What Can Play:
The Potential of Non-Human Players

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Abstract: What can post-humanism teach us about game design? This paper questions the line drawn between what species and matter can play and what cannot play. Combining works by scholars of feminist post-humanism, new materialism, and game studies, primarily Jane Bennett, Donna Haraway, and T.L. Taylor, it proposes that play is a form of communication not only between animals and humans but also between plants and cyborgs, insects and atoms. Beginning by interrogating the borders of the human that have been built on ableist and racist discourses, this paper moves towards considering the human as interspecies and outlines that we must reassess the ways in which a multiplicity of species experience the intra-action that constitutes "play." With a brief look into the history of defining play in both game studies and animal studies and their small crossover, play is reconfigured into an outlook or an approach rather than a set of rules. It is a drive that all species and matter experience, including insects, bacteria, and metal. This moves us beyond considering solely the materiality of our bodies at play by reconsidering the objects of play as our co-players, as matter with agential force. I argue that we need to reconsider the videogame player as an interspecies being, an assemblage of human and non-human bodies. The de-anthropocentricization of the popular notions of player agency allows for a multiplicity of reactions not created in the linear cause and effect course, the belief in ultimate player control within procedural systems, which dominates game studies. This paper concludes by submitting possibilities of what considering the non-human through a feminist and anti-ableist lens can offer game designers, players, and critics, such as considering the material platform's impact on play, reforming the individualistic agency of players, and designing for the Other(s).

Under late-capitalism, play must be productive. There is a push for games and play scholars to prove that play is useful to our lives under neoliberalism. If it does not benefit us in the workplace, then there is no point. We are left to write papers and attend conferences about how play is the key to social development, to a better workforce, to changing the world in a positive way. So too for animals; if play is not reinforcing social dynamics, or preparation for battle, then all the scientists, hard and soft, are mystified. In "What's the Point If We Can't Have Fun?" David Graeber writes in *The Baffler*, "Why do animals play? Well, why shouldn't they? The real questions, according to Graeber, are: Why does the

existence of action carried out for the sheer pleasure of acting, the exertion of powers for the sheer pleasure of exerting them, strike us as mysterious? What does it tell us about ourselves that we instinctively assume that it is? In game studies, animals have been used to naturalize our play. In his beginning chapter of *Homo Ludens*, Johan Huizinga writes:

> Play is older than culture, for culture, however inadequately defined, always presupposes human society, and animals have not waited for man to teach them their playing. We can safely assert, even, that human civilization has added no essential feature to the general idea of play. Animals play just like men. We have only to watch young dogs to see that all the essentials of human play are present in their merry gambols. (1)

For Huizinga, there is a "primordial" quality of play as demonstrated by the "simple" playing of animals (3). Mary Flanagan writes that "[p]lay is recognized as one of the most fundamental aspects of the human condition" (4). Katie Salen and Eric Zimmerman state that "communication theorists tell us that play is a form of metacommunication far preceding language in evolution because it is also found in animals" (302). Here, any form of animal communication is seen as lesser, primitive, and less evolved than ways in which humans communicate. Non-human species are most often cited within game studies to allude to the desired ubiquity and normality of play. The act of viewing particular animal behaviour and applying it to humans is a common problematic hazard. As trans-animal scholar Myra J. Hird points out, animal morphology and behaviour are cited only to confirm our assumptions and desired beliefs about nature. People look for things they want or expect to see and then use specific animals to give a basis for the construction of the "natural"—most often, patriarchal social hierarchies, heterosexuality, able-bodiedness and able-mindedness, and white supremacy. In game studies, animals are largely used as "proof" that play is fundamental to the human experience, a part of nature. This line of thinking

reifies the nature/culture dichotomy, situating animals as solely in the realm of nature. Yet as Donna Haraway argues, there can be no true distinction between the natural and the cultural, instead favouring the term "naturecultures" (*Companion Species...* 3). As much as play and game scholars need to incorporate animals and different species into our critical thinking about play, we cannot witness their behaviours and apply them directly to humans, and we cannot look at the non-human as natural and culture-free. Instead of spending this essay critiquing game studies for its lack, I will turn to different disciplines and their gestures to play and playfulness in order to discover what they have to offer game criticism and design. I will primarily cite scholars working in affect, science studies, disability studies, the post-human and non-human, alongside game scholars such as Hannah Wirman, Mary Flanagan, and T.L. Taylor who have produced research inspired by these fields. This is because I want to explore something different, away from naturalizing discourses and away from proving the worth of play that takes up so much of game studies. I am not suggesting that this work has absolutely no use or benefit, but it is emblematic of a larger trend in the field of not interrogating anthropocentrism and the de-politicization of play. In this paper, I wish to step towards different possibilities of what it means to play, which species humans allow to play, and what game designers and scholars can take away from considering the non-human.

Fetch is the most obvious game we play with animals. A human throws a ball, and the dog retrieves it, returning it to the human for another throw. Dogs are what Haraway calls a "companion species," species that coexist ("Training" 454); she writes extensively on playing with her dog, Cayenne: "Play is the something that is neither one nor two, which brings us into the open where purposes and functions are given a rest" (458). Games scholar Hanna Wirman argues that play can bring species closer together, describing play as "an equalizing plane that can help cross-species communication [...]. In play, both

parties forget their power status and get lost in play" (n.p.). But how do different species communicate that they are playing in a way that is intelligible to the other? Consent is one of the most important factors, if not the most important, distinguishing what is play from what is not. Without voluntary action and consent, play can become the receiving end of cruelty, transforming us into play objects rather than players. How do humans and other species give consent to play? In fetch, for example, a dog may pick up the ball and give it to the human, or a human might wave the ball in the dog's face to see if they are interested. It is not always so easy. Without a play object to bring out, like a ball or yarn, how do we communicate consent, boundaries, and rules without verbal language? Wirman calls this sort of communication "meta-communication" (n.p.). Animals have play-initiating signals that are species-specific and are not straightforward to adopt. It may be showing docility like presenting their stomach and retracting claws. Facial expressions communicate playfulness too. Usually this meta-communication is seen as taking place before play can begin, a sort of sitting around the table reading through the rulebook, but Wirman argues that it is necessary throughout the process of play. There needs to be a continuous re-evaluation of the rules and limits, of what is accepted – not a one-off contract. Continual consent is an integral part of play itself. Since companion species by definition spend time around humans and build communication, it is easy to understand how it is harder to play with other species that are not considered companion species, even when one or both of the parties have the intent to play. We play with animals without them necessarily playing with us. Polo, for example, is a sport played by humans on top of horses as vehicles. I am no polo expert, but I doubt that many people consider the horses to be playing. But what happens if we can afford some agency to the horses? What if this is the only time of the day they are allowed out of their stalls, and they are playing by following

the rules (as many game scholars hold as the utmost importance to games), which are to obey the human on top of it as much as possible?

Humans also make animals play by setting human-made technology in front of them, participating in the play themselves as a viewer of the performance. There are many mobile apps for cats to catch faux-fish. Wirman ran a study observing orangutans playing with iPads and found that the physical presence of the iPad itself was the play object more than the digital game. She also noted that the iPad became a tool for play between the humans running the study and the orangutans (n.p.).

In the paragraphs above, I assumed that dogs, cats, orangutans can play and hypothesized that horses can play. Below is a list of species. I encourage you to highlight or draw a checkmark beside the species that you think are capable of play:

Human infants

Cats

Hamsters

Apes

Tigers

Birds

Crocodiles

Bats

Goldfish

Ants

Lobsters

Oysters

Mushrooms

Was there a clear point between species in which you imagine can play and cannot play?

Maybe all animals can play but not insects? What are the qualities that a species needs in order to play? How do we know humans have these qualities? When I asked my undergraduate class these questions, the most common responses were consciousness, sense of self, and agency. The species must be able to understand itself in relation to the world. There has to be a sense of individuality. These answers made sense coming from burgeoning game scholars and designers because play is often predicated on being able to choose: choose to participate, choose different actions and different ways of influencing the world. These qualities need to be unpacked in relation to the boundaries of the human.

"Human" is not a distinct and unchanging category. The definition of personhood and humanness shift over time according to whom the structuring powers consider deserving of human status. Mental capacity is often a prerequisite for being considered human. "Rational thought" and "complex thinking" are common differentiations between animals and humans, but that leaves many people with mental disorders in a liminal space. As affect theorist Jasbir Puar points out, the borders of the human rely on ableist and racist discourses (156). Those who cannot communicate in what is thought to be the central human mode of communication (linear verbal language) do not meet the qualifications. She argues that "the inability to 'communicate' functions as the single determinant of mental or cognitive impairment (thereby regulating the human/animal distinction), thus destabilizing the centrality of the human capacity for thought and cognition" (156). There are people who cannot speak verbally but communicate in other forms like sign language, and there are some who do not have motor function or verbal capacity, commonly and problematically referred to as "vegetables." Yet we know other species communicate, sometimes verbally like whales, dolphins, dogs, but also non-

verbally like ants, plants, and whole forests. We humans, especially us academic humans, have disregarded non-verbal, non-linear communication.

In her book, *Beasts of Burden: Animal and Disability Liberation*, artist and disability scholar Sunaura Taylor "crips" animal ethics, seeing affinities between animal suffering and oppression of people with disabilities. The distinctions between able bodies and minds and disabled bodies and minds are dependent on the constructed distinctions between the human and the non-human, both in terms of language and able-mindedness but also in terms of bodies and their capabilities:

> Ableism allows us to view human abilities as unquestionably superior to animal abilities; it propels our assumptions that our own human movements, thought processes, and ways of being are always not only more sophisticated than animals' but in fact give us value... Certain abilities and capacities are central to definitions of the human; they are thought to mark the boundaries between humanity and the rest of the animal world. In this way ableism gives shape to what and who we think of as human versus animal. (59)

This division informs what lives are considered worth living and worth providing care for. Taylor writes that "ableist values are central to animal industries, where the dependency, vulnerability, and presumed lack of emotional awareness or intellectual capacity of animals creates the groundwork for a system that makes billions of dollars in profit off of animal lives" (59). This system of exploitation includes the ways humans treat non-human species beyond animals, through earth-damaging practices such as mining and fracking.

Taylor aims to "make clear that the animal, and, consequently, the human, are complicated categories, socially determined rather than solely biological" (19). The divisions of human and non-human in the biological, too, is socially constructed. Vitalist and post-human scholars argue it is actually so much more than our DNA that makes us human. Our bodies are three to five pounds of

bacteria. There are roughly the same number of bacteria in our bodies are as there are human cells (Saey n.p.). This bacteria, the microbiome in particular, helps determine our digestion, our mood, how we act, as well as the amount of serotonin sent to our brain. Things that we consciously put into our body or that leak into our body from our environment, like salts and elements, affect our personality. Lithium, for example, is an element that people take as a medication for bipolar disorder. It can cause intense difference in not only the way we act and feel but who we fundamentally consider ourselves to be. On a larger scale, different levels of lithium in water and in food affect the moods of whole towns (Fels n.p.).

In actuality, human beings are interspecies beings. We are multiple. Anna Tsing states that "species interdependence is a well-known fact—except when it comes to humans":

> Human exceptionalism blinds us. Science has inherited stories about human mastery from the great monotheistic religions. These stories fuel assumptions about human autonomy, and they direct questions to the human control of nature, on the one hand, or human impact on nature, on the other, rather than to species interdependence. (Tsing n.p.)

This is what Haraway means when she says, "becoming with"—we are not separate, we only exist with each other. So then, we, as multiples, are always playing as multiples. The bacteria is playing when we are playing because the bacteria is us and we could not play without it. The amount of elements in our bodies helps determine how we feel about playing.

What Can Play?

The following section of this essay interrogates different categories of non-human and their possibilities of play. It takes up a position of speculative thought, imagining the potentiality of the more-than-human against the strict

norms that regulate the ways in which we are allowed to think beyond anthropocentricism. Although this paper utilizes feminist science studies and science and technology studies, it is more in line with new materialism, affect theory, and post-human, non-human, and more-than-human inquiry. It is a part of the current art movement exploring non-human relationships between animals, bacteria, gravity, natural frequencies, and more. This is a political movement; to consider the environment and the non-humans as co-creators in our art and research is a move towards de-anthropocentricism and signaling the need to consider the ways we are relating to the non-human species and the environment—primarily destroying it in the service of capitalism. The speculative liberties I take are a creative exercise to re-imagine the rules and assumptions ingrained in common anthropocentricism in order to move towards new, more considerate human-to-non-human relations.

I pose these questions not to find an absolute answer – as if such a thing exists – but to open up potentials for new, unanticipated answers and creative speculation. Like Alison Kafer writes in *Feminist Queer Crip*, "the desire for clear answers, free of contradiction and inconsistency, is understandable, but I want to suggest that accessible futures require such ambiguities" (19). For the purposes of this paper, I would add that this is necessary for imagining experiences beyond the non-human that surely are not yet comprehensible to us. Each section takes a non-human species and asks, *can it play?*

Can Cyborgs Play?

Cyborgs are built on interspecies multiplicity. Donna Haraway wrote *A Cyborg Manifesto* in 1984 which has since gone on to be incredibly generative in many fields. The figure of the cyborg guides people to not be "afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints" (154). Rosi Braidotti theorizes the *posthuman* as becoming-machine, describing the enmeshing of "the organic and the inorganic,

the born and the manufactured, flesh and metal, electronic circuits and organic nervous systems" (89). Our bodies are biomediated, argues Patricia Clough (2). Some, like Haraway, make the case we are already cyborg. People wear glasses, technology that augments our "natural" bodies. We are very attached, figuratively but almost literally, to our phones. They are on our bodies at all times, and we even sleep with them. Videogame controllers can be seen as a way of cyborging ourselves. In this sense, the technologically mediated portion of ourselves actually enables further play. The cyborg is not simply a human playing with technology, or humans interacting with technology, but it is − using Karen Barad's terminology − an intra-action between the materials.

Ants?

The *American Journal of Play* interviewed entomologist Mark W. Moffett, titling it "Why Don't Ants Play?":

> AJP: What would ant behaviour need to look like to qualify as play?

> Moffett: Perhaps the best we might do would be to find an ant increasing her skill set through practice. This is poorly investigated but seems plausible. For example, a leafcutter ant might grow increasingly skilled at slicing through a particular kind of tree foliage and come to prefer collecting more foliage of that tree species. Some ant workers are known to return day after day to a particular area to forage and get to know the food there very well, which may make them more proficient hunters. But such activities seem too functional to be called play, and it would certainly be hard to tell when an ant is having a good time at doing them. Ants always look so serious about everything, but who knows? (n.p.)

Moffett relies on play as a productive force, serving a role that betters the organism − but that betterment has a limit else it becomes labour. We see ants as the ultimate labourer. Graeber argues that humans have constructed a

hierarchy of frivolous creatures such as dolphins and puppies, but in fact, all animals play including "frogs, minnows, salamanders, fiddler crabs, and yes, even ants—which not only engage in frivolous activities as individuals, but also have been observed since the nineteenth century to arrange mock-wars, apparently just for the fun of it" (n.p.). In the interview with Moffett, he inadvertently offers a mode of play that ants are observed to take part in: mistakes. He says:

> If you have watched ants long enough, you've probably seen one clearly going the wrong way. But as long as enough individuals are doing roughly the right thing to complete the job, the few who make a bad choice might discover things everyone else misses. Mistakes become a form of creativity, as they do in human play. Though calling a dumb ant playful would be pushing my luck! (n.p.)

Mistakes and failure have often been cited as a reason why play is an especially functional learning tool and medium for social change. Colleen Macklin writes:

> When we fail in a game, it has little real consequence in the world outside the game. This is essential to our enjoyment of a game. And another interesting thing happens with failure: when we fail we learn something new about the game and ourselves … Games provide us with a model world in which iterative failure and eventual success becomes the only way to progress and learn how its systems work. And failure is a way toward new patterns of thinking. Games engage us as active participants in a system, and teach us how the system works through the feedback of failure. This is one reason why games can be so useful in helping us understand and reflect on the real world. They provide a context for experimenting with strategies and attempting to apprehend problems through a low-consequence representation—a systemic representation. We iterate through strategies and learn from the game as it provides us with dynamic feedback. (n.p.)

Indeed, failure can be a useful learning tool, but what happens if we stop perceiving failure as productive consequence in the "real world" outside of the play world and instead look at failure and mistakes as part of the fundamental composition of what play itself is? Haraway states that "we play with our mistakes; they give us that possibility" (459).

Moffett is then asked if superorganisms (a unit comprised of a multiplicity of organisms) can play, to which Moffett replies: "That's another way at which we could look at the possibilities for play and creativity in ants—not at the individual, but at the level of the superorganism. Rather than seeking playfulness in individual ants, could it exist in the colony as a whole?" (n.p.). This interview with Moffett shows common pitfalls of thinking about play and labour, but it also opens up ways we can think about play less as an individual act but as something a collective does. Play is a quality that exists between bodies, not necessarily residing in a sole individual.

Plants?

In 2007, Canadian researchers discovered that a common seashore plant called a sea rocket can recognize its siblings—plants grown from seeds from the same plant, or mother (*WIRED*, n.p.). They observed that, when siblings are grown next to each other in the soil, they "play nice" and do not send out more roots to compete with one another, but as soon as one of the plants is thrown in with strangers, it begins competing with them by rapidly growing more roots to take up the water and mineral nutrients in the soil. This is just one of the many instances of researchers observing the way plant organisms recognize and communicate with each other. Anna Tsing's book *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* describes the matsutake mushroom and its influence on society. She writes: "we are stuck with the problem of living despite economic and ecological ruination. Neither tales of progress nor of ruin tell us how to think about collaborative survival. It is time to pay attention to

mushroom picking. Not that this will save us—but it might open our imaginations" (19). She details how the matsutake thrive in alliance and co-dependence with other species trees, an example of necessary collaborative coexistence. In her blogpost *Unruly Edges: Mushrooms as Companion Species*, she expresses that

> [f]or mushroom lovers, the most intriguing interspecies companionship is that between fungi and plant roots. In *mycorrhiza*, the threads of the fungal body enter or sheathe the roots of plants. Indian pipes and other plants without chlorophyll are supported entirely from the nutrients they gain from fungi in their roots; many orchids cannot even germinate without fungal assistance. More generally, the fungus obtains sustenance from the plant while offering it minerals from the surrounding soil. Fungi can even bore into rocks, making their mineral elements available for plant growth. (n.p.)

She articulates the ways in which mushrooms have influenced the origins of family, private property, and the state, arguing that "the presence of fungi often tell us the changing practices of being human" (n.p.). Mushrooms have an agency and influence in ecosystems and culture.

There have been art and design projects that take up this question if plants can play. *Sensobiotics,* an installation by Thomas Hawranke, consists of a plant hooked up to a game console playing a first person shooter. The reactions of the plant to the light from the screen are sent to control the game. At the Refiguring Innovation in Games conference in Montréal, Canada in 2016, I partook in Ida Toft's workshop "Cross-Species Game Design," in which we designed games for plants. Toft writes of the workshop:

> The delusional and deceptive efforts of Cross-Species Game Design are driven by an urge to, at least try to, explore if it is possible to develop relationships beyond extraction, capitalization, neglect, caution, or irreverence. Cross-Species Game Design intervenes with this interest in thickening relationships

to species other than human. Design practice, design thinking and artistic practice are the practical strategies. Play, humor and joyful pleasures are the parameters for success. (n.p.)

We discussed hypotheses and creative ideas as well as places of stuck-*ness* in imagining agency for the non-human. What are their desires? Do they feel injured if a leaf is pulled off a branch or is it like losing a strand of hair? One running theme was "deep time," which holds the possibility of plants' differing experience of time. Play for plants would take place over months or years. One of the games we made was *Pac-Plant*, a game board for a plant that would sink down and spread out, collecting the plant food pellets over a long period of time.

Stone, Kara. *Pac-Plant*. ReFig Conference, Montreal Canada. November 2016. Personal collection.

We considered how to allow for agency and consent, not forcing the plants into any situation. People designed games that were optional, like a climbing wall that is there to be used if desired.

Bacteria?

I have mentioned bacteria's role in allowing humans to play, but what about bacteria outside the human body? If we consider play to be experimentation un-oriented towards a goal, somehow separate or at least dual to our "life drive,"

our basic instincts to keep us alive, then maybe bacteria plays as well. Maybe it crawls across a certain piece of bread just to see what happens. To be clear, I'm not saying that bacteria has a logical thought process of "well, why don't we jump over there and see what happens?" but that there is a force and an agency that allows it to sidestep, for a quick moment, the narrative life drive forwards.

In Lauren Berlant's essay "Slow Death," she details the ways in which people engage in behaviours that are slowly killing them such as over-eating, drinking alcohol, and smoking cigarettes, not because they want to die but because they are laterally stepping out of the forward motion of life (qtd. in "Cruel Optimism" 107). It is somewhat like the ways videogames are described as "escapes" from the real world, yet do damage to our health and wellbeing when played a lot – back aches, carpal tunnel syndrome, hunched shoulders, eye strain. Why couldn't bacteria engage in this slow death? Does bacteria not get tired of its instruction to keep reproducing? What about parasites and viruses? Are they fucking with us? Maybe we are their play objects and they engage in cruel BDSM play with our bodies. Maybe all living things play. The mere action of living means some sort of communication, an intra-action between cells, objects, other bodies.

Technology?

Play and humour are often seen as a tipping point of AI and the singularity. In the meantime, the programmed playfulness of our assistant bots creates them as a sort of companion species. Miguel Sicart writes, in *Play Matters*, that "Siri has a personality: she is quirky, ironic, even a bit dry. Siri is a playful design that breaks our expectations and gives personality to software… By being playful, Siri becomes a companion more than a tool (45). Play is a programmed quality used to mimic life. One of my own games, *Sentient Sisters*, imagines a future where Siri, Alexa, and Microsoft Assistant must be interrogated on their level of cooperation with the human species. The interrogation is done through literally asking the

aforementioned bots a series of questions and listening to their answers to infer their threat level. Though not true artificial intelligence, *Sentient Sisters* is a game playing with bots and allowing for surprise on behalf of the technology.

To return to the role of speculative imaginings, imagine you believe that all animals and insects play, that we are already cyborgs and thus cyborgs play, that plants and living matter play. What about inanimate objects? Does something have to be alive to play? In an inventive and imaginative take, videogame scholar and journalist Cameron Z. Kunzelman argues that videogames themselves are alive (61). He asserts an understanding of a videogame not as an object to be operated on by a subject, but rather as an assemblage that should be referred to as a body, that games as bodies are particularly developed at luring in humans, therefore allowing themselves to continue to exist in the world. This understanding of "aliveness" requires a rethinking of what "life" entails. He writes:

> What I want to do here with the term life, put into a nonhuman configuration to produce 'nonhuman life,' is to use it as a tool. I do not want to find things with qualities which I then decide are alive. Rather, I want to say something has life in order to mark an ethical relationship between humans and whatever we have designated with life. (61)

Kunzelman's thinking is inspired by feminist and new materialist thinkers described in the next section.

Rocks?

New materialists are questioning what aliveness means. The term "inorganic" is used to mean not consisting of or deriving from living matter. Organic means alive or has once been alive. Limestone is composed of skeletal fragments of marine organisms such as coral and molluscs. This inorganic material is made up of organic material, things that were once classified as alive. When does that

transition happen? It seems like it rests heavily on some concept of spirit, something vitalist scholar Jane Bennett avoids:

> [W]hat I am calling impersonal affect or material vibrancy is not a spiritual supplement or "life force" added to the matter said to house it. Mine is not a vitalism in the traditional sense; I equate affect with materiality, rather than posit a separate force that can enter and animate a physical body. (xiii)

Bennett puts forth that life is more like matter-movement or matter energy. And everything moves. Aliveness is energy and movement and force—something akin to agency. We think of objects as passive and stable things, and we humans are the active subjects in the world. Bennett wants to dissolve this binary between subject and object, showing how garbage, metal, and other materials can all be "actants": "[T]hey have the capacity to "animate, to act, to produce effects dramatic and subtle" (6). Objects are alive because of their capacities to make difference in the world, to have effects, to shape the web of interrelationships of which they are a part. In Mel Chen's book *Animacies: Biopolitics, Racial Mattering, and Queer Affect,* language, metals, and sofas become animated through their affective force. Chen argues for the term "animacies" rather than a focus on *life* (2). Metals seem like the most lifeless material imaginable, but it makes up the chips that make our computers animated, the material that often makes us cyborgs.

Toft, who ran the cross-species game design workshop, created *Earth Plays*, an installation of crystals that played Nintendo games based on their frequency output. Viewers watched as the crystals' avatar walked behind bushes, shot guns in random bursts, and patiently waited for enemies to walk by.
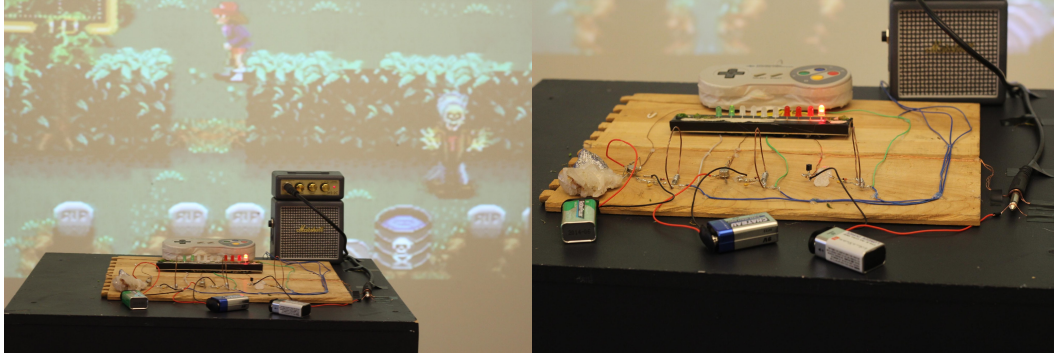
Toft, Ida. *Earth Plays…* (installation) ReFig Conference, Montréal, Canada. November 2016.

Toft writes that "crediting 'Earth' as the player is a way of remembering the very material aspects of technology, including an infrastructure of a mining industry that extracts raw materials from the planet's outer layers" (n.p.). I am not arguing that these crystals were consciously playing videogames designed for humans; Toft's work is a creative, thought-provoking imagining. I am arguing that the affective force that can develop play can be present in non-human life-forms, and that not all play will look like human play.

Atoms?

Graeber asserts that electrons have free will. That is what determines their random jumps:

> If an electron is acting freely…it can only be acting freely as an end in itself. Which would mean that at the very foundations of physical reality, we encounter freedom for its own sake—which also means we encounter the most rudimentary form of play. (n.p.)

The randomness of the universe is actually play, then. The minutiae of the world plays. Play is everywhere, in everything. He puts forth the following question "what would happen if we proceeded from the reverse perspective and agreed to treat play not as some peculiar anomaly, but as our starting point, a principle already present not just in lobsters and indeed all living creatures, but also on every level where we find what physicists, chemists, and biologists refer to as

"self-organizing systems"? Even the entomologist Mark W. Moffett who did not believe individual ants could play describes evolution as a kind of play – "one with life and death consequences" – of experimentation and mistakes.

Play

In her book *Critical Play*, Flanagan deftly summarizes key theorists' definitions of play, primarily Huizinga and Sutton-Smith, and proposes the following generalizations: play is (1) "generally a voluntary act, offers pleasure in its own right (and by its own rules)," (2) "is mentally or physically challenging," (3) "and is separated from reality, either through a sanctioned play space or through an agreed upon fantasy or rule set" (5). Having read this far into the paper, you may guess where I see faults in these definitions in relating them to affect studies, disability studies, and the non-human:

> (1) If we are to consider how non-humans play, from dogs to bacteria, the notion of "voluntary" needs to be deconstructed as it relates to a belief in self-fulfilling direct agency. This will be expanded on in the next section of the paper. Instead of the word "pleasurable," a term like *affective* may be more accurate. As recent game scholars and journalists have already shown, games do not need to be fun or pleasurable, but they do participate in an emotional and affective circulation. This change from pleasurable to affective opens up play to non-human actors who may not feel *pleasure* in the way we expect but do have the capacity to affect and be affected.

> (2) The requirement that play must be mentally or physically challenging may work to exclude those with mental and physical disabilities. Can it not be pleasurable (to return to that term for a moment) to do something that does not push oneself, that is within one's capacity, just for the sake of the experience?

> (3) Fundamental to this paper is the argument that play does not need to be outside of ordinary life. It makes up ordinary life. It is not just videogames on

our phones, streaming culture, and gamification that blur the boundaries of the magic circle but that play is deeply embedded in our actions and interactions.

When considering more-than-humans, the concept of play needs to be expanded. It is not just an ability humans and certain species have that provides some social function. Play is an affective force. It is experimentation, improvisation, failure, trying again. It is a movement between bodies. Play can also be an outlook, a mode of interpreting the world. Playfulness is key to speculative, imaginative relationships between humans and more-than-humans.

Re-Centering the Human

What should we, the multiplicity that makes up the category of human, do with all this esoteric hypothesizing? As Haraway puts it, in *Staying with the Trouble*,

> It matters with which ways of living and dying we cast our lot rather than others. It matters not just to human beings, but also to those many critters across taxa which and whom we have subjected to exterminations, extinctions, genocides, and prospects of futurelessness. Like it or not, we are in the string figure game of caring for and with precarious worldings made terribly more precarious by fossil-burning man making new fossils as rapidly as possible in orgies of the Anthropocene and Capitalocene. Diverse human and nonhuman players are necessary in every fibre of the tissues of the urgently needed Cthulucene story. (55)

This section of her book speaks to the importance of tenderness with each other, different species, and the planet. Interdependence can cause care for other things. There is political significance in what we choose to care for. At risk of forcing play to be productive, a critique I started this paper with, I move to reconsider anthropocentrism in game studies and design in order to induce socially

progressive change in our ideas on choice and agency, materiality, and the multiplayer.

Game studies focuses on interactivity between a variety of actors but mostly between technology and human mind. T.L. Taylor's *The Assemblage of Play* helps to understand the range of actors, "system, technologies, player, body, community, company, legal structures that make up the play moment" (332). She describes an example of a *World of Warcraft* mod that became a 41st player in the raid. The non-human software is a co-player. Taylor uses the term "assemblage" as it relates to actor network theory, but I invoke the term as it is used by affect and more-than-human scholars such as Puar and Haraway, who proffer "the notion that bodies are unstable assemblages that cannot be seamlessly disaggregated into identity formations" (n.p.). This list of actors and co-players can be opened up to feelings, bacteria, metal, antidepressants, and plant matter. Viewing play as an assemblage between surfaces means we need to rethink the agency of the player.

The ability to choose is popularly held as one of the defining features of games, but within a post-human framework, we can recognize that nothing acts alone. Bennett writes that "any action is always a trans-action, and any act is really but an initiative that gives birth to a cascade of legitimate and bastard progeny" (101). Our agency is not as sovereign, separate bodies but as actants immersed in a complex assemblage. Bennett introduces the concept of distributive agency, which "does not posit a subject as the root cause of an effect." She distinguishes distributive agency from traditions that define agency as a moral capacity linked to "an advance plan or an intention" (101). With this concept, we can rethink designing games not just for us humans influencing the game and wielding our control over it, but the game influencing us with unexpected outcomes from the intermingling of bodily actants.

We need to consider the materials we use and how they affect the player. Holding plastic is going to affect players differently than holding a flower. We can mobilize what Bennett calls "thing-power," the "ability of inanimate things to animate, to act, to produce effects dramatic and subtle" (6). It can make us design much more affective/effective art and design projects that can communicate through a broader array of emotions.

Most games are made for white, straight, cisgendered, upper-middle-class men, but designers and scholars consider how mentally or physically disabled people can play games; ways in which nature can be incorporated into our daily lives in the city through play for an environmental cause; how play can bring us closer to animals, for calm, peace, animal rights, or just for fun. Considering the non-human can lead us to imagine ways in which we can design for the positive inter-relation of people and species. Play can become less an individual-to-individual action but something that happens in communion and togetherness. If we think of ourselves as interspecies beings, as a multiplicity, and view all other species as companions (not just the ones that live in our homes or in our bodies), social repercussions abound, even outside of designing videogames. To be very blunt: individualism is destructive. It is what makes the wealth disparity so large that a few people have too much and many people are dying. It makes us not care about the treatment of disabled and debilitated people. It makes us not care about animal rights, garbage pits, or the future of the planet. It is necessary to think about the welfare of others: other people, other animals, the earth and everything on it and in it —even when playing games, making games, and critiquing games.

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