

**B**ackgammon is one of the oldest games in existence, dating back some 5000 years and believed to have been developed by the ancient Egyptians. It is not a game of luck as many believe, but a strategic game of war; in many ways as difficult to master as chess or Go. A random element (luck) is certainly involved, but a champion player also uses the laws of probability, intuition, imagination and psychology to outwit his opponent.

Trying to get several thousand lines of code to logically analyze the nuances of trillions of positions has been a monumental task. The search methods used in most chess programs are not applicable to backgammon because of exponentially larger branching of possible moves and the greater difficulty in rating positions. The paradoxes in backgammon are seemingly endless. Attempting to program such concepts as priming, flexibility and contact have been almost impossible. The frustration and sleepless nights spent balancing the myriad of variables in just the proper proportion have only been offset by watching my electronic student go from a bumbling beginner to an "intelligent" challenger capable of taking the initiative with daring, imaginative plays as well as waiting patiently for the right moment to strike. The resulting style of play is reminiscent of mine, naturally; but is unique in many ways.

While I have taught my computer to play, it has also taught me. When programming, I would try to calculate the best move for each position and adjust the logic accordingly. Interestingly enough, I found that some of my analysis was an almost robotic response to a familiar situation. Upon close examination, I found the computer's play to be superior to my own. I have had to reevaluate many commonly accepted strategies. How much have I learned? An intermediate player when I started this project, I was rated # 22 in 1992 (the last year that I played tournament backgammon) for match play according to Kent Goulding's International Rating List.

**Expert Backgammon** was written using **ZBasic™** and **PG PRO™** and compressed using **CompactPro™**.