Five Millennia of Player Practices

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Abstract

What can we learn about play by examining it from a historical perspective? Using Foucault's archaeological methods to examine the history of player practices in terms of their artefacts, a series of cross-sections through five millennia of play are developed around the key props (in Walton's representational sense of this term) that have been deployed in games. The specific patterns considered are the *contract*, the *die,* the *board*, the *pawn*, the *set*, and *the coin*. In each case except the first, a material object serves a prescribed role in play, requiring players to imagine specific things that make certain kinds of games possible. The changes in the representational aspects of these props demonstrate both the continuity of player practices over time, and the significant changes that have emerged over the last few centuries.

A History of Props for Play

For some time now, I have been inadvertently pursuing a philosophical history of player practices across the last five millennia, that is, from the foundation of the first cities (the advent of 'civilisation', understood specifically as civic living) to today. What follows is a history, since it deals with a span of time, but it is also genealogical in so much as it resembles Foucault's (1972) archaeological methods of analysing discourse. However, unlike Foucault I cannot use texts and statements as the foundations of my methods because so little of this survives from early games.

Yet Foucault hints, near the end of *The Archaeology of Knowledge*, that his general method could be expanded to, say, the work of artists by treating the practices of painting as equivalent to his 'discursive formations' (Foucault, 1972, p193). My claim, which I have developed more fully elsewhere (Bateman, 2016, 2016a), is that Foucault is not only correct about examining art this way, the method extends gainfully to examining play and games by recognising that the player practices deployed in games (the physical or imaginative actions players learn and replicate) are parallel to Foucault's discursive practices.

What is most readily available for study when we look back over five millennia of play are the artefacts that survive for discovery through the literal techniques of archaeology. The representative qualities of these artefacts can be explored using Walton's prop theory (Walton, 1990), which suggests that objects such as paintings, sculptures, theatrical plays, movies, and novels serve as props in imaginative games equivalent to (yet more complex than) those played by children with their toys. The prop – the artwork – prescribes that we imagine certain things according to how it was constructed (that we see an Italian woman with no eyebrows, or that we are listening to the anguished internal debate of the Prince of Denmark), albeit sometimes with ambiguities that are part of the intended imaginative experience of the piece.

I have extended Walton's philosophical methods to games of all kinds (Bateman, 2011) since the elements of games serve as props in imaginary games just as they do in artworks. In both cases, a fictional world is entered by a participant through the process of perceiving and fleshing out the prescriptions to imagine entailed in the relevant prop, and this world is 'played' just like a child's game of make-believe – hence Walton's name for his own methods: make-believe theory. The focus of the philosophical expedition that follows is thus a consideration of the key patterns in game props that have conditioned the play experience.

The specific patterns I want to consider here are the *contract*, the *die,* the *pawn*, the *board*, the *set*, and the *coin*, which is neither a complete nor an authoritative set (other prop categories are certainly possible). In each case except the first, a material object serves a prescribed role in play, requiring players to imagine specific things that make certain kinds of games possible. If a concern is raised about the loss of the original cultural context that the relevant player practices were embedded within, it is worth recalling our capacity to make conceptual 'imports and exports' from historical and fantastical fiction (Gendler, 2000). We do not live in the same world as, say, the people of the city of Ur, but the multiverse made from all our worlds is something we are still able to imaginatively traverse, however imperfectly, because we share a common biological heritage that has barely changed over the time scale considered here (Bateman, 2014).

Cross-sections

Considering each key prop separately reveals cross-sections of the lineages of player practice*s* (see Bateman 2016, 2016a). While each cross-section is concerned with particular material artefacts, my claim is that the history being revealed is of the player practices that make sense of those artefacts: the objects mean nothing until they take their place in the game they belong to, and it is the practices which form lineages with continuity, not the objects as such.

Contracts

If there is such a thing as a foundational prop for play it is not a physical artefact at all, but rather the *contract* that makes play possible by marking out the imaginary world of each game from everyday life. This idea was first envisaged by Huizinga as a "consecrated spot", a space for play

prescribing "temporary worlds within the ordinary world" (Huizinga, 1938, p10), and has become known in game studies as 'the magic circle' after Salen and Zimmerman's (2003) development of Huizinga's concept.

Immediately we see in Huizinga a parallel with Walton's prop theory: an imaginary world, within which the playing occurs – a prescription to imagine that in this case may or may not entail physical artefacts. Huizinga stresses the physical spaces of play but the prop in this case is conceptual rather than strictly representative: it is the state of mind that opens up the possibility of playing, what Suits (1978) calls the lusory attitude, and which Malaby (2009) identifies with *play as a disposition*. What marks us out as playing is not so much what we are doing as it is how we are imagining our participation, and the same activities can take different meanings according to whether we imagine we are playing.

Calling this a contract emphasises the social dimension of play, but thinking in this way also allows us to trace this particular prop back to before humanity as such. If this contractual basis is only nominal in humans (in that we can 'play alone' – although for a counter-argument see Bateman 2016), it is vividly formalised among the dogs, wolves and their relatives through the play bow (Bekoff, 1977). These mammals all share a common signal for initiating play, namely a lowering of the front paws and head while the back end and tail remain raised. This bowing motion is an invitation to play – and it is not tied to any particular species (a wolf cub will sometimes offer a play bow to a coyote, even though they are more commonly predator and prey). This capacity to initiate the play-contract, or magic circle, is something that goes beyond humanity, and must go back at least a million years to the first wolves, probably further.

All player practices are founded upon the contract, the initiation of the magic circle, for without the willingness to engage in play there are no games as this term is commonly understood. Yet what is or is not acceptable in play (i.e. the normative dimensions of the contract) is not something that can be clearly specified. A specific picture, to use Wittgenstein's (1958) term, provides the background of understanding to each contract – and this belongs to a form of life. Wolves may accept biting the neck in play, but humans typically do not. Neither is there just one contract; the form of play implied by sports, gambling, and make-believe each entail a *different* background of understanding, a point which helps make sense of the distinct patterns of play that Caillois (1961) identifies.

Dice

Caillois' pattern of *alea*, which literally means 'dice' but stands for all gambling games, offers a cogent understanding of the contractual basis of betting. For Caillois, what is designated by this term are games where the player may be involved in some decision making (such as what to bet upon), but the outcome is beyond the player's control and thus "the result of fate" (Caillois, 1961, p10) entailing a "surrender to destiny" (ibid, p18). Thus a die acts as a prop that prescribes

we imagine fate has made a judgement or, in its (entirely equivalent) contemporary form, that we have yielded our agency to random chance. It is not, however, that this element must stand alone (although it frequently does): Caillois is clear that it can be readily combined with competition via skill, as in games such as backgammon (ibid, p18).

Games in the manner of backgammon are the oldest artefacts for which dice have been found, going back to the dawn of civilisation (i.e. the first cities). The oldest dice found date back five millennia and belong to a backgammon-style game unearthed in Iran's Burnt City (Iranian CHN, 2004), and similar games have been found at the site of the ancient city of Ur dating a century or so later. These dice have a familiar cubic shape, and from the outset maintained the same pattern of dot markings as today, with opposing sides adding to seven – one of the clearest indications of the conservation of player practices. However, while backgammon dice may be the oldest artefacts archaeologists have recovered, we can be confident from the allusions to gambling in numerous cultural legends (e.g. Thoth beating the moon to earn five extra days per week, the fateful dice game of the Pandavas in the *Mahabharata*) that the backgammon-style games were not the first dice at all, but merely the first dice that were made of materials robust enough to survive millennia.

The player practices associated with dice descend from earlier divination practices, such as throwing the ankle bones of hooved animals in Greece (Schwartz, 2006), or the heat-cracking of tortoise shell fragments by the Shang dynasty (Mair, 2001). If these divination practices were not play in the contemporary sense they nonetheless invoked a magic circle via a contract of some kind, and the connection with destiny and fate identified by Caillois thus provides a continuity to the lineage of dice and their precursors. The disapprobation associated with gambling in the Christian traditions fostered a great reluctance in the 18th and 19th centuries to allow children to play with dice (Parlett, 1999). As a result, a teetotem (a top, similar in form to the Jewish dreidel) became the standard replacement in children's boardgames throughout Europe.

With the flourishing of boardgames during the Victorian era, the die eventually became normalised for use by children, and the familiar six-sided cube was restored as the principle artefact for randomisation. Then, in the late twentieth century, two radical changes occurred to dice. Firstly, the advent of the linear congruential method (Lehmer, 1949), a pseudo-random number generator and ancestral form of methods used in computer games as a source of randomness. Secondly, the creation by TSR of a series of plastic polyhedral (i.e. many sided) dice for use with the original tabletop role-playing game (RPG), Gygax and Arneston's *Dungeons & Dragons* (1974).

The purpose of these dice was not part of a practical design decision – the tabletop RPG was equally playable with a six sided die, as per *Tunnels & Trolls* (St. Andre, 1975) – but emerged out of the increasing experiments with randomisation techniques for tabletop war games, which

Gygax had been involved in (Peterson, 2013). Polyhedral dice were not a new invention, however: the Royal Game of Ur (which we will meet in a moment) used tetrahedral dice (four sided, known today as D4), and Ptolemaic Egypt had dodecahedral (D12) and icosahedral (D20) dice as well (LeBlanc, 2011). In both these cases we see a change to the functional role of dice: no longer Caillois' surrender to fate as such, the wargames of the 60s and 70s were interested in simulation (Caillois' *mimicry*), and in the tabletop RPGs this trend was to reinvent the purpose of dice in games entirely. From D&D onwards, dice prescribed that we imagined different outcomes in the fictional world of the game – a circumstance that substantially nourished early computer games as well (see Bateman 2016b).

Boards

By marking out the space of play within an artefactual form, boards are the closest to Huizinga's spatial conception of a play-ground, and serve as far more representational props than dice alone. The spatial elements of a board, however, prescribe little without being used in conjunction with a playing piece, for which the term 'pawn' remains a popular description. Used together, the positions of pawns on boards create both functional and representational prescriptions to imagine. As with the example of dice, the emphasis between these two roles has shifted over the millennia towards greater representational elements. However, representation *always* had a role in the construction of boards and their pieces: consider, for instance, the way Ashtāpada and other Chess-like games represent a battlefield, or the way the Wei Qi (Go) pieces upon the board represent the tactical act of encirclement that was the pragmatic advantage of learning its player practices throughout Chinese history (Liu, 2015).

The early backgammon-like games, such as that which was found in the Burnt City, all use their spaces to prescribe the conditions of a rather cutthroat race. The Royal Game of Ur (or The Game of Twenty Squares) from roughly 2,600 BC has the honour of being the oldest game whose written rules survive thanks to a cuneiform tablet excavated from the ruins of Babylon around 1880 (Finkel, 2008), although it is very similar to the older Egyptian game Senet, whose thirty squares were expressly intended to represent the lunar month. As with Chess, the representational elements of the pawns in these games do not necessarily entail a coherent fictional world as such (that is, the Chess board represents a battleground figuratively, but the movement of the pieces is entirely functional, not representational). In the Game of Twenty Squares, Finkel translates the names of the game pieces as birds such as the Swallow, Raven, and Eagle, and the translated rules make references such as "the Eagle...will eat its fill of meat" (ibid, p26), which suggests a significant representational context.

In what is now India and its surrounding nations, the representation of a race upon game boards gave rise, perhaps as early as the 13th or 14th century, to the concept of the board representing life and its moral and spiritual struggles. Whether as *gyān caupaṛ* ("Game of knowledge") in North India, *nāgapāsā* ("Snake-dice") in Nepal, or *moksha patam* ("Cloth-board of liberation")

elsewhere in India, there are a striking variety of surviving boards from the 18th century onwards using a zigzag pattern of squares. Some squares are joined together, both by paths that advance that are named after virtues (such as devotion, mercy, or knowledge) and paths that regress named after vices (egoism, illusion, darkness anger, lust). The play of the game, which often used a set of cowry shells in place of dice, serves to illustrate the struggles of a spiritual life (Topsfield, 2006). The form was eventually imported into Great Britain in 1892 as Snakes and Ladders, with the virtues and vices becoming Christian (Masters, 1997), but the iconography of the ladder and the snake go back to the game's origins, which appear to have been Jain rather than Hindu (Topsfield, 2006).

The importing of Snakes and Ladders is by no means the beginning of using the race-game board to represent Christian values, however. The Victoria and Albert museum has a French tin-glazed earthenware tray decorated as a boardgame from the first half of the 18th century, which depicts mythic images of love and marriage (V&A, O341883). Similarly, *The Mansion of Happiness: An Instructive Moral and Entertaining Amusement* (Fox, 1800) offers the same functional play as Snakes and Ladders, but with vices and virtues represented as spaces moving the player backwards or forwards in words – and notably predating the import of the Indian concept.

At the close of the Victorian era, the player practices of the spiral-path race game develop towards representing the protestant work ethic. *Game of the District Messenger Boy* (McLoughlin Brothers, 1886), subtitled "Merit Rewarded", offers the rather implausible message that if you work hard, even a lowly District Messenger Boy (whose job was to deliver messages between the office building and the factory on foot) could rise to become a captain of industry. This shift from classical concepts of Christian virtue to industrial virtues in games of this kind continues into the next century, but player practices informed by religious morality took a strange turn.

Elizabeth Magie's (1904) *The Landlord's Game* was designed to show that ownership of land as a source of revenue was fundamentally unjust. Magie felt that children's natural sense of fairness could be appealed to as a mechanism for social change (vonHoffman, 1976), hence the game's modification of a straightforward race into one in which spaces along the looped path of the board could be purchased (marked by the acquisition of a corresponding card). Magie offered two versions of the game in her rules: 'The Monarch of the World', which was "based on present prevailing business methods" and intended to show that "the land monopolist is the monarch of the world" and 'The Single Tax', which presented the "remedy" to this problem (Magie, 1926, np). It transpired what players most enjoyed was being monarch of the world, and the game's ironic legacy was not to overthrow land ownership but to have its player practices commercially exploited as the hugely successful capitalist fantasy *Monopoly* (Darrow, 1935).

The board requires pawns for its spatial representation to be effective, and for much of the period being examined here pawns were relatively simple in nature, generating prescriptions to imagine solely via their positions upon the board. For the Indian precursors to Snakes and Ladders, for instance, cowry shells were used as pawns as well as dice (making this a game that could be played with just the board and a handful of the appropriate seashells). For the ancient Egyptian backgammon-style 'game of passing' Senet, which dates back to circa 3,500 BC, there were two kinds of pawn – a spool and a cone – but the difference only served to mark the ownership of the player (Kendall, 1978), which in Chess and Chequers is achieved by the now much more common practice of using sets of black and white pawns.

The idea of the pawns being representative in a manner beyond marking a position arguably commences with Chess and Chequers-style games that use the board as a prop to represent a battlefield. From 500 BC onwards, Wei Qi (Go) represents encirclement through the position of the white and black stones, which can be considered to represent military units of some arbitrary scale. War remained a popular milieu for boardgames, and as with Wei Qi remained of interest to military institutions as tools for training: the elaborately entitled *Instructions for the Representation of Tactical Maneuvers under the Guise of a Wargame* ('Kriegspeil') was the Prussian Army's 1812 attempt to accurately simulate the tactical challenges of battlefield conflict (Poundstone, 2006).

The renowned science fiction author H.G. Wells saw an opportunity to bridge the gap between the use of representative toys such as 'tin solidiers', which became common from the 17th century, and games of war. His *Little Wars* (Wells, 1913), which was embarrassingly subtitled "a game for boys from twelve years of age to one hundred and fifty and for that more intelligent sort of girl who likes boys' games and books" heralds the forthcoming transition from the pawn to the doll as the positional prop in boardgames. Cardboard counters marked with tanks and such were the cost effective solution used by the hugely influential wargames of Charles S. Roberts' legendary tabletop publisher Avalon Hill, typified by the seminal *Tactics II* (1958), but war at the table gradually moved towards the use of 'lead miniatures' to mark units in the 1970s, a practice which continues upon tabletops today.

The ever-growing popularity of boardgames in the twentieth century, coupled with the technical capabilities of new manufacturing techniques, gives rise to an explosion of more representative pawns, such that the classic conical pawn is now solely used for classic games. The turning point is represented gloriously by *Cluedo* (1949), known as *Clue* in the U.S., which still uses a classic pawn to mark spatial position upon its murder mystery mansion board spaces, but upon the cards shows the pawn with the head of a human character such as Miss Scarlet or Colonel Mustard. Compare *The Game of Life* (1960), in which the fundamentals of the moral race game (now updated to contemporary capitalism) are signified by the player's placement of gender-implying

coloured pins into a small plastic car, which traverses a representative space indicative far more of consumer culture than any attempt to liberate the soul or pursue virtue.

Sets

Philosophical interest in mathematical sets has grown in recent years, particularly in response to Alain Badiou's set-theory inspired claim that ontology "is nothing but mathematics itself" (Badiou, 2005, pxiii). To my knowledge, no-one has extended this contentious and revolutionary idea into its consequence for prop theory, perhaps because the set has little prop-theoretical implications in conventional artworks. Yet sets hold great significance for games, and the arrival of the deck of cards and set of tiles moves games beyond the strictly spatial representations of the board and pawn. While the story of European playing cards emerging from the Visconti-Sforza tarot deck of circa 1450 is well-known (and echoes the lineage of dice, where divination practices also transformed into entertainment), it is China that seems to have first experimented with sets as an artefactual basis for play, and which has the richest range of artefacts.

In China, the term for 'card' and for 'domino' is the same and set-based play emerges sometime within the Tang Dynasty, circa 7th century (Wilkinson, 1895). In parallel to the ambiguity in language, the use of tiles in hugely popular but fairly recent games such as Mah Jong (see Greene 2015 for discussion) does not distinguish separate lineages of player practices from those of cards. Both tiles and cards are more or less interchangeable as the corporeal media for the abstract sets that form games in historical China. Whereas in Europe the deck of playing cards converges into a standardised form, in China there is greater diversity: artefactual sets are created for specific games, but may also support alternative uses. For instance, the beautiful *Water Margin*-inspired card set designed and printed by Chen Hongshou around 1630 could be used either for the popular trick-taking game Ma Diao, or for social drinking games (Bentley, 2009).

Card or tile games are sets in numerous senses. Firstly, the deck or tile-set itself forms a set of possibilities upon which all the other sets formed are subsets. Then there is the hand – the set of options that the player possesses at any given time, usually used as a foundation for decision making practices. Within the player practices of certain set-representative games, sets within the hands also have a role, such as the attainment of Mah Jong in the game of that name, which is four sets of three patterns and a pair, parallel to the equivalent card patterns required in rummy-style games. From the idea of creating a set rather than a space for a game comes all the player practices of hands (including concepts such as drawing and discarding), and from hands comes the concepts of games about forming sets, all of which are impossible with board and pawns.

With *Dungeons & Dragons* (D&D), something remarkable and unexpected occurs to the use of sets in games that sets the pattern for the vast majority of videogames that follow in its wake. Rather than specifying the possible elements of the set by producing a deck or tile-set, D&D specifies all of the possible ontological elements of its fictional world in rule books, and then a

subset of these is used to create the fictional contents of that world. This includes the player characters, for whom a character sheet is used as a prop to record which elements of the set are relevant (e.g. which equipment is possessed), and all the monsters, treasure and so forth (Bateman, 2012). This is a remarkable twist on Badiou's concept of ontology as set-theory!

Set play, spatial play, and dice had already collided in the tabletop wargames of Avalon Hill and so forth, which directly led to D&D via the wargame *Chainmail* (Gygax and Perrin, 1971), but with RPGs the player practices shifted away from merely simulating war (which already had a long history) towards experimenting with Caillois' mimicry in an utterly unexpected fashion. Here was an entirely new contract – not about fairness, or conditions of victory, but about consenting to one individual being in charge of the ontological status of a shared fictional world (the Dungeon Master, or Games Master). This was a contract that collided the authority of an umpire from the lineages of sport with the rich imaginary worlds of literature. The resulting player practices were representative on a scale heretofore unimagined, and from these paper methods emerged the early player practices of everything in videogames that did not descend from the fairground and arcade (Bateman, 2016a).

Coins

There is one other aspect of D&D's revolutionary approach to play that warrants comment: its twist on numerical representation. To truly appreciate the inventive aspects of its use of numbers, it is useful to begin by looking at the more familiar aspect: using numbers to represent the amount money that players accumulated, in terms of coins such as Gold Pieces (GP), Platinum Pieces, Electrum Pieces, Silver Pieces and so forth, a tradition very much kept alive in the player practices of contemporary computer-based RPGs. The commercial practice of trading with currency becomes represented within RPGs by numbers written on paper, much as contemporary money often consists of little more than a number recorded in a secure computer file.

Right from the outset of civilisation we have dice, but there is an interval of more than a millennium before the historical coins made from precious metals begin to circulate. The archaeological consensus favours the 7th century BC and Asia Minor (contemporary Turkey) as the first use of electrum coins (Kagan, 1982). As bullion, precious metals had long been used in trading, but the coins (with their approximately fixed weight) broke value down into smaller chunks – even more so when certain Greek cities started using silver coins, since before this coins were too valuable to trade for everyday items.

Coins serve as props in commercial practices that are not conventionally considered games, but using prop theory makes clear that a game of make-believe is entailed in accepting contemporary currency as possessing a given value: each coin and note prescribes we imagine its stated value. Early coins were deemed valuable because precious metals were rare, attractively shiny, and in the case of gold could not be tarnished, making them desirable to those who possessed the power

to acquire wealth, if only as status symbols. (Practical uses for these metals did not emerge until after the industrial revolution: they were too soft to be used for weapons and tools).

Play money became very common in the 19th century, whether with the introduction of clay poker chips in North America (circa 1880) or banking games such as *Bradley's Toy Money Complete with Game of Banking* (Bradley, circa 1870). On the one hand, play money added an engaging representative twist to points (the simplest numerical representation in games). On the other, it too could possess value e.g. poker chips standing in for money in order to make it less tempting to steal what was on the table! Castranova (2005) identifies the Platinum Piece in *World of Warcraft* (Blizzard, 2004) – directly descended from the player practices of D&D – as the first game currency to have an exchange rate with national currencies, again demonstrating the role of imagination in commercial practices.

D&D's paper recording of earned currency is something it inherits from other games, but it's use of Experience Points (XP) to represent what an individual had learned (primarily from killing monsters or earning money!) was a very different kind of player practice. In the wargames D&D descends from, numbers had already been recognised as useful for representing aspects of a simulated world – but in making experience commodifiable, D&D showed how representing value numerically was far from just a matter for coinage. All contemporary player practices involving 'grinding' or levelling up descend directly from this remarkable element of the design of the original tabletop role-playing game, and these practices have now spread to every corner of the market for videogames (Bateman, 2011).

Conclusion

This brief expedition into the history of player practices reveals the intimate relationships between mathematics and sensory representations that have influenced games for five millennia. This is not, as might be thought, a link between two very different kinds of things: Stephen Yablo, adapting Walton's prop theory, demonstrates that all mathematics is itself representative: numbers are props prescribing we imagine cardinality (Yablo, 2002). Games are deeply representative, as with the more conventional artworks, but they are more intricately tied up with mathematical representations than paintings, theatrical plays, novels, or sculpture.

The player practices of dice emerge from marking an artefact with dots to denote numbers. Early boards used linear mathematics (e.g. Snakes and Ladders precursors with spaces numbered 1 to 100), as well as two dimensional spatial positions. Scoring practices (whether points or play money) provides games another way that representative numbers can be put to work. More recently, tabletop role-playing games manage to make the entire fictional world into a matter of mathematics (sets for characters, numbers for representing capabilities), paving the way for videogames that co-opt computing technology to expand the effort put into creating such worlds, while also radically simplifying the scope of the player's agency in such worlds.

Yet in parallel to the increasing mathematical dimensions connected with player practices – which have reached their zenith with the computational mathematics of videogame rendering engines – is the corresponding drive to explore the way games can act as novel sensory representations. Whether it is the transformation of boardgames from spiritual journey to capitalist fantasy, or the flood gates opened by moving beyond simulation of war and into simulation of *anything* pioneered by tabletop role-playing games, we find in the last five millennia a limitless desire to express our imagination through play.

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