

Defeated by an orangutan? Approaching cross-species gameplay

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ABSTRACT

All mammals play, including humans. But there are undoubtedly differences between the types and forms of human and non-human animal play. Many of them are closely related to how humans externalize the maintenance and facilitation of highly complex game systems to technologies varying from mere pen and paper and mechanical tools to sophisticated digital, networked computer software. The range of human play seems to significantly exceed that of non-human animals and is meaningfully different in terms of technological advancement. It is therefore justifiable that most contemporary accounts of player-focused Game Studies assume a human player. In cultural theory of games we may take into account her cultural and ethnic background, social class and status or gender and sexual orientation, but ultimately she is one of us and alike the subjects studying her: a human being.

However, theories of Game Studies afford approaching humans and non-human animals equals as players and forms an advantageous starting point for research of non-human animal cultures and human-animal communication. To draw examples from some of the most widely acknowledged theorists, Johan Huizinga suggested that it is play what is pre-cultural for all animals – that “*animals have not waited for man to teach them their playing*” (Huizinga 1938, 1). In the same line of thought, Brian Sutton-Smith has noted that for communication theorists “*play is a form of communication far preceding language in evolution because it is also found in animals*” (1997, 6-7). For him, a good definition of play would include both animals and humans (Sutton-Smith 1997, 218-9). Moreover, a commonly agreed upon theoretical stance of games as *autotelic* – as activities performed for their own sake (e.g. Ducasse 1929) – makes it possible to postulate that individuals from all animal

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cultures, given a possession of required physical and mental abilities, can be brought to play games together because it is the games themselves that give meaning and importance to specific outcomes based on which players can access a common sphere of action and meaning making.

Such perspective is essential for the study introduced in this paper. It discusses the motivations and challenges of an exploratory design-research project that focuses on creating and studying computer games to facilitate cross-species communication between humans and one of our genetically closest relatives, Bornean Orangutan (*Pongo pygmaeus*). Such study is conducted at the School of Design of the Hong Kong Polytechnic University in collaboration with Borneo Orangutan Survival Foundation and Deforest Action initiative.

A number of studies have already approached orangutan game play in various zoos. Andrea W. Clay et al. (2011) offer a review of the use of technology in zoological parks and discuss the benefits of technology such as touch screens for orangutan welfare in Zoo Atlanta (see also Perdue et al. 2011). Karyl B. Swartz and Sharon A. Himmanen's (2006) study used touch screens to facilitate a list learning task in order to measure orangutans' recognition memory. Meanwhile, in studies by Jennifer Vonk (2002; 2003), orangutans were tested with touch screen in regard to their abilities to understand concepts of social relationships and to discriminate between objects based on their colour and shape.

But while the introduced studies concentrate on applying games as a medium for cognitive tests, it is the goal of our project to create games that both human and orangutan players enjoy regardless of the existence of external rewards. It is indeed one of the greatest differences between orangutan and human computer game play today that orangutans usually play to receive an edible treat when succeeding in a game while the extra-textual rewards that humans gain from play are not as straightforward and clear.

To our knowledge, the project introduced in this paper is one of the first to provide orangutans computer games to be played with humans. Only one earlier study of great ape cross-species digital game play was identified and it dates back to late 1970s, when Robert Yanofsky and Hal Markowitz introduced interactive games of speed and tic-tac-toe for mandrills and orangutans to play against zoo visitors (Yanofsky and Markowitz 1978; Markowitz 1978). Whereas the games of Yanofsky and Markowitz's research group were played in a zoo, the games developed in this project are made available online for human players to access.

We believe that setting up a theoretical basis for the study of animal game play is timely since also commercial examples of digital games designed for animals have already reached public attention. For instance, domestic cats were provided with a possibility to enjoy playful touch screen applications *Cat Fishing*, *Party Mix-Up* and *Tasty Treasures* by a major cat food purveyor recently (Friskies 2011). Since game developers have recognized this new business opportunity, it is important to establish the significant philosophical and theoretical conceptualizations that are unique for the study of non-human animals as game players. Alongside introducing the design basis of our research project, this theoretical work is what our paper aims to initiate. Our research hence reexamines the centrality of human agency and the prioritization of human way of being in the world as preconditions of game studies and design.

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