

TABLE OF CONTENTS

Table of Contents	205
The Beckoning Horizon (I.S. Herschberg and H.J. van den Herik)	205
The Forthcoming Triennial Meeting (M. Newborn)	207
A Hypothesis concerning the Strength of Chess Programs (M. Newborn) ...	209
An Ulti-Mate Look at the KPK Data Base (A.R.D. van Bergen)	216
Constructing Data Bases to Fit a Microcomputer (H.J.J. Nefkens)	219
A Gauge of Endgames (I.S. Herschberg and H.J. van den Herik)	225
Inventive Problem Solving (P.H. Wiereyn)	230
Reviews (A. Reinefeld)	235
Materials Received (T.A. Marsland)	237
News, Information, Tournaments and Reports	238
Amsterdam And After (J. Enroth)	239
ACM's Sixteenth North American Computer-Chess Championship (NACCC) (D.E. Welsh and K. Thompson)	240
Hitech Wins North American Computer-Chess Championship (H.J. Berliner).	246
The Dutch Computer-Chess Championship 1985 (J.J. van Oosterwijk Bruyn).	248
The 1985 Fredkin Competition (H.J. Berliner)	253
Cray Blitzed (P.G. Bakker)	260
The Swedish Rating List (G. Grotting)	261
The Fifth World Computer-Chess Championship Announced (D. Levy)	267
Call for Papers (Cologne, Western Germany)	267
The Fifth World Computer-Chess Championship Tournament Rules (Cologne, Western Germany)	268
Entry Form Fifth World Computer-Chess Championship (Cologne, Western Germany)	270
The FJCC'86 Conference (Dallas, Texas)	271
Correspondence	272
Make Sure the Journal Reaches You	276

THE BECKONING HORIZON

Many elementary textbooks on physical geography mention an interesting fact: as the altitude of an observer increases above sea level, so does the extent of his horizon. A formula is given spanning the entire spectrum from a worm's eye's view with its null horizon to the loftiest beholder whose limit of view is bounded by the Earth's finite radius. The formula repays close study, since it states that the distance to the horizon increases smoothly with the height the eye has attained, but does not increase in proportion to that height. In a manner most disappointing to the aspiring, the horizon recedes only as the square root of the elevation above the globe, so four times the height will let one see only twice as far.

Even so, the gain is less than it seems to be: whoever has stood on a mountain top even on the clearest of days will recall that his enjoyment of sights on his ultimate perimeter is marred by hazes and mists, no matter how powerful his binoculars.

The lesson to be derived from this observation of physical laws is manifold and applies forbly, even painfully, to computer chess. First, it is an undoubted fact that the giants grow in stature. Hitech, now rated at 2255, overtops the previous world champions, Belle (2203) and Cray Blitz, with

irrefutable superiority: yet, in terms of an enlarged horizon, even a generous two-percent gain will not extend the horizon beyond an equally generous one percent. We read this as a slight gain, however impressively arduous the upward path. The square-root horizon law halves the additional power of control over the chess-board's squares.

Second, the horizon, even while pushed back, cannot help being fuzzier, in computer chess, than when ELO ratings were low and everything was sharp, near and distinct. In support, we cite that it seemed to be known precisely what one should aim for within a limited horizon. In those blessed times one contemplated a unique evaluation function, as decisively sharp as one could wish, computing which would guarantee a win. The evaluation function proved more elusive as the horizon widened. Whatever was sharp became cursed with an indeterminate halo and atmospheric refraction now prevents one from aiming as accurately at one's goal as one formerly imagined one could.

To the worm's eye, a mate was a mate. To a program standing at a pinnacle, a plain mate dissolves into a welter of new notions, robbing 'mate' of its edges: is a mate an ulti-mate or just a mate within our new horizon? How terminal are terminal nodes?

Such questions beset and may befuddle the computer-chess community, as is most evident in this issue. We should not be worried: they just indicate that computer chess has not ceased to grow in stature and that the upward path, promising richer vistas, will, maybe slowly, extend our views and impose the need to sharpen the distinctions that our lowly former efforts were innocent of.

If this, as we hope, is true, we invite our readers to join us in thinking that the present of computer chess is exciting and the future is bound to be even more enthralling.



Bob Herschberg
Jaap van den Herik

Photo by
David Welsh

Craning their necks for a glimpse of Armageddon.
A crucial stage in the endgame between HITECH and CRAY BLITZ.