

from. It has been stated repeatedly, including to Prof. Michie in person, that Deep Thought contains no element from Hitech, period. The evaluation function of Deep Thought was in part based on the written descriptions of both the Northwestern Chess 4.X program and the Belle chess machine. There was no written description available about Hitech's evaluation function for us to draw on. In fact, we deliberately avoid any entanglement with Hitech in order to preserve our independence.

3. "... its partial debt to Hitech..." [p. 134], ditto. There was simply no way for Deep Thought to be indebted to Hitech; we made certain of that."

[For our readers, we quote the entire sentences of which parts are cited above. " The evaluation function is less knowledge-rich than that of Berliner's Hitech, from which some of its constituent evaluators were adapted, notably concerning pawn structure. But it contains more knowledge, if only by reason of its partial debt to Hitech, than the evaluation functions of Deep Thought's other predecessors."]

DEEP THOUGHT'S CHARACTERISTICS CLARIFIED

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The Editors have received a rejoinder by Prof. Michie to Dr. Hsu's comment. It is published in its entirety, albeit without the saluting formulae.

"In reply to the three points made in Dr. Feng Hsu's letter:

1. My characterisation of Deep Thought's evaluation function as less knowledge-rich than that of Hans Berliner's Hitech was based on my own assessment of the respective descriptions given me by Drs. Feng Hsu and Berliner. Note that I credited Hitech's evaluation function with being more "knowledge-rich", not "better".
2. I based my statement about DT's treatment of pawn structure on discussions with Dr. Berliner and, as I thought, Dr. Murray Campbell of the DT team. In a recent telephone conversation Dr. Murray corrected my mistake. I asked him why, since Berliner's deeply researched pawn-structure ideas were at the time well known to him, his team did not make use of them. He explained that implementational considerations made this impractical. I am glad to place this clarification in the public domain.
3. In the light of Dr. Feng Hsu's letter and of Dr. Campbell's statement I withdraw my attribution of a partial debt owed to Hitech. I also take this opportunity to express my long-held opinion that the scientific contribution to computer chess as a whole made by Hitech's author Dr. Hans Berliner has been and continues to be massive."

LITTLE TO FEAR FROM CHESS COMPUTERS

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The editors are glad to have received a letter from Mr. Bakker as a comment to Prof. Hans Berliner's report on the "Humans versus Computers Match 1989" (cf. *ICCA Journal*, Vol. 12, No. 3, pp. 182-183). With Mr. Bakker's permission, we reproduce his letter, as directed to Hans Berliner, below.

"I was very pleased to read that it is finally your intention to focus on the realities of the situation concerning computers playing chess versus humans. Your conclusions however do amaze me. You state that the top six