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MOOD INDIGO

Between the deepest of blues, indigo if ever there was, and the reddest of human blood, with all its connotations, the gap of stochastics hovers. Against all odds, as calculated by at least one of the contestants, contemplative DEEP BLUE – the obvious favourite – missed a match which it seemed predestined to win. In simple terms, it is legitimate to ask how this could happen. In our view – but we apologize for 20/20 hindsight – the reason is based on two misreckonings: too little knowledge in the chess programs and too little chess knowledge in the programmers.

To take the last point first: it is fatal, as we see it, to ignore the vast experience and the deep (though unquantifiable) expertise of grandmasters. In chess, such deliberate ignorance leads one into peril; therefore, it does so in computer chess. In our opinion, an expert chess-player, now necessarily at grandmaster level,

should be incorporated into any programming team if their program is to be competitive. The pursuit of that elusive knowledge is essential now, and will become more essential as time goes by. Capturing its volatile essence is crucial if computer chess is to progress to its ultimate aim.

To tackle the first point raised, we think that there is an even greater obstacle in the programmers' being almost exclusively inclined to search. In itself, this tendency has proved to be laudable: all the world marvels when a program, rightly or wrongly, announces an edge after searching 19 ply or so. Yet this is a triumph of brute force, clobbering its adversary. Still, the ever-open question remains: could not a little chess intelligence have prevented the useless deployment of so many processes vainly investigating so many nodes to no good purpose?

The Hong Kong tournament seems to yield a ready answer: a little brain will easily match a great deal of brawn. All so-called experts, not excluding your Editors, assuming a knowledge they did not possess, were unanimous in predicting a victory for DEEP BLUE as a prototype, with some pundits even stating that it was nine to one: long odds indeed for DEEP BLUE. Their favourite sadly gave them the blues, transposing their hopeful blue mood into a sad Mood Indigo.

As happens all too often when true pundits are elevated to the false rank of gurus, their predictions came apart. It was not the mighty speed of DEEP BLUE that gained the palm. Rather, FRITZ, a professional programmer's labour of love supported by adequate though modest means, gained a victory in this contest. This must have been disappointing to DEEP BLUE'S authors, who did no better than a meagre third. To add to their humiliation, DEEP BLUE was also outdone by a university, often snortingly discredited by self-styled practitioners and by commercially-motivated winners.

FRITZ3, who defeated Kasparov in 1994 at speed chess, decided that henceforth the 3 would be silent. FRITZ, achieving the title of World Champion and victorious over STARSOCRATES and DEEP BLUE PROTOTYPE, can well stand as paradigmatic for the incorporation of chess knowledge, in which his opponents notoriously failed. Commendations also are due to STARSOCRATES, rooted in MIT, a notable hotbed of computer programming. In spite of the alleged weakness of universities at propagating their brainchildren, MIT gave a splendid account of its capabilities by the quaintly-named *SOCRATES.

The contestants sliding into the first three slots could not have been of more diverse origins. Inspired academics were pitched against commercially-endowed amateurs and those competed with sky-is-the-limit industrial developers. As it turned out, the contest, however fascinating to all of us, failed to give unique, universal results. A little knowledge seems essential, otherwise the winner with modest hardware at his disposal could never have obtained his badge of honour.

Yet there still is a tendency, we believe, for search to be overemphasized in the race between knowledge and search. Or is it not? We hardly dare predict how the balance will shift when DEEP BLUE, contending as a cripple in Hong Kong, will gather up its feet at three million nodes a second when playing Kasparov. One conclusion seems as secure as any can be in a stochastic field where all parameters change rapidly: as an individual achievement, Frans Morsch's program stands out for a proper balance, it would appear, between brawn and brain, as befits an emissary from a small and low country, The Netherlands.

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