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Games as participation – on the application of Roman Ingarden's aesthetics to video games.

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1. Roman Ingarden's ontology project.

Eighty-seven years after its original publication in German (Ingarden 1931), Roman Ingarden's aesthetic theory remains to be one of the most original accounts of the ontology of art works. Unfortunately, as pointed out by (Mitscherling 1997) the theory has never been widely accepted in aesthetics, although some of the attempts at applications of the theory have been made latel (Jin-Yan 1990, Nyenhuis 1990). The main reason for this is that the theory is very general and could probably be better described as the ontology of art, than aesthetics. In this respect, it is closer to works such as (Walton 1990) than analyzes of particular works typical of modern aesthetics. Ingarden was interested first and foremost in the ontological status of works of art and not in their aesthetic evaluation. He saw the task of ontology as the groundwork for future aesthetic considerations. Because of this applying his theory to particular works of art yields fairly unexciting results as the analyzes of different works may end up being very similar to each other.[1] Still, since the theory deals exclusively with works of art it still can be described as an aesthetic theory in a broad sense of the word.[2] What makes Ingarden's project especially interesting from the point of view of game studies are three general assumptions that it is built on.

First of all, he was committed to the analysis of works of art regardless of their social and historical context. The reasoning behind this assumption is that works of art are objects which can be studied independently of the circumstances that led to their creation or of the function they play in culture. Taken without additional explanation this assumption may lead to misunderstanding. Ingarden did not ignore the fact that works of art are always created by a specific person with a historical and social background or that their proper interpretation demands for the interpreter to understand the context they function in. His claim is much weaker and boils down to a simple observation that amongst all of the features of the work of art there are at least some which can be described and analyzed in a purely formal manner. To give a trivial example of such a property, think of the number of pages a novel contains or of the length of a musical piece. People may disagree if any of these properties are interesting or useful in aesthetics, but there are no doubts that it is possible to talk about them. In this respect, his project can be compared to the object-oriented approaches to game studies - approaches that attempt to describe games only in formal terms, abstaining from the

[1] Although it may be very useful for the analysis of avant-garde works which question the very status of art.
[2] As opposed to theories of aesthetic values, which can be understood as aesthetics in the narrow sense.

interpretation of their content or from the socio-historical context of their production (Elverdam & Aarseth 2007). There are reasons to believe that in the case of computer games this kind of analysis might provide us with more non-trivial results than in the case of any other medium. The reason for it is that at least two aspects which are specific to games - namely their code and their mechanics - can be successfully described in purely formal terms.

To explain the difference in question even better it may be useful to invoke a more modern distinction provided by Philip Brey (2014). Following Searle (1995), Brey proposes to discern between three ontological categories of objects: natural kinds (which can be studied without invoking historical or sociological contexts), social objects, which are fully determined by social as well as historical circumstances and artifacts. Artifacts (which works of art are an example of) function as hybrids between natural kinds and social objects. They have properties that are independent of the socio-historical context but exist in order to play a certain function or a role in the culture. This function cannot be detected via formal analysis or empirical study as it demands interpretation and understanding of the culture in question. To use a simple example, if an archeologist finds a comb-like object, she can never proclaim it to be a comb, without studying the culture it belonged to. She may describe its physical and formal properties - for example, she may say that the material it is made from and its shape give it affordances that make it highly probable to have been used as a comb, but this claim can never be verified without the study of the cultural context. Still, it does change the fact that she is able to tell us something about the object - only that this will never be the whole story.

Secondly, Ingarden believed that works of art cannot be ontologically classified using existing ontological categories of "ideal" and "physical" objects. They demand a separate ontological category of "purely intentional objects" which can be explained as a combination of the properties of physical and ideal objects. The main reason why Ingarden postulated this new category is that he wanted to distance himself from "psychologism" - the assumption, that works of art can be reduced to psychological states of their interpreters or authors (Mitscherling 1997). Regardless of this particular motivation, the ontological construct he suggested and, especially, the argumentation he used to advocate for it, ended up being much more general and can be used to combat any form of reduction of the ontological status of works of art to the categories of "ideal" or "physical" objects. The reason why works of art cannot be reduced to physical objects is that (with the exception of paintings and sculptures) they can be instantiated in a multitude of physical objects. There are millions of copies of "Harry Potter and the Philosopher's Stone" but we tend to agree that all of them contain the same novel. This simple observation makes it impossible for the novel to be identified with its physical printed form. On the other hand, one of the characteristic aspects of ideal (platonic) objects is that they are eternal: they do not originate at any point in time and cannot be destroyed at any point in time.[3] According to Ingarden, the ontological status of works of art is special as even though they are similar to ideal objects in that they are not physical, they still can be said to originate at a particular moment in time (the moment when they were created by the author).

[3] Whether we believe that platonic objects exist is beside the point. The reasoning deals with a description of a certain ontological category which may, just as well, end up being empty.

The description presented above suffices to differentiate intentional objects from ideal and physical objects but it does not tell us much about their most characteristic feature - the fact that some of their properties (or aspects) remain unspecified. The idea behind this "property indeterminacy" is quite simple. Even though our descriptions of regular objects (be it physical or ideal) may always be incomplete - we may miss many of their properties in our descriptions - it does not change the fact that the objects are feature-complete. They have a complete set of properties, it's just that we may miss some of these properties when we describe them. In contrast to this, apart from normal properties, intentional objects contain empty spots that have to be filled by minds that think about them. This indeterminacy of properties makes intentional objects the perfect choice for aesthetics. Fictional objects are always underspecified - no matter how many properties the author mentions in her description, there is always something that was not overtly mentioned. Consider a simple example, let's say that you are reading a passage which depicts a room. The passage you are reading does not mention anything about the temperature of the room. Still, since the passage clearly refers to "a room", you know that it has to have some temperature. You may narrow down the possible choices by thinking that the temperature could not be unusual if the author omitted this detail, but it does not change the fact that the choice of possible values of the temperature is quite big. According to Ingarden, we should not simply assume that the fictional room has a fixed temperature which we simply have no knowledge about. There is no knowledge to be gained and no discovery to be made - the exact temperature in the room is simply undetermined and has to be provided by the interpreter. It is the interpretation that makes the object complete. Different readers (or even the same reader during different acts of interpretation) may complete the objects in different ways and there is no correct or incorrect way of doing this.

The third reason why Ingarden's ontology seems fitting for game studies is that it is inherently heterogeneous. Ingarden did not believe in a universal aesthetic system capable of describing works of art from any medium. On the contrary - his works show, that he felt the need to adjust the theory to different media. During his work, he presented theories suitable for literature, music, stage plays, film as well as architecture and the differences between these theories are vast. This attitude to aesthetics fits the context of video games very well as it guarantees that the unique aspects of games will not be lost in the analysis.

2. Ingarden’s theory in games studies literature.

The attractiveness of some of the aspects of Ingarden's ontology has already been recognized in game studies. The category of purely intentional objects has been adapted to games by (Asheim 2012). Although very interesting, his analysis goes into another direction, as he is more interested in the logical analysis of sentences describing games than ontology. The theory has also been used by Karhulahti (2013) in order to analyze puzzles. In a similar fashion (Vella 2015) shows how the notion of "concretization" (which I analyze more closely in the next section) can be used in the video games context. All of these examples can be seen as interesting applications of the existing theory, but they do not attempt to alter Ingarden's ontology so it fits the medium better (something I attempt to do in this paper). Even though the need for such an extension has been pointed out in (Maryl 2017), no attempt at doing so has been made. As can be seen in the following section I wish to deviate from the standard interpretation which focuses mostly on the adaptation of Ingarden’s literary works aesthetics and build computer games ontology on the basis of Ingarden’s ontology of musical works.

3. Ontology of music.

Even though the most famous application of Ingarden's theory is his work on the ontology of literary works, it is his later discussion of ontology of music (Ingarden 1986), that I find most useful for game studies. Let me start by pointing out that Ingarden was interested only in what he calls "pure music", that is music devoid of any meaning. Pure music does not tell stories, invoke characters or suggest any claims. If the author wishes to do that, she has to resort to standard semantic means - provide lyrics or a title that goes beyond a purely formal description (such as "Sonata in c-minor"). Using Ingarden terms we could say that music operates on a single ontological level. Still, as we are going to see, the one-sided nature of music does not mean that its analysis is simple.

According to Ingarden, the main task of the ontology of music is to establish relations between three separate objects: the score, the performance and the musical work itself. The main argument for this need is that the musical work cannot be reduced either to score, nor to the performance and it is very unclear how exactly should it be related to them.

The reason why the musical work cannot be reduced to the performance is that there are infinitely many performances that can be associated with a given piece and none of them is authoritative or ultimate - even if we consider any of them to be "the best". Our ability to evaluate performances is independent of ontology as even the worst performances of a given piece have the same status as the best ones. To use Ingarden's terms, they are just "concretizations" of the musical work. The idea behind this observation seems intuitive but it has to be noted that it leads to a difficulty which Ingarden does not solve in a satisfactory way. How do we decide if a given performance is the performance of a given musical piece? Let's say that I want to perform musical work A but end up doing such a bad job of it that the audience recognizes it as a performance of a musical work B. Did I just play a bad version of A or a decent version of B?

It is also worth noting that the performance can never be a perfect concretization of the score because the notation system used to describe the musical work is imperfect and omits some of the details. Consider the example of the tempo - the traditional score uses fairly vague tempo descriptions, such as "allegro" or "andante" which refer to certain ranges of tempo but which do not fix it completely. Moreover, even though a typical score may indicate instrumentation, it does not refer to any particular instruments (only to their types).

The most important reason why the performance should not be conflated with the musical work comes from ontology. Performances are physical processes that begin and end at certain points of time. Even though musical works can be said to have an origin (they are created at a given moment), they are not extended in time and cannot be identified with any physical process (performances included).

It is also important to remember that performances should not be conflated with their reception. A single performance can be perceived by many listeners who can also change the properties of the reception if they change their location. Ingarden points out this difference but he was interested in exploring the notion of reception, most probably because of his critical attitude towards psychology.

Up to this point, I analyzed the relation between musical work and performance. But what about the score? Couldn't we identify the musical work with its score? On the surface, this may seem to be possible. The score is not a physical object (although it does have physical concretizations, such as printouts or digital representations), so the arguments used above are not viable. Ingarden considers the possibility of identifying the score with the musical work but ends up deciding against it. The main argument for this decision comes from the fact that the connection between the score and the musical work is purely conventional. In this respect, the musical score reminds of language. The conventions used for scoring are contingent and depend on the notation used at the time. They can be transcribed to other notations, without changing the musical work. Moreover, the relation between the score and the musical work is much looser than the relation between language and literary works. Literary works cannot exist without language but there is nothing surprising in the idea of a musical work that has no score attached to it. Even though Ingarden focused mostly on classical music, he was fully aware that the existence of a score is a contingent fact that cannot be treated as a necessary condition for the existence of the musical work. Not only cannot the musical score be identified with the musical piece, but it also cannot be treated as its part. It is just an auxiliary device we use for performances - a normative description of a performance.

The fact that many musical works exist without a score (which is especially evident once we move from classical music towards popular music) opens up an additional possibility which Ingarden briefly takes into consideration. Imagine a situation in which someone creates a composition through improvisation. Since no score is created, can we identify the musical work and the performance in these specific cases? What if the improvisation is recorded? Is the recording equivalent to the score? For Ingarden the answer to both questions is negative. The performance, even one that is given by the composer, can never function as the definitive version of the musical work. The composer does not have to be a great performer and she can easily be outperformed in the future. The recording, no matter how good, will be treated as a template at best and nothing precludes other people to create their own versions of "the same work".

All of these reasons contribute to the final verdict: the musical work has to be considered as a separate entity. It is not a physical object (this is the realm of the performance); it is not an ideal object (this is the realm of the score). It is a purely intentional object. As mentioned at the beginning of this paper, the most characteristic aspect of purely intentional objects is that they contain blank spots that the interpreter fulfills. Can the same be said about musical work? At this point, it seems that Ingarden bends his argumentation to fill the ontological template. He assumes that music indeed does contain blank spots because the score can never describe it fully. It is hard not to be surprised by this result. It is true that the notation Ingarden takes into consideration is imperfect, but is it really impossible for some future notation to describe the composition completely? What exactly are the blank spots, which can never be filled by scoring? Since the aim of this paper is not to defend Ingarden's original ontology, I will leave this question unanswered. It is possible because, as we are going to see in the next section, applying Ingarden's theory to computer games does lead to the same difficulty.

4. The ontology of music as a template for the ontology of computer games.

There are no doubts that some of the parts of Ingarden's ontology of musical works lead to problems. His focus on classical music and peculiarities of musical notation are questionable, making his theory difficult to reconcile with modern composing techniques. Still, I believe that his considerations may be very useful for the analysis of computer games. I might even go as far as to say that, with some minor corrections, his ontology of music ends up being a better ontology of computer games than the ontology of musical works.

To show this let me start with the obvious fact that the musical work (as described by Ingarden) can be easily compared to computer games (and to software in general). First and foremost, digital games contain code which is performed by the machine (just as the score is being performed during the concert). The performance of the game (which can be best characterized using the popular notion of "playthrough") is a physical process that beings and ends at certain times. Similarly to the score, the code is an abstract object which can be physically realized in many machines without losing its identity (it remains to be "the same code"). Similarly to what happens during the musical performance, the playthrough can be analyzed from two angles - the machine part (the equivalent of the influence of musical instruments on the performance) and the operator part (the equivalent of the influence of the performers). Both processes can contain separate roles of "performers" and the "audience" but in many cases, both of these roles can be played by the same entities. For example - in a typical single-player game scenario, the player contributes to the playthrough and observes the results (she is her own audience). Still, nothing precludes her from streaming her playthrough for others. It seems that these parts of Ingarden's ontology fit the computer game medium like a glove and do not demand any specific changes as the fundamental difference between games understood as objects and game understood as processes have already been stressed in game studies (Aarseth 2014). In this sense, Ingarden's account can be understood as a more precise description of a rather well-known and uncontroversial picture. If we want to talk about computer games we have to discern between the computer game itself, its code and the result of the execution of the code.[4] The result of the execution has to invoke players' actions as they are not determined by the code. The sum of the execution and the players' actions is the game's playthrough.

Using these notions we are now in a position to ask questions analogous to those asked by Ingarden in his analyses of music. First and foremost, we should consider the possibility of reducing "computer games" either to their code or to their playthroughs. The argumentation against the latter possibility is very similar to the one Ingarden used while discussing the possibility of equating musical works and their performances. There are infinitely many playthroughs of games, some of which may even be very specific (for example speedruns). Which of these playthroughs should we choose as the definitive one? Should it be the one that is the most proficient? Should it be the one that presents the possibility space of the game to the fullest? Note, that in the case of some of the games the idea borders on impossible. How can we present a playthrough of "No Man's Sky" or any other procedurally generated game? On top of that, it is perfectly possible for a game to be coded but never played by anyone.

[4] To avoid misunderstandings, it is important to point out that the games' code should be understood as "machine code" - code that has been compiled.

The idea of equating computer games with their code seems much more attractive because the main argument Ingarden uses against its analogon in the realm of music does not work in the computer game case. In contrast to the musical score, it is impossible to imagine a computer game without the code. We can easily imagine different games being played within the same code - for example different modes available for players or different house rules which the players add to the game, but not a different computer games.

This observation may seem to be minor, but its consequences are rather profound. Despite what the name suggests, computer games should not be understood as a subtype of games. In fact, computer games are not games at all. They can contain games within them just as they contain short movie segments, books, music or comics, but their own status is different. This may sound like a provocation but it is actually not that uncommon for names to be misleading in this way. For example, only kids may believe that guinea pigs are a subtype of pigs. Advanced language users do not let etymology dictate the meaning of words. The idea that computer games are not games is not new - it has been advocated by Espen Aarseth xxx and Velli Matti Karhulahti (2013). It is also corroborated by the way the notion of a "computer" (or "video") game was used in the past. If you look at the boxes of software sold for the original Atari 2600 you may be surprised to find that they were typically advertised as containing many different games. This convention may be initially disregarded as a marketing ploy, but it was actually the logical extension of the way the term "game" was used in pre-digital contexts. If a Pong cartridge contains a standard two-player variant and a one-player variant where the user can bounce a ball against the wall, it is much more natural to say that the software contains two games. Just as we do not conflate tennis with squash, we should not conflate both of these modes calling it a single computer game, just because of the way it is sold. Discussing this point further may make this paper lose its focus, so let me just end this digression by pointing one result which is crucial for our considerations. Since computer games are not a subtype of games, we do not have to worry that the task of creating an ontology of computer games demands us to define games (or more generally, explain the ontological status of games). Computer games are a subtype of computer software - one which is created for entertainment. For this reason, providing the ontology of computer software is all that we really need.

An aspect that makes the connection between computer games and their code even stronger is that, in contrast to the relation between the score and the musical work, the relation between the code and the game is not arbitrary. The code has to be perfectly aligned with the physical specification of the machine (otherwise it wouldn't simply run). For this reason it makes a much better illustration of the idea of a concretization proposed by Ingarden. What is more, the code seems to be just as good of an example of the idea of intentional object. As mentioned above, the main criterion Ingarden uses to establish that something can be described as an intentional object is that it contains blank spots which have to be fulfilled during interpretation. In the case of computer games, this somewhat metaphorical idea can be understood literally, because the game's code contains variables which have to be filled with parameters set by the users. It contains blank spots in a literal sense.

Can we then conclude by identifying computer games with their code? Unfortunately, there is one argument that makes this move somewhat counter-intuitive. Practically every computer game comes as a family of pieces of code – there are many versions, conversions and ports of a single computer game. By definition, newer game iterations, ports and conversions do not

contain exactly the same code (otherwise the process of porting or converting wouldn't be necessary). Still, unless the differences in their mechanics or aesthetics are vast, they are typically classified as the same computer game. This common practice makes equating video games and their code much less attractive as. People do not call Overwatch a different computer game just because they updated it to version 1.01. But they will call Overwatch 2 a different game (if it ever comes out). Reducing computer games to their code flattens these distinctions.

What is worse, many current practices of game development complicate things even more. Consider the following example. Doom and Doom 2 are two different computer games and two different pieces of code. At the same time even though Overwatch 1.00 and Overwatch 1.41 are different pieces of code, they are still treated as one computer game. And yet, the differences between both versions of Overwatch greatly outweigh the differences between Doom and its sequel in all departments - aesthetics, mechanics, available game modes etc. How can we expect to find any internal aspect of the game to deliver identity conditions capable of expressing the meaning of the common term "computer game" if such disparities in usage are permissible? What is treated as the same "computer game" is also tightly connected to the delivery methods used in game production and to the marketing practices of companies. Back in the day, when patching games were not possible (due to the lack of good Internet infrastructure) even small revisions were typically released as different computer games. To use one example - consider Virtua Fighter Remix released for the Sega Saturn in 1995. It was widely considered to be the update of the original game which was pushed to meet the console launch deadline. In contemporary computer games culture, it would have been surely delivered as a free patch to the customers. Letting ontology simply follow these quickly changing trends sounds like the shortest way to theory obsolescence. There is simply no historical consensus as to when a given version or revision of software should be treated as a separate computer game and when it should be considered as a new iteration of the same computer game.

For this reason, I suggest a fairly radical solution. Building on the concept of machine code (which ontology can be explained by a version of Ingarden's theory) I propose to understand the notion of "computer game" as an authorized set of different pieces of machine code. These pieces of code could have just as well be treated as different computer games, but by the decision of their creators they have been sanctioned to be included in the same set - to be treated as instances of the same "work". The author's decision is typically motivated by the similarity of the pieces of code or the fact that they were created in an iterative process. But it could just as well be motivated differently - for example by the need to market these pieces of software in a specific way. The creators' decision is typically manifested by the naming convention. All of these pieces of code are labelled the same way. But the fact that they belong to the same set does not come from the naming convention. If the authors decided to change the name (for example for legal reasons) the integrity of the set can still be preserved. For example - Iron Brigade, xxx Double Fine game has been initially named "Trenched" but the change of the name did not result in both titles to be treated as separate games. The decision of the authors is irrevocable - the fact that the players feel that a certain change in the game (for example a certain patch) changed the code to the extent that it should be treated as a "separate computer game" never outweigh the decision of the creators. As we saw, technically speaking all of the pieces of code that belong to this set are separate. The fact that

some of these differences may in certain historical circumstances be treated as more important than others is irrelevant from the point of view of ontology.

5. Conclusion

Ingarden's ontology of music seems to be an even better fit for computer software. This application is useful both - game studies (as it presents a coherent ontology of a computer game) and for Ingarden's account, as the domain of computer games (or more generally computer software) solves some of the problems the original theory had.

According to the picture that emerges from the above analyzes, computer games are sets of machine code pieces. The sets are created by the creators of the code by sheer declaration and there are no internal characteristics of the code that guarantee their membership in the set. The practice of grouping separate pieces of code under the label of "the same game" changes over time and it is not possible to predict its evolution. Still, once created, the sets are stable as we do not revert our classifications depending on the historical circumstances.[5] The pieces of code are abstract artifacts that contain blank spots which makes them strikingly similar to Ingarden's pure intentional objects. Some of these blank spots have to be filled by players' actions during the execution (playthrough). This characteristic of the code makes computer games interactive. The difference between computer games' code and general idea of software code comes from their hybrid nature. Similarly to many other artifacts used in culture they are created to perform certain function - in this case, to deliver entertainment. Both of these aspects of computer games' code allow us to describe it without referring to the notion of a game. From this point of view, they are much better characterized as "interactive entertainment". The playthrough of a computer game is a physical process that consists of the machine's and players' part. The playthrough is a conretization of a particular piece of game's code and the number of different possible playthroughs depends on the number of blank spots the code contains.

The above ontological description leads to a few interesting consequences for game studies. First of all, the study of computer games (sets of pieces of game code) makes sense only from the point of view of social and historical research. The way sets are created is completely contingent on particular socio-historical circumstances and the whim of the creators. This makes this notion almost useless for someone who wishes to study games as objects. Second of all, using playthroughs (not to mention recordings of playthroughs) in game studies is inherently flawed as even multiple playthroughs cannot be identified with games' code (not to mention the sets of games' code). The researcher may, of course, resort to a study of a particular playthrough (Westerlaken 2017), but whenever she wishes to generalize her findings and say something about a "computer game" she has to remember that everything she says has a status of an empirical hypothesis. The reasons for that are twofold. First of all, she has to remember that by using the notion of a "computer game" she is now referring to a set of pieces of code (which may differ significantly). Secondly, she has to remember that the only thing she could experience via a playthrough is a concretization of a particular code, and not the code itself. Strictly speaking, only a combination of the study of the whole set of pieces of code combined with playthroughs can be described as the study of "computer game".

[5] For example, we do not change the classification of Virtua Fighter and Virtua Fighter Remix even if according to contemporary practices they would most probably belong to the same set.

Games

NO MAN'S SKY. HELLO GAMES, PC, 2017
OVERWATCH, BLIZZARD, PC, 2016
VIDEO OLYMPICS, ATARI, ATARI 2600, 1977
VIRTUA FIGHTER, SEGA, SEGA SATURN, 1994
VIRTUA FIGHTER REMIX, SEGA SATURN, 1995
WORLD OF WARCRAFT. Blizzard/Vivendi, PC, 2004.

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