Playing for Keeps: A Game of Marbles and the Materiality of Gameplay – Peter Eric Bayliss

Published May 13th 2008

Abstract: Peter Eric Bayliss analyses the video installation *A Game of Marbles*, whose unique relation between control and visualisation dislocates our assumptions about the ‘location’ of gameplay and player. Experimental efforts by audiences to engage with the piece further open up the consequences of the installation’s premise, a complex interplay between computation, control and representation.

The digital game installation *A Game of Marbles* (Tim Devine and Gerard Mason, 2006) exhibited at the Next Wave festival of 2006, presents an interesting case study into the dynamics of the videogame medium due to its design, in particular its novel use of physical objects as control surfaces. *A Game of Marbles* consists of two elements, firstly the physical play space consisting of a roped off ring where players take turns flicking their marbles. The second element is that which is displayed digitally on screen, where the position and movement of the marbles is captured by video camera and computationally processed, then depicted as stylised soldier avatars within a rocky arena. When two or more marbles enter within a particular distance of each other in the physical play space, this is in turn represented on-screen through an exchange of fire between the avatars. In addition, there are a range of special moves, dependent on the movement of the player’s marble as shown in figure one. These movements, such as passing between two other marbles, or completing a full circumnavigation around the interior limit of the rope ring, activate power-ups familiar to the average videogame player, such as restoring health, or causing other players to sustain extra damage. Thus as the players take turns flicking their marbles around the ring the movements of these marbles are depicted as stylised combat onscreen, their avatars deal, endure, and heal damage until one player has reached a winning score of ten kills.

![bayliss12.jpg](http://refractory.unimelb.edu.au/2008/05/13/playing-for-keeps-a-game-of-marbles-an...)

Figure 1. Two examples of special moves from the A Game of Marbles Instructions. Image copyright Tim Devine and Gerard Mason 2006, reproduced with permission.

The installation raises several interesting questions: where exactly is the game taking place – in the physical ring or the digital battlefield? Which layer is primarily important to the players? Where is the players’ attention directed – are the players participants and/or observers? *A Game of Marbles* raises these questions because it brings into focus an aspect of videogames that is often forgotten in the rhetoric of virtuality and the arrival of the ‘digital age’ – the essential materiality of videogames as both a medium and an experience. From the control surface to display monitor, including even the software that exists as an array of magnetic polarities or plastic peaks and troughs a videogame is...
essentially a material object. While, as players, we may not be particularly aware of these material factors during the course of play, they are none-the-less a constitutive part of the experience. Furthermore, gameplay is understood here as an embodied experience that emerges from the activity of play, rather than a property of the game being played. Equally important to this materiality is the socially situated nature of videogames, which makes it possible for instance to talk of characteristic differences between American and Japanese role-playing games (RPGs). Of course this social context is no less important when discussing a game-like installation displayed in a gallery environment, and as such observations made of the installation being used will be discussed later.

While *A Game of Marbles* is quite obviously a very particular case, it shares many similarities with other videogame genres and styles. Firstly, there is the turn-based, one player at a time, interaction style that *A Game of Marbles* shares with many videogames, particularly turn-based strategy games, not to mention games morewidely such as many card and board games, and of course marble games. Secondly, the players have discontinuous control during their turn, as they have no control of their marble after they have set it in motion, a characteristic shared by videogames such as the ballistics based *Scorched Earth* (Wendell Hicken, 1991) and *Worms* (Ocean Software, 1995), turn-based strategy games again, and non-digital games such snooker and lawn bowls. Finally, *A Game of Marbles* is a physically collocated multiplayer game, meaning that it has a stronger connection to similarly collocated video- and non-video games than to online games where players are generally physically distant. What primarily differentiates *A Game of Marbles* from conventionally designed videogames design is the way in which it makes its control surface a focus of attention separate from the feedback being presented via the display screen and audio speakers. The game-state is knowable not only from these feedback channels, but also via the position of the marbles within the physical play space. What distinguishes these two separate presentations are the extra layers of meaning provided by the digital game space, namely a thematic context of combat, score keeping through the dealing of damage, and spectacle through the audio-visual apparatus.

These extra layers need not be digital, it would be possible to achieve the first two in a setup akin to a table-top war game, though the process would be admittedly cumbersome. The final extra layer of spectacle would be conceivably much harder though not impossible to accomplish in the physical play space in a similar matter as is achieved in *A Game of Marbles*. I raise this rather unlikely situation of a completely non-digital version of *A Game of Marbles* to emphasise that “while digital and physical media might be informationally equivalent, they are not interactionally equivalent.”[1] Though the digital elements could be, as least hypothetically, achieved within the physical play space, by contrast the digital representation presents no means for the player to control the movement of their avatar – *A Game of Marbles* is, after all, a game of marbles that takes place in the physical play space through the players taking action by flicking their marbles around the ring. The digital representation is just that, a representation of the computationally processed action and events of each turn of the game. Though the digital representation is doubtlessly an important part of the design of the installation as an artwork and of its experience, as part of the game specifically it is secondary to the physical play space where the player takes action. This situation is seemingly unlike that of a conventional videogame where, as the only source of feedback, the digital representation regardless of its form as visual, audible, or haptic information appears to be an integral and crucial part of the gameplay experience. Yet as Massumi argues “[T]he processing may be digital – but the analog is the process[.],” for example digital sound which, though stored in digital code, only becomes audible when transformed into analogue sound waves.[2] The computer may be running the game, processing information about player input and presenting complex output through screens and speakers, but the game itself takes place in our world, through the actions, intentions, and experiences of the players. Without the players there is a technological system that can support the playing of the game, but no gameplay.

This is not to discount the importance of the technological system, as the rules and the technical manner in which the game action is presented fulfils a vital role in helping to structure the actions
and intentions of the players.[3] The rules of *A Game of Marbles* give the players’ activities a teleological purpose, they are not merely rolling marbles around a ring, but doing so to gain advantage within a competitive context with the theme of to-the-death conflict. The particular details of the rules, such as the special moves shown in figure one, suggest likely moves the player could make in any particular turn given the arrangement of the marbles. In this sense, the game does exist independently from the activity of play as a set of abstracted potentials, as a static state of what might be likely to happen next and why, resting on the logical structure of the rules. Yet as Massumi puts it “structure is the place where nothing ever happens, the explanatory heaven in which all eventual permutations are prefigured in a self-consistent set of invariant generative rules.”[4] Though rules give a game its structure, if we are interested in gameplay as an activity undertaken by players the focus should be on how the players act within, and beyond, that structure – on interactivity as a material, experienced activity.

The concept of tangible user interfaces (TUI), which Ullmer and Ishii describe as giving “physical form to digital information,” offers one potential way of understanding the dynamics of *A Game of Marbles* by considering the installation in terms of Ullmer and Ishii’s model-control-representation (physical and digital) interaction model. According to this model, the perceptual coupling between the coloured marbles and the on-screen avatars indirectly relies on a computational coupling between the movements of the physical marbles with the underlying software code that runs the game. The digital representations are thus used to dynamically present information to the players about the computational process, for instance the percentages that indicate the health level of individual avatars indicate how much damage each has sustained so far. The marbles, though lacking some of the information handled digitally such as avatar health level, still partially indicate the game state through their position within the physical play space and importantly serve as the control surface of the game. Furthermore, *A Game of Marbles* employs what Ullmer and Ishii describe as a spatial approach, where “the spatial configurations of physical objects are directly interpreted and augmented by the underlying system.”[5] Thus the initial position, movement, and proximity to other marbles of the currently active marble during a turn is processed by the game software and represented digitally to the player as movement and conflict between the onscreen avatars.

*Figure 2*. The rules of *A Game of Marbles*. Image copyright Tim Devine and Gerard Mason 2006, reproduced with permission.

Though Ullmer and Ishii’s model addresses *A Game of Marbles* in terms of how physical objects can be employed to control and represent computational processes we can go a step further and consider the inverse form of this relationship where computation, rather than being primary, takes a supporting role to the physical components. Dourish describes this approach to human computer interaction as the augmented reality approach, where “[T]he site of interaction is the world of the user, not that of the system.”[6] Such a view seems more fitting for a game-like system like *A Game of Marbles* where the activity is undertaken for its own sake, rather than to accomplish a particular task. This question of primacy may seem trivial – though it may be no more than a coincidence of wording, the online festival listing for *A Game of Marbles* describes the marbles as representing the avatars,[7] while a newspaper report on the game also describes the avatars as representing the marbles.[8] The representational relationship is necessarily a bi-directional transformation and as such the physical and digital representations are relatively informationally equivalent as mentioned earlier. However from the perspective of the players the case of the digital avatars representing the marbles would arguably be most likely, after all it is more interesting to watch computer animated avatars do battle than marbles rolling around in a ring. *A Game of Marbles* inhibits this likely preference by forcing an awareness of the disconnection between the stages of input and feedback that a conventional videogame seeks to conflate through
a variety of measures, such as attempting to make the control surface relatively intuitive by using logical and physical constraints, or by utilising conventional setups that many players may already be familiar with.\[9\] A sufficiently competent player of a conventional videogame would eventually pay little attention to the control surface, being engaged in the activity of playing the game rather than using the control surface, or as Dourish puts it the control surface becomes ready-to-hand, highlighting that we act through, rather than on, objects that have become ready-to-hand.\[10\] As the players of *A Game of Marbles* have to split their attention between the physical ring and onscreen battlefield, it is hard to see how their focus of attention could move in the manner described by Dourish. Consider a hypothetical adapted version of *A Game of Marbles* that uses a billiards table as its play space, and the cue as the means of moving the balls in comparison with the Billiards mini-game from the *WiiPlay* compilation (Nintendo, 2006) where the players uses the Wiimote as if it were a cue. In the *WiiPlay* version the players’ actions from moment to moment are captured by the accelerometers in the Wiimote and represented on screen as a moving pool cue, as such the player does not need to focus their attention on the Wiimote. The situation is quite different in the adapted *A Game of Marbles* version, where the players would need to focus on the physical play space whilst taking their move, before watching the action on the screen take place. Even those players that possess a high level of skill at either conventional marbles or billiards, such that the marbles or cues themselves become ready-to-hand, would still need to learn the more complex set of special moves to fully engage with the game.

This of course assumes that the players are playing in the manner intended. Watching other gallery-goers using *A Game of Marbles*, one remarkable observation was that few people were actually playing it as a game, but rather playing with it as an audio-visual installation, largely ignoring the rules such as ‘One Player at a Time’ shown in figure two. Players would move multiple marbles simultaneously, focusing most often on the screen displaying constant movement, violence, and gore with only momentary glances downwards to locate marbles that could be moved. Though these observations are only from one short visit one afternoon in a quite busy gallery, it is possible to identify these observed uses of *A Game of Marbles* as a case of instrumental interaction, as the participants were “not focused on the physical objects themselves, but on the effects that they engender … using them as controllers of a digital system.”\[11\] This instrumental use relied on the iconic and intrinsic properties of the marbles,\[12\] as the marbles represented the on screen avatars, whilst the intrinsic ability of the marbles to roll, and the delimitation of the physical play space with a roped off ring, further suggested how the installation could be used. This in part may explain the particular use of *A Game of Marbles* described above, as while there were rules governing the taking of turns, these rules were not intrinsically part of the physical play space, nor enforced by the underlying software model, as such giving the participants considerable scope to use the installation in unintended ways such as generating interesting events on screen to observe.

So, what can *A Game of Marbles* tell us about the medium of videogames more generally? At the time of writing, the only commercially developed videogame that bears similarity to *A Game of Marbles* is the forthcoming *Eye of Judgement* (Sony Computer Entertainment, due for release 2007), a trading card game that similarly uses a video camera to capture the state of the physical play space which is then augmented with onscreen graphics. Obviously then, there is little in the way of direct or specific conclusions that can be drawn. Yet if we consider *A Game of Marbles* as an investigation into what games are and how they work, in particular the role played by physical interaction with the interface, several lines of questioning, if not answers, arise that have relevance to videogames more generally. Primarily, the role played by the materiality of videogames, for instance the question of whether videogames take place in the physical or digital play space, becomes a central concern. By complicating the relationship between the physical control surface and the digital feedback channels, perhaps *A Game of Marbles*’s main contribution is to call attention to the essential materiality of videogames, to remind us that though we sometimes may feel a sense of transportation into the world of the game, the game itself is firmly enclosed within the physical world we occupy.
References


Notes


**Author Bio**

Peter Bayliss is a PhD student at the School of Applied Communication at RMIT University, who is currently researching the experience of videogame play from the perspective of embodiment, employing a mix of theoretical traditions such as phenomenology, human-computer interaction, and ecological psychology. Peter’s work has previously been presented at the Digital Games Research Association (DiGRA) conference, and the Australasian Conference on Interactive Entertainment.

Contact Email: peter.bayliss_at_rmit.edu.au

Filed in Games | Volume 13 | No responses yet

Comments RSS

**Leave a Reply**

Name (required)

Mail (hidden) (required)

Website

Submit Comment

- Categories
  - [Browse by Media](#)
Playing for Keeps: A Game of Marbles and the Materiality of Gameplay...

Copyright © 2012 Refractory All Rights Reserved.

http://refractory.unimelb.edu.au/2008/05/13/playing-for-keeps-a-game-of-marbles-an...  23/03/2012