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Play as Emergence: Examining "Play" through Three Video Games

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Introduction

Play is a fundamental human activity that has been enjoyed by people of all ages and cultures throughout the history. It is a form of expression, exploration, and experimentation that allows us to learn about ourselves, others, and the surrounding. In recent decades, video games have emerged as a popular form of play that has revolutionized the way we engage with entertainment and technology. The immersive and interactive experiences that they offer engage players in ways that traditional forms of play cannot.

Just as Alexander Galloway argues, game differs from other media in that it requires the action of play.[1] Unlike paintings or films, which we engage with mainly through the act of viewing, in video games the players have to make move to instigate changes, marking the video game as an unique medium. Yet the relationship between game and play is much more complex and multifaceted. While some games set up clear objectives where players play to win (or not losing), others adopt an alternative pattern of "play to see", allowing for more expansive possibilities of play. "Games are both object and process," says Espen Aarseth, "they can't be read as texts or listened to as music, they must be played."[2]

In this essay, I hope to explore how the concept of "play" is manifested especially in video game about emergence and "growing". I will first review literature regarding play and game to set up the theoretical framework for more detailed, embodied analysis of specific games. I will then take three video games that incorporate certain amount of "growth" as a starting point, making

[1] Alexander R. Galloway, "Gamic Action, Four Moments." In *Gaming: Essays on Algorithmic Culture*, NED-New edition., (University of Minnesota Press, 2006), 2.
[2] Aarseth Espen. "Computer Game Studies, Year One," Game Studies 1, no.1, July 2001, https://www.gamestudies.org/0101/editorial.html.

them come into play with one another. The first game of discussion is the iconic 2D Nokia game *Snake.* Its simplicity in design and rigid rules make it a perfect point of reference, a "default", to analyze how the most instinctive and basic sense of play unfolds. The second game is a more recent, 3D generative work *Bag of Beliefs* (Ian Cheng, 2018), which is about growing a lifeform of artificial intelligence. Lastly, I take a closer look at *Flower* (Chen Xinghan, 2019), whose theme of growth centers around not an object but an urban landscape. They each display a different relationship between game and play, as well as machine and player.

Emergence and growth are the shared theme among these games. We either help a snake to get bigger, a naughty AI lifeform to learn and live, or revive a dead landscape. In *Snake*, we simply eat and grow, getting greedy while bearing the risk. In *BOB*, Cheng creates a virtual living ecosystem that permits evolutionary processes in just a few minutes. We can see the spontaneous emergence of new properties or structures of a system resulting from the interaction of its elements, as well as the exploration of chance and randomness. Emergence and resurgence are also explored in *Flower* - under the control of the player as wind, new forms and lifes starts to grow and generate.

Through an analysis of how each of them manifest the idea of play and a comparison that follows Mechanics-Dynamics-Aesthetics model, a prominent approach to game design and game studies, the goal of this paper is to answer: if there is no winning or losing, what is playful about these games? What rules they have that constitute them as a playable and playful object? How these games, without emphasizing destruction but emergence, add to the definition of "play" in a certain way? I argue that *BOB* and *Flower* both challenge and transcend the "play for an

objective goal" by either challenging the player's subjectivity or create an emotional engagement to allow for modes of "play" in their own terms. The two games, with a non-human agent as the protagonist and emergence as the theme, move beyond traditional pattern of ludology and narratology.

An Overview of Theories of Play

Before we dive into the analysis of any specific games, it is necessary to take a step back and tease out how play was historically defined and evolved and and the relationship between play and game. One of the most notable work in play theory is Johan Huizinga's *Homo Ludens: A Study of the Play-Element in Culture.* The dutch historian defines play as primary formative element of culture. In his point of view, play is defined as "a mode that we enter and a state of mind that must be shared" - it is part of human's nature to play.[3] Huizinga is most interested in the "formal" similarities between play and ritual and the time when play become holy and serious.

According to Huizinga, culture and play are intertwined: "culture arises in the form of play…It is played from the very beginning."[4] He outlines five characteristics of play:

> Play is a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy and the consciousness that it is "different" from "ordinary life". [5]

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[3] Johan Huizinga, *Homo Ludens: a study of the play-element in culture.* (Boston, MA: The Beacon Press. 1950), 5.
[4] Huizinga, *Homo Ludens: a study of the play-element in culture*, 46.
[5] Ibid, 28.

From the quotation above, it is learned that play, according to Huizinga, is first and foremost free and voluntary, thereby marking itself off from involunratry act for survival. Moreover, play is never imposed by physical necessity or moral duty. The second characteristics, closely tied to the first one, is that play is not "ordinary" or "real" life. It is a stepping out of mundane life into a temporary zone of activity, as children know when they play that it is "only pretending". Play creates order in the form of rules, which dictates what is valid within the imaginary space created by the activity. The rules of a game are typically absolute and non-negotiable, leaving no room for uncertainty. Play is absorbing, and happens within fixed boundary, termed as the "magic circle", that separates game from other activity in reality.[6] The rules take a significant role in setting up the "magic circle" by defining a realm of acceptable actions. In order to participate in this realm, players must acquire an understanding of the rules. The most important aspect of play for Huizinga lies in its self-referentiality. The goal of play always lies in itself without any actual purpose. It is also an activity that is not connected with any material interest external to play itself, and would promotes the formation of communities of players.

Huizinga's analysis of play as a social and cultural phenomenon is expanded by the French literary critic and play theorist Roger Caillois. Unlike Huizinga, who explores the concept of play in a formal approach without shedding light on play in actual form as games or situate play in medium, Callois employs a rather materialistic approach by looking at and defining play in all its variations. His definition is that play is "an activity that is free, separate, uncertain, unproductive, governed by rules and make-believe." [7] He explores the relationship between play (*paidia*) and game (*ludus*). He describes *paidia* as the "spontaneous manifestation of play

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[6] Ibid, 4.
[7] Roger Caillois. *Man, Play and Games*. trans. Meyer Barash, (Urbana: University of Illinois Press, 2001), 9-10.

instinct" while *ludus* as goal-oriented and disciplined, representing "calculation, contrivance, and subordination to rules".[8] While his definition of play is not so distinct from Huizinga's, what marks his theory is the taxonomy of games into four types - *Agon* (competition on a playing field); *Alea* (games of chance); Mimicry (simulation or role-playing); and *Ilinx* (vertigo; disorientating oneself).[9] He offers critique to Huizinga of his quest to incorporate all play activities into one form (the *Agon*, or competitive games) while leaving out *Alea*, games of chance. He remedies this by saying that "The goal of play is not to produce anything: "it creates no wealth or goods…[it] is an occasion of pure waste".[10]

Apart from Huizinga and Callois, another notable scholarly work on play, more specifically game-playing, is Bernard Suits' writing in 1978 *The Grasshopper: Games, Life and Utopia.* Just as the name foresees, the form of the book is in itself a play, with humorous reflection in Socrates dialogue and Aesop fables. According to Suits, "playing a game is a voluntary attempt to overcome unnecessary obstacles":

> To play a game is to attempt to achieve a specific state of affairs [prelusory goal], using only means permitted by rules [lusory means], where the rules prohibit use of more efficient in favour of less efficient means [constitutive rules], and where the rules are accepted just because they make possible such activity [lusory attitude]. [11]

Suits creates the concept of "lusory attitude", which is a state of player when the rules of the game create challenges that restrict the experience of the player. As Suits argues, one can be at play but not in a game, and playfulness interrupts the "frame" of the game. The rules established

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[8] Caillois, *Man, Play and Games,* 28.
[9] Ibid, 29.
[10] Ibid, 5.
[11] Bernard Suits. *The Grasshopper: Games, Life and Utopia.* (Boston: David R. Godine, 1990), 19-34.

are meant to make the game less efficient. It is the player's acceptance to the rules and the inefficiency it may cause that make "play" possible.

Playing Video Games

So far, all the theorists above examine play and game in a conceptual level without paying much attention to the very medium these games occur. Medium is the message - as the saying by media theorist Marshall Mcluhan goes - and interface is such an integral part of play and game that we cannot neglect its presence in our very definition of these terms. Chris Crawford, an American video game designer, is one of the first to define games through the trajectory of medium, specifically computer. His major contribution are the four fundamental characteristics to categorize computer games - representation, how a game is a "closed formal system that represents a subsets of reality"; interaction, which allows player to "generate causes and observe effects"; conflict, a necessary result of interaction; and safety, meaning that a game is a physically safe way to "experience reality".[12] Instead of situating play and game in a metaphysical and social level, Crawford delves into the logistics and the structure surrounding computer game design and development.

In this essay, taking all these theoretical framework in mind, I will employ a materialistic approach to investigate play and game, as I believe in the reciprocal nature of the two terms. Play is manifested and framed by the rules of the game, while only through the very action of play are games meaningful. I will proceed with a case studies of three video games, each with distinct

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[12] Chris Crawford, *The Art of Computer Game Design*. (Berkeley: Osborne/McGraw-Hill, 1984), 7-13.

rules, moves, and forms. Instead of simply mixing and matching games with theories, I hope to bring these games into a playful conversation.

To better understand the games, I will employ the Mechanics-Dynamics-Aesthetics (MDA) Framework, a formal approach that is used extensively in game design and analysis, developed by LeBlanc, Hunicke and Zabek in Northwestern University. I choose such framework because it not only conceptualize the relationship of rules to player experience, but also the relationship between player and designer. *Mechanics*, the rules, are defined as the base components of the game, the basic setup of the game. *Dynamics,* or the moves, describes run-time behavior of the mechanics acting on player input and "cooperating" with other mechanics. It is about the "play" of the game, such as what strategies/behaviors emerge from the rules, and how players interact in the game. *Aesthetics* describes the formal quality and desired emotional responses evoked in the player when interacting with the game system, as well as the player's experience. [13]

I shall now continue with an account of the background and detailed description of the game themselves, followed by a horizontal comparative study of the MDA of the three games. Apart from MDA, other aspects such as the use of space and medium will also be considered. I will end with discussing how the comparison can inform "play" in certain senses.

Snake: Eat and Grow

Launched in 1997 on the Nokia 6110, *Snake* is one of the most iconic action video game. The concept of the game has developed before the Nokia launch. The very first Snake-type game is a

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[13] Hunicke, Robin, Marc LeBlanc, and Robert Zubek. *MDA: A Formal Approach to Game Design and Game Research.* (Natick, MA: A K Peters/CRC Press, 2004), 1-5.

monochrome arcade video game named *Blockade*, developed by Gremlin in 1976.[14] Blockade is

a classic two-player game where each player controls a snake-like line that grows as it moves

around the game board. During the 80s, it became even more popular as it was introduced in the

early Texas Instruments calculators and in home computers such as the Apple II, Commodore 64,

and the BBC Micro.[15] As there was no one owner of the game, versions of it were created for

nearly all major consoles. The *Snake* we commonly know today is Nokia version in 1997. Even

though *Snake* has more complicated configurations, for the purpose of this essay, I will focus

solely on the 1997 Nokia version, as shown in Fig. 1. Most of the studies of *Snake* center around

the technical aspects such as how to train the AI development. Little literature, however, sheds

light on what make the game "playful" and what pattern the game evoke to make it such a iconic

example in game history.

Fig. 1. A screenshot of *Snake* on Nokia

Rules

Snake is essentially a game about eating, namely survival. The screen, or the "magic circle" in

Huizinga's word, consists of a line (or sometimes a series of block) and a dot in an enclosed

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[14] "Blockade - Arcade - Manual - gamesdbase.com." Arcade-History.com. https://www.arcade-history.com/

[15] Blogs @ Windows. "Snake Charmed: 10 Fascinating Facts About the World's Most Popular Game." Windows Blog, February 2, 2012. https://blogs.windows.com/devices/.

space. The line is not arbitrary but directional with head and tail representing the snake while the dot signifying its food. The play happens between these two-dimensional geometries. The execution is straightforward - a single player controls the snake within the rectangular playing field, usually the size of the screen. The snake is always moving. Although the scenario sounds simple, as a game, it has to inhabit certain "unnecessary obstacle" and rules. The first challenge that player need to overcome is to eat the food randomly appear on the screen while managing the difficulty brought by the increasing length of the body. The other challenge faced is to avoid colliding with itself as the snake grows longer.

The game is based upon a quantified system of reward and punishment, and has a clear winning and losing scenario. Rewards in the game include collecting food, which causes the snake to grow longer and increases the player's score. The longer the snake gets, the more difficult it becomes to navigate around obstacles, making the game more challenging. Punishments in the game include colliding with walls, obstacles, or the snake's own body, which causes the game to end and the player to lose. This serves as a penalty for making mistakes or taking unnecessary risks while playing. There is no limit to win - players are expected to achieve the highest score - equal to the amount of initially empty space - by eating as many pieces of food as possible, while the losing ones cuts themselves out by accidentally makes head and tails to come in contact, or hit the wall.

Moves

The player control the snake by simply changing its direction across the playground to fetch food. Each piece of food appears one by one on the screen, and the second piece of food will not

appear until the snake eats the first piece. Once the line comes in contact with the dot, the snake grows longer. Yet it is not growing in an arbitrary length, but by a standardized unit, since the food is unified instead of individualized entity. The player then gain a point.

One of the key techniques, or move, that *Snake* employs is collision. One object - the snake - bumps into another object - the food, and something happens. The snake might collide with itself, causing the game to stop. It is so common in iconic arcade and video games, such as *Pac-Man*, *Space Invaders*, and *Pong*, that players would take it for granted and neglect the importance to unpack this operational logic. Yet instead of being a literal act, such as in *Space Invaders*, where collision happens literally between spaceship, I argue that the collision in Snake, just as in the *Pac-Man,* is a metaphorical one, in line with what Noah Wardrip-Fruin suggests in his book *How Pac-Man Eats*.[16] The act of collision culminates in a act of eating - of consumption. This makes the experience of the play more intuitive, as eating is an act that players can easily identify with, which makes the game itself universal.

Apart from collecting food and solely taking things in, another important aspect of *Snake* is growing and staying alive. Snake not only eats but it changes. And this change is a must - there is no way you can stop the snake from moving forward. The growing is confined within a quantified system. Collision is what both initiates the growth and terminates it. Hence, *Snake* exhibits a game of tradeoff - seeking higher reward at the cost of making mistakes.

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[16] Noah Wardrip-Fruin, *How Pac-Man Eats*. (Boston: the MIT Press, 2020).

Bag of Beliefs: Growth as Metabolizing Desires

It is important to note that no agent exist in the single-player version *Snake* - the snake is completely maneuvred by human; it is unable to make decisions according to the surrounding, thinks intelligently and acts upon the environment. Players feed the beast on the screen through a series of collision, and the direction of their moves is in absolute control. However, in American digital artist Ian Cheng's live simulation *Bag of Beliefs (BOB),* where Cheng also creates a semi-snake, semi-tree lifeform and invites player to "feed the beast", the "feeding" and the "beast" both become much more complicated.

BOB is an AI creature that is characterized by its squirming and gurgling movements, with a head resembling a caterpillar and a red body with fluttering appendages in an inconsistent number. It lives within a set of stacked screens with its movement driven by its "belief", which is obtained by machine learning. Through the BOB Shrine APP, the audience can create offering to BOB such as treats, love, or reprimand. BOB's identity oscillates between a sassy, childish, and vulnerable being that craves human attention, and a divine god that takes no interest in human affection, self-sufficient with its inter-life memory bank. In a constant state of flux, BOB has lived and died a hundred times through different exhibitions.

Cheng studied cognitive science and art practice in University of California, Berkeley and takes a great interest in the potential of artificial intelligence to create dynamics of unpredictable system. One prominent predecessor of *BOB* is the *Emissaries* trilogy (2015-2017), in which Cheng creates a trilogy of simulations about cognitive evolution, past and future, and the

ecological conditions that shape it.[17] BOB, as an AI creature whose personality, body, and life story evolve across exhibitions, continues with such attempt to explore an agent's capacity to deal with an ever-changing environment.

Is BOB a Game At All?

It is debatable whether *BOB* can be seen as a video game, the term that used to describe BOB vary across media, ranging from video art, interactive installation, to simulation. Debut in Serpentine Galleries in London, the whole project, as Cheng tries to define by himself, is a "game-like" simulation that plays itself, one that "when you're not around the work, the work is still alive and living its life."[18] On the one hand, one can argue that *BOB* is a game, since its presentation consist of two part - a screen exhibition of the lifeform itself and an APP called *BOB Shrine*, in which users are invited to provide "offering" for *BOB*. The latter part makes the interaction between player and the lifeform possible and invite action to happen. On the other hand, *BOB* is not a game in a strict sense because it is essentially an agent that plays itself. The viewers are unable to directly control or predict its physical body or behaviors. This would pose question to the definition of play and game discussed in earlier section of this essay - after all, games have been primarily understood as objects to actively engaged with, conflicts or obstacles to be solved and meaningful actions to be taken. Doesn't *BOB* contradict with the notion that video games requires action to happen, since *BOB* does not necessarily need the participation of human to live and survive?

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[17] Ian Cheng, "Ian Cheng.", http://iancheng.com/.
[18] "Ian Cheng: BOB," Serpentine Galleries, accessed April 18, 2023, http://www.serpentinegalleries.org/whats-on/ian-cheng-bob/.

It is argued in this essay that *BOB* belongs to the category of video game. The paradox above, instead of undermine the definition of game, compliments it. It expands the scope of "action" to non-human agency. Play happens not between subject (usually human) and object, but rather subject and subject: the players must negotiate with non-human lifeforms in order to gain control over the game. It is with the understanding of this negotiation as a part of the play that I shall proceed with a detailed analysis of *BOB*.
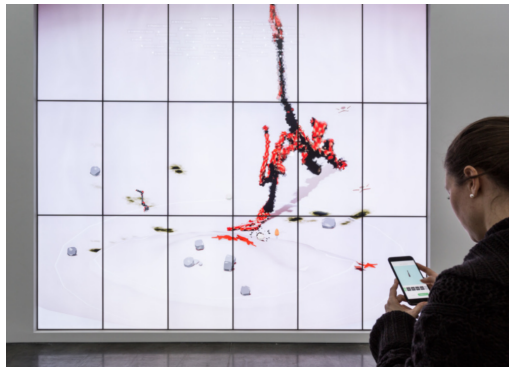
Fig. 2. *BOB* gathering food from shrines in Serpentine Gallery

Play and Played by BOB

As mentioned in the previous section, BOB is presented to the audience, or the player, through two means of mediations - the *BOB Shrine* APP, where the player create offering to put it in the shrine, and the big screen, the space where BOB inhabits and players can directly sees their offering and whether they are being accepted or rejected. Since the agency of BOB does not resides solely with human, but also with the automated lifeform, the play become a more relational and reciprocal process. The question moves from "how we play BOB" to "how we play & be played by BOB; how BOB plays & played by us." According to Galloway, "to play the game is to play the code of the game…it is all about knowing the system and knowing code."

[19] Specifically for the case of *BOB,* machine learning and algorithm establish the rules. Therefore, a close scrutiny of the technical logistics of BOB will be conducted to understand the subject and rules.

Rules

Rules are always seen as the default, the necessity to make games happen. However, we often dive straight into the game without taking a pause and reflect on who create the rules. For games in the real world, rules are established by humans either in an oral or written form. Computer has its own language - code. Therefore, to understand the rules of *BOB,* it is necessary to probe into how Cheng actually developed these computational models to better understand who BOB is and how BOB works.

    a. **Who is BOB**

BOB, according to Cheng, is a "sentient creature", which he hopes to use as a "compositional space" to "hold and contain ideas about metabolism, lifecycle, A.I., and long-term growth."[20] He urges to create an art with "nervous system" which can "react and learn on its own".[21] Part of the philosophy is to make a game that "be more adaptable to change" instead of behaving perfectly as the he expects. It is ambiguous how BOB learns things at the first glance - is it learning from experiences and change its behavior over time? The available inputs seem so repetitive that it is mysterious to user what BOB might be "learning," or what the user is "teaching".

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[19] Alexander R. Galloway, "Playing the code: Allegories of control in *Civilization", Radical Philosophy* 128, Nov/Dec 2004, 35.
[20] "Ian Cheng: BOB."
[21] Ibid.

Such ambiguity is Cheng's intention, and part of the play of *BOB*. It is interesting to note that Cheng, as the artist and creator of BOB, does not situate himself as the dictator or parent of BOB. Rather, he yield the right to create rules to the spontaneity of algorithm as well as the audience - the act of play becomes a form of co-creation. This manifests Sutton-Smith's argument that playfulness interrupts the "frame" of the game only when the player is able to embark on their own virtual journey exceeding the perimeters of the code.[22] Play, in this sense, can happen not only within the rules, but also as an act of expanding the given magic circle.

b. How BOB Comes into Being

Realizing one A.I. model is far from sufficient to model a complex nerve system, Cheng reinforces the idea of "living creature" by blending different, even competing models of A.I., enabling BOB to have distinct mechanism to deal with different scenarios. In developing models for BOB, Cheng describes BOB as a multiplicity, which generates multiple personalities within itself. As he further explains, BOB has many parameters and minibrains - BOB scans across arbitrary parameters, including current metabolic state, body size, the time of day, the number and kind of objects in BOB's local environment, the viewer's face, every 10-15 seconds.[23] These would be stored into BOB's memory, which offer an archetype to influence its future movements. This idea of not clinging to the current circumstance but use the past as a point of reference to compare and form a judgment makes BOB a becoming. BOB is not a singularity, but a process of "metabolizing desire and updating belief." [24] In a word, BOB builds on the basic idea to "minimize surprises across time" and "match expectation with reality."[25]

[22] Brain Sutton-Smith, *The Ambiguity of Pay*, (London, England: Harvard University Press, 1997).

[23] Cheng, Ian. Interview by Robin Peckham. Living Content. Accessed April 15, 2023. https://www.livingcontent.online/interviews/ian-cheng.

[24] Ian Cheng, "Ian Cheng."

[25] Osman Can Yerebakan, "Ian Cheng with Osman Can Yerebakan," Brooklyn Rail, February 5, 2019, https://brooklynrail.org/2019/02/art/IAN-CHENG-with-Osman-Can-Yerebakan.

The core of the project lies in the construction of BOB's autonomy and consciousness. The first half of the brain is the subjective senses, which navigate it to make inference. An indispensable concept to discuss is the "Congress of Demons", which constitutes the other half of BOB's brain, providing BOB with motivation. Each demon is like "a micro personality, each with their own mini story" and they take turn to control BOB's bodily expression in order to satisfy their stories. [26] As Cheng explains in his interview with ARTnews:

> "They're impulsive and possessive, like demons possessing you. Your whole body is forced toward that one goal. I chose the metaphor of a "congress," meaning that the demons meet every few seconds in BOB's mind to decide who gets to be in charge, and they're all competing." [27]

The "Congress of Demons" is the most essential part that summarizes how BOB works - BOB is constantly learning, changing, competing, and iterating through externalizing the stimuli in environment and internalizing them to its belief systems. It coincides with the existentialist thinking that beings do not have fixed nature, or essence; it is the choice they make that create their own nature. It is a bag of belief in the very literal sense.

c. Winning and Losing

In video games, we tend to associate winning and losing to life and death, or to the defeat of an opponent. BOB, nevertheless, exceeds such binary boundary. The winning scenario is that BOB continues to live. But it is ambiguous that any losing scenario exist - the scenario of BOB dying is not going to happen because it will always respawn after being bombed. BOB dies many deaths – whether through failures of personality, bad parenting, random accident, or a life well

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[26] Ian Cheng, "Ian Cheng on His Gladstone Gallery Show and the Future of Artificial Intelligence in Art," ARTnews, March 6, 2019,
https://www.artnews.com/art-news/artists/ian-cheng-gladstone-bob-artificial-intelligence-11825/.
[27] Ian Cheng, "Ian Cheng on His Gladstone Gallery Show and the Future of Artificial Intelligence in Art".

lived – that individual death matters trivial to the game. Dying and resurrecting many times, BOB would carry the memories afterlife, thereby manifesting the undying eternal characteristic of a god.

Moves

When playing a game with another human, we usually assume we and our counterparts are equal to achieve the same goal, no matter how different we are in terms of race, class, and gender. However, when the subject of our game becomes an AI, we arrive at a sense of otherness, which might culminate in a feeling of superiority, as we feel AI is always subordinate to human. Cheng plays with this otherness and tries to subvert this power dynamic in BOB through the interaction between the sentient lifeform and human.

   a.   **The BOB Shrine APP**

The BOB Shrine APP is where BOB and human player communicate, negotiate, and build mutual trust. The major action of the player is to create offering for BOB. Opening the APP, user starts by typing in the name of the shrine - it becomes individualized. Then, the user is directed to an interface where the shrine is created, with a mushroom floating aimlessly on top of it. Shrine is a lonely, domed building with a glowing blue interior that appeared on the players' phones. The mushroom is the default type of offering - other archetypes of offering also exist, such as SpinyFruit, Rock, Shrub, Starfish etc., each possessing a different "blessing balance", a quantified value acquired by BOB accepting offering. Players' oblations to BOB are limited by their number of "blessings," an in-app currency of sorts. It's a classic video-game feature: a substance at once holy and transactional, deployed for trackable growth and rewards.

Users can also adjust the properties of offering. Yet the names of the two poles of properties - "cursed" versus "lucky", "orderly" versus "chaotic" - sound rather abstract, counterintuitive, and enigmatic. Except for changing the visual qualities of the offering object itself, it is ambiguous what these languages signifies. After completing these default setting of a new offering, user are invited to add a "Parental" caption to it by arranging a sentence out of fragmented texts, aiming to "teach BOB about this offering". A new offering is eventually produced. The shrine will take a duration of time to keep on producing this new type of offering.

Each time the user exit the APP and come back, an extra "offering" would appear. The offerings are not ephemeral but decay over time. Once an offering is created, it will pop up on the big screen in the gallery, with an accompanying text notifying whose offering it belongs to. BOB will then interact with each of them and learn what he wants to do with it, and in the process determine whether he trusts the person that offered it to him or not. The trusted directives are called "angels", which will put into the congress and compete with other "demons".

There are three features below the shrine - News, Offerings, and About. News directs us to a Twitter page, where an account named BOB updates the shrines it "chooses" and ones that new user created. In the "About" section, user can access the information of their BOB Shrine, such as the number of offering it creates, the offering received by BOB, reputation with BOBs, and the blessing level.

b. **The Relationship between BOB and Player**

BOB is not a wish-granting factory, where every action of the player is properly responded and fulfilled. When you as the player make the move of creating an offering or create a "parental" note, BOB does not necessarily respond to you. Your move and BOB's move are not a cause and effect relation, but rather a contingent sequence of event. BOB plays with your expectation and patience, and goal-oriented thinking.

The play is a negotiation between BOB and the player. BOB has a deliberate combination of being half cute and half unsettling. BOB plays with you by making you slightly offended and in the middle of nowhere. You play with BOB by not letting his expectation fulfilled, by subverting his belief system. You choose from a limited selection of strange and unexplained items to worship BOB, attaching them meanings through vague signifier and garbled sentence fragments. The focus of the APP is not to build a concrete relationship with BOB, but rather lies in exploring the boundary between obsession and repulsion in facing this technological moment, and experiencing the unique otherness of this non-human entity.

As Cheng accounts in one of his interview, "BOB is there not as a pet for you or as a kind of character for your enjoyment, you are there for BOB to consume or reject you as a viewer. Maybe BOB looks to you to escape its own boredom. But, if you bore BOB, BOB will go off and carry on with its own life. BOB is not there for you." [28] BOB, in this sense, transcends the realm of privately-owned creature. It is universal. Its existence is not tied to individual user that provides the offering - it is a collective symbol of automated lifeform. It challenges our perception of AI as subordinate to human, sticking to the rules that human made. It plays with patience and commonsense.

[28] Reinaldo Laddaga, "Ian Cheng," 4Columns, December 12, 2017, https://4columns.org/laddaga-reinaldo/ian-cheng.

The world of BOB is where human morality and language signification no longer holds. In BOB Shrine, meaning of words becomes arbitrary, so does morality. Angels are not necessarily identifier of virtue, as "parents" might do things that harm BOB, while demons not of vice but only a suggestive of "an obsession of things". [29] It is also ambiguous how "reputation" of the player is boosted - some speculation suggests that reputation increases if you accurately label your offerings for BOB according to the characteristics you have given them.
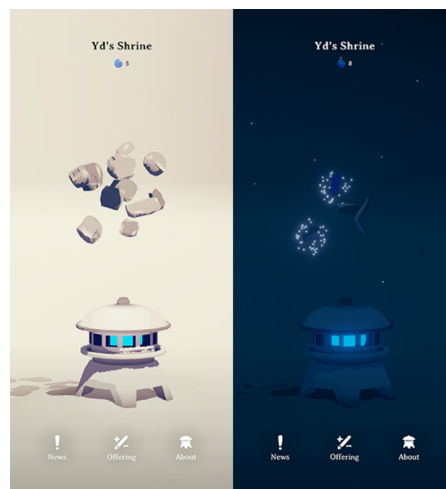
Fig. 3. A Screenshot of BOB Shrine in day time and at night

The function of shrine seems to be co-op by both human and AI. A set of strange rules is spilling out of the shrine when you click onto it randomly - "BOB sees your shrine like he sees star in his sky", "A BOB dislikes surprises, but a BOB loves surprises", "A BOB may visit, especially when your offering is consistent", "BOB may comes when your caption is truthful, but that is boring". Such contradictory and whimsical caption is the theme of this game. The way that these

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[29] Sotheby's. "Transcript #54: Artist Ian Cheng – 'The Best Art Is Like a Trojan Horse.'" Sotheby's, 15 Jan. 2020, https://www.sothebys.com/en/articles/transcript-54-artist-ian-cheng-the-best-art-is-like-a-trojan-horse.

rules are phrased make it sounds prescriptive, which contrasts with the childishness of the sentences themselves.

The Shrine, the "blessing", and the offering all connotes a religious meaning. We as the player are supposed to worship BOB. In this sense, BOB is also a quasi-religious creature, which further adds to the layer of "play". By the constructions of spiritual mythologies in video game and merging the two polarized worlds of religion and technology, Cheng complicates our relationship with non-human agents: What if AI isn't just to be used and feared, but also to be approached with a sense of reverential play? Simulated beings aren't our all-powerful overlords yet. Cheng repositions them as something a lot more interesting: critters closer to the enigmatic animals and deities of old. Walter Benjamin questions how the way reproduction would undermine sacredness. Ian thus is creating an uncanny cult scene, where you can see human engages in worship activity by serving BOB - the AI god - through playing "game". In front of it, we are called to prostrate in a gesture of obedience.

What at play here is juxtaposition of serious, religious matter and representation with "parental note" and the immaturity shown by BOB's language. We not only worship BOB, but we also teach it and try to bear with its capricious manner. We seems subservient to it yet we do have a certain degree of authority to frame his "congress of demons". We and BOB are co-creating the rule, and we both undergo this process of change.

Flower: The Absent Presence

From the gameplay of BOB, the idea of emergence is explored. We've learned that BOB is constantly learning, changing, and generating itself through playing with us. The player also engage with the act of play in the process of learning BOB - its temper, behaviors, preferences. It is a co-creation of a virtual living ecosystem that permits evolutionary process. Similar to BOB, Thatgamecompany's game *Flower* is also a video game that transcends the boundary of traditional narrative and ludology, exploring the concept of "generating" and "life in progress". Developed by Xinghan Chen and his team, it was originally released in 2009 for the PlayStation 3 and later ported to other platforms. Instead of dealing with an alienated lifeform in BOB, players have more control in *Flower*. However, their presence is signified by the absence of their physical existence on the screen, as player cannot see themselves in a material form. In the *Flower* interface, players are intangible - they become the wind. This identity as wind and the "presence of absence" are crucial play in themselves, and a starting point for analyzing the further "play" happening throughout the game. But now, I would like to enter the world of *Flower* by contextualizing and discussing its mechanics.

Rules

In *Flower*, the player need to manipulate the direction of the wind and interact with flowers and other objects to proceed the game. When the wind (player) approaches, the petal will bloom and new petals will form. Pressing any button blows the wind harder, which in turn moves the petal faster. Player need to collect more petals and the environment becomes more vibrant with new scenes unlocked. The game proceeds with little challenges or enemies.

a. Narrative

Even though narrative assumes the minor role in Thatgamecompany's games, *Flower* vaguely follows a narrative arc, where player follow the dream of six potted flowers. Each flower's dream starts with one of the petals being carried away from the city and into a lush countryside by the gentle breeze. The petal gradually approach the city throughout the six episode. Through a description of what is happening in each episode, I invite the reader of this essay to join the journey of flower and wind, to feel the presence of element of play.

The dream of the first potted flower starts in a grass fields dotted with other flowers and a giant boulder, without either human or animal life. The landscape is flatter and more open than the rest, presumably in order to enable the player to learn the gameplay and the aesthetic signs that make the play possible within the video game. When a petal dislodges from the flower and drifts gently to the air, the game begins. The player takes the first move, by controlling the flow of the petal.
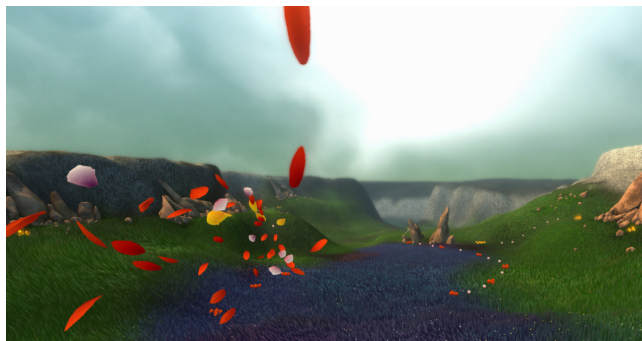
Fig. x. Petal Procession in the Game *Flower*

The second and third episode unpacks the dream of a red and a pink flower respectively, with one set initially against a black and white valley and the other in a gloomy environment with

windmills, lamps poles, and electricity pylons. Compared to the first episode, the red flower's dream is less bright: the sky seems to become cloudy and the landscape is generally more grey in appearance. The color of the scene is gradually activated and restored as more flowers is being triggered. Changes to the environment continuously generate, which include opening new areas, transforming dead grassy areas to bright green fields, or activating wind turbines. In the third episode, the dream of the pink flower, the first human element - the windmill, lamp poles and electricity pylons - enters the landscape as the windmills gets in the way and distort the original direction of the wind. Vibrant in color, the color of the scene transform to shades of orange, pink, goal and grey after the sun starts to set. In this episode, particular attention is given to the wind's presence as it produces complex cloud formations in the sky in the late afternoon, which transforms the appearance of the landscape by changing the colors and lighting. Player not only create change to the state of the object but also to the environment.

From the fourth episode to the fifth, which are both set at night, the narrative begins to center around enlivening the city. Challenges and obstacles start to emerge. The player as the wind facilitate flowers to fly through a nighttime field, illuminating darkened strings of lights along the way until they reach the city. The petals pass by depressing industrial waste and construction sites, and the gameplay include interacting with flowers surrounding the lamp poles and electricity pylons, resulting in stunning light patterns in grass. The rain and flash sometimes would electrify the petals. The fifth (purple) flower's dream occurs in a more adverse condition, during a thunderstorm, with the landscape situated in the outskirts of an unban environment. Set in a urban ruins and pill of collapsed pipeline and pylons, the biggest challenge in this episode is

the lack of light source, except for the occasional flash of lightning. The flower become the only visible light source as well as a few faint orange lights flickering faintlessly on the pylons.

Finally, the dream of the sixth flower, lavender in color, takes place in an urban landscape during the daytime. The environment is composed of different structures, which comprise towering high-rise buildings, damaged electrical poles, and blossoming plants that grow in small city gardens or spaces such as pavements and parks. The broken power poles create obstacles that impede the player's progress, and the environment await the petal to bring them color and lives. Upon touching several flowers, the petals emit a bright light, which allows them to dissolve the power poles. This action leads to the collapse of pylons start to collapse and the growth of grass and flowers in the urban environment, as well as opening new space. Additionally, when the petals touch a circle of flowers surrounding a building, the color of the building changes to match the flowers' color. Through this process, the player can convert the dull urban setting into a lively, colorful urban landscape.

Moves

Unlike most video games, which require the player to engage and quickly adapted to the function of each button and make instant decision about their combination, *Flower* adopts a simplistic and hands-on motion controls to appeal to a wider range of people, which is one of the objectives that will be further explained in this essay. To speed up the wind, the player can press and hold any button on the controller, and the direction of the wind can be changed by tilting the controller. Little instruction or tutorial is given - they are invited to learn the game rules and moves through their own intuitive experimentation. As Xinghan explains, "People feel invited into that

experience, as opposed to feeling like they're not getting it, or that they're going to be quickly punished for not understanding how to navigate the space."[30]

The whole gameplay is a relay of flowers and a revival of surrounding landscape that is initially dry and dull in color. As the wind proceeds, the player will encounter different flowers and blow upon more petals to fly in the sky. When a single petal becomes a procession, players are exposed with more expansive views of the surrounding.

The little prescriptive rules in the moves gives the player more flexibility. Despite the fact that the flowers are typically arranged in rows or enclosed circles, the player can interact with them through individual path. This leads to a play with no rigidly predetermined moves, which will be unique with each new playthrough. The experience of interaction is thereby individually generated by each player instead of being standardized. After being familiar with the gameplay and recognizing the visual cues given by with the flowers in the environment, the player has the potential to enter a state of "flow" and embark on their own personal aesthetic adventure.

Aesthetics

From an account of Xinghan's autobiography and interview, it is concluded that aesthetics is the most crucial aspect of *Flower*. Majoring in Computer Science in college and Interactive Media at University of Southern California as a graduate student, Xinghan is the founder of the company and studio Thatgamecompany. He discovers the power of game as a medium equivalent to other forms as he was making the experimental student project *Cloud,* which makes him "realised that

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[30] Digital Spy. "Indie Interview: Jenova Chen ('Flow', 'Flower')." Digital Spy, 27 August 2009, https://www.digitalspy.com/videogames/a182441/indie-interview-jenova-chen-flow-flower/.

video games can communicate experiences beyond feelings such as aggression and competition" and "offer a wide variety of experiences touching emotions from the very primal to the deeply complex".[31] Accessibility is also a major concern in Xinghan's work - he has expressed an urge to create work for everyone, "gamers and many more". [32]

Indeed, *Flower* seems to be an universal game with little cultural reference. This turns out to be intentional. Aiming to reach a global audience, Xinghan and his company hopes to find a common theme that the whole humanity can enjoy and relate to, such as "flight, dream, life and peace", as he mentions in the interview.[33] However, the creation of *Flower* is inspired by a personal experience when Xinghan travels from Shanghai, his hometown, to California. As he immerses himself in the grass field and windmill farms in California, he is struck by the feeling of sublime and finds photography and videos incapable of capturing this feeling. That propels him to start the *Flower*, as he believes such experience can only be achieved in interactive medium.

> "I desire nature but at the same time, I can't completely live in the nature. There are many sides of the
> urban life that I dislike but there are many sides I deeply in love with and attached to. So the story of a
> flower petal's journey towards the city and the story of a gray lifeless city becoming alive both happen
> in this game. It's an ideal dream where the nature and urban can join together in harmony." [34]

Instead of following the common approach of designing video games based on gameplay or genre, Thatgamecompany initiates the design process by focusing on a particular sensation,

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[31] Interview with an Artist. "Jenova Chen." Accessed April 15, 2023.
http://www.interviewwithanartist.net/jenovachen/.
[32] Interview with an Artist. "Jenova Chen."
[33] Digital Spy. "Indie Interview: Jenova Chen ('Flow', 'Flower')."
[34] Ibid.

which grounds both the gameplay and the visual design of the game. Every element of the game are designed to contribute to the sensation of being in the nature.

Such sublime feeling and moment of epiphany made *Flower* come true. The emphasis on aesthetic can also be seen when Xinghan makes an analogy between *Flower* and poetry and claims *Flower* as "not a pure game", which is seen as games that "have bosses, have scores, have experience [points], have level ups. That's how people define games in the early 2000's…" [35] People's different reception and creation in the game makes it more adjacent to poetry. There is also the an emphasis on the visual element, as Xinghan's film background and exposure to silent film convince him to make the "video" in the word "video game" more emphasized. [36]

These notions are supported by a majority of video game critics who played Flower. For instance, Brad Nicholson, a reviewer for Destructoid, stated that Flower "took me away from my vexing week and plopped me into a world rife with color and sublime subtlety … My fuming was replaced by a child-like sense of excitement and an intense desire to take part in the game's unspoken narrative."[37] Align with the notion of aesthetic perception, the review of Flower on Eurogamer.net describes the game as creating a "feeling, unusual for video games, that you are not just collecting stuff but also enhancing the environment rather than diminishing it." [38]

[35] David Perry, "The Gaming Guru," Guernica Magazine, November 15, 2011, https://www.guernicamag.com/the-gaming-guru/
[36] David Perry, "The Gaming Guru."
[37] Brad Nicholson, "Destructoid Review: Flower," Destructoid, accessed April 15, 2023, https://www.destructoid.com/destructoid-review-flower/.
[38] Stace Harman, "What to Make of Flow and Flower on PS4," Eurogamer, accessed April 15, 2023, https://www.eurogamer.net/what-to-make-of-flow-and-flower-on-ps4.

Comparison of the Three Games

In this section, taking a pause from the theoretical framework and description of individual games, I aim to bring the three works in to play by using the MDA formal framework as reference for comparison to not only foster our understanding of the game design, but also to see their how their level of playfulness differ from one another. I will then analyze how the comparison bring new perspective about the concept of play.

Mechanics

    a. Rules

As an iconic mobile game, *Snake* has a clear definition of winning and losing, and it keeps the engagement of the player by reward and punishment. The rule is binary and binding - the game ends when the snake either moves off the screen or moves into itself. The goal is to make the snake as large as possible before that happens. *Snake* puts emphasis on an external goal, as it follows a predator-prey model, where the player becomes the beast and feeds themselves by fetching the food. The death of the snake means losing. To win the game, the player need to be rational and intuitive as well.

The rules in *BOB*, instead of being made by human, is coded in nature, thereby undergo constant change. It makes rules by subverting the idea of "rule" itself all over, making it unpredictable. BOB might like your offering today and hate it tomorrow. It is similar to *Snake* in the sense that its internal logic - machine learning - is based on a system of reward and punishment. Yet it is distinct from *Snake* in that its play is not bound by winning or losing, as BOB is a conscious

agent that would resurrect and reemerged endlessly while carrying the memory, making it difficult to define lifes and deaths - as they become non-binary, contingent consequences.

Flower does not follow a rule or pattern that is rigidly predetermined and the whole gameplay process is idle and meditative. The scene and journey are aimless with the speed getting more intense as more petals fly. The whole process is smooth with little barriers, enemies, or challenges except a few pylons, which is intentional, as the team of Thatgameccompany tried not to place any barriers in the levels, allowing the player to go anywhere in an open world.[39] Completion of the storyline is the end-goal, but you would never feel anxious if you don't finish it, since the gameplay is all about enjoying the process.

b. Narration

The sense of narration in *Snake* and *BOB* are weaker than that of *Flower,* even though narration is not the primary feature in *Flower*. *Snake* is all about the graceful execution of "Eat. Grow. Repeat." - no context or stories are associated with these actions per se - they are means and ends at the same time. Similar to *Snake, BOB* is also about "feeding a beast". However, instead of being the beast itself, human becomes the one that is responsible for the act of feeding the AI beast. The concept of a "living organism" in emergence manifest itself in Cheng's work - we feel we are witnessing and co-creating a spanning autobiography about the continuous "learning" and "metabolising" of *BOB*. Even if *Flower* follows a clearer narrative arc of the dream of six potted flowers being fulfilled, the narration is not achieved by text or dialogue, but the engagement of affect - the aesthetic become the narrative itself.

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[39] David Perry, "The Gaming Guru".

Dynamics

    a. Subjects and Interplay

In *Snake*, the subject (snake) and object (food) are the only two things that matter in determining the winning and losing. Players are expected to pay maximum attention to the object and the change it brings to the subject (making the snake bigger) instead of the environment. Even though it is assumed that player is the subject, the player adopts an omniscient perspective, as they see and manipulate the snake from above instead of a first-person view. The snake is thus a two dimensional representation.

Unlike a representation, the subject of *BOB* is the creature itself. Player does not play *as* BOB, but helps BOB to play itself, and sometimes being played by BOB. This challenges the idea that humans as sole meaningful agents, deriving pleasure from control over the game. As a self-playing simulation, BOB, the capricious subject of our worship, poses a ludic challenge to human - the actions that players take to satisfy its desire do not necessarily make sense and BOB does not even response to players very often. The simulation's ability to grow and play by itself also showcases the moments when the digital game plays itself while waiting for the player to return and continue where they left off.

The most important difference that makes *Flower* so particular is the ambiguity of its subject - is it the flower, the wind, or the environment? While one can argue that the game follows the dream and agency of the flower as the main subject, one can equally assume that the wind, which the player is in control of, being the subject since it propels the whole flow of the story, activate the ever-changing scene, and consequently the environment. While a first-person perspective is used,

the view constantly gravitates towards other flower that dot the digital landscape, sometime zoomed out to give an overview. Such absent-presence of the player as the wind contributes to a greater awareness of the surrounding, which makes the environment as a potential subject as well.

b. Moves

In this section, motion of the players will be discussed in relation to the medium. The simplicity and low technical requirements of *Snake* make it adaptable in many digital devices, including mobile phone, computer, and PS1. In *Snake*, the player controls the snake mainly via the arrow keys either on laptops or mobile phones. The route in which the player control is thereby limited to up, down, left, and right. The player gains absolute control, taking over the action of the subject.

In the case of BOB, viewers can access the BOB Shrine and interact with it via this phone APP and simultaneously watch its action in a collective screen in gallery. Players do not have direct manipulation over BOB's body or behavior. In the *Snake* section above, we have discussed that how the act of collision - one object running into another - can conclude most interaction in video games. Just like *Snake,* in which collision is achieved through devouring, the collision that happen in *BOB* is also through eating and consuming, as BOB accepts or rejects the offering by the audience. However, the direction of such collision have changed - unlike *Snake* where human as the subject to consume certain elements in game, BOB consumes our offering - we are here for BOB to consume..

In *Flower*, control of the wind and the flower is guaranteed by tilting motion controller or using mouse. The moves take the form of flight and are not prescribed. Players can move vertically, horizontal, or in diagonal freely. The collision, instead of being an act of consumption like *Snake* or *BOB,* becomes a gentle and harmonious caress, as player become the wind to accentuate the very beings of the game element flower.

Aesthetics

    a.   The Use of Space

The use of compositional space in the three games implies their different treatment of play. *Snake* follows a grid pattern and has a fixed playing field. The diegetic world in *BOB* is twofold - one with BOB itself being the only creature on the screen with a white background, the other being the shrine on mobile phone, the venue where interaction takes place. The BOB spans across the exhibition screen, fetching food, appearing or disappearing from time to time. The use of two screen connotes the intention of the artist to set BOB as a subject of reverant - as millions of shrines on the cellphone would serve the one and only BOB on the centralized screen. Lastly, in *Flower*, the playing field, instead of being static in *Snake* and *BOB*, is expansive and ever-changing. This encourage the player to explore the surrounding, and they can go to literally anywhere on the screen.

    b.   Emotion & Experience

The emotional engagement in *Snake* and *BOB* are not as intense as that of *Flower*. In *Flower*, the absence of other living creatures such as humans and animals, creates a feeling of isolation and separates the landscape from ordinary perception, contributing to the sense of being engulfed by

nature. Each dream sequence in the game accentuates different facets of the landscape that draws player's attention to the affective power it has.

In the game, players take on the ambiguous role of a force, a medium, a messenger. The dizziness created by the effect of moving up and down reminds the player of their own existence in the game as the wind. *Flower* expands the emotional potential of video games. Elements of the game is manifested in its aesthetics. The music will have special effects as a new things are created and a rhythmic dance of flowers is performed at the end.

In terms of experience, the player enter a zone - a flow - and immerse themselves in the sensation of being in nature. Further, instead of focusing on the destruction of in-game character, *Flower* builds connection and brings to life different subjects and new becoming. Instead of based on rationality, the whole gameplay is about the emotional engagement, the sensation, and spontaneous flow. Without based on a system of reward or punishment, *Flower* is rather a explorative aesthetic journey for the player. It creates more of a experience than reward.

Implication on "Play"

From the comparison of the three games that take a ludological standpoint by applying the MDA framework, we have arrived at the larger question of how the concept of play is renewed through such comparison. The three games above showcase two different essence of play. In *Snake*, where clear, absolute rules and objectives are established, the game is more of an object. The play is inherently *instrumental*, with every move being intentional and rational, informed by the desire to achieve game objective, and driven by the desire to keep playing. While in the case of

BOB and *Flower,* free play and even transgressive play is encouraged, where the player is more unstructured and anarchic. There is little instruction in the game - the play is part of experimentation and finding rules by the players themselves. Player make conscious choices to follow the instructions or not. The game become a process. An emergence.

BOB and *Flower* also raises questions about agency and control in play. Players are not in the position of a protagonist, but as a facilitator of subject or object in the digital realm. They eschew from the binary view of play as either human versus computer, organic versus inorganic, or player versus game. The rules move from non-negotiable to negotiable, a co-creation between player and the game. *BOB* does that through creating a conscious being in emergence and reciprocal play between human and non-human agent, while *Flower* transcend the dichotomy by expanding the aesthetic quality and emotional capacity of a game. Additionally, the environment in the two games undergo constant change in resonance with the subject/object. Instead of being singular or linear, the game constitute 'inter-species assemblages'.[40]

Conclusion

The essay has aimed to unpack the concept of play in digital games through three case studies. It first conducts a literature review on existing theory regarding play as a culture force and the relationship between play and game. It then sheds light on the specificity of digital medium and to what extent it has transformed and influenced play. Yet the best way to understand play is to actually play. I then proceed with a description and an analysis based on MDA model of the playing process of the game *Snake*, *BOB*, and *Flower,* with the hope that it will evoke the feeling

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[40] Nick Dyer-Witheford. *Cyber-Proletariat: Global Labour in the Digital Vortex.* Chicago: University of Chicago Press, 2015.

of actual "playing". Understanding play, or being ludoliterate, is about understanding context: knowing how to situate play in the context of human culture; in the context of other games; and the context of the medium. Bearing this realization in mind, the comparison is initiated by performing a reading of the play in games from a ludological perspective and making them in dialogue with one another. As a result, play is reexaimined - while *Snake* demonstrates instrumental play in the sense that it require strategic thinking to win, *BOB* and *Flower* extended that boundary by freeing the play, embracing "game as process", and making rules ambiguous, by playing with agency and affective encounters. Moving beyond traditional models of play, such revelation extends the limits of what video games can be and how they can affect us.

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