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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.

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