THKM

MYSTERIOUS

KNIGHT

MOVE

EARLY VERSIONS OF CHESS INFORM THIS THEORY BEHIND THE L-SHAPED MANEUVER

BY FRANK A. CAMARATTA JR.
Chess is a logical game, or so most of us chess players would like to think. But have you ever wondered why the knight moves as illogically as it does? I learned to play chess when I was a teenager and was captured by the pure simplicity of the pieces' moves—except for one. The knight move bothered me.

So I began to research the game's history for some clues, which led to an intriguing discovery: The moves of each piece have evolved over the years to their present form, except for the knight. And while an alternative theory—the magic square theory, too cumbersome to detail in this short essay—attempts to explain how the knight came to move in that mysterious L-shaped pattern, it lacks two fundamental ingredients—simplicity and logic.

The world places a high priority on simplicity. In nature, the minimum energy state is the most stable. In writing, the least complicated exposition is the best understood. The optimal solution to a chess problem is the shortest. And on it goes.

Chess has clearly evolved over the centuries, making it virtually impossible to identify a single creator. Nevertheless, we can surmise that its inventors wanted to make a game of conflict involving pieces with different powers, unlike checkers, which is almost certainly an older game and one in which the original pieces look and move alike.

Historical documents indicate that the original game of chess—let's call it protochess—consisted of the same basic pieces we have today but with somewhat different names and somewhat different moves. In fact, it may have resembled the way Xiangqi, or Chinese chess, is played today, using a general (akin to chess' king), two elephants (bishops), two knights, two chariots (rooks) and two, not one, advisors (queens). Much like Go, Xiangqi is played on the points of an eight-by-eight board, not on the squares. Because there are nine horizontal points, the second advisor was likely present for the sake of symmetry. Also, the cannons in Xiangqi have no equivalent in the modern game and were probably a later enhancement.

Before the rules of chess were overhauled some 500 years ago, the pieces were essentially short-range fighters. It makes sense, then, that the inventor of the game concentrated on each piece's effect within a small group of squares.

Now the crux of my theory is this: Early architects of protochess started with the premise that each piece would control a unique set of squares in this five-by-five grid. There would be no duplication of control, but every square within that five-by-five grid would be able to be uniquely controlled by only one piece.

Let's see how this might work. We start with the general, or king, placed in the center of the grid. The king is permitted to move one square horizontally or vertically but not diagonally. The span of control of the king is indicated by the green shaded squares in Diagram 1.

Next is the vizier, which later mutated into the modern queen. Its field of action allowed control of squares diagonally and immediately adjacent to the piece—squares to which the king is unable to travel (Diagram 2). Consistent with the original hypothesis, there is no duplication...
of control within the inner three-by-three grid. This piece’s movement is identical to that of the advisor in the Indian game Chaturanga; its successor, Shatranj; as well as Xiangqi.

Because the original hypothesis was that no two pieces are allowed to control the same squares from the center of the five-by-five grid, each of the remaining pieces—bishop, rook and knight—will have their fields of control limited to some portion of the outer 16-square perimeter.

The piece we consider next is the primordial bishop, or al-fil. This piece has the ability to jump one square diagonally in any direction. It does not control the intervening square, nor can it be obstructed (Diagram 3).

The moves of this ancestor to our present-day bishop is identical to the move of a similar piece in Chaturanga and Shatranj, as well as the Elephant in Xiangqi, and can also be found in several other versions of the game.

Logically then, there must have been, at least in the embryonic forms of chess, a piece that “jumped” like the bishop but horizontally and vertically rather than diagonally (Diagram 4).

Harold J. Murray’s *A History of Chess* mentions just such a piece, though Murray rejects that it was the progenitor of our modern rook. Others disagree, as do I, because later literature does make mention of such a piece. This piece, referred to as the “Jumping Rukh,” is posited in a 2003 article by Donald McLean explaining the role of the magic square on chess piece movements, as well as in much older sources.

After assessing the moves of these early pieces, a look at the remaining uncontrolled squares (Diagram 5) should paint a familiar pattern for the one remaining piece, the knight.
REVOLUTION

Early experiments with protochess likely led to the realization that some of the pieces would need a greater mobility and field of control in order to effect capture of the opposing monarch. The earliest of these enhancements was to increase the field of control of the rook, giving it full horizontal and vertical range while removing its ability to jump over intervening obstacles. The added ability of the king to move one square diagonally was also a very early change.

The game underwent a radical transformation in the second half of the 15th century. The weakest piece, the vizier, which heretofore could move only one square diagonally, evolved to become the present-day queen, the strongest piece on the chessboard. She could now move any number of squares horizontally, vertically or diagonally.

Also benefiting from this revolution was the promotion of the bishops. The prelates were now given full range over the diagonals (Ref: Luis de Lucena of Salamanca; Repetecion de anores yarte de axederes, published at Salamanca in 1496/97).

So, the king, vizier, rook and bishop have all seen their powers enhanced over the centuries, ultimately leading to the game we all know as Western chess, but the mysterious move of the Knight has remained as it was in antiquity – unchanged.