On the Maintenance of Meaning: A Deleuzian View on Proceduralism

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ABSTRACT
How do games create meaning? In pursuing this question, proceduralists have formulated a range of theories about the communicative potential of rule-based systems. In this paper, we closely examine and critique a specific aspect of proceduralism as described by Mike Treanor in order to provide insights into a broader array of issues about meaning in games. We suggest that the nature of meaning production is both selective and poly-directional: selective because meaning production relies on context and saliency, and poly-directional because meaning itself can influence subsequent interpretations. We make an initial step in formulating a post-structuralist interpretation of proceduralism influenced by the work of Gilles Deleuze. Within this Deleuzian picture, meaning is conceived as fundamentally unstable and requires constant maintenance.

Keywords
proceduralism, game studies, post-structuralism, Deleuze, Difference and Repetition

INTRODUCTION
Specters are haunting computational systems. How can a sense of life and meaning spring forth from the seeming coldness of procedures and rules? One can feel the specter of guilt in *This War of Mine* (11 bit studios 2014), when the protagonists have to rob the elderly in order to survive. And one can be haunted by grief in *Brothers - A Tale of Two Sons* (Starbreeze Studios 2013), when the younger brother Naiee is left alone after the death of his older brother Naia. The player experiences emotions that were seemingly tailored by the game system. But how can we formulate a coherent way to understand the relationship between meaning and game systems? The broad intellectual current of proceduralism has provided some answers to this question, and includes work done by scholars such as Ian Bogost, Michael Mateas, and Noah Wardrip-Fruin. As Treanor et al. summarize, "the proceduralist position strives to understand a game's meaning in the context of the processes that its system affords." (Treanor and Mateas 2013)

In this paper, we first question the relationship between meaning creation and procedurality, and then examine some aspects of proceduralism as formulated by Mike Treanor (Treanor and Mateas 2013; Treanor et al. 2012; Treanor et al. 2011; Treanor 2013; Treanor and Mateas 2011), which we argue is emblematic of larger concerns within proceduralism and its assumptions about the stability of meaning. We offer our critique of two structuring assumptions that we identify in Treanor's version

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of proceduralism: internal comprehensiveness and uni-directionality. Internal comprehensiveness requires that a successful proceduralist reading consider as many of the facts internal to a game system as possible. Uni-directionality requires that meaning only be derived from game facts and that those facts not be retroactively justified by the meaning ascribed to the game. Through our close reading of Treanor et al.'s proceduralist analysis of *BurgerTime* (Data East 1982), we argue that these two assumptions provide a confusing picture of meaning. Instead, we prefer the inversions of these two pillars: selectiveness and poly-directionality.

In the last section, we offer a nascent post-structuralist perspective on procedurality inspired by the work of the French philosopher Gilles Deleuze. In *Difference and Repetition*, Deleuze proposes a framework where identity and representation are constructed from an unstable foundation of difference-in-itself. From this, we suggest that representation and meaning require constant maintenance in order to secure its stability. We then connect this back to game studies based on the analogy between play and ritual act as suggested by Alexander Galloway. We also propose a *re-positive* view toward game readings, that is, acknowledging them as positive production with complex social conditions instead of rejecting them as errors. However, the paper does not offer a full rework of proceduralism, only an initial philosophical grounding that suggests that a successful proceduralist view must take the instability of meaning seriously.

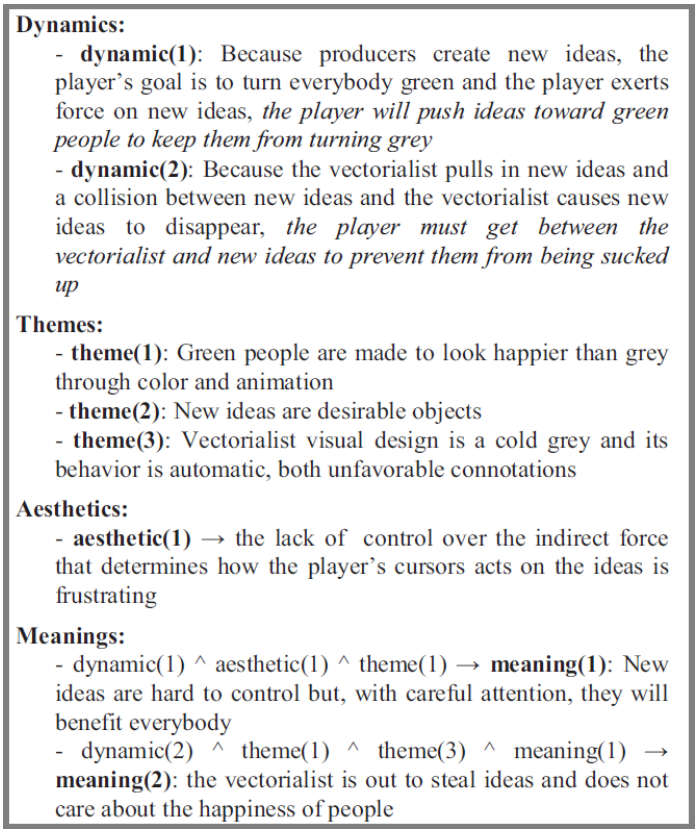
RELATED WORK

Interest over the relationship between meaning and system is not new. As early as 1997 in her book *Hamlet on the Holodeck*, Janet Murray argues for storytelling potential within digital space. Murray defines procedurality as the "ability to execute a series of rules" (Murray 2017, 81). She notes that a core challenge for storytelling in cyberspace is to break the habit of thinking of rules as utilitarian, and to reframe rule-writing as an expressive process: "The challenge for the future is how to make such rule writing as available to writers as musical notation is to composers." (84)

Another important work that has inspired proceduralism broadly is Ian Bogost's book *Persuasive Games*. In the introduction, Bogost proposes the term procedural rhetoric, which is "the art of persuasion through rule-based representations and interactions rather than [through] the spoken word, writing, images, or moving pictures" (Bogost 2010, 9). Bogost is interested in how procedurality can be used to convey not just stories, but claims and arguments. This book, along with his *Unit Operations*, was an important marker for proceduralism within the nascent field of video game scholarship. Generally, proceduralism does not have a consistent methodology, but rather two commonalities from which its various methodologies develop: 1) examining the relationship between meaning and computational system 2) examining this relationship from the perspective of the procedures of the system. For example, Noah Wardrip-Fruin argues that fundamental operational logics in games, such as collision, are already communicative (Wardrip-Fruin 2018).

As indicated by the title, Sicart's article "Against Procedurality" offers a polemical view on proceduralism in general. Sicart argues that procedurality obscures the full picture of meaning making during play. He believes that proceduralism engages in idealist thinking that diminishes the player's role in meaning creation: "The assumption behind mainstream proceduralism is that the meaning of games is

contained exclusively in the formal system of the game" (Sicart 2011). Sicart argues that proceduralism portrays the player as someone with no agency to create meaning. Instead, their role is to discover the meaning already embedded within the system.



Dynamics:

- **dynamic(1)**: Because producers create new ideas, the player's goal is to turn everybody green and the player exerts force on new ideas, *the player will push ideas toward green people to keep them from turning grey*
- **dynamic(2)**: Because the vectorialist pulls in new ideas and a collision between new ideas and the vectorialist causes new ideas to disappear, *the player must get between the vectorialist and new ideas to prevent them from being sucked up*

Themes:

- **theme(1)**: Green people are made to look happier than grey through color and animation
- **theme(2)**: New ideas are desirable objects
- **theme(3)**: Vectorialist visual design is a cold grey and its behavior is automatic, both unfavorable connotations

Aesthetics:

- **aesthetic(1)** → the lack of control over the indirect force that determines how the player's cursors acts on the ideas is frustrating

Meanings:

- dynamic(1) ^ aesthetic(1) ^ theme(1) → **meaning(1)**: New ideas are hard to control but, with careful attention, they will benefit everybody
- dynamic(2) ^ theme(1) ^ theme(3) ^ meaning(1) → **meaning(2)**: the vectorialist is out to steal ideas and does not care about the happiness of people

Figure 1: Proceduralist reading in practice (Treanor et al. 2011). See Figure 2 for a reference of the components.

Advocating for a proceduralist position in another response to Sicart, Treanor et al. disagree with the latter's characterization of proceduralism, noting that "Without interpreters, a process inside a digital computer can amount to no more than abstract causal flows of electrons" (Treanor and Mateas 2013). Treanor's own development of the proceduralist methodology spans both interpretive and technical practices, and it is not hard to spot the influence of one over the other. One can sense Treanor's desire to operationalize his interpretive model of meaning creation by attempting to build a computational system of that very model. His paper "Proceduralist Readings: How to Find Meaning in Games with Graphical Logics" provides a comprehensive model of the relation between meaning and procedurality. Figure 1 demonstrates his proceduralist reading in action, applying it to *The Free Culture Game*. It is unnecessary to go over in detail what is happening in this figure, but note the style of interpretive reading that strongly resembles logical inferences such as the use of predicates, inference operators (→) and *and* operators (∧). It is no surprise, then, that Treanor's version of proceduralism has led to technical projects such as *Game-O-Matic* - a generative system that generates playable games based from meaning descriptions such as "A protects C from B" (Treanor et al. 2012; Martens et

al. 2016), or influenced projects such as Summerville et al.'s *Gemini* (Summerville et al. 2017).

Here we focus mainly on Treanor's formulation of proceduralism, as it provides a particularly instructive case of theorizing about the relationship between meaning and system[1]. The reason for this perhaps lies within Treanor's desire to operationalize proceduralism. The approach developed with regard to this case of proceduralism can also apply more generally. While Treanor's model is fascinating and productive in many ways, it leads to a problematic view of meaning itself.

TWO PILLARS OF PROCEDURALISM

We break down the core ideas of Mike Treanor's proceduralism into two pillars: *internal comprehensiveness* and *uni-directionality*. These two pillars underlie Treanor's version of the proceduralist methodology. We will mostly focus on how these two features are realized in Treanor et al.'s interpretive practices, although, as mentioned in the previous section, this particular version of proceduralism also has a technical implementation where these core pillars are realized in software.

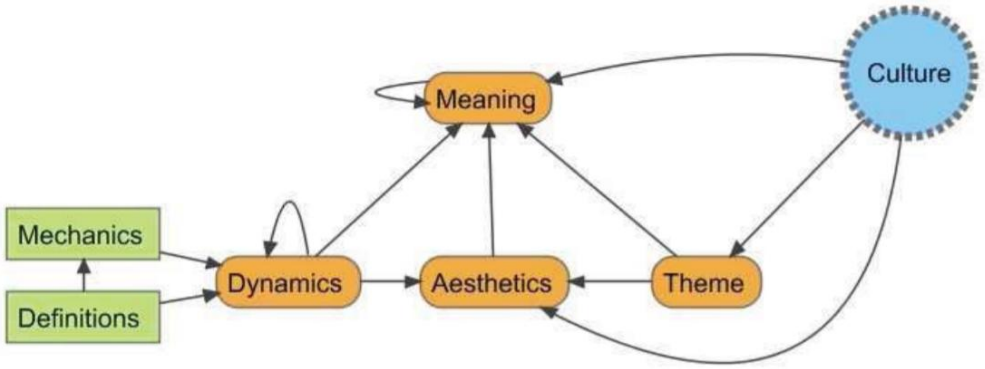


Figure 2: Different components of meaning derivation (Treanor et al. 2011). Mechanics and Definitions are internal evidence from the game system. The ultimate construction of meaning is derived from both internal evidence and external cultural groundings (top right).

Internal Comprehensiveness

Comprehensiveness, or the requirement that a proceduralist reading include as many facts in a game as possible in a derivation of meaning, is explicitly stated as one of the core goals of proceduralism. Its motivation starts with a dissatisfaction with certain game interpretations, as pointed out in Treanor et al.'s paper "Proceduralist Readings: How to Find Meaning in Games with Graphical Logics". The dissatisfying interpretations are Murray's reading of *Tetris* as "perfect enactment of overtasked lives of Americans" (Murray 2017) and Steven Poole's reading of *Pac-Man* as representing "rampant consumerism" (Poole 2004). Treanor et al. explain:

[1] As far as we know, no beef within the Computational Media department was generated in the production of this work.

> The interpretations hold only as long as the interpreter omits much of the experience of playing the game and selectively considers only the abstract experience of playing or interpretations of the game's theme (Treanor et al. 2011)

In other words, these interpretations fail because they engage in the act of selecting facts and crafting "creative allegories". Proceduralism instead strives for comprehensiveness, where "a meaning derivation will not be considered strong if it ignores evidence that goes against its claim" (Treanor 2013, 147). The breadth of observed evidence is a direct measurement of the success of a proceduralist reading. Comprehensiveness, in this move, is opposed to selectiveness, or the act of selecting certain aspects of the game in a construction of meaning. The deliberate selection of evidence in the process of meaning creation is the sign of a failed proceduralist reading.

Treanor et al. then further clarify that the kind of facts that are to be comprehensively engaged within a proceduralist reading are internal to the game system, and that they "make the distinction between internal readings of a game's dynamics and external readings of its context and form. [The proceduralist reading] focuses on internal readings." (Treanor et al. 2011) Treanor et al. do acknowledge that external contribution to meaning derivation is ultimately inevitable, and that "All interpretive leaps are culturally grounded." One can see this interaction between the internal and the external in Figure 2. The internal evidence, Mechanics and Definitions, is labeled in green on the left, while the external grounding, Culture, is labeled blue on the right. One cannot escape the fact that in a typical reading one necessarily engages in a selection of evidence during the production of meaning. But in a proceduralist reading one must include as much internal evidence as possible.

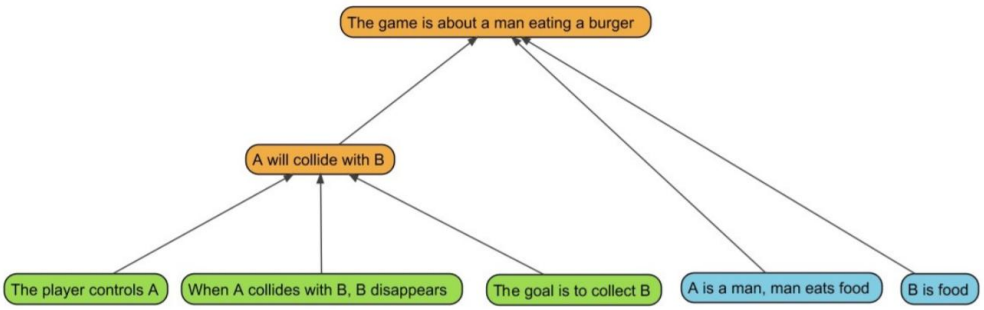


Figure 3: An example of meaning derivation (Treanor 2013, 139). Starting from the bottom (internal evidence and cultural groundings) to the top (meaning). The middle node labeled "A will collide with B" is a derived dynamics, see Figure 2 for component reference.

Uni-directionality

The second pillar of a proceduralist reading is uni-directionality, the requirement that the reading proceeds in one direction: from evidence to meaning. A comprehensive collection of the internal evidence is the starting point in a correct proceduralist derivation of meaning, and the derivation then proceeds toward meaning. Indeed, one

can see that internal comprehensiveness is not entirely independent from a uni-directional derivation of meaning.

Figure 3 illustrates this requirement of uni-directionality. The arrows, designating interpretative leaps, all point from the leaves (internal evidence and cultural groundings) to the roots (ultimate derived meaning). Figure 2 further depicts this on a broader, more abstracted scale. One can see that the node labeled *Meaning* is a sink - all arrows are pointing towards it without itself having any arrow pointing outwards. This is again illustrated in Figure 1, where *Meaning* is the synthesis of *Dynamics*, *Themes* and *Aesthetics*.

One can imagine that one way of violating the requirement of uni-directionality, or the top-down movement as seen in Figure 3, would be to move from meaning to evidence even though the derivation of that meaning did not consider it originally. Again, the condition of uni-directionality is not independent of the condition of internal comprehensiveness. If top-down movement was allowed, internal comprehensiveness would be a trivial requirement, as one could always find ways to satisfy it. In other words, without uni-directionality, new evidence is allowed to be retroactively justified based on a derived meaning that did not consider it in the first place.

One possible objection is to make the distinction between *key evidence* and *subsumable evidence*. Key evidence is the evidence that, if not considered, is capable of toppling the derived meaning, while subsumable evidence is the evidence that can be justified retroactively and does not contribute significantly to the derivation process. In other words, the requirement of uni-directionality is relaxed for subsumable evidence. We find this distinction troubling, because if one were to ask ”which evidence is key, and which is subsumable, and why?”, one would discover that the boundary of this distinction relies heavily on social consensus. In their proceduralist reading of *BurgerTime* (which will be the focus of the next section), we can see Treanor et al.’s attempt to determine an evidence as subsumable:

> […] the interpreter must accept the metaphor that running across the tops of burger parts is analogous to cooking or preparing the food. This metaphor is supported by the thematic mappings of the game as chefs are known to cook […] (Treanor and Mateas 2011)

But why must one accept this metaphor, if not on the basis of a common cultural grounding? In addition, the boundary between these distinctions is also volatile based on how creatively one can retroactively justify the evidence. Both cases complicate this distinction of key and subsumable evidence: the former where cultural groundings pre-determine the boundary, and the latter where the boundary is shifted by the creative power of an individual. They both introduce the external factor into the internal consideration of evidence. To avoid this muddling of the model, we do not distinguish between key and subsumable evidence, and strictly follow the uni-directionality as illustrated by Figures 2 and 3.

BURGERTIME AND THE ALIEN

In his dissertation *Investigating Procedural Expression and Interpretation in Videogames*, Treanor acknowledges that, because of its aim for internal comprehensiveness, a true proceduralist reading is not useful for “understanding how

players relate to games" (Treanor 2013). Most kinds of interpretation lessen the requirement for comprehensiveness. Treanor, however, goes in the opposite direction and attempts an exercise called alien reading, "a well-grounded interpretation of a game where the conclusions are not generated by an individual, but rather an imagined subject with alien considerations" (165). The alien consideration, in this case, is the aim of internal comprehensiveness and uni-directional derivation, while maintaining some form of basic coherence. This exercise, Treanor claims, "allow creators and audiences to understand how media artifacts often unintentionally engage issues that are not immediately apparent." In other words, Treanor tries to draw out meanings that are often unintended, surprising, and contradictory in the artifact itself.

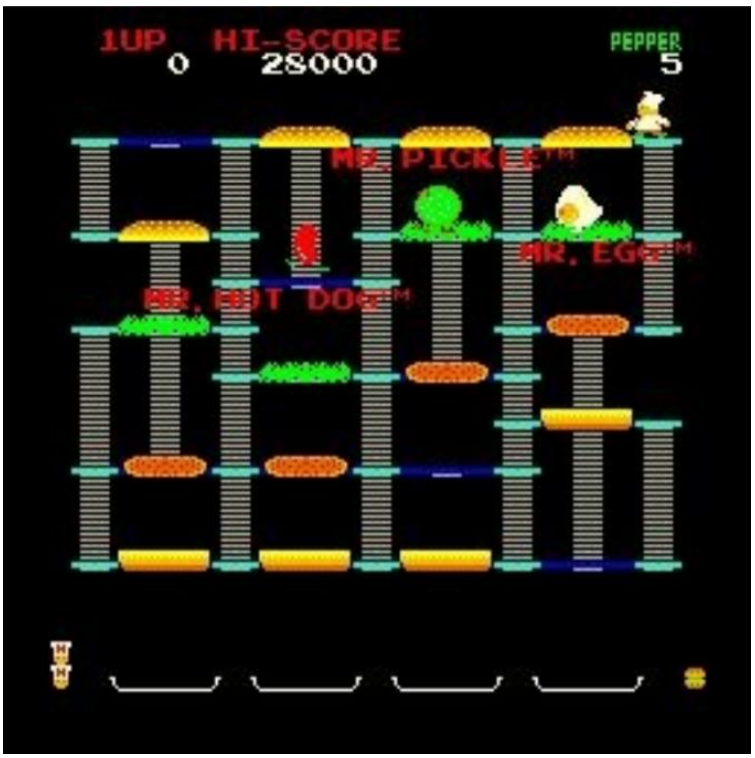


Figure 4: A screenshot of *BurgerTime* taken from (Treanor and Mateas 2011). The image shows the chef as player character (top right), four plates that store completed burgers (bottom), four burgers with four layers each (on top of the four plates), and enemies (labeled in red text).

In their paper "BurgerTime: A Proceduralist Investigation", Treanor et al. deploy alien reading to a 1982 arcade game *BurgerTime*, which they describe as "almost certainly never intended to be the subject of a close reading" (Treanor and Mateas 2011). *BurgerTime* is a 2D platformer where the player controls a chef who is chased by various ingredients such as eggs, hot dogs, and pickles. If caught by one of the ingredients, the chef falls down one level and loses a life. Throughout the space, platforms are displayed as different layers of a burger: buns, lettuce and patties. When the chef steps on one of these platforms, it will fall and form a combined layer of a burger, as well as eliminating the enemies that are directly below the falling platform. The interactable platforms have to be triggered from top to bottom: buns first, buns &

lettuce after etc. Once all burgers are completed, the player moves on to the next level. The player strives to eliminate as many enemies as possible to achieve a high score.

The first interpretation that Treanor et al. entertain is intuitive to many with a general understanding of the game: the game is about a chef preparing burgers, since the level is finished when all layers are combined to complete burgers. The chef running on top of the layers can be abstractly understood by the chef manually putting the layers on top of each other. However, this reading does not conform to the requirement of proceduralism:

> this interpretation can be accused of employing the same sort of selective interpretation as Poole's *Pac-Man* interpretation […] all considerations pertaining to the game's enemies are omitted and unaccounted for. If the chef's contact with burger parts is supposed to be understood as a metaphor for cooking, why does contact with the hot dogs, pickles and eggs cause the chef to look unhappy and the player to lose a life? (Treanor and Mateas 2011)

The interpretation is rejected on the basis of its failure to be comprehensive. Considering the enemy behavior, an alternative reading of *BurgerTime* would be about how the food does not want the burger to be eaten. The game is therefore about foods competing for the chef's attention. But this reading is also rejected because the mechanics of pepper, used to stun enemies, is left unexplained.

To finally achieve a somewhat satisfactory proceduralist reading, Treanor et al. propose to derive the meaning of the game based on an expert player's perspective whose goal is to achieve the highest scores possible, where "the enemy foods can be seen as assets, rather than enemies, as their antagonistic behavior enables opportunities to achieve the highest scores." (Treanor and Mateas 2011) The ultimate reading of the game is that *BurgerTime* is about the craft of cooking, as enemies are carefully managed into groups so they can be harvested for maximal points without overwhelming the player. But there are some mechanics still left unexplained:

> The fact that collisions with enemy food cause the player to lose a life has no place in this interpretation. However, if the collisions did not cause the player to lose a life, the player would only need to not move the chef and the foods would group on top of him. If this was the case, the game could not be said to be about the relationship between the artful seasoning of burgers and the tactile craft of assembling of buns, beef patties, tomatoes and lettuce. (Treanor and Mateas 2011)

This justification is strange, because it does not produce an interpretation based on the evidence in a uni-directional way. Rather, the evidence is *retroactively justified* based on system dynamics and the meaning already constructed from other evidence. This clearly violates the pillar of uni-directionality in meaning derivation, where again only bottom-up derivation from evidence to meaning is acknowledged. We cannot consider this explanation valid, because if it is permitted, then Poole's interpretation of *Pac-Man* as consumerism can creatively reach the requirement of comprehensiveness. As Treanor et al. point out, the failure of Poole's reading is that the mechanics of ghosts and power pellets are left unexplained (Treanor and Mateas 2011). If we relax the requirement of uni-directional derivation, the fact that these

mechanics are ignored shouldn't pose a problem to the requirement of internal comprehensiveness. Since the larger meaning of *Pac-Man*, according to Poole, is about consumerism, we can interpret the ghosts as the inner repulsion against consuming, and the large pellets as triggers for stages of self-sabotage, even though these entities' appearances do not support this justification. The point is that internal comprehensiveness cannot stand as a requirement without uni-directionality. The pillars rely on each other to define the criteria of a proper proceduralist reading.

Of course, as the beginning of this section states, the entire exercise of alien reading is meant to illustrate how the artifact, taken on its own, can be full of unintended and contradictory meaning. But in pointing out that a proceduralist reading still engages in selection, and retroactive justification of evidence, we argue that the two pillars of proceduralism do not help us understand the potential of meaning in an artifact. Selectiveness, rather than being viewed as omitting evidence and thus creating an inferior interpretation, is about saliency and selective attention. Poly-directionality, then, is the real characteristic of meaning making: going from interior to exterior and back. The proceduralist readings of *BurgerTime* in this sense do not engage in a qualitatively different way of reading than Janet Murray's and Tom Poole's readings, but simply a different degree of selective attention to the artifact.

We want to point out that these two pillars, internal comprehensiveness and uni-directionality, serve two interrelated functions in Treanor's body of work, the technical and the social. The technical function allows Treanor et al. to develop the meaning derivation model shown in Figure 2, which is the basis for digital creations such as *Game-O-Matic*, as mentioned in the RELATED WORK section. The social function is expressed when Treanor et al. use the pillars as axioms of a proceduralist position in order to criticize Murray's and Poole's readings, as well as the first two attempted readings of *BurgerTime*, as insufficiently proceduralist. There is another function, however, that remains provisional in Treanor's formulation: the theoretical function; this function corresponds to a theoretical account of the nature of meaning production, how humans actually produce meaning. We do not criticize the two pillars' technical function and the digital artifacts that followed. However, we provide a theoretical framework in the next section of this paper, as we believe the inverses of Treanor's two pillars: *selectiveness* and *poly-directionality*, constitute a more accurate picture of the nature of meaning production. As a result, we take a position against Treanor in social terms by not rejecting Murray's and Poole's readings, as well as all three attempted readings of *BurgerTime*, as just errors according to some analytical position. Rather, we want to acknowledge them as positive production and consider them with due criticality — to re-posit these readings.

A DELEUZIAN PROPOSAL

Representation and its Maintenance

Throughout this section, we will use the words *representation*, *concept* and *identity* interchangeably, as they all signify something that has an essence in this context. Our framework draws heavily from Deleuze's seminal work *Difference and Repetition*. This book is Deleuze's reflection on the relationship between identity and difference. First, Deleuze reviews past philosophical conceptions of the relationship between identity and difference. He criticizes the development of philosophical thought, specifically in Plato, Aristotle, Leibniz, and Hegel, for subordinating difference to

identity. That is, Deleuze claims that the tendency among those philosophers is to treat difference as secondary to representation and identity. We can see this in Aristotle's distinction between essential and accidental differences (Robertson Ishii and Atkins 2020). Take two concepts: *Human* and *Chair* as well as two instances of each concept: *Person A* and *Person B* for *Human*, *Recliner* and *Armchair* for *Chair*. The differences between *Person A* and *Person B* are accidental differences to the identity of *Human* because their variations are non-essential. The same goes for the differences between *Recliner* and *Armchair*. But the differences between *Human* and *Chair* are essential differences, because one can say that these two do not contain the same essence. In both cases, difference relies on an assumption of identity and its essence, and only with this assumption can we distinguish between essential and accidental differences. Deleuze criticizes this conception of difference, saying

> Here we find the principle which lies behind a confusion disastrous for the entire philosophy of difference: assigning a distinctive concept of difference is confused with the inscription of difference within concepts in general (Deleuze 2014, 42)

Aristotle's mistake is to confuse a primary difference with difference as dependent upon a prior identity. Difference, in the case of Aristotle, is secondary to identity or representation. Deleuze wants us to think about difference as primary, as "pure difference, the pure concept of difference, not difference mediated within the concept in general" (75). Identity or representation is a secondary product of difference.

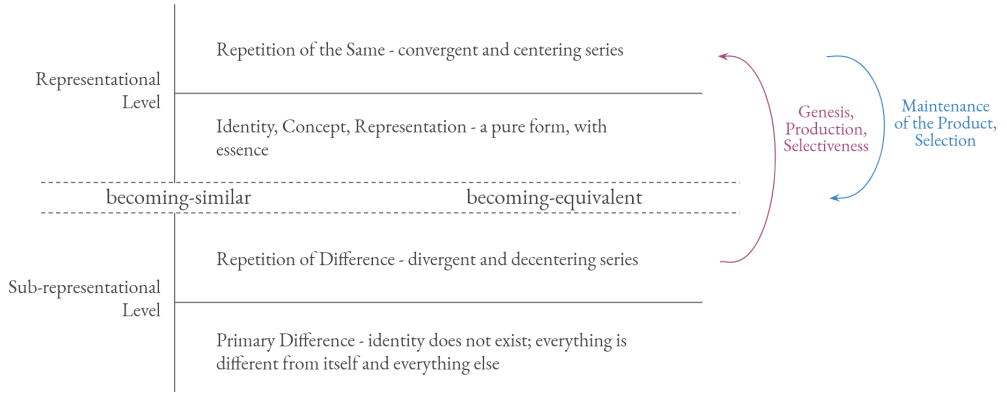


Figure 5: A simplified picture of *Difference and Repetition*

Figure 5 illustrates a simplified picture of Deleuze's proposal to consider difference as a primary category. The production of representation or identity proceeds from bottom to top, from the sub-representational level to the representational level. At the bottom of the process, there is a primary difference within nature, or difference-in-itself, where identity does not yet exist. Repetition of difference designates a series of intensive images in which difference is recorded. One might think of it as a series of registered sensations or intensities as such. This series of images is necessarily a divergent and decentering series because each image marks changes from the previous one in every aspect. In the middle of the process, becoming-similar and becoming-equivalent are the faculties of an observer processing the series of images, where the images become similar to each other. Inspired by Kant

and Bergson, Deleuze proposes three passive syntheses to show how a pure Idea can be extracted from a series of sensations or intensities. We'll abstract away from the details of how the process of synthesis works.

After becoming-similar and becoming-equivalent, an identity or representation is constructed. One can think of this identity as an entity with distinguishable essential features, which Deleuze occasionally calls a *pure form*. Once one has essential features in mind, repetition of the same can thus be conceived. A person named Jack is in a perpetual process of change: their pose changing, their eyes moving, their neurons firing and shifting, their cells dividing and dying. But we nevertheless think those differences are accidental — not threatening to Jack's identity because we have in mind the essential features of Jack, within which the repetition of difference disappears. Jack from moment to moment thus becomes a repetition of the same Jack. Within this identity of Jack, primary difference disappears, and secondary difference, subordinated to the identity, springs forth.

In this sense, identities or representations — such as "red," "tree," and "Jack" — are built on an unstable foundation. Each moment, primary difference and its repetition always threaten to topple that foundation. These identities are marked by soft boundaries within which some difference can be expected and contained: shades of red, subspecies of trees, and Jack from moment to moment. But sometimes there are catastrophes, in which the deviant difference becomes overwhelming and forces an observer to confront the instability of identity: "Is this still red?", "Is this still a tree?", "Is this still Jack?", even though instability is already embedded within the very formation of identity. The former case where one sets up a space where difference disappears, and the latter case where one confronts difference's challenge to identity, are both cases of *maintenance* of identity or representation. Maintenance is necessary to preserve representation and identity's legitimacy, forcing them back into stability. In Figure 5, the arrow labeled maintenance points back to the level of becoming-similar and becoming-equivalent, because the internalization of an identity alters the faculties. This altering of the faculties changes what we judge to be similar and equivalent from moment to moment. Thus we can identify two processes in identity or representation: the process of genesis which designates the production of identity, and the process of maintenance which designates its stabilization.

One can see how this Deleuzian picture of the relationship between identity and difference relates to the production of meaning in play. Meaning production, in the context of play, is the production of identity as a symbolic understanding of the play process — an idea about the game, a theme extracted from the experience, or a representation summarizing the play session. Treanor's formulation of meaning is explicitly coded in symbolic descriptions such as "The game is about a man eating a burger" or "*BurgerTime* is about the craft of cooking". Recalling our inversion of two pillars of Treanor's proceduralism, one can see how selectiveness and poly-directionality are embedded in this Deleuzian picture: selectiveness because the players are inevitably selective of salient features from repetition of difference to construct a symbolic identity that represents play (the genesis of identity) and poly-directionality because the symbolic identity has power over how the players derive meaning from their actions after its genesis (the maintenance of identity).

Mechanical Repetition and Symbolic Repetition

To see how a constructed meaning achieves stability through maintenance, we want to connect the Deleuzian framework back to game studies. In his book *Gaming, Essays on Algorithmic Culture*, Alexander Galloway draws inspiration from Huizinga to theorize play in terms of ritual:

> Representation is a question of figuratively reshowing an action, Huizinga suggests, while play is an effect reproduced *in* the action. The dromenon, the ritual act, is thus helpful for understanding the third moment of gamic action: the diegetic operator act (Galloway 2006, 22).

The diegetic operator act is the player acting within the game world. Galloway suggests that seeing the diegetic operator act as similar to a ritual is fruitful. This act consists of two levels: representation and play. Huizinga further clarifies the relationship between the two, "the function of the rite is far from being merely imitative; it causes the worshippers to participate in the sacred happening itself." (Huizinga 2014, 15). There are two aspects of these descriptions worth noting: 1) Galloway and Huizinga use terms such as "participate," "presentation" and "showing" to describe actions, which produce play/enactment, 2) ritual/representation characterizes the impression of repetition within each action, changing it to "re-presentation" and "re-showing."

However, there's an aspect of play that is not captured by Galloway: the critical distance in the act of playing/enacting. In *Performance Studies: An Introduction*, Richard Schechner and Sarah Lucie place ritual and play in opposition to each other, where ritual is "collective memories encoded into actions," while play "gives people a chance to temporarily experience the taboo" (Schechner and Lucie 2020, 52). They clarify later that play allows the possibility of taboo precisely because of critical distance,

> Play is looser, more permissive – forgiving in precisely those areas where ritual is enforcing, flexible where ritual is rigid [...] it has a quality of not being entirely "real" or "serious." Restored behavior is conditional; it can be revised. [...] Sometimes playing is anti-structural, with the main fun being how one can get around the rules or subvert them. (89-92)

In short, play has the power to either divert or maintain the rigidity required in rituals or representations. This conceptualization of play connects surprisingly well to Deleuze's distinction between repetition of difference and repetition of the same,

> We repeat twice simultaneously, but not the same repetition: once mechanically and materially in breadth, and once symbolically and by means of simulacra in depth; first we repeat the parts, then we repeat the whole on which the parts depend […] one is a repetition of elements, the other is totalizing (Deleuze 2014, 379)

Deleuze separates symbolic repetition from mechanical repetition. Symbolic repetition can be understood as the repetition of the same that totalizes the mechanical

repetition of difference.[2] The enactment of a ritual is the mechanical repetition of difference, while the representation of the ritual is the symbolic repetition of the same: "We're lighting up the candles differently, we are moving at a different pace from last time, but we're nevertheless enacting the same ritual." Similarly, meaning and play also follow this dynamic: "Even though this time I push the joystick a little differently, the enemies are chasing me in different ways, I achieve a different score from last time, I'm nevertheless acting out a chef trying to prepare burgers." The representation goes through maintenance within a space of expectations, or an essence, or a selection of essential features. Repetition of difference, or play/enactment, disappears and becomes the same under the criteria of this essence. This is how a derived meaning can sustain its stability. In other words, the derived meaning is perpetually under maintenance during play. But just like how difference-in-itself holds the power to cause representation to be "distorted, diverted and torn from its centre" (71), each moment of play/enactment opens up the possibility for the taboo to challenge the rigidity of meaning/ritual. Just like how difference-in-itself takes its primacy over representation, Huizinga also points out that play is primary over culture and rituals, "In the twin union of play and culture, play is primary [...] culture is only the term which our historical judgment attaches to a particular instance [of play]" (Huizinga 2014, 20).

How does one reconcile these different conceptions of play between Galloway and Schechner et al.? One way is to make the distinction between *play in theory (de jure)* and *play in practice (de facto)*. Galloway points out that Huizinga's play as free and primary does not help the analysis of games

> In the end, it is the very irreducibility of play for Huizinga - the natural purity of it - that makes play less useful for an analysis of the specificity of video games as a medium […] To arrive at a definition of video games, then, one must take Huizinga and Caillois' concept of play and view it as it is actually embedded inside algorithmic game machines. (Galloway 2006, 20)

This is why Galloway's conception of play and ritual can achieve harmonious dynamics in the analysis of diegetic operator acts. For Galloway, the play *in practice* can only be analyzed given a stable structural foundation. This foundation includes the material and digital basis of algorithmic game machines that makes gameplay possible, as well as the representational space that makes diegetic meaning-making possible. But this foundation can also be "played" *in theory*. This is why Poole can ignore many of the representational elements of *Pac-Man* to arrive at the surprising reading of *Pac-Man* as consumerism - a play with the representational foundation. It is also how Galloway conceives of non-diegetic operator acts, where the player configures, cheats and hacks the software - a play with the algorithmic foundation (12). In short, while play in theory is defined purely by the mechanical repetition of difference, play in practice reveals the necessity of a stable foundation from which it takes place.

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[2] Deleuze's quote is slightly more complicated than our usage here. The word "simulacra" suggests that symbolic repetition happens both during production and maintenance. "Plato and the Simulacrum" (Deleuze and Krauss 1983) is helpful for a better understanding of Deleuze's conception of the word.

This is why the term maintenance is appropriate to communicate this complex dynamics of stability/instability, identity/difference, ritual/play, symbolic repetition/mechanical repetition. To conceive of instability as primary is to conceive a stable form as always implying a habit, an engagement or an agreement. A social dynamic is at the very heart of meaning production and maintenance. Under this lens, we think all stable meanings or readings deserve acknowledgement, or to be re-posited, but also want to emphasize the importance of being mindful of what is being maintained, and of imagining the possibility of something new.

The Maintenance of "Meaning"

We want to emphasize the point in the previous paragraph: a social dynamic is at the very heart of meaning production and maintenance. Meaning, identity or representation is not produced privately and then deployed in the social. Rather, the social is the necessary condition of its existence. Meaning production is social because the becoming-similar and becoming-equivalent in the faculties have to contend with the repetition of difference from outside the faculties. Meaning maintenance is social because there are always three elements implied: the one that maintains, the one that is maintained and the repetition of difference that perpetually distorts and tears apart.

From this perspective, the *BurgerTime* paper is as much a social exercise as it is a demonstration of an interpretive practice. Treanor et al. selectively discover salient connections to produce three readings of the game. But they choose to let new evidence topple the first two readings, because their ultimate position is to maintain Treanor's proceduralism, with the two pillars as criteria of selection.

We consider our stance as *re-positive*, where we do not just dismiss certain readings as errors, but rather regard them all critically as positive productions. We also wish to distinguish ourselves from a relativist position. The distinction lies in that we do not simply acknowledge the reading, but also bring into critical view the social condition that produces it and the one that maintains it. For example, imagine a hostile reading where one chooses to misinterpret everything in a game, in order to show the *reductio ad absurdum* of a relativist position. The reading should also be re-posited, which does not necessarily mean that the reading should be considered a legitimate reading of the artifact. Rather, the hostile reading treats the artifact as a means to an end in order to present an argument and to engage in the social field. The point is that, to be re-positive is to look below the surface of representation and identity, and become mindful of the condition of its production and maintenance. As a result, we cannot provide a coherent account of legitimacy, rather a framework of thought to see that legitimacy itself is tangled in the rhizomatic web of cultural, societal, material and psychological factors. In short, legitimacy does not mean anything outside the movement of acknowledgement, citation, reference and archive.

Similarly, the debate between proceduralism and play-centrism deserves to be re-posited by considering how the definition of meaning itself is maintained by communities in sites of practice. We can see that the "meaning" described in the proceduralist paper "From Mechanics to Meaning" by Summerville et al., based on Treanor's work, is in a position of a different order than the "meaning" described by Sicart in "Against Procedurality". Summerville et al. operationalize a set of correspondences that are "meaningful," e.g. "the color green represents life"

(Summerville et al. 2017), in order to create new games based on those correspondences along with grammars that define the relationships between those correspondences and the mechanics of the game. This is a positive use of the notion of meaning within a context and largely technical practice centered on programming systems. The "meaning" ascribed to the game or various facets of the game by, for example, the player or critic in a play-centric fashion, is also a valid use of the notion of meaning, but one within a largely theoretical practice relying on what "meaning" really means.

A difference between two orders of meaning is also suggested by the analytic distinction made by Mateas between the "code machine" and the "rhetorical machine" in his "Expressive AI: A Semiotic Analysis of Machinic Affordances" (Mateas 2001). One can also detect that in making such a distinction between two semiotic systems, Mateas is still sequestering the system as a space that is the domain of the designer/artist, even while acknowledging that they interface with the space of culture. In fact, one should not be too surprised if it turns out that both the proceduralist and play-centric (or any individual within either camp) conceptions of meaning are ontologies supported by and reflective of the context of the work being done by those groups as they are sited in different institutions and utilizing different methods. Neither should one be too surprised if, in a similar vein, the shape of the term "meaning" is inflected by the object it is "applied" to. Kaltman points out in *Procedurality* that the term "procedurality" has a history in different discourses – "meaning" also has a history in the many discourses which proceduralism and play-centrism intersect with, in terms of language, or ritual, etc (Kaltman 2016).

We can see that, as William Sewell pointed out in his "A Theory of Structure: Duality, Agency, and Transformation" with respect to the relationship the fields of history, sociology, and anthropology have to the basic ontological terms "society" or "culture" (Sewell Jr 1992), so does the term "meaning" functions as a foundational "epistemic metaphor" for both camps that allows them to do their work. Neither of these camps really converge on a single definition, but create new systems, analyses, or frameworks in the very acts of pulling apart what is thought to be implied in the term "meaning". Our re-positive exercise is to blur the boundary between "What is it?" and "How is it used?". The functional identity, concept, or representation is maintained through work done in a practical context, while at the same time "meaning" is undergoing a vast dialectical differentiation. By attending to the maintenance of identity in a concept like "meaning", asking how practices and discourses create and maintain a stable object for meaning or how the game and a subject are articulated, we can be more critical and clear about what we are operationalizing, even if at some level we are always immersed in the fundamental riskiness of selectiveness and poly-directionality in any production of meaning.

CONCLUDING THOUGHTS

Admittedly, our discussion of this theoretical proposal has been quite abstract. But we believe that the power of abstraction does not only lie in generalization, but also in its generative[3] potential. By adopting Deleuze's reversal between identity and difference, we gain access to this question: given an identity/representation, where is the

[3] It's important to point out that generation is not application. Generation implies "drifting away" (in both of its senses) while application does not. We're more interested in generating new thoughts and points of view than holding onto a singular theoretical framework.

repetition of difference located? We first started out with repetition of difference located in reference-object relation, where the object (tree, red, Jack) itself holds the power of difference. We then connect it to the mechanical repetition of difference in play and enactment, while symbolic repetition of the same in meaning and rituals. Lastly, we interpret sites of research practices as another example where repetition of difference challenges or maintains the concept of "meaning". However, it is important to bear in mind that these relations are relative; they are useful insofar as they prompt further questions and analysis.

Our new post-structuralist framework is still nascent. We have been good house-burning postmodernists. But in its place the new construction is not yet habitable. This new framework still needs to answer the initial fascination set out by proceduralism. How do we understand the relationship between game systems and meaning derivation? Perhaps the way forward is to see the game system as infrastructure, and the players as always and already both engineers and repairmen.

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