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Definition of Videogames

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Abstract
Can videogames be defined? The new field of games studies has generated three somewhat competing models of videogaming that characterize games as new forms of gaming, narratives, and interactive fictions. When treated as necessary and sufficient condition definitions, however, each of the three approaches fails to pick out all and only videogames. In this paper I argue that looking more closely at the formal qualities of definition helps to set out the range of definitional options open to the games theorist. A disjunctive definition of videogaming seems the most appropriate of these definitional options. The disjunctive definition I offer here is motivated by the observation that there is more than one characteristic way of being a videogame.

Key Words
definition, disjunctive definition, games, interactive fiction, narrative, videogames

1. Introduction

Videogames are now the topic of the nascent interdisciplinary field of *games studies*. As it stands, the field is a clutter of different ideas and methods with hardly any core agreement among theorists about what they are studying or how to study it. A number of competing theoretical models of games have been offered, the three most prominent being the *narratological* approach, the *ludological* approach, and games being conceived as a new type of *interactive fiction*. Typically, each of these theoretical positions proposes a feature to be characteristic of videogames. Such claims are not always as clear cut as we might expect of definitions because the theoretical models offered in the games literature often exist in hybrid forms, and difficult borderline cases are usually acknowledged. Indeed, the participants of the debate do not always see it as a definitional debate, in part, perhaps, because much of this material is located in the domain of critical theory where definitional exclusivity is not always seen as a virtue. Games scholar James Newman, though, makes the definitional nature of much of this theoretical literature explicit.[1]

An analytic approach to the theory of videogames is well overdue, particularly one that is cognizant of how such definitional debates have taken place in other cultural domains. The field badly needs a definitional debate to be carried out in clear, unambiguous terms so that the range of theoretical options open to games scholars is made clear. On this definitional issue, games studies has much to learn from analytic aesthetics, as the concern with the definition of videogames shares a number of similarities with the definition of art debate. Treated as definitions, narratology, ludology, and interactive fiction theory are all prone to examples of videogames that lack the purported characteristic feature, or of items that have it but are nevertheless not videogames. Put

in the classical terms, if proposed as conditions that are *necessary* and *sufficient* for an item to be a videogame, narratological, ludological, and interactive fiction theories all fail as proper definitions. In this paper I will argue that we may need to look more closely at the formal qualities of definitions, and the kinds of conditions they include, if we are to come to an accurate understanding of what videogames really are.

2. The Theory of Videogames

In the first part of this paper I will briefly run through the current theoretical positions and the obvious problems they face when treated as definitions in the classical mode. A point of terminology has to be made at this initial stage. Videogames are variously referred to as "computer games," "electronic games," and even "digital entertainments." These terms cannot be taken to be strictly synonymous: "computer game" is sometimes taken to refer to games on a personal computer; "electronic game" might also refer to toys; while "videogame" is sometimes used to refer exclusively to console games such as those on the X-Box 360 or Playstation 3. I will adopt "videogames" as the general term here because it is the term that dominates current usage, and because it has the virtue of referring to the *visual* aspect of games that seems crucial to their definition. My purpose here is more than just an attempt to provide a nominal definition of videogaming; it is also explanatory, in that I intend to justify the extension of the term.

Narratologists, through their critical orientation with texts, argue that videogames are or can best be treated as interactive narratives or stories. As such, videogames can be placed within a wider explanatory schema that attends to narratives of all forms, including most centrally, literature and film. Related the narratological approach to games are a number of theories that cast games as texts.[2] Though her work is by no means exclusively narrativist, an example of a theorist who has provided readings of videogames that includes a focus on narrative conventions is Janet Murray.[3] Murray wonders whether games have the potential to express stories or narratives even though their representational nature is different from that of other narrative media. It is clear that many videogames do involve narratives. For example, *Grand Theft Auto: San Andreas* begins with the player-character CJ in a voice over, explaining his return to the city of his birth after a sojourn in Liberty City. The game, mostly through cut scenes and dialogue incidental to the gameplay, follows this narrative through to its conclusion: CJ, having defeated his enemies and reunited his family, decides to once again step out and explore the city. Admittedly, narratives do seem more obvious in some gaming forms than others. Narrative plays a particularly important role in the adventure and role-playing genres, for example.

But, problematically, narrative does not seem to be a sufficient or even necessary condition of videogames. Against sufficiency, it is clear that videogames share their narrative forms with other media. We can question whether the narrative element is something distinctive to gaming, or whether games are simply a combination of media forms,

including on occasion narrative ones. In many videogames involving narratives, the narrative is incidental to the gaming activity itself. For example, in a game such as *Katamari Damacy*, the particularly bizarre gameplay involves using a large sticky ball to roll around different environments sticking to and picking up a variety of objects. What narrative there is in *Katamari Damacy* is comprised of a back-story progressed through pre-rendered videos that do not significantly add to the formal qualities of the gameplay. In such games the narrative might be removed without detriment to the gameplay.

Many games lack a narrative element altogether, and so narrative cannot be considered a necessary feature of videogames. The classic *Tetris* involves the manipulation of differently shaped blocks of colour that fall at intervals from the top of the screen so that they can be fit together like a puzzle. The game, and its appeal, involves a challenge of sensory-motor coordination, rather than following a narrative. Dance and music games also tend to lack narrative structures, instead concentrating on the cognitive, sensory, and motor challenges attendant to those gaming forms.

Occasionally in the narratological approach, games without narratives are incorporated because, though lacking a narrative in the traditional sense-that is, a story in which events are selected for their contribution to an unfolding plot, they are seen as being narratives in virtue of some broader conception of that term. For example, a game like *Tetris* might be included in this narratological approach because it is comprised of unfolding events in which the notions of success and defeat can be applied, something that Steven Poole calls "kinetic narrative."[4] There is a certain *ad hoc* flavor to stretching the notion of what constitutes a narrative. Of course, the expansion of the concept 'narrative' to include unlike traditional narratives is a practice common to a great deal of recent intertextual theorizing, of which these videogame theories are typical. It seems to me that the expansion of what counts as a narrative or text often threatens to render those terms theoretically vacuous.

The second theoretical approach to gaming, ludology, emphasizes the obvious gaming nature of videogames. Jesper Juul, in his hybrid game/fiction theory of videogames, links videogames to earlier forms of gaming, hoping to show that they replicate many of the formal structures of traditional gaming in a new computational medium.[5] Espen Aarseth is perhaps the most prominent of the ludologists, and has written at length about the function of games, even those picked out by narratologists as exemplifying narratives, as "ergodic" items.[6] "Ergodic" is Aarseth's term for texts that require the audience to pay special attention or to take a role in generating their content: "In ergodic literature, nontrivial effort is required to allow the reader to traverse the text."[7] Ergodic texts allow the possibility of multiple readings, allow the reader to instil in a text novel meaning, or place the onus on the reader to choose in which narrative direction a text goes. Examples would be the *Choose Your Own Adventure* books that were popular briefly in the 1980s, role-playing games such as *Dungeons and Dragons*, the Aleatoric writing of the French surrealists, modern experiments in cyber and

hypertexts, some of the more complex non-linear and experimental literature of the twentieth century, and videogames.

I am not so sure that a special terminology is warranted in this case, or that it picks out something that is specific to videogaming that might be of use in forming a classical definition. The idea that some texts require "nontrivial effort" from their audiences because of their non-linear structure or other complications, such as the possibility of multiple readings or branching narratives, disregards the fact that much traditional literature also displays these properties. This is something that Aarseth immediately notes, but his response- in part an *ad hominem* claiming that such a criticism could only come from someone without "firsthand" experience of the texts he intends to refer to[8]-is unconvincing. In fact, most representational art demands the appreciators contribute interpretative content to those works in varying degrees, with many traditional artworks opening up possibilities of ambiguity and multiple interpretations.[9] Aarseth's term seems to me to be an attempt to unpack the *interactive* nature of videogames that does not rely on that term-which he thinks meaningless and unmotivated[10]-and that sets videogames as unique objects that might resist the "colonisation" of games studies by other disciplines such as English, critical theory, or film studies, an issue of which I will have more to say later.[11]

But even if Aarseth has identified something that is distinctive of a range of textual artefacts, it is clear that this range is not co-extensive with videogames, and Aarseth, in setting out the explanatory range of his theory, admits as much. The same criticism can be made of other games theorists who do not buy into the elaborate theoretical terminology Aarseth introduces. Jesper Juul's theory links videogames to earlier gaming forms, attempting to show how videogames fit within definitions of traditional gaming. His "classical games model" defines traditional games as involving rules, variable and quantifiable outcomes, player effort and attachment to the outcome, and negotiable consequences.[12] But the category of games picked out by this definition is obviously not identical with videogames, given its applicability to other earlier non-videogames. Even if the ludologist has identified a necessary definitional condition of the videogame, being a game is obviously not sufficient to make an object a videogame, as many other non-videogames-toys, puzzles, card games, and so on-share these features. What is it that is distinctive to videogames? The theorist may need to step beyond ludology if she really wants to explain what videogames are.

Neither am I convinced that the ludological approach precludes the role of the other theoretical approaches to videogames. The condition of being a game, whether this is cashed out in terms of "ergodic" items or Juul's classical games model, may not even be a necessary feature of videogames other than in the near-trivial sense that videogames are *played*. Significantly, Juul admits that his theory of games counts such a seminal videogame as *Simcity* as a borderline case of a game because it does not involve a clear or quantifiable goal.[13] *Microsoft Flight Simulator* is a similar case because apart from a number of missions that seem almost incidental to the game, winning and losing are not sensible outcomes.

The player simply enjoys the fictional activity of flying and has no goal other than this enjoyment. *Simcity* and *Microsoft Flight Simulator*, as simulations, seem easier to account for in terms of an interactive fiction theory of videogaming, thus explaining something of the trend toward a game/fiction hybrid theory found in Juul's work. I will return to this hybrid game/fiction theory when I make my own positive claims later in this paper: suitably formalised, I think that something like Juul's theory can be used to base a definition of videogames.

Thus a third theoretical approach is to characterise games as interactive fictions.[14] Two immediate confusions are possible here. First, such a theory is not committed to the idea that all videogames are in fact modifications of the genre of interactive fiction, a type of fiction in both electronic and non-electronic media that reached its height of popularity in the late 1970s in games like *Zork*. The genre of interactive fiction is merely one species of interactive fiction more broadly conceived, with some kinds of interactive fiction-flight simulators for example-being quite unlike the genre kind just mentioned. A second and related confusion is that the theory of games as interactive fictions has the potential to be conflated with a narratological approach.[15] The fictive status of an artefact seems independent of its status as a narrative.[16] A videogame could be a fiction and yet not narrative in form: again, this seems to be the case with *Microsoft Flight Simulator,* where it is fictionally the case that one is flying an aircraft, but where there is no narrative-in any meaningful sense of that term, at least

Equally, a game might involve a narrative, but a non-fictional one. A number of the back-story narratives portrayed in historical civilization games like *Age of Empires* are based (loosely) around real historical events, and so the narrative aspect of the game (though perhaps not the gameplay) is non-fictional. A case where narrative and fiction do seem to coincide is where the narrative is an interactive one, such as in the Playstation 2 game *Shadow of Memories*. It is unclear that a narrative could be both non-fictional and interactive, given that for a player to participate in a narrative in an interactive way, the player would need to have some influence on the course of the narrative. Non-fictional narratives are presumably determinate in recounting a sequence of actual events. In *Shadow of Memories*, this narrative interaction is achieved by having the narrative branch at a number of junctures depending on what the player does during gameplay. This, however, is the source of some common doubts that a narrative could be genuinely interactive-the branches in *Shadow of Memories* are small in number and pre-specified in content-but at the very least it shows that interactive narratives, if they do exist, will be a subset of the class of interactive fictions.

I think that if one is careful in specifying exactly what it is that is interactive about interactive fictions, then videogames can often be counted as such things.[17] Unfortunately, it is not clear that *all* games really are interactive fictions or involve fiction at all, and, as such, being an interactive fiction cannot be a necessary condition of videogaming. In some ways *Tetris* seems quite similar to a jigsaw puzzle-examples of which also exist as rudimentary videogames-and jigsaws lack fictive

elements (apart, perhaps, from what is represented as the picture). Jigsaw puzzles involve the literal piecing together of pictures, and the mere fact that the representation is moved from a cardboard medium to a computer screen-making it an instance of what Juul calls a "transmedial" game[18]-is not sufficient to thereby make it a fiction. Fiction involves something more, that is, participation not only with representations but also with a fictional world where objects are imagined to exist and properties are imagined to inhere.[19] Is it that *Tetris* involves the literal manipulations of blocks of color on a computer display, or is there fictive projection involved in that one is speaking of "blocks falling into place"? *Tetris* is indeed an ambiguous case, and a great deal more argument would be need to establish whether it is or is not a case of interactive fiction, but at the very least it provides an example of where the fictive qualities of the game are rudimentary and incidental to the focus of gameplay. Videogame chess, *Sudoku,* and tic-tac-toe would be similar cases of non-fictive games.

A further objection to the idea that videogames are interactive fictions, and one that James Newman makes much of, is that much of the fictive activity involved in gaming is distinctly non-interactive.[20] For large stretches of many games one is merely viewing pre-rendered videos that fill out back-story or advance the narrative, but which the player has no ability to affect. And, of course, being an interactive fiction cannot be a sufficient condition of videogame-hood, as pen and paper role-playing, military or commercial flight simulators, and childhood games of pretense are all interactive fictions while not counting as videogames.

3. **Definition and Normativity in the Videogame Debate**

I think that the preceding section is enough to show that the theories of videogames that do exist within game studies would face significant difficulties if they were to be considered as proper definitions. It is another matter entirely to ask just why the games theories encounter these difficulties when so treated. One thing that became clear in the definition-of-art debate is that theorists of the arts were often guilty of picking out a property of art favored in their own time and claiming that property to be essential to the kind.[21] In this way definition often turned out to be disguised recommendation. Clive Bell's introduction of "significant form" in his famous theory of art would seem to be guilty of this; the art-historical context of his theory was a growing interest in formal structures in the increasingly abstract art of the early twentieth century.[22]

It seems to me that although ludologists, narratologists, and others would claim to be characterizing the nature of games, there does seem to be a large normative component in their proposals and that this comprises the most significant problem with how the definitional debate concerning videogames has been conducted to date. Games theorists have all too often been guilty of implicit advocacy. There are clear cases in the games literature where the definitional and normative issues have become confused for each other. For example, in his discussion of the difficulties inherent in the definition of videogames and the possibility of a definition in terms of

graphical or aesthetic qualities, Newman slips into normative mode when he claims that "even the most aesthetically advanced gameworlds can fail as videogames."[23] Newman does not seem to realise that this does not discount that games might still be defined by their graphical features-it merely shows that graphically brilliant games can be *bad* games. Definitions should stay silent on these normative issues so that we can count as games those which we do not happen to value as games.

Why might there be normative definitional biases in games studies? A first suggestion is that this normative temptation is a particular danger when theory has a close connection to future technology; this is definitely the case in games studies, where at conferences theorists rub shoulders with industry figures-or indeed are industry figures-who are directly involved in designing new gaming forms. Games studies are conducted for a number of sometimes incompatible reasons. There are theorists who seek a descriptive understanding of the origin and present nature of gaming. But equally there are technologists who want to know about the potential future applications of the form. A normative take on the definitional issue more clearly fits with the latter conception of games studies. This seems to replicate a rather informal division that can be observed within analytic aesthetics, with some theorists seeing their role as external to art practice and others seeing themselves involved or contributing to those practices.[24]

A second suggestion concerns the pragmatics of explanatory models. Fitting a new field of research within a current theoretical prototype promises to allow easier access into the new area. Casting games as narratives allows the games theorist to use the tools and substance of narratology to theorize about the domain of videogames. It may turn out that such an approach is not entirely warranted, and an amount of shoehorning of the new subject area may occur. I argued earlier that this might be the case where narratologists are willing to revise the meaning of 'narrative' to include the typically action-orientated content of videogames. But in as much as the approach succeeds in illuminating the functioning of games, and even in as much as it fails-thus making clear the demand for a new theoretical method-there may be an instrumental justification for such an approach.

Another explanation of the definitional biases in games studies amounts to the contrary of this first pragmatic issue, in that finding a novel trait, such as the "ergodic" properties that Aarseth thinks essential to gaming, might allow games theorists some freedom to start afresh, unconstrained by the theoretical baggage of a previous tradition. Aarseth makes this motivation explicit: "Games are not a kind of cinema, or literature, but colonising attempts from both these fields have already happened, and no doubt will happen again. And again, until computer game studies emerges as a clearly self-sustained academic field."[25] To gain academic autonomy, games theorists do not need intellectual autonomy of the type that Aarseth seems to be seeking here, however. Games studies could be a "self-sustained academic field" even if it depended on theories and modes of inquiry shared with other academic fields. The physical independence and autonomy of games studies could be sustained in virtue of the clear

difference of subject matter. This, indeed, may be an important reason why games theorists need to settle this definitional matter.

A further normative motivation that I suspect is lurking here, especially in relation to narratology, is the desire for videogames to be taken seriously both as a form of media and a topic of study. One suspects that games theorists are a little insecure with the standing of games as a childish or geeky pursuit, and that search for serious narratives in videogaming might be seen as a prerequisite for taking games studies seriously. The games literature is filled with inflated estimations of the meanings of quite simple videogames. Consider as just one example Steven Poole's bizarre reading of *Pac-Man* as a "neo-Marxist parable of late capitalism"[26]. This is surely to credit a game with a narrative significance that it does not really have. A similar issue arises when it is questioned whether games are art or have the potential to become art. This question arises with unsurprising regularity in both the popular media and academic treatment of videogames. For example, Aaron Smuts has claimed that the primary question that analytic aesthetics should ask when concerning itself with videogames is whether or not they are art.[27]

I think that it is a mistake to tie the worth of games studies to the presence in videogames of serious ideas, narratives, or art. This is especially the case if, as seems to have happened with some narratological approaches, videogames have to be shoehorned into an existing theoretical schema. The worth of games studies does not hinge on establishing games as being significant in this sense. There are many other reasons for why games are a worthwhile topic of study for the theorist of culture, not the least of which are their increasing dominance in popular culture and the persisting worries that many have concerning their negative effects on individuals and society. Furthermore, if we are not concerned to establish videogames as serious narratives or works of art, our eyes might be opened to the interesting features they do have, particularly in terms of *gameplay*, where it seems to me videogames are offering something creative and new.

4. The Formal Qualities of Definition

If the analysis of the earlier parts of this essay is correct, then treated as definitions each of the former theories fails to pick out all and only videogames. The properties of being a game, narrative, or fiction cannot be used as conditions in a simple necessary and sufficient condition definition of videogames. Where does this leave the games theorist with an interest in explaining how, or indeed if, games can be defined? Drawing again on the lessons learned in the definition of art debate, there are at least four responses that might be made here.

A first response might claim that ludology, narratology, and interactive fiction theories of gaming fail because they pick out the wrong intrinsic property in their theoretical analyses. It may be that there is some other property that is shared by all and only videogames that has thus far escaped the attention of games theorists. Lacking such a proposal, however, it is hard to know what to make of the prospects of this response to the definitional impasse. Besides their digital visual medium,

it *is* their nature as games, narratives, and fictions that allows videogames to function and is typical of the engagement that players have with them. If there is some property besides these that all and only videogames share, it is not immediately obvious what it is.

A second more pessimistic option is to give up on the definitional project altogether and argue that for some reason games cannot be defined. I suspect that because of their commitment to critical theory, such an approach would be tempting for a number of the theorists currently working in games studies. There is also an argument to be made for this theoretical manoeuvre in terms drawn from analytic aesthetics. In response to the failure of earlier definitions of art, a number of mid-twentieth century philosophers have argued that art cannot be defined because it altogether lacks essential properties. For these thinkers, the unproductive state of the definitional debate concerning art signifies the failure of the project in a more fundamental way than the inability to settle on the right kind of intrinsic property. Morris Weitz presents the most famous form of this anti-essentialism.[28] Among other claims, Weitz argues that because art is open to creative reinvention, philosophers may set out *typical* conditions of art, but these can never count as necessary and sufficient conditions. Art, he contends, is an "open concept" that cannot be closed by formal definition. Thus, the failure of theorists of art to arrive at a satisfactory definition of art is not a result of the *content* of previous definitions, but because art as a domain is not amenable to classical definition.

Something similar might be said of videogames. The invention of the videogame set a certain kind of precedent for the future of gaming forms, but the category has been subject to continual reinvention and so has given rise to artefacts quite different to the very first videogames. Games designers have clearly found different ways to explore the potential of the computer for entertainment, and many of the gaming examples that were used earlier as counter-examples to the proposed definitions of gaming are just these innovative games. Videogame, no less than art, the anti-essentialist might think, is an open concept. The idea that videogames have developed over their history, so that they are now quite different from their original conception, is something that I will acknowledge in my own definition later in this paper; however, it will not be treated as a reason why the definitional process is hopeless.

The definition of art debate did not end with Weitz and the other anti-essentialists.[29] Recent philosophers have been keen to rehabilitate the essentialist program despite anti-essentialism or perhaps, indeed, because of it. Some theorists argue that the anti-essentialist arguments show only that *intrinsic* properties-those perceptible of the artworks themselves-cannot be used to define art, but that these are not exhaustive of the properties one might pick out in a definition. Counter to the intrinsic mode of definition to which Weitz objected, a number of theories of art have arisen that couch their definitions in terms of *relational* properties such as "aesthetic function," "history," "institutional" or "social" role, or a hybrid of these. These properties are not perceptible in the artefacts themselves, but can only be discerned by

ascertaining how the artefact stands in relation to some other thing, whether it is an aspect of our perceptual or affective psychology, a previous artefact or historical lineage of artefacts, or some social or institutional fact.

Turning to the issue of videogames, we can see that narratological, ludological, and interactive fiction theories all pick out intrinsic or proximal properties-properties that inhere in the games themselves-and that their failure may possibly be traced to this fact. Most central games do involve gaming, narratives, or fictions, but we cannot expect of any given game that it will contain any one of these things. Thus a third response that might be made here is that games can be defined, not in terms of their intrinsic properties, but rather through some kind of relational property. A historical definition seems a natural proposal; videogames do have a documented historical origin, and subsequent games do seem linked to and influenced by this historical precedent.[30] Indeed, I think that No-l Carroll's historical theory of art might shed light on games and their development in this regard.[31]

Another response that has been made to anti-essentialism focuses not on the type of properties referred to in definitional analysis but on the form of the definition itself. A number of recent philosophers of the arts have argued that a classical mode of definition is not the only definitional game in town: *disjunctive definitions* are also possible.[32] A disjunctive definition is one that includes at least one disjunctive clause among its conditions. To drastically simplify matters:

X is a work of art iff it has property A *or* property B.

In this case intrinsic (or, indeed, relational) properties may be individually or jointly sufficient for X to be art, but it is not specified that they are individual necessary for X to be so. Informally, this is often meant to capture the intuition that there may be more than one way to be art. For example, in his naturalist version of this theory, Denis Dutton argues that direct pleasure, the display of skill or virtuosity, style, novelty and creativity, criticism, representation, "special" focus, expressive individuality, emotional saturation, intellectual challenge, traditions and institutions, and imaginative experience are all recognition criteria of art works. Individual artworks may lack one or more of these properties-thus explaining how the definitional debate concerning art has been propelled by the method of counter-example-but the "features on this list are implicated, individually and more often jointly, in answers to the question of whether, confronted with an art-like object, performance, or activity, we are justified in calling it art."[33]

Thus the fourth and final response is to conclude that videogames cannot be defined by a simple necessary and sufficient condition definition of videogames, but that this stems from the strict adherence to a narrow mode of definition. A disjunctive definition might be used to explain how, even though they fail to have a single set of necessary and sufficient properties, videogames can nevertheless be defined. There might just be more than one characteristic way of being a videogame. Indeed, this would be a way to reconcile the theoretical divergence of ludologists, narratologists, and interactive fiction games theorists, while

retaining the valuable contribution these theorists do make to the understanding of videogames.

In the face of the difficulties discussed in the first sections of this paper, the games theorist who wants to hold onto the prospect of discovering a definition of videogaming has at least three theoretical options: persisting with the intrinsic mode of definition; developing a definition using relational properties; or developing a disjunctive definition. Which of these responses to the definitional issue concerning videogames is most appropriate? I think the most productive way of assessing this question is to see what might be made of one of the options.

5. **A Disjunctive Definition of Videogames**

A disjunctive definition of videogames may be the most appropriate response. I will argue that such games can best be defined by providing a set of conditions, not all of which are individually necessary, but when combined in an appropriate way are sufficient for an artefact to be a videogame. Specifically, my proposal is as follows:

> X is a videogame iff it is an artefact in a digital visual medium, is intended primarily as an object of entertainment, and is intended to provide such entertainment through the employment of one or both of the following modes of engagement: rule-bound gameplay or interactive fiction.

The form of this definition needs a little explanation in that it differs from a purely disjunctive definition. There are at least two necessary conditions that need to be specified in the definition so as to distinguish videogames from some fairly similar artefacts. Some disjunctive definitions of art also accept that there are at least some necessary conditions of art. For example, alongside the disjunctive list that he claims to be recognition criteria of artworks, Dutton also thinks that two necessary conditions of art are "(a) being an artefact and (b) being made or performed for an audience."[34] These count as very basic qualities that artworks must have, though they are common to other cultural forms. Games seem to be similar in this respect, and so the disjunctive definition of videogames proposed here entails two necessary conditions: being an artefact in a digital and visual medium, and being intended primarily as an object for entertainment.

The first necessary condition seems almost inevitable; we would hardly think an artefact could be a videogame if it did not involve a computer and a visual display. The invention of the computer stands as a historical prerequisite for videogaming, and gaming exists as an employment of that technology for the purposes of entertainment. Even though this medium condition seems to be an almost self-evident one, it needs to be included in the definition because a number of videogames are structurally very similar to non-videogames, differing only in their representational medium. This is the case with the *transmedial* games that have migrated into a computer setting, an issue that was touched on earlier in terms of the videogame versions of jigsaw puzzles, chess, and *Sudoku*. These artefacts become videogames in virtue of their transfer into a computer setting. Without the necessary

condition specifying the digital and visual medium of videogames, the above definition would also apply to these games in their non-computer form.

The reference to visual representation is needed because there are a range of toys and electronic games that would otherwise be included under this definition. Examples here would be electronic games, dolls, and toys such as *Furbys*. Furbys-the non-standard plural of *Furby* is intentional-are small, cuddly, owl-like dolls that are able to respond to their owner and to other Furbys through the use of the fictional language *Furbish*. Individual Furbys give the appearance of learning the player's language by slowly deploying more pre-programmed real words and phrases rather than their Furbish equivalents. Videogames are games for play involving a visual monitor or screen, even though they involve other representational modes such as sound and tactile means such as force feedback controllers. Some electronic games and toys seem to be counted out of the class of videogames because their representational or interactive media do not principally involve a visual screen. The representational media of the Furby are its toy-like properties and quasi-linguistic abilities. Furbys are essentially an updated version of the talking doll, but one that because of its employment of sophisticated computer technologies such as voice recognition, is interactive in a manner somewhat similar to the interactivity of videogames. Whereas videogames often provide a *fictional world* that the player may interact with and explore the potential of, Furbys depict a *fictional being* that encourages the same sort of interaction. Videogames may exist as a species within the wider class of electronic games, of course, allowing us to understand the connection between the clearly related kinds. Note also that this visual medium condition is not a claim that videogames are always pictorial. A number of early videogames such as *Hunt the Wumpus* or *ADVENT* were text-based games. Graphical games-especially those in a three-dimensional medium-have come to dominate videogaming, though aspects of text persist even in modern games in game menus, subtitles, and elsewhere.

The entertainment condition of the proposed definition is needed to distinguish games from similar artefacts that have more practical purposes, such as military and commercial flight simulators, virtual museums, and computer desktop applications that involve fictive aspects, such as the paperclip character who offers advice in some versions of *Microsoft Word*. Some digital artefacts clearly serve purposes other than entertainment; simulations, in particular, because they are able to present in a fictive way an activity that in the real world would be either dangerous or costly, are valuable tools in learning and training. That games are "intended" for entertainment needs to be noted because some non-games can be used for entertainment purposes while arguably not becoming games in virtue of that fact. Although a commercial or military flight simulator might be treated as a game, this would not be sufficient in my view to make it a one. Furthermore, the definition must be framed in terms of intended function to cover games that while intended to entertain, turn out to be not in the least bit entertaining because of some deficiency or flaw.

The latter disjunctive aspect of the above definition is included in order to cover the contingent ways in which games have traditionally provided modes of engagement. In picking out games and fiction as being crucial to videogames, I am in general agreement with Juul's game-fiction hybrid theory of videogames; where I differ is in how these conditions are formalized in terms of a disjunctive definition. The gameplay and interactive fiction conditions are needed to distinguish ways in which digital visual media have been employed for entertainment purposes that do not constitute videogames, such as internet sites and videos, digital television, interactive media such as DVD games, and so forth. It is a matter of historical contingency that videogames have employed one or both of these interactive modes. Indeed, one important positive of this disjunctive definition of videogames is that it explains some of the links that videogames have to earlier forms of culture-in particular, board games, narratives, and fiction-and that tempted previous theorists to characterize games in terms of those previous forms. Videogaming is essentially a manner in which traditional cultural forms have been implemented in a new technological medium.

First, that an artefact involves rule-bound gameplay is a condition that is sufficient, given the presence of the two necessary conditions of this disjunctive definition, for an artefact to be a videogame. Games such as *Tetris, Pong* and *Pac-Man* seem to be videogames in virtue of this condition, as do most transmedial games such as chess and card games. This condition demands that we specify what it is to be a game, though this explanation is outside of the scope of the present paper. Juul's discussion of the classical games model promises to be of use here.[35] The explanation might also have to capture the relationship between puzzles and games, because the former term seems particularly apt for describing videogames such as *Tetris.* At the very least games involve rules, and an objective-what it is to win the game-that is meant to be achieved in terms of those rules.

One complication is that the designation "rule" cannot always be taken to signify a rule in a declarative linguistic format. Rules in traditional games usually amount to a set of declarative statements about what sorts of moves are legal in the game and what counts as the objective or goal of the game (what it is to win). What guides the action in videogames are almost never rules of this kind but material possibilities for interaction and objectives that must be achieved-and often discovered-given these possibilities. A part of the challenge of many videogames involves discovering what the rules and objectives are through trial-and-error inductive reasoning, this being another way in which videogames differ from traditional games where the rules and objectives are known by the players in advance.[36] Juul argues that the extending of the concept "rule" to the material possibilities in videogames is appropriate because both things instantiate a particular kind of goal-directed *algorithm*.[37] Explicating the nature of the rules within videogames, including their similarities and differences to traditional game rules, is a topic in need of further research.

As argued in the earlier parts of this paper, not all videogames involve rule-bound gameplay, even in the minimally specified

sense of having rules and an objective. The second characteristic way in which an interactive entertainment can be a videogame is its employment of interactive fiction. Merely being a fiction, in conjunction with the two necessary conditions of the definition, is not sufficient for an artefact to be a videogame, as this would include within the class of videogames many fictional internet videos and films in a digital medium. It is clear that the emphasis must be placed on "interactive" to distinguish videogame fictions from these other kinds. What it is to be an interactive fiction is also in need of further explanation, but it already seems clear that something more than physical interaction or responsiveness is needed. What is needed is an explanation of how a player contributes to the fictive content and so can be said to be playing a role in a fictional scenario.[38]

Even without a detailed explanation of interactive fiction, it is evident that interactive fiction comes in number of forms, including simulations, world-exploring or world-building fictions, and interactive narratives. Simulation is that class of interactive fiction that makes claims to veracity with real activities or experiences; the various versions of *Microsoft Flight Simulator*, for example, attempt to simulate the experience of flying. Though the simulation is incomplete in various respects-it makes no attempt to simulate the physical forces of flying in a physical way, as do some commercial flight simulations through employing the somatogravic illusion-its simulation is detailed enough that it can be used as a training aid for real flying.

World exploring or world building games are those games that portray a fictional world, either through text, as in early text-based games, or, as is much more common in recent times, in a 3D graphical environment. When presenting a 3D graphical world, these are often called "sandbox" games. Though these games often do involve rules and objectives, they need not. A number of world building games are open-ended; as Juul notes, *Simcity* does not specify a clear goal. How the players conduct themselves-whether they aim for a vast functional metropolis or a city that they can subsequently destroy with a natural disaster-is up to the player. Newman calls this aspect of non-goal orientated gaming 'paidea.'[39] *Grand Theft Auto*, with its vast and replete fictional world, also encourages this kind of open-ended gaming, as does the similar fantasy-themed game *The Elder Scrolls: Oblivion.* In both games the gamer can spend his or her time exploring the cities and wildness areas and interacting with the locals. Some Massive Multiplayer Online Role Playing Games (MMORPGs) also lack quantifiable goals and outcomes, with fictional (and real) social activity being among the principal motivations for playing the game.

Finally, a number of videogames are fictional insofar as they involve interactive narratives. I claimed earlier that narrative and fiction are not co-extensive terms, but I also noted that fictionality seems to be a prerequisite for genuinely *interactive* narrative. Some artefacts are videogames in virtue of allowing their players to contribute to an unfolding narrative. It is in this sense that the genre of interactive fiction, if employed in a digital visual medium principally for the purposes of entertainment-for example, a game like the already mentioned

Zork-counts as a form of videogaming. One especially significant case of gaming narrative is the fantasy role-playing adventure and its orientation around the "quest": a transmedial gaming form that owes its existence to the documented historical convergence of computer and pen and paper role-playing games.[40]

6. Potential Criticisms

My claim here is that games can be best defined by a conjunction of two necessary conditions-the *digital/visual medium* condition and the *entertainment* condition-and a disjunction that summarizes how the former necessary condition instantiates the latter: *rule-bound gameplay* and *interactive fiction*. Finally in this paper, it is worthwhile rehearsing some of the difficulties that this definition might be susceptible to, both to defend and to clarify this disjunctive definition of videogames. Most obviously, examples of games that do not fit the definition, either because they lack one of the necessary conditions or both of the disjunctive conditions, would show the definition to be incomplete. Perhaps, in the case that the proposed counter-example failed to meet one of the disjunctive criteria, a further way in which digital visual entertainments could count as videogames could be used to supplement the definition. Indeed, this seems almost an inevitable prospect given that status of gaming as a developing cultural form. Thus, a related potential difficulty here is whether the disjunctive aspect of the definition, even if it presently does cover the features characteristic of videogames, will continue to do so. A definition can hardly be blamed for failing to predict the future course of a technological artefact. The sensible thing to do in such a case would be to broaden the extension of videogames and revise the intension of the definition to account for this substantive change. "Videogame" just is a historically contingent class, and any useful definition will have to acknowledge the potential of its future revision.

It might be argued that the definition offered here is too wide, particularly with respect to its inclusion of computer versions of games such as chess and Sudoku. Are these really videogames or normal games in a video setting? Just as one can play chess using a board and pieces or by correspondence using chess notation, so one can play it employing the representational means of a computer. Some would argue that this shift in medium is not sufficient to thereby make chess a videogame. Indeed, if it did have that effect, it might be that the proposed definition would be sufficient to turn *any* game into a videogame so long as it is played in a digital medium. Rather, genuine videogames, such as *Tetris*, have a closer connection to their digital medium in that they could not be played except in that medium. Therefore, if the intuition that medium transposition is not sufficient to make non-videogames videogames is correct, the medium condition in the proposed definition includes artefacts that are not genuinely videogames.

There are a number of responses that might be made here. First, there are unequivocal cases where non-videogames are adapted into videogames. Sports videogames are the most obvious examples: playing videogame football is not merely

playing football in a video setting. Arguably, the difference between chess and football is that we are already familiar with transmedial forms of chess, and so our initial temptation is to see videogame chess as *just* chess in another medium. Chess is such a representationally minimal game that it is very easily shifted between media (including into a purely mental/linguistic medium, as in blindfold chess). Modern videogame football, on the other hand, needed the technology to support 3D graphics and physics modelling before it could be created, and even now the form we have is only a rough approximation of the game. (Still, it is less approximate than the board game version I remember from childhood!)

Second, what would we say if chess had originally developed as a computer game and had subsequently been shifted to a board game setting? Surely our intuitions in such a case would tell us that a videogame had become a board game. Why should medium transposition in the other direction-from board game to videogame-not have the same categorical implications? In fact, some videogames *have* been adapted to become board games. In the early 1980s, Milton Bradley produced a number of adaptations of popular videogames, including board game versions of *Pac-Man* and *Frogger*. These examples show that medium transposition can change whether or not something is a videogame or a board game. To explain these intuitions about media transposition and game identity, perhaps it is best to say that there is a genus/species relationship in operation here, with board games and videogames being instances of a more inclusive category of games *simpliciter*. The identity of game types such as "chess" or "football" might be argued to be a feature at the general level. Sometimes, it turns out, videogames and board games can be tokens of a single general game type, and so a shift into a digital medium is, on the theory being presented here, sufficient for a board game to become a videogame while retaining its general level identity, in this case, "chess" or "football".

Another potential difficulty is that the definition offered here is too narrow. If a game is necessarily "intended primarily as an object of entertainment," this would seem to exclude those games that have intended uses besides entertainment. Videogames are now widely used in learning and instruction, such as helping children to learn mathematics. Videogames are also used to advertise or in a public relations function, as with the game *America's Army*, a first-person shooter aimed at increasing army recruitment and very similar to the popular commercial game *Counter-Strike*. Surely the proposed definition would not allow either kind of case to be counted as a videogame given their intended respective educational and advertising functions.

The natural response to make to this criticism is that in these cases the primary entertainment function-in virtue of which they are videogames-is a means to the further end of learning or advertising. Principally, *America's Army* is a videogame, and because it is so, it is effective at also being an advertisement (or, more cynically, a piece of propaganda). If *America's Army* was not first a videogame, then it could not have this further function. In fact, almost all videogames have mixed intended functions; given their commercial nature,

modern videogames are intended to make financial returns and would not otherwise exist given the growing expense of videogame production. But this does not mean they are not primarily intended for the purposes of entertainment, as such a claim would confuse what we might call the "local" and "extended" functions of the artefacts, the local function being how the artefact is intended to engage its participants, and the extended function being the extrinsic end, if there is one, that the artefact is designed to achieve through this mode of engagement. Such extended and local functions may coincide, as in a game that is produced solely with the intention of providing entertainment. But it is surely the case that most artefacts have a host of extrinsic functions.

Another way to show the need for this functional distinction is to acknowledge that there are artefacts in a digital medium that have as their extended aim learning or education, but which are not videogames because they do not use the local function of entertainment in achieving this aim. A medical simulation aimed at training laparoscopic techniques would be an example if the simulation did not intentionally engage and motivate its users by means of entertainment. The entertainment condition of the disjunctive definition, framed in reference to the local function of an artefact, is needed to distinguish such cases.

A different kind of problem arises if we question whether the above disjunctive definition can be turned into a non-disjunctive condition definition by adding to the first two conditions a further one that covers the later disjunctive set in some sort of encompassing way. The most obvious candidate for such a condition is that the digital visual entertainment artefact be interactive. Videogames could be defined as interactive digital visual entertainments. Unfortunately, 'interactive' is an ambiguous term and disambiguating the term will show it to be unsuitable to the task of defining videogames. Many non-videogames are interactive in the sense of demanding audience input, and so if 'interactive' is taken to refer to audience participation, the definition would probably stretch to include interactive DVDs, television on demand systems, various non-game internet activities, and toys with computer and visual display elements. If the sense of 'interactive' was specified more restrictively so as to capture the ways in which videogames are interactive but to exclude other interactive artefacts, it is not clear that the term could stretch to cover all and only videogames because the interaction involved in the various kinds of videogames seems quite diverse. *Tetris* is interactive in virtue of being a challenge to sensory-motor abilities set within a goal-directed framework. *Grand Theft Auto* is interactive in the sense of allowing the player to explore and interact with a fictional world. It is not clear that these two games share a sense of interaction that is not also shared by non-gaming internet activities or other interactive digital media.

The other option for an encompassing term that could be used to revise this disjunctive definition is 'gameplay.' Videogames might be defined as those digital entertainments that engage their audience through gameplay. Arguably, this would count as a general condition only in virtue of being uninformative, given the wide variation that exists in gameplay forms.

Gameplay could be stipulated as the modes of interaction typically involved in videogaming, but the natural question to ask now is: What are these typical modes of interaction? Without specifying the conditions of gameplay, we could not use the term to separate games from non-games in a non-trivial sense. It is my contention that when we do specify the nature of gameplay in a substantive manner, we will find that gameplay is not monolithic but maps onto the disjunctive conditions contained in the definition offered here. Again, the disjunctive form of the definition seems needed because videogames *just do* encompass more than one characteristic mode of engagement.[41]

Endnotes

[1] Newman, James, *Videogames* (New York: Routledge, 2005).

[2] For an approachable take on this semiotic approach see Steven Poole, *Trigger Happy: The Inner Life of Video Games* (London: Fourth Estate, 2000).

[3] Murray, Janet, *Hamlet on the Holodeck* (Cambridge, MA: MIT Press, 1998).

[4] Poole, *Trigger Happy*, p.108.

[5] Juul, Jesper, *Half Real: Video Games between Real Rules and Fictional Worlds* (Cambridge, MA: MIT Press, 2005).

[6] Aarseth, Espen, *Cybertext: Perspectives on Ergodic Literature* (Baltimore: Johns Hopkins University Press, 1997).

[7] Aarseth, *Cybertext*, p.1.

[8] *Ibid.*, p.2.

[9] See Kendall Walton, *Mimesis as Make-Believe* (Cambridge MA: Harvard University Press, 1990), pp.144-169.

[10] Aarspeth, Espen, "Genre Trouble: Narrativism and the Art of Simulation," in Harrigan & Wardrip-Fruin eds., *First Person* (Cambridge, MA:MIT Press, 2004).

[11] Aarseth, Espen, "Computer Games Studies, Year One," archived at gamestudies.org/0101/editorial.html (2001).

[12] Juul, Jesper, *Half Real*, pp.36-43.

[13] *Ibid.*, p.43.

[14] Juul, *Half Real*.

[15] Murray, *Hamlet on the Holodeck*.

[16] The analytic aesthetics literature on the nature of fiction is vast, signal works being Peter Lamarque and Stein Haugom Olsen's *Truth, Fiction, and Literature* (Oxford: Clarendon Press, 1994), and Walton's *Mimesis as Make-Believe*. Both works argue that fiction is a matter of convention and pragmatics rather than representational form.

[17] Travinor, Grant, "Videogames and Interactive Fiction," *Philosophy and Literature*, April 2005, 29, 1.

[18] Juul, *Half-Real*, p.48.

[19] Walton, *Mimesis as Make-Believe.*

[20] Newman, *Videogames*.

[21] *Cf.*, Davies, Stephen, *Definitions of Art* (New York: Cornell University Press, 1991).

[22] Bell, Clive, *Art* (New York: Frederick A. Stokes, 1913).

[23] Newman, *Videogames*, p.15.

[24] A recent exchange on the website of the *American Society for Aesthetics* between Denis Dutton and Roger Seamon illustrates this division. Denis Dutton, "Let's Naturalize Aesthetics," archived at www.aesthetics-online.org/ideas/dutton.html. Roger Seamon, "Let Them Naturalize Aesthetics: A Reply to Denis Dutton," archived at www.aesthetics-online.org/ideas/seamon.html. Similarly, in "For the Ghettoization of Aesthetics," Seamon calls for theorists of the arts to resist the "scientization" of aesthetics, and to continue to be normatively involved in the practice of the arts; archived at www.aesthetics-online.org/ideas/ghetto.html.

[25] Aarseth, "Genre Trouble."

[26] Poole, *Trigger Happy*, p.189.

[27] Smuts, Aaron, "Are Video Games Art?"*Contemporary Aesthetics,* archived at www.contempaesthetics.org ; and Aaron Smuts, "Video Games and the Philosophy of Art," archived at www.aesthetics-online.org/ideas/smuts.html.

[28] Weitz, Morris, "The Role of Theory in Aesthetics," *The Journal of Aesthetics and Art Criticism* 15 (1956): 27-35.

[29] Davies, Stephen, *Definitions of Art*.

[30] Kent, Steven L., *The Ultimate History of Video Game* (New York: Prima, 2001).

[31] Carroll, No-l, *Philosophy of Art; A Contemporary Introduction* (London: Routledge, 1999). Jerrold Levinson is another to offer a theory of art that is historicist in "The Irreducible Historicality of the Concept of Art," *British Journal of Aesthetics* 42 (2002).

[32] Bond, E.J., "The Essential Nature of Art," *American Philosophical Quarterly*, 12 (1975); Davies, Stephen, "The Cluster Theory of Art," *British Journal of Aesthetics* 44 (2004):297-300; Dutton, Denis, "A Naturalist Definition of Art," *The Journal of Aesthetics and Art Criticism*, 64 (2006):367-77; Moravcsik, Julius, "Why Philosophy of Art in a Cross-Cultural Perspective?" *The Journal of Aesthetics and Art Criticism*, 51 (1993):425-436.

[33] Dutton, *A Naturalist Definition of Art*, p.373.

[34] Dutton, *A Naturalist Definition of Art*, p.374.

[35] Juul, *Half-Real*, pp.36-43.

[36] Aaron Smuts notes this difficulty with game definitions of

videogaming, using "iron parameters" where I have invoked the notion of "material possibilities for interaction": Aaron Smuts, "Are Video Games Art?"

[37] Juul, *Half Real*, pp.36-43.

[38] Tavinor, "Videogames and Interactive Fiction."

[39] Newman, *Videogames*, pp.19-20.

[40] *Cf.*, King, Brad and John Borland, *Dungeons and Dreamers* (Emeryville: McGraw-Hill, 2003).

[41] I would like to thank an anonymous reviewer for *Contemporary Aesthetics* for a number of valuable comments on an earlier version of this paper.

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