Abstract #1286

Changing the Game: Measuring Mesopotamian Games With AI-Simulated Play

Walter Crist [P,1]
Éric Piette [2]

[P] Presenting author
[1] Leiden University
[2] UCLouvain

The Royal Game of Ur is one of the oldest board games known to have existed, having been played in Sumer since at least the middle of the third millennium BCE the game was also played in Iran, Central Asia, and in the Indus Valley. Toward the beginning of the second millennium BCE, the geometry of the board changed, creating a new configuration of playing squares known in the archaeological literature as the game of twenty squares.. Around the same time, the geographic distribution of the game shifted to the west, and for the next 2000 years the game was one of the most popular games in West Asia.

Through translation of a Seleucid tablet from 177 BCE that contains important details about the rules as well as ethnographic analogy to games with similar geometry, this game is one of the best understood of the ancient games from the region. Based on this knowledge, proposed rules for this game by Irving Finkel are consistent with the ancient sources and indicate a likely way that the game was played. However, the change in board geometry, because of its degree, and persistence, indicates that it is not a superficial change to the game, but something that changed its experience.

To measure this, we calculate metrics through AI-simulated play of Finkel's rules on the Royal Game of Ur and game of twenty squares to explore how change in board geometry may have changed the experience of the game. These metrics include the length of the game (measured by number of turns), Player 1's advantage, and "drama," or changes in who is expected to win the game at each turn. Comparing the geographic and chronological distribution of these game with their gameplay metrics may provide indications for changing gameplay preference in the ancient world.

Keywords
Board Games, West Asia, Bronze Age, Royal Game of Ur, Artificial Intelligence

Note/comment