. (1978). *The Rating of Chessplayers*. Batsford, London. ISBN 0-7134-1860-5.
- Fenner, C.J. (1979). Computer Chess, News about the North American Computer Chess Championship. *British Chess Magazine*, Vol. 99, No. 5, pp. 193-200. ISSN 0007-0440.
- Glickman, M.E. (1995). Chess Rating Systems. *American Chess Journal*, Vol. 3, pp. 59-102. ISSN 1066-8292.
- Herik, H.J. van den and Herschberg, I.S. (1987). The KBBKN Statistics: New Data from Ken Thompson. *ICCA Journal*, Vol. 9, No. 4, pp. 199. ISSN 1389-6911.
- Herschberg, I.S. and Herik, H.J. van den (1986). Thompson’s New Data-Base Results. *ICCA Journal*, Vol. 9, No. 1, pp. 45-49.
- Matanović, A. et al. (1980). *Šahovsik Informator 29*. Game 153. Centar za unapredivaje šaha. Beograd, Yugoslavia.
- Tamplin, J. and Haworth, G.McC. (2001). Ken Thompson’s 6-Man Tables. *ICGA Journal*, Vol. 24, No. 2, pp. 83-85.
- The Editors (1992). Thompson: All about Five Men. *ICCA Journal*, Vol. 15, No. 3, pp.140-143.
- The Editors (1993). Thompson: Quintets with Variations. *ICCA Journal*, Vol. 16, No. 2, pp. 86-90.
- Thompson, K. (1986). Retrograde Analysis of Certain Endgames. *ICCA Journal*, Vol. 9, No. 3, pp. 131-139.
- Thompson, K. (1996). 6-Piece Endgames. *ICCA Journal*, Vol. 19, No. 4, pp. 215-226.