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The Royal Game of Ur

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The Royal Game of Ur dates back to about 2500 BCE. The oldest examples of the game come from a cemetery excavation in Sumeria (present-day Iraq), but copies of the game's board and tokens have been found throughout the Middle East and India [1]. A hastily done etching of a game board appears on the base of a sculpture dated to about 700 BCE; because the sculpture was originally part of the entrance to a citadel, this suggests that the game was somewhat casually played [2]. The game is also known as the Game of Twenty Squares; some hold that the two are the same, whereas others refer to the Game of Twenty Squares as a descendent of the Royal Game of Ur, with similar rules but a different board layout [6].

The oldest archeological findings of this game show ornate wooden boards in the configuration shown below. The squares are decorated with various symbols, but reconstructions of the rules have only ever suggested the importance of the rosette squares, marked as X's in the diagram. Accompanying the board in some finds were seven tokens in each of two different colors, and tetrahedral dice. Each of these dice is colored red on two vertices and white on the other two.

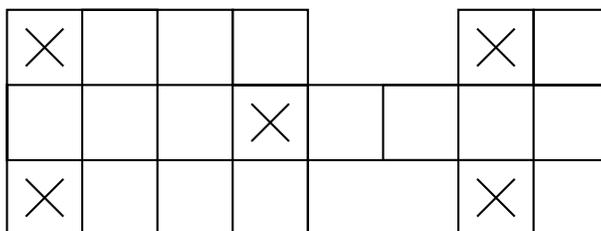


Figure 1: The Structure of a Royal Game of Ur board.

No rules for the game have been established with certainty, so we will describe two reconstructions of the game from the Internet, and one that we attempted for this exercise. All reconstructions of the Royal Game of Ur have agreed on several points. It is a race game, where the objective is to see all of one's pieces onto the board, through a predetermined path, and off the board. A special roll of the dice is required to introduce a piece to the board. When an opponent's piece is landed on, it is removed from the board and must be reintroduced on the starting square, unless it is on one of the rosette squares. The effects of dice rolls are determined by how many of them come up white; generally they will grant movement points, which may be used to advance a piece by one square per point. Pieces must stay on the designated path through the board; pieces cannot move backwards.

Sources disagree on what path pieces should take through the board. Two paths for one player are suggested in the diagrams below; in each game the path for the opposing player should be a mirror image of the one depicted.

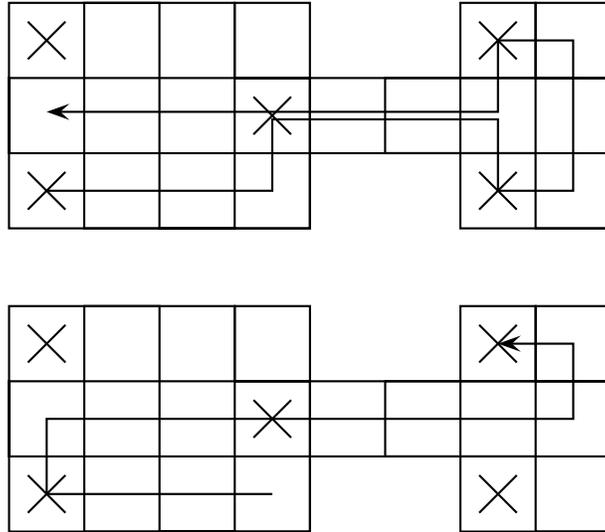


Figure 2: Possible Traversals for the Ur board [3][4].

We tested the following variations:

- Use the first board path pattern. Rolling 3 whites or 0 whites grant 5 and 4 movement points respectively, or the introduction of a token onto one’s starting square, or the removal of a token from one’s ending square; and another turn regardless of which option is chosen. Rolling 1 white gives no movement, and rolling 2 whites gives one movement point; both end the player’s turn, and his opponent’s starts. Multiple pieces may be present on any square, but they can all be bumped by a single opposing piece (unless they are on a rosette square, which is “safe.”). At least one movement point, but not all movement points, must be used from any single roll; no more than one piece can use the movement points provided by a roll [3].

Playtesters expressed frustration with the ability to use less than all available movement points, as this made pieces not on rosette squares much easier to bump off the board. This, in turn, led to players sitting on rosette squares until they were fortunate enough to receive just the right roll to make it to the next rosette square. There was also some concern regarding that 3/8 of one’s turns are spent doing nothing, but designers beyond the ones who created this reconstruction have been loath to stray from the use of dice as binary digit generators.

- Path and movement scheme as above. Only a single piece can be present on any non-rosette square. Multiple pieces may be present without bumping on the end square and the rosette squares. The movement points provided by a roll must all be allocated to a single token, if available, who can make a move of that size without running off the board or onto a space occupied by a friendly piece. If no such token exists, the roll is lost. Bumping must be performed by a precise roll. Reaching the last square must be achieved by a precise roll, and players still must wait for an all-white or all-red roll to bear pieces off the board.

Gameplay felt very determined by randomness at the beginning and end of the game, where each player had few pieces on the board. However, players put took their time figuring out their best move in midgame, and this investment of decision-making made endgame randomness more worthwhile and exciting. One iteration, however, saw the players getting exasperated with the amount of rolling required to get a precise roll for their last pieces to reach the end square, and then more rolling to get the all-white/all-red roll needed to finish the game. Another revision of the rules removing the extra roll to remove a piece saw much faster games, but less suspense.

- Use the second board path pattern. Rolling 3, 2, or 0 whites allows 5, 1, or 4 movement points respectively. Rolling 3 whites alternatively allows one to introduce a piece to the board. A roll of 1 white ends a player's turn (note that none of the other rolls do so). Only one piece may occupy any square. All movement points from a roll must be used on exactly one piece, whose movement of that many squares does not end on a square already occupied by a friendly token. If no such piece exists, the movement points are lost. Landing exactly on any rosette allows the player to introduce another token on the starting square of the board. Landing exactly on the last rosette brings the piece off the board automatically [4].

The initial anticipation of longer turns quickly gave way to the frustration of not having any movable pieces. Since of all the movement rolls, 2 was the most likely, pieces ended up occupying modulo-4 squares more often than anything else. This also led to pieces becoming congested at the end of the track, where an exact roll was required to remove a piece and the piece was fewer than four squares away from the finish.

Of the three variants tested, players found that the second was most satisfactory, as it allowed for an appropriate balance of player interaction and randomness.

References

- [1] The British Museum. “The Royal Game of Ur.”
<http://www.britishmuseum.org/explore/highlights/highlight_objects/me/t/the_royal_game_of_ur.aspx>
- [2] The British Museum. “Colossal Winged Bull from the Palace of Sargon II.”
<http://www.britishmuseum.org/explore/highlights/highlight_objects/me/c/colossal_winged_bull_from_the.aspx>
- [3] Soubeyrand, Catherine. “The Royal Game of Ur.” *The Game Cabinet*.
<<http://www.gamecabinet.com/history/Ur.html>>
- [4] <<http://www-cs.canisius.edu/~salley/Articles/ur.html>>
- [5] Katie Salen and Eric Zimmerman. *Rules of Play: Game Design Fundamentals*. The MIT Press: Cambridge, 2004.
- [6] “The Royal Game of Ur.” *The Online Guide to Traditional Games*.
<<http://www.tradgames.org.uk/games/Royal-Game-Ur.htm>>