

World Annihilation Operations Database

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Abstract

This paper recounts the first part of a larger research-creation project on perceivable logical contradictions in video games. Inspired by research on impossible worlds theory, which is a derivative of possible worlds theory, as well as similar research mainly in literature, it seeks to expand the concept within video games, mainly from the standpoint of a creator. The paper begins by acknowledging the already significant presence of perceivable logical contradictions in popular video games. It then describes an inductive process that led to the elaboration of a database of operations capable of intentionally generating various sorts of logical contradictions in a video game world. From this database, it details a 2-layers typology which simultaneously offers insight on the range of aspects logical contradictions can affect in games and specifies general technical means of exploring those contradictions as a video game developer. Finally, it offers a range of functions that such logical contradictions may serve, both in terms of traditional game design and more artistic endeavours.

Keywords

Contradictions; impossible worlds; video games; fiction; research-creation; logic; game development



Introduction

As pointed out by Jesper Juul (2011), "some games, and many video games, present game worlds that are incoherent worlds, 'where the game contradicts itself or prevents the player from imagining a complete fictional world'" (pp. 123-124). Some instances of incoherence in games have been studied. Notably, the notion of ludonarrative dissonance, which can be understood as a phenomenon describing incoherent discourses between a game's story and its gameplay, has been discussed at length (for a literature review on the subject, both as a critical concept and a possibly desirable effect in game design, see Seraphine, 2016). However, attempts to provide a more general and creative understanding of deeply surreal, impossible or incoherent game worlds remain sparse.

Astrid Ensslin's work regarding unnatural narratives in video games (2015) appears as a notable exception, exploring situations in games from the perspective of unnatural narratology (Alber & Heinze 2011), which seeks to explore "narrative impossibilities and violations of mimesis and conventionality" (Thoss et. al., 2018, p. 623). Still, this approach remains highly dependent on what one means by "unnaturalness," whether it refers to an opposition to the natural world, or to specific conventions in a medium, for instance (Ensslin 2015).

This paper aims to provide a novel and easily extendable preliminary framework describing a range of seemingly impossible and incoherent elements in video games, based instead on fundamental concepts in logic. The resulting work should both serve as an analytical tool and help reach certain game design objectives.

This paper conceptually starts from a well-established standpoint to study fictional artworks, possible worlds theory, and attempts to creatively expand its corresponding limits. Recognizing logical contradictions as an obvious way to generate what one could then call impossible worlds, it examines how such a vast concept could be applied to video games and acts as a creative tool. This paper is the result of the first part of a research-creation process, which consisted of building such a tool before testing its true potential in the context of game development (to be completed in the future).

In the following sections, I will first discuss the concept of logical contradictions. Secondly, I will describe the methodology that led to the creation of a database of operations capable of generating logical contradictions in games from a creator's perspective. Then, I will describe a typology emerging from the dominant nature of the contradictions generated by each operation. Finally, I will explore many purposes game creators may share justifying the use of these operations.

Logical Contradictions in Video Games

Video games commonly represent situations which could not occur in the real world. Obvious examples are seen in the frequent use of magic, dubious physics like sounds being heard in space, or the superhuman properties of some characters, including those controlled by players (bodily resistance to bullets and swords, unbelievable recuperative properties, potentially infinite stamina, etc.). Ensslin (2015) repeatedly describes games as “unnatural narratives *par excellence*,” listing several other instances of impossibilities within video games such as “talking animals, monsters and other forms of nonhuman yet anthropomorphised creatures,” (p. 53) “warping, or teleporting,” (p. 54) or “multiple impersonations of one and the same player” (p. 54) in MMOGs.

Games, however, often go one step further by presenting *logically* impossible elements, in other words, configurations or events that defy fundamental logical principles. Although there have been reflections about multiple logical laws being violated in fiction, the law of non-contradiction is the most frequently discussed (Nolan 2021). In literary fiction, but also in games, violation of the law of non-contradiction is seen through statements about a world that appear to contradict each other, either directly or indirectly. For instance, “it is raining” directly contradicts “it is not raining”, while “the ground is dry” also contradicts what a sentence like “it is raining on the ground” entails.

One of the most notable and prevailing examples of such flawed logic in games lies in the death of the avatar. In the vast majority of games, the avatar’s death is not meant to be permanent, as the player is instead usually taken back to a previous checkpoint following their demise. In most worlds where characters do not normally resuscitate at will, such an event implies that many things the player experienced supposedly never happened (at the very least, it seems the avatar did not die, as they are still alive). Yet, the player gained experience through fictional death, has gained further knowledge of the virtual space, and might even come up with strategies that could only emerge through previous failures. Thus, in a way, it seems the avatar did, in fact, fail and die.¹

This example demonstrates how apparent logical contradictions are sometimes essential in games, serving functional purposes. Similarly, enemies may return to a previous state after dying, for instance, when the player revisits past levels, so that the player may practice combat mechanics, or simply because they may desire reliving specific parts of the experience. Whole fictional spaces may also be represented from contradictory perspectives. In *Dragon Quest XI S: Echoes of an Elusive*

¹ Interestingly, some games like *Outer Wilds* (Mobius Digital, 2019) or *I Was a Teenage Exocolonist* (Northway Games, 2022) present the avatar’s death as an actual, inevitable part of the story, from which a new iteration of the avatar is either born or awakened in a previous time. Reminiscent of the *Groundhog Day* effect, the player is thus stuck in a time loop, potentially leading to perceived time paradoxes.

Age – Definitive Edition (Square Enix, 2020), the player can choose to go through the whole adventure in 3D or in an alternate 2D mode (even switching modes in-between), both displaying significantly different world configurations: among other things, the 2D world seems a lot smaller.

To explore more formally how logical contradictions coexist in game worlds and how they affect it, we can investigate specific types of worlds derived from possible worlds theory: impossible worlds. In possible worlds theory, many models will consider a world as possible if it adheres to fundamental logical principles (see, for instance, Berto 2017). Conversely, a world in which such conditions are not met would then be called an impossible world. This idea of impossible worlds describing various works of fiction has been explored by many authors, including Graham Priest (1997), William Ashline (1995), Christopher Badura and Francesco Berto (2018), Francesco Berto and Mark Jago (2019), and Daniel Nolan (2021). Importantly, Marie-Laure Ryan (2013) has presented various ways in which logically impossible ideas present themselves in literature, often intentionally by authors: as direct contradictions, ontological impossibilities, impossible spaces, impossible times, and impossible texts.

In part inspired by these works in literature, this paper explores the potential of logical contradictions in video games. Any observation could conceivably be contradicted by, at the very least, a sentence displayed on the screen. Therefore, considering the incredibly vast domain of what can constitute logical contradictions in games, some limitations are necessary. Firstly, this project aims more specifically to extend the realm of what can be experienced through video games. For this reason, some priority during research has been given to logical contradictions, which are not commonplace in video games. Furthermore, it should be noted that in video games, much work can often be needed to translate what is experienced into formal logical propositions (even a single frame in a video game can be linked to many simultaneous propositions). Video game worlds are complex, and what we understand from them as a player may even depend on gameplay choices, the amount of exploration done, as well as other factors. Also, not unlike literary fiction, some phenomena remain open to interpretation. For example, a player could simply accept time travel mechanisms without much thought. Others might immediately associate time travel with time paradoxes (what if one were to kill their own ancestor before being born?). Others could presume, without any clear indication from the game, that time travel necessarily implies the systematic production of divergent timelines that never intersect with each other, thus solving any potential paradox.

Therefore, none of the logical contradictions mentioned in this article are meant to be taken as absolute, objective facts in an impossible world. Instead, they are always reasonably perceivable logical contradictions,

interpreted from a gameplay experience. Whether these interpreted contradictions are more often accepted as impossible facts or some sort of illusions by specific individuals or groups is irrelevant to this article. I argue that this does not diminish their interest, either from a creative or analytic perspective. In fact, rather than dismissing any contradiction as potentially an illusion, it seems more productive to imagine logical contradictions as representational tools to evoke, among other things, illusions, such as hallucinations from the character controlled by the player.

Elaboration of a Database of Operations Generating Logical Contradictions

This section recounts how a database of operations able to generate logical contradictions in video games was elaborated. The current version of the database, which I call World Annihilation Operations Database (WAODB),² consists of 256 entries (lines), all available in the appendix to this paper. References to this appendix are made throughout this section, pointing to specific entries using their corresponding ID.

The WAODB was established between early 2022 and the end of 2024, first and foremost through a process of discovery of operations while playing various games. This included games I created myself as well as games I played in my free time. In practice, any situation I would interpret, in game, as appearing logically incoherent (for instance, an object transforming into something entirely different every time I looked away), or otherwise having logically contradictory implications (for instance, a portal linking two distant areas can imply that two locations are simultaneously close and distant from one another), could be considered as a potential candidate for the database.

Because they were imagined as potential creative tools, a lot of attention has been given to the technical and practical patterns that lead

² The term “annihilation” might appear out of place here, seeing as contradictory statements in a game are unlikely to make it disappear into thin air. However, the title is rather meant as a sort of tongue-in-cheek statement regarding the classical philosophical view according to which everything follows from a contradiction (see Hewitt 2019 on the subject), which would make any impossible world equally meaningless. This view, however, can be contested at least when it comes to thinking about worlds of fiction since those are not your typical worlds: they can be whatever we make them be. Particularly, if an author is deemed free to validate specific contradictions, they might as well be free to invalidate some entailments. Outside this reference to classical logic, there is, I believe, something viscerally powerful and captivating behind the idea of a world being annihilated. Overall, the title is obviously linked in some ways to the content of the database it refers to (as the operations do have to deal with consequences on the formal understanding of the worlds they apply to), but there is also very much an artistic drive behind it.

to contradictions. What distinguishes every entry of the list is not the fundamental characteristics of the perceived contradictions, but the way to generate them in a video game's creation process. This seemed necessary since different implementations of effects that superficially look identical can involve mechanisms linked to different potentials and limitations. For instance, rendering a reflection on a surface can be made by using reflection probes (ID 100), or by reflecting light rays in a ray-traced environment (ID 102), the latter making higher depths of reflections comparatively trivial in the Unity engine.

Two major constraints have been put on the entries accepted in the database. Firstly, in large part because of the importance given to the implementation of each operation to distinguish them, but also because I intend to interrogate the strengths and shortcomings of my database by using it through the creative process of an upcoming project (see the last section of this article), it seemed mandatory that I properly understand how to implement each operation. Consequently, for any operation to be accepted in the database, I had to be able to propose a sufficiently clear implementation within my pipeline of choice. If I was initially interested in the hyperbolic and spherical spaces found within the game *Hyperbolica* (CodeParade, 2022) and wondering if they could be perceived as logically contradictory spaces, I did not sufficiently explore the implementation of such non-Euclidean spaces in Unity, and thus, I did not consider them valid candidates for the database. Secondly, a certain level of interest and functionality of an operation must have been minimally demonstrated through some evidence. The latter was confirmed using one simple condition: the operations had to be determined from completed video games.

Each new entry would initially include the following elements (columns):

- A numerical ID to facilitate references to each entry.
- An anticipated type of generated logical contradiction. At that point, no clear typology had been used yet. Instead, I would simply refer to large aspects of a game world affected by the corresponding operation (time, space, characters...). This column would eventually be replaced by a type and sub-type of operations (more about this later in this section).
- A title, giving an idea of the operation in very few words.
- A description, meant to be rather conceptual, explaining how each operation works in terms that could be relatively easily shared between different creative processes and development environments (engines), as long as they involve creating a world animated on a screen and responding to inputs from users.
- An implementation in a specific creation pipeline: in this case, the HDRP pipeline included in more recent versions of the Unity

development engine, which is the one I have used the most during recent years. The details of implementation vary widely from one operation to another. More technically complex operations (for instance, generating a seemingly infinitely recursive space using portals in ID 96) contain more detailed implementations, while many operations regarding more trivial functionalities, like displaying contradictory texts on-screen (ID 7), simply refer to a form of content integration, without necessarily mentioning all the classes, parameters and functions that may be involved.

- The game in which the operation has been discovered.

It should be noted that no prior typology and no prior fixed list of games was presupposed as representative enough to guide the building process of the database. Instead, it was presumed that with an attitude inclined to finding potential contradictions, the latter would inevitably appear in diverse forms. Moreover, in part as a desire not to fall into hegemonic tropes or to restrict myself to obvious candidates, I preferred to plunge into a variety of games and processes without too many prior assumptions, and to let myself be surprised by unexpected results. *Genesis Noir* (Feral Cat Den, 2021) is a particularly strong example of a game I knew nothing about while playing for the first time, yet one that surprised me with multiple unique operations (IDs 40, 41, 68, 69, 198, 245, 255).

The initial building process of the WAODB occurred in two major steps. The first one was deeply entrenched in a creative process. I developed nine video games, each employing different tactics to favour the emergence of logical contradictions. To do so, I was largely influenced by the book *Gestes contemporains du montage: Entre médium et performance* by Theresa Faucon (2017), in which the author exposed all sorts of editing and performing gestures as ways to make contemporary cinema. Similarly, in order to discover a variety of ways to engage with contradictions in games, I chose distinct creative gestures which would inspire all my decisions during the development of each game. It was presumed that such an approach, considering the relatively abstract and open nature of many of the chosen gestures, could reduce some theory-influenced biases which would have likely otherwise appeared, had I attempted to predetermine valid ways to generate contradictions, or even work with a prior typology of logical contradictions. The corresponding gestures were used repeatedly in development: results of every gesture became a variable to be experimented with in terms of the games' overall design.

The list of games consisted of:

- *World Annihilation Operations Part I: Propagation/Extinction*. This game used propagation as a main creative gesture, which was

defined as the repeated duplication, reuse or overflowing of components, or the unusual amplification of effects, for instance by amplifying the reach of shadows or volumetric light effects. Extinction was defined as the opposite act, for example, through the removal of parts of a camera view by significantly reducing its render distance.

- *World Annihilation Operations Part II: Switches*. This game used switches as a main creative gesture, which was defined as the change of state of an object between a finite list of at least two states.
- *World Annihilation Operations Part III: Superposition*. This game used superposition as a main creative gesture, which was defined as the simultaneous representation of spaces or components that do not seem to normally fit together. For instance, two entirely different spaces could be mixed using two camera views.
- *World Annihilation Operations Part IV: Lies*. This game used lies as a main creative gesture, which was defined as the communication of believable false information by various agents (narrator, characters, game creator).
- *World Annihilation Operations: Space Manipulation*. This game used space manipulation as a main creative gesture, which was defined as the application of various transformations (distortion, translation, elimination, etc.) to regions of space.
- *Degradation: Kyomu's Fury - 劣化 : キョムの怒り*. This game used degradation as a main creative gesture, which was defined as the loss of audio and video quality, removal of integral parts of various components, or any other significant diminishing of the perceived completeness of the game world.
- *Restart*. This game used poetic writing as a main creative gesture, which implied the prior writing of a poem, followed by its transformation into an interactive experience.
- *Two Worlds*. This game used division as a main creative gesture, which was defined as the dual representation of a world (mainly through a multiplayer experience using two cameras), with slightly different perspectives, effects, or perceived components between views.
- *The Human Test*. This game used access to components outside the fiction as a main creative gesture. For instance, the design of a requirement to use other software or to use game files to progress as a player, or the access by the game to information about the system on which it is played.

Liberti, which I had already made in 2019, was then added to the mix, mostly because it contained multiple perceivable logical contradictions within its world. Each game is available online, most of them on Steam, and all of them on itch.io.³ Once a new game was created, I would then play it multiple times to find logical contradictions. Those would then be added to an initial version of the WAODB.

The second major step in the initial building of the WAODB consisted of going through various games I did not make myself, in search of perceived logical contradictions. I did not have a predetermined list of games to go through. Instead, as I played PC games on Steam, I let myself be surprised by often unexpected contradictions. Whenever I perceived a new contradiction in a game, I added a short description in a written document, as well as its origin (the game's title and a simple description of the corresponding location or moment in-game so I could come back to it later, if needed). All games in question were added to a customized list on my Steam account. Implementations were specified afterwards. Since I do not have access to the games' development files, actual implementations are not necessarily obvious. Therefore, they are only propositions on my part, which were not tested in Unity HDRP.

Once these two steps were completed, the database was merged and cleaned. This meant putting together all the operations found during the initialization process, before removing any duplications. A few more operations were removed whenever I found them unclear or the generated contradictions too difficult to perceive.

Operations were considered duplicates depending on their implementation. Essentially, individual operations were meant to be fine-grained enough that any significant change in their technical implementation would be considered a distinct operation. This may occasionally include considerations in terms of design, and not only how an operation is programmed, or how an object is configured. Thus, one operation mentions the idea of fake obstacles (ID 125), even though this is not that much different from the more general idea of an object missing components like a collision detection system (ID 124). The concept of an obstacle does nonetheless imply further constraints on an object as well as significantly different impacts to be considered in terms of level design. Inversely, any set of situations leading to perceivable logical contradictions, when understood as almost identical from a technical standpoint, are included in a single operation: for instance, no distinction is made between representing a cube that is also a sphere, or a cylinder that is also a pyramid, if both cases are represented by suddenly switching between different versions of a simple 3D object (ID 138).

³ <https://jesseaidyn.itch.io/>
<https://sciences-du-jeu.itch.io/world-annihilation-operations-part-ii-iv>

Finally, a typology was elaborated by finding obvious patterns and shared similarities between components affected by the logical contradictions generated by the operations. Because each inferred type contained many operations (between 15 and 64), it seemed reasonable to add a second layer to the typology through the addition of a sub-type. This two-layer typology ended up replacing the anticipated type's column in the WAODB.

Overall, the WAODB contains a limited number of categories while still attempting to address both analytical and technical considerations. On the one hand, assigning a type and sub-type to each operation not only leads to a clear hierarchy of operations that makes sense in relation to many current game engines, but also points towards a useful classification to better understand how logical contradictions affect video games' fictional worlds. On the other hand, the implementation column does provide at least technical hints as to how such contradictions can be made from the perspective of a creator.

A Typology of Logical Contradictions in Video Game Fiction

This section presents the full typology derived from the categorization of the database's operations, established first by ascertaining which major concepts of design were mainly affected (types), then by uncovering patterns that further help discern what is implied, usually in a more technical sense, when those operations are employed (sub-types). The chosen types appear to encompass most of what constitutes a video game in general. Comparing with Ebner et. al.'s (2013) "core components" of a simple video game, outside of direct correspondences (objects and physics), it would seem their concept of maps is related to my types through space; player definitions and avatars are related to identities; and both their events and rules would find relations within the database's general, time and physics categories. Nevertheless, as the WAODB grows, other types could emerge. For instance, were we to explore haptic feedback (including vibration controllers, adaptive triggers, and haptic suits) as a means to generate contradictions in video games, we might need a new category. Sub-types are meant to appear even less exhaustive and depend largely on the kind of work I am familiar with, as well as the capabilities of the engine I am using. Reflections likely would not have their own sub-types if it weren't for their relative ease of implementation and the multitude of parameters attached to them. Inversely, if I had developed operations which relate to well-known models of non-Euclidean geometry, the likes of which are found in *Hyperbolica* [CodeParade, 2022]), or higher than 3D representations of space (see, for instance, *4D Golf* [CodeParade, 2024]), at least one new subtype would have been needed under the spatial contradiction type.

This typology, especially its sub-types, can be seen as a first attempt at making sense of significant recurrences from the raw empirical data accumulated through this project. From a practical standpoint, I see the WAODB and its typology not as a set of fixed operations and rules to replicate, but rather similarly to how Björk *et. al.* (2003) describe their own game design patterns: “as a tool, similar to a pen, which can be used in several different ways for several different reasons” (p. 187).

The table below displays all types and sub-types found in the WAODB, which are then defined in the ensuing paragraphs. For more specific examples, the reader can refer to the appendix, in which all operations are sorted by sub-types.

Type	Sub-type
General contradiction	Contradictory indications
	Contradictory statement from a narrator
	Contradictory text in fiction
	Incoherent game sequences
Sound contradiction	Incoherent sound composition
	Incoherent sound transformations
	Unmatched sound and images
Spatial contradiction	Incoherent spatial composition
	Transformed space
	Reconfigured space
	Discontinuous space
Object-centered contradiction	Reflection effects
	Incoherent composition of an object
	Duplicate object
	Incomplete object
	Transformed object
Multiple/incoherent identities	Reflection effects
	Incoherent controls
	Incoherent nature (player/avatar)
	Incoherent nature (game world)
	Incoherent nature (narrator)
	Incoherent nature (character)
Incoherent physics	Multiple points of view
	Incoherent physical composition
	Incomplete physics
	Unexpected properties of an object
	Light effects
Temporal contradiction	Visual effects on the image
	Incoherent timelines composition
	Temporal delinearization
	Variation in the flow of time

Table 1. Typology of the WAODB.

General Contradiction

A general contradiction is a contradiction between logical propositions derived from either the general structure of the experience or the clear meaning behind some of the game’s textual, vocal and symbolic

elements. Compared with other types of contradictions defined in this section, general contradictions tend to be explicit, often consisting of clear paradoxes or unambiguously contradictory statements.

Contradictory indications

Contradictory indications feature a textual, vocal, or symbolic primary statement which contradicts a similar secondary statement or the perceived configuration or experience it describes. The primary statement is presented through extradiegetic elements (excluding any narrator) as a form of indication meant for the player, for instance, gameplay instructions, visual guides, UI information, interactive interface, and more.

Contradictory statement from a narrator

A contradictory statement from a narrator features a textual, vocal, or symbolic primary statement which contradicts a similar secondary statement or the perceived configuration or experience it describes. The primary statement is presented by a narrator.

Contradictory text in fiction

A contradictory text in fiction features a textual, vocal, or symbolic primary statement which contradicts a similar secondary statement or the perceived configuration or experience it describes. The primary statement is presented through intradiegetic elements that are supposed to exist and make sense in the fictional world.

Incoherent game sequences

Incoherent game sequences feature a contradiction emerging from game sequences of a singular experience that seem incorrectly linked (through weird transitions), seem to be part of entirely different games, or that do not seem to play their expected role (for instance, a fake ending, where a stated end-game sequence is followed by more gameplay sequences furthering the story).

Sound Contradiction

A sound contradiction is a contradiction between logical propositions derived mainly from sound (sound effects, ambient sound, music). It is the quality of the sound, its harmonic, tonal, rhythmic content, its affective and emotional meaning, and its formal and technical properties that are taken into consideration, rather than the meaning of its textual content. Therefore, contradictions surrounding the textual meaning of dialogues are better suited for other types (mainly general contradictions and multiple/incoherent identities). The notion of sound as a source of contradictions could be expanded by looking into previous studies. Notably, William Cheng (2014, p. 5) explores, in his book *Sound Play*, "how game creators, composers, and players employ...music, noise, voice, and silence in ways that purposefully or inadvertently challenge social rules, cultural conventions, technical limitations, aesthetic norms, and ethical codes."

Incoherently composed sound

An incoherently composed sound features a soundtrack or a set of sound effects that, put together, does not seem to fit within a creative direction. Individual acoustic components may give entirely different vibes at some instant, suggest that contradictory events are unfolding, or be used inconsistently over time.

Incoherent sound transformations

Incoherent sound transformations feature a sound to which various transformations have been applied, without a clear relation to the perceived reality in the virtual world. Those transformations may include amplitude, tempo, spatial blending, or any sort of unexpected audio effects.

Unmatched sound and images

Unmatched sound and images feature a contradiction clearly perceived between events unfolding visually and the sound components used synchronically. This may include both intradiegetic and extradiegetic sounds.

Spatial Contradiction

A spatial contradiction is a contradiction between logical propositions derived from the perception and navigation of a space, in large part relative to an intuitive and common conception of the latter, where Euclidean geometry applies, mapping remains consistent, and space extends continuously and uniformly following two or three axes, depending on whether the space is in 2D or 3D. A space is defined here either as a large explorable group of objects or a region delimited by coordinates, containing full and/or partial objects. Many contradictions of this type are not self-evident or, at least, are likely not to be specifically interpreted as contradictions without minimal effort. Nonetheless, by putting the experience of one's space into textual statements, it may appear that coordinates in space are simultaneously close and far (portals linking disconnected areas are a typical example), or that a player or an object is situated at infinite locations at the same time (recursive space being a typical example), or things are simply not where they are according to a different perspective (space curvature may lead to such an interpretation), among other things. It is left open whether a more physically accurate conception of space by a player (for instance, understanding that spacetime is curved and thus light can appear to be affected by gravity, and space can appear curved) might lead to a more restrictive idea of what counts as a perceived logical contradiction. This work considers a simpler conception of space as a logical baseline to be able to capture all possibilities. It should be noted that only one operation in the WAODB was derived from a situation loosely inspired by a real-world phenomenon (optical distortion around a black hole). Still, the corresponding operation of "space curvature" (ID 90) can obviously be employed to generate other effects that clearly do not follow any physically consistent treatment of space.

The idea of video game space represented in a way that is very different to our everyday experience of space within the real world is not new. This typology can certainly be improved by looking into various geometrical representations of space (hyperdimensional, hyperbolic, spherical, etc.), including ways to generate them (see Velho et. al. (2019), Ohori et. al. (2017), and Orbons and Ruttkay (2008)) as well as perceptual implications and design potentials (see Osudin et. al. (2024), Garg et. al. (2017), and Gündüz and Özener (2024)).

Incoherently composed space

An incoherently composed space is a space composed of objects or smaller regions that are distinct, seemingly unrelated, or unusually integrated, resulting in a space that appears exceedingly strange, inconsistent through time, inconsistent depending on the point of view, or to be following no individual creative direction.

Transformed space

A transformed space is a space upon which transformations have been applied without clear relation with the physical reality of the fictional world, and without significant change to the actual configuration of the space. For instance, stretching a space may give the impression that components change location, but the latter remain unchanged locally within the engine. Transformations are either applied to the parent object(s) containing the corresponding space or implement rules that apply throughout a whole region.

Reconfigured space

A reconfigured space is a space which is reconfigured through time, based on specific events, or depending on the point of view, without any clear relationship with the physical reality of the fictional world. The content or appearance of components within said space changes following the use of related operations: objects may appear or reappear, the shape of rooms may change entirely, whole spaces may even be replaced.

Discontinuous space

A discontinuous space is a space in which various surfaces generate discontinuities. These surfaces may be imagined as portals linking different areas together or suddenly changing the rules applying to visibility calculations.

Reflection effects (space)

Reflection effects (space) feature a space in which perceivable contradictions emerge from the use of specular reflective effects applied to various surfaces.

Object-Centered Contradiction

An object-centered contradiction is a contradiction between logical propositions derived mainly from the perceived nature of one or more objects. This may slightly intertwine with the spatial contradiction type, especially when groups of elements have the potential to be treated

both as a navigable space and an object viewed from an external perspective: a house can be explored from within by a human avatar, but it can also be built, destroyed, and perhaps moved around in city sim games. In these cases, the most relevant type of contradiction depends on how the affected elements are meant to be understood and interacted with, rather than the physical nature of these elements.

Incoherent composition of an object

The incoherent composition of an object features an object which is perceived as inconsistent through time or in relation to different points of view, because of the way it is configured (shader parameters, child objects, drawn textures). The perceived contradiction is not caused by an actual transformation of the object, even though it may appear to be transformed from the player's perspective.

Duplicate object

A duplicate object is an object whose perceived incoherent nature is obtained through a process of duplication. For example, a single object may suddenly become two copies of itself.

Incomplete object

An incomplete object is an object whose perceived incoherent nature is obtained through a process that removes some of its components (including components describing the object's behaviors) or reduces its presence in the world (an object that sometimes exists, sometimes not).

Transformed object

A transformed object is an object whose perceived incoherent nature is obtained through transformative processes (other than duplication and reduction) over time on the object as a whole or some of its components.

Reflection effects (object)

Reflection effects (object) feature an object whose perceived incoherent nature is obtained through specular reflective effects on surfaces.

Multiple/Incoherent Identities

Multiple/incoherent identities involve a contradiction between logical propositions derived mainly from the nature of an agent linked to a video game experience, or from overlapping distinct levels of reality (our reality and the fictional worlds at hand, including fictions inside other fictions).

Incoherent controls

Incoherent controls feature a set of controls afforded to the player with contradicting potentials over the course of the experience. The changes in controls are not logically explained within the fiction (unlike, for instance, an injury that would prevent a controlled character from jumping).

Incoherent nature (player/avatar)

The incoherent nature of a player/avatar features a controlled character whose nature inexplicably changes during the experience, or a situation that strongly emphasizes tensions between the player's sense of belonging to the real world and to the fictional world through an avatar. Such tensions are a part of any video game experience with a well-defined avatar, since no current technology can entirely disconnect players from reality outside of the game. Therefore, contradictions of this sub-type arise specifically when these tensions are radically amplified, or when a player is forced to use interfaces in an abnormal manner to play the game, for instance, by seeking information online or by modifying files accessible to the game system.

Incoherent nature (game world)

The incoherent nature of a game world features a situation that strongly emphasizes the game's fictional world as a fabricated product, processed by a computer, and usually represented on a screen. Contradictions of this sub-type often imply visual effects clearly applied to a 2D image (for instance, intentionally glitched through post-processing) representing a 3D world.

Incoherent nature (narrator)

The incoherent nature of a narrator features a narrator whose nature inexplicably changes during the experience, or that seems to simultaneously belong inside the fictional world (for instance, as a character) and outside (possibly as an omniscient entity).

Incoherent nature (character)

The incoherent nature of a character features a character whose nature inexplicably changes during the experience, or that seems to simultaneously belong inside the fictional world and outside.

Multiple points of view

Multiple points of view can be attributed to a singular entity (normally the avatar), suggesting they may have multiple simultaneous identities, or some sort of divided identity.

Incoherent Physics

Incoherent physics involves a contradiction between logical propositions derived mainly from dynamic relationships affecting the agents and objects that populate the virtual world, or the rules surrounding the simulated physics in the game, of which some level of consistency is expected.

Incoherent physical composition

Incoherent physical composition features the use of contradictory physical concepts or rules within a singular space or world, without a clear and logical explanation. For instance, gravity may act differently in various areas of a navigable space.

Incomplete physics

Incomplete physics refers to a simulation or dynamic relationships through which expected physical elements/rules are missing or partially missing.

Unexpected properties of an object

Unexpected properties of an object refer to a simulation or dynamic relationships through which an object has effects on the world that notably conflict with its perceived nature.

Light effects

Light effects refer to a simulation or dynamic relationships through which contradictions are generated around the effects of light on the environment (including shadows).

Visual effects on the image

Visual effects on the image refer to a simulation or dynamic relationships through which contradictions are generated by creating inconsistencies, using visual effects on the image or changes in rendering algorithms. This sub-type is similar to (and sometimes overlaps with) the "Incoherent nature (game world)" sub-type. However, contradictions of the current sub-type tend to present visual effects that work well and apply evenly within the 3D world, rather than being imposed on the image without relation to its content (even though both may imply the use of post-processing effects).

Temporal Contradiction

A temporal contradiction is a contradiction between logical propositions derived mainly from a series of events, in large part relative to an intuitive and common conception of time. By default, time is expected to be continuous, apply uniformly to all agents, and flow in only one direction. It is left open whether a more physically accurate conception of time by a player (for instance, accounting for special and general relativity, thus admitting cases where time flows significantly differently for agents affected by different relative velocities or gravitational potentials) may lead to a more restrictive idea of what counts as a perceived logical contradiction: time dilation may be acceptable as long as it's described consistently. This work considered a simpler conception of time as a logical baseline to be able to capture all possibilities. It should be noted that no operation added to the database was derived from situations where even remotely physically accurate time dilation was represented (on the contrary, instances of time dilation between agents happened within close and similar environments yet were extreme in nature).

Incoherent timelines composition

An incoherent timelines composition features a series of events presented as part of the same world and/or same time (for instance by being rendered simultaneously on the screen), that nonetheless do not seem to belong to the same world and/or same time.

Temporal delinearization

Temporal delinearization features a group of events in which perceived contradictions emerge from splits in a primary timeline (multiple branches, past time travel, time jumps to a distant future).

Variation in the flow of time

A variation in the flow of time features a group of events in which perceived contradictions emerge from the uneven application of the flow of time to various objects, spaces, or timelines.

Purposes of Logical Contradictions in Video Games

The process surrounding the elaboration of the WAODB had me use different approaches to generate perceivable logical contradictions. It should come as no surprise that the resulting contradictions do not have to be considered merely errors or omissions. Even the games I did not develop, and which inspired many of the operations found in the WAODB, displayed numerous perceivable logical contradictions emerging from mechanics and fictional depictions that can only be interpreted as intentional on the part of the authors. Furthermore, even outside the video game medium, contradictions are not at all a new concept in fiction, instead acting as one of many fundamental phenomena explored by postmodernist art (Teske 2015). In some cases, as defended by Nolan (2021) while describing types of logical impossibilities in fiction, “an inconsistency seems crucial to the plot of a story” (p. 6).

There are parallels to be made between this research-creation and the philosophical concept of impossible worlds. This paper does not aim to provide an in-depth description of impossible worlds theory. For this, I would invite the reader to refer to the book “Impossible Worlds” by Berto and Jago (2019), which offers a detailed analysis of the concept, different models used to describe impossible worlds, as well as multiple applications of the concept. These include describing a logic of imagination, analyzing the knowledge and belief system of an agent, analyzing inconsistent fiction, and exploring counterfactuals. Although most of these applications are not initially meant to be used in fiction (or in games), they nonetheless offer insight into some elements that do exist in fiction. If imagination is indeed not bound by strong logical requirements, then a work of fiction should not limit itself to logically valid statements when representing the imaginary cogitations of a character. Similarly, humans being cognitively fallible, contradictions may arise between epistemic and doxastic statements describing their worldview. Any representation of such a worldview in a work of fiction thus should also not be strongly bound by the logical requirements relevant to possible worlds.

For the rest of this section, I will complete the reflection on the potential of logical contradictions in video games by offering a range of functions they may play. These functions are all based on contradictions found within the games mentioned in the WAODB. However, because of the eminently experimental nature of the games I developed for this project

and some of the very abstract creative gestures that were used to initially generate logical contradictions, many of the latter do not play obvious functions in the game world. They might simply exist because they did not break anything else. Inversely, I may have missed functions played by some of the contradictions, especially in games I did not develop, given I am not aware of all the design decisions made. Regardless, these functions should provide a valuable insight into future research and creative endeavours related to impossible worlds and logical contradictions in fictional video game worlds.

Game Design Necessities

The first function is one I would describe as responding to some game design necessities. In a perfect world, the corresponding contradictions might not have been present at all. In other words, those contradictions exist because they appear to be, in some way, the most optimal, logically and technically available answers to problems emerging from the desired player experience. For example, if developers wish to instill progressively higher performance from the player, it might seem logical to let them face failure so that they can learn from it. In games set in a world where the avatar constantly fights for their life, this might necessarily mean death, a death that is usually very temporary and followed by a series of events essentially being cancelled. As another example, some types of experiences, notably turn-based RPGs, which can arguably favour more strategizing and complex sets of actions than action-based real-time fighting, may require an uneven application of the flow of time, since enemies must wait for the player to plan their next turn and thus to commit to new actions.

Since game designers often tend to follow recurring patterns during development, it is not surprising that many examples of contradictions arising from game design necessities are highly common occurrences in games. As mentioned earlier in this paper, very commonly found logical contradictions were not a priority during this project, even though a few cases were indeed explored, like returning characters and items that let a player practice or revisit a level without the need to start a new game; see IDs 246 and 247. Still, it seems worth mentioning and could be part of further research.

Puzzles and Challenges

One of the most common general functions of logical contradictions appears to be the design of original puzzles and challenges. Because most forms of logically contradictory situations are significantly foreign to our everyday experience, they often require a new perspective, careful understanding of the underlying mechanisms, and eventually sufficient appropriation of those mechanisms to progress in the game. Examples of games in which logical contradictions are intrinsic results of features used to generate puzzles and challenges include *Portal* (Valve, 2007), *Antichamber* (Alexander Bruce, 2013), and *Superliminal* (Pillow Castle, 2019), all referenced by the WAODB, but also games such as

Recursive Ruin (Bit Rot, 2022), *Patrick's Parabox* (Patrick Traynor, 2022), and *Manifold Garden* (William Chyr Studio, 2019). Spatial contradictions and object-centered contradictions appear to be the most frequently generated types of contradictions in games where they are intimately linked to puzzles and challenges (all six previously mentioned games do exactly that, in various ways). *The Forgotten City* (Modern Storyteller, 2021) is an interesting counterexample, in which players attempt to memorize the order of events in a world and solve puzzles by taking advantage of a perpetual time loop.

Ambience

Logical contradictions may contribute to providing specific ambiances. When highly emphasized, they may provide strangeness or an aura of mystery, as we are not accustomed to their effects in our physical world. They may also contribute to other specific emotions related to horror. A monster is arguably more frightening if its real nature is hard to properly grasp, or if we can never be certain of its presence or location. An impossible, logically contradictory monster can be made to have multiple simultaneous natures, and to be anywhere or nowhere, at the same time.

Humour

Logical contradictions can be found in humorous content, notably of the absurd kind. For instance, the game *Kyle Is Famous: Complete Edition* (Ducky Dev Games, 2019) constantly chains nonsensical events and presents characters in exaggerated ways with seemingly arbitrary characteristics to elicit laughter.

Political Discourse

Logical contradictions may be used in a politically engaged discourse. In a game I developed, titled *World Annihilation Operations Part IV: Lies*, I represented logically contradictory elements in an attempt to contrast how many imagine the life of animals farmed in the food industry, in opposition to how those animals lived, as shown through images and videos obtained by vegan activists. By taking both perspectives into a singular representation, obvious nonsensical events occurred. For instance, non-human animals within the game claimed to thrive within their environment, all the while being constantly subjected to torture and extreme repression.

This kind of function should not be presumed sufficient all by itself but is rather only one possible mechanism among many found within an effective discourse. As it was correctly pointed out by a critic of my project, the game arguably had a very limited rhetorical reach due in part to the fact that it did not provide much in terms of practical solutions, only inconsistencies between strong popular beliefs and data collected in the field.

Mental State Representation

Logical contradictions can be found between propositions derived from an agent's beliefs, perceptions, or imagination. Obvious examples of phenomena linked to the mind of a cognitive agent, of which the representation will likely lead to perceptible logical contradictions, include hallucinations, false memories, and dreams, among others. All of these can be made part of a video game's fictional world as experienced by a player.

Metaphors

Logical contradictions can be interpreted from representations which are meant to act as metaphors. Since metaphors do not act as literal descriptions of reality, there may be some vagueness to them, but also elements that do not seem to adhere perfectly to the fictional reality, especially when read as logical statements within a depicted world. My game *Restart* (2023), being a video game attempting to faithfully translate the elements of a poem into a video game format, did generate multiple perceivable logical contradictions, notably when it attempted to give a physical interpretation to what was, in fact, meant to be taken metaphorically.

Wider Reach of Fiction

It could be argued that a logical contradiction does not need any specific function to have been included voluntarily in a work of fiction. Perhaps the author simply felt like leaving it there. Perhaps the author thought it was *cool* or simply had the desire to create logical contradictions. More generally, one could think of the inclusion of uncommon logical contradictions in a work of fiction as a way to relax conventional wisdom surrounding most fictional worlds. As such, logical contradictions become a creative tool like any other, like any concept, technique, or practice that is used to provide a wide variety of meanings and aesthetics through a medium. Obviously, this applies to video game worlds.

Conclusion and Future Work

This paper reviewed the creative and research processes that guided the elaboration of the WAODB, containing numerous operations able to generate logical contradictions in a video game's virtual world as a creator. An intuitive general potential for wanting such contradictions is a deeply experimental and avant-garde one. Video games demonstrate some similarities with our experience of the real world through audiovisual representations, complex interactions, and engaging narratives, which coincidentally seem to contribute to multiple forms of immersion: participatory, affective, narrative and representational (Cartlidge, 2024). Seeing as a wide range of logical contradictions are found in games of all genres without obvious issues, it is highly conceivable that they extend the range of experiences individuals can otherwise live (especially if we are to accept virtual worlds and virtual realities as being as potentially *real* and meaningful as nonvirtual

reality; see Chalmers, 2022). Logical contradictions are at the root of impossible worlds, worlds that in a way cannot truly exist (although they can be imagined and modeled). Thus, controlling logical contradictions in games appears to be a way to experiment with things that cannot be, events that cannot happen, and draws them closer to our perceived reality, making them more and more tangible, profiting from the immersive properties of the medium. I would even argue that this exploration of impossibilities is one of the most powerful and somewhat unique experimental properties of video games, as the latter bring us closer to fully embodied experiences and experimentation with what cannot directly be experienced and experimented with, yet as recent discussions about impossible worlds have shown, remains quite useful to understand many aspects of our fallible minds.

Logical contradictions also have their uses outside the realm of experimental and avant-gardist approaches. In some cases, they become necessities when faced with specific game design objectives. Death in video games is an intuitive way to motivate players into pursuing certain objectives with care. It is also a way to define failure such that players may learn from it. True death however, which would imply a permanent end to a game experience, is usually considered too high a price to pay, and certainly would not make it possible for the implemented mechanic of death to act as a normal step to practicing the game. Thus, while avatars may often die because of bad choices or bad performances, these deaths are normally temporary, and the flow of time is reversed so that the player may try again.

Other logical contradictions are less common in video games. Still, this paper has found many functions they may play, and thus many reasons why developers might want to consider them as tools during development. Those functions include being an important part of puzzles and challenges, supporting a specific ambience, generating humour, supporting a political discourse, being an important part of a representation of an agent's mental state, and acting as metaphors.

All in all, this work has resulted in a database of 256 operations, generating contradictions which were categorized using a 2-layer typology, first based on very broad aspects of a game affected by the contradictions, then further by looking at the tools and more technical concepts used to generate them. Neither the list of operations nor the typology is meant to be complete. Just as there are countless, emphatically unique arrangements of game components and events potentially interpreted as (contradictory) statements, we can perpetually create new ways to work with intentional fictional inconsistencies. Similarly, as we experiment with these inconsistencies, it is likely that they will be given new purposes. The typology is also relatively limited by its tendency to group operations into specific forms of expression. A more multimodal approach to video games (see Hawreliak, 2019) may in turn lead to more diverse and complex perceivable logical

contradictions, simultaneously involving multiple modes like texts, images, music, sound effects and haptics.

While I repeatedly characterized the logical contradictions described in my work as perceived ones, which is reflected in the elaboration of the WAODB through new entries being added by discovering new contradictions while playing games, I have not formally studied their reception by players. Among other things, one may want to interrogate why some perceivable contradictions appear so acceptable (repeatedly dying and going back in time), while others appear to be much more controversial (for instance, any form of hardly resolvable tensions, for some players at least, between narrative and gameplay segments of a game, leading to what has been often referred to as ludonarrative dissonance).

Finally, the WAODB has yet to be tested as an actual tool to generate logical contradictions while creating a game. This represents the next steps for my own research-creation. Thus, I am currently developing a new video game⁴ in which logical contradictions are thought of as fundamental components to a variety of mechanics, challenges, as well as aesthetic elements to an overall artistic vision, narratively guided by the idea of a fictional universe slowly collapsing into itself, resulting in the rise of actual, physical inconsistencies occurring in the virtual world. Instead of adopting a highly explorative process based on creative acts, I am using the WAODB as a central reference while developing my game, using operations both individually and in tandem, hoping to find interesting combinations.

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⁴ A demo is available here: <https://jesseaidyn.itch.io/dead-world-project>

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Appendix

Operations from the WAODB.

ID	Type	Sub-type	Title	Description	Implementation specific to Unity HDRP	Origin
1	General contradiction	Contradictory indications	Non-functional UI elements	Informative UI elements (e.g., stopwatch, health bar, ammo or item count, etc.) not working. Their values then come into contradiction with fictional reality.	Implementation of entirely non-functioning UI or some conditions that temporarily break their underlying scripts.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
2	General contradiction	Contradictory indications	Impossible achievements	Evocation of achievements impossible to obtain.	Integration of the corresponding content.	Liberti
3	General contradiction	Contradictory indications	Inaccessible text choices	Representation of gameplay choices, of which at least one cannot be selected (but is visible, as if permitted).	Integration of a choice that cannot be clicked (inactive button).	Liberti
4	General contradiction	Contradictory indications	Fake interactive signal (wrong description)	Display of false control indicators (e.g. a message that asks us to press a key, without correct perceptible effects). The controls generate a different action than the one indicated.	Integration of the corresponding textual content, with an implementation of a control reaction that does not correspond to the one mentioned in the fiction.	Liberti

5	General contradiction	Contradictory indications	Nonsensical numerical value	A representation of a numerical value that makes no sense in the game's context. For example, a loading screen may assign a percentage to the necessary items loaded, and exceed the value "100%".	Integration of the corresponding content.	Superliminal (Pillow Castle, 2019)
6	General contradiction	Contradictory indications	False intrafictional indication	Displaying false game indicators, such as path indicators or an exit indicator that doesn't actually show us an exit. The effect is amplified if the indicator does not appear to have a logical place in the game space, i.e. is not simply a physical object that has been misplaced.	Design of corresponding indicators in the game space.	WAO Part IV: Lies
7	General contradiction	Contradictory indications	False information outside the fiction	Representation on the screen (outside of fiction) of false information about the fiction or other content within the game. The contradictory effect emerges if the player may be led to doubt the veracity of the information displayed.	Integration of the corresponding textual content (in UI).	WAO Part IV: Lies
8	General contradiction	Contradictory indications	False rules	Displaying false rules or tutorials.	Integration of the corresponding content.	WAO Part IV: Lies

9	General contradiction	Contradictory indications	False interactive signal (absent control)	Display of false control indicators (e.g. a message that asks us to press a key, without perceptible effects). Controls do not generate any action.	Integration of the corresponding textual content, without the implementation of a reaction to the control mentioned in the fiction.	WAO Part IV: Lies
10	General contradiction	Contradictory statement from a narrator	Alternating between the truth value of a textual or spoken proposition (narration)	Textual or spoken enunciation of propositions by a reliable narrative source that logically contradict each other.	Integration of contradictory proposals (Text, TextMeshProUGUI, AudioSource).	WAO Part II: Switches
11	General contradiction	Contradictory statement from a narrator	Alternating past events	A description narrated by a reliable source of an event that contradicts what was visually represented in the game.	Textual content describing a past event in a contradictory way.	WAO Part II: Switches
12	General contradiction	Contradictory statement from a narrator	Lying narrator	Telling lies on the part of the narrator. The operation is more relevant if the narrator is not explicitly made as an unreliable entity.	Integration of the corresponding text or sound content.	WAO Part IV: Lies
13	General contradiction	Contradictory text in fiction	Object existing only for individuals that know it	A mention or representation of an object that can only be accessed, found, or manipulated when it is known by the character interacting with the object.	Integration of the corresponding text or sound content. If necessary, the space that contains the object can be reconfigured according to its state (known or unknown to the person playing).	Control (Remedy Entertainment, 2019)

14	General contradiction	Contradictory text in fiction	Object being a container and its content simultaneously	Mention of an entity that is both the container of another object and its content.	Integration of the corresponding text or sound content.	Control (Remedy Entertainment, 2019)
15	General contradiction	Contradictory text in fiction	False progression condition	Evocation of conditions of progression that are not really necessary and that are not mentioned later.	Integration of the corresponding text or sound content.	Liberti
16	General contradiction	Contradictory text in fiction	Mention of inexistent space	Mention of the non-existence of a space which should nevertheless exist in fiction according to the configuration of the general space. For example, a narrator can indicate that the space behind a door (always closed in fiction) was not created, does not exist.	Integration of the corresponding textual content. The mentioned space must not be uncovered.	Restart
17	General contradiction	Contradictory text in fiction	incoherent subtitles	Subtitles synchronized with dialogues but with content that does not match what is heard.	Integration of corresponding text and sound elements.	WAO Part III: Superpositions/Extraction
18	General contradiction	Contradictory text in fiction	Lying characters	Characters can lie. This can lead to logical contradictions if the characters are credible enough.	Integration of the corresponding text or sound content.	WAO Part IV: Lies
19	General contradiction	Contradictory text in fiction	Textual paradox	Enunciation of a textual paradox.	Integration of the corresponding textual content.	WAO Part IV: Lies

20	General contradiction	incoherent game sequences	Logically misplaced object	Representation of an object that should logically not be located where it is perceived. In Death Stranding, for example, the visualization of the baby in Sam's throat seems to be understood as a metaphor rather than a real event.	Integration of the corresponding content.	Death Stranding (Kojima Productions, 2019)
21	General contradiction	incoherent game sequences	Sudden change of scene	Sudden and unexplained change of scene (in fiction).	Change of scene.	Liberti
22	General contradiction	incoherent game sequences	Fake game restart	Continued play when returning to the main menu, signaled by a hint suggesting that one should first leave the experience to continue it, and possibly a different main menu.	Design of the corresponding events conditional on returning to the main menu at a chosen time.	Restart
23	General contradiction	incoherent game sequences	Sudden changes in the overall look of the experience	Division of a game into sequences whose nature seems entirely distinct. The operation is more relevant if there are nevertheless some links, for example through the recurrence of certain figures or a specified narrative continuity.	Dividing the experience into distinct segments. This division can involve several scenes or happen within the same scene. Implementation can concern many concepts, but it basically involves an experience going through strangely distinct pieces (regarding their visual rendering, their visual or	WAO Part II: Switches

					sound atmosphere, their narrative content, etc.).	
24	General contradiction	incoherent game sequences	Lying about the gameplay/narrative structure	False enunciation linked to the narrative structure of the game. For example, the end of the game may be announced, followed by other fictional events (fake ending).	Integration of the corresponding textual content in contradiction with the narrative structure.	WAO Part IV: Lies [Not implemented but reflected on during development]
25	Sound contradiction	incoherent sound composition	Sound remixing	Significant remixing of a soundtrack. The soundtrack can be musical, but also a soundtrack of sounds, atmospheres or particular sound effects. At least two versions of a soundtrack are then used in a same experience.	New versions of the soundtracks used with applied modifications.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
26	Sound contradiction	incoherent sound composition	Alternating sounds assigned to a source	Use of very different sounds related to similar or identical events.	Assigning multiple AudioSource objects to a single event, used one at a time.	WAO Part II: Switches

27	Sound contradiction	incoherent sound composition	Alternating general sounds used	A sudden, non-progressive, and unexplained change in the music or soundscape used, or in the groups of sound effects used.	Enabling or disabling objects linked to one or more AudioSource objects.	WAO Part II: Switches
28	Sound contradiction	incoherent sound composition	Layering of soundtracks	Superimposition of two or more soundtracks that are clearly conceptually distinct.	Use multiple separate sets of AudioSource objects.	WAO Part III: Superpositions/Extraction
29	Sound contradiction	incoherent sound effects	Pitch variation	Significant variation in the pitch/tempo of music or a sound effect.	Variation of the pitch parameter associated with an AudioSource object.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
30	Sound contradiction	incoherent sound effects	Variation de pan	A noticeable decrease or reduction in the perceived sound amplitude on one side of a stereo device.	Variation of the "pan" parameter in one or more AudioSource objects.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
31	Sound contradiction	incoherent sound effects	Gradual sound de-spatialization	Reduction of the spatialization of sound, until it is uniformly applied in space.	Variation of the Spatial Blend parameter in the AudioSource class.	WAO Part I: Propagation/Extinction
32	Sound contradiction	incoherent sound effects	Localized partial reduction	Inconsistent variation in the volume of sound sources.	Variation of the Volume parameter in the AudioSource class.	WAO Part I: Propagation/Extinction
33	Sound contradiction	incoherent sound effects	Sound spread	Added incoherent echoes to preserve sound effects beyond their expected duration.	Apply an echo effect (with the Mixer or on audio files).	WAO Part I: Propagation/Extinction
34	Sound contradiction	incoherent sound effects	Reversal of the flow of the music	Sudden alteration in the time flow of music or soundscapes.	Variation of the Pitch parameter in the AudioSource class.	WAO Part II: Switches

35	Sound contradiction	incoherent sound effects	Alternating sound de-spatialization	Sudden, non-gradual and unexplained activation or deactivation of sound spatialization effects.	Variation of the Spatial Blend parameter in the AudioSource class.	WAO Part II: Switches [Not implemented but reflected on during development]
36	Sound contradiction	Unmatched sound and images	Alternating origin of sounds in the speakers	Repeated alternation of the direction of the origin of specific sounds inconsistent with visually perceived reality.	Repeated variation of the Pan parameter of the AudioSource class.	WAO Part II: Switches
37	Sound contradiction	Unmatched sound and images	Total image extraction	Completely eliminate the rendered image, but not the sounds.	No object rendered or camera disabled.	WAO Part III: Superpositions/Extraction
38	Sound contradiction	Unmatched sound and images	Partial image extraction	Partial elimination of the rendered image or presentation of visuals that are not clearly related to what is being heard.	Some unrendered objects or objects made conceptually distinct from the sounds heard.	WAO Part III: Superpositions/Extraction
39	Sound contradiction	Unmatched sound and images	Total sound extraction	Total elimination of sound effects from the scene.	Reducing the volume of the AudioListener or AudioSource objects.	WAO Part III: Superpositions/Extraction

40	Spatial contradiction	incoherent spatial composition	Space composition into incoherent chunks	The artistic composition of a space using groups of superimposed objects that do not follow the same physical or geometric rules at all, but seem thematically related.	Integration of the corresponding content. The effect seems easier to achieve in a very abstract environment. A minimalist 2D rendering seems to lend itself well to this: you can then superimpose several transparent "layers" that each represent a part of the imagined space.	Genesis Noir (Feral Cat Den, 2021)
41	Spatial contradiction	incoherent spatial composition	Space composition using abstract representations of events	The artistic composition of a space using groups of objects superimposed and/or chained in the space that do not really seem to belong to the same space. These groups seem to act as abstract representations of various events (which have potentially already been experienced by the player).	Integration of the corresponding content. The effect seems easier to achieve in a very abstract environment. A minimalist rendering seems to lend itself well to this.	Genesis Noir (Feral Cat Den, 2021)
42	Spatial contradiction	incoherent spatial composition	Fundamentally distinct parts of the same world	Representation of two regions (one after the other) in the same space or the same world, both so fundamentally different that they do not seem to be part of the same world.	Design of two fundamentally different scenes (e.g., a live-action capture and an abstract space rendered in real-time in 3D).	Liberti

43	Spatial contradiction	incoherent spatial composition	Contradictory depth levels	Representation of a space on which we seem to be moving in 2D, but which takes us to various levels of depth depending on the surfaces on which we are navigating.	Integration of the corresponding artistic content. These are mainly visual illusions based on 2D perspective. Several levels in The Bridge offer a great example of these impossible spaces.	The Bridge (The Quantum Astrophysicists Guild, 2013)
44	Spatial contradiction	incoherent spatial composition	Semi-transparent overlapping spaces	Superposition of two sets of objects in the same space (only one set is accessible at a time). The inaccessible set of objects is still visible, but semi-transparent (or has a distinct appearance that clearly signifies its state).	Apply a different shader or shader values to inaccessible objects. An action must be implemented that causes a change in state between sets of objects.	The Bridge (The Quantum Astrophysicists Guild, 2013)
45	Spatial contradiction	incoherent spatial composition	Contradictory projections between multiple avatars	When two characters are controlled or two points of view explore the same space, contradictory projection of elements in this space. These projections involve two simultaneous versions of sets of objects, configured differently depending on the point of view.	Duplicate sets of objects (one version per viewpoint) which are configured according to the desired effect. Each version uses a "layer" that is only included in one of the Culling Masks.	Two Minds
46	Spatial contradiction	incoherent spatial composition	Avatar-specific visual effects	Separate visual effects to the rendered image for each possible character or viewpoint in the same space.	Application of post-processing volumes whose "layer" is assigned to only one of the	Two Minds

					Volume Masks (one per camera).	
47	Spatial contradiction	incoherent spatial composition	Space multiplication	Physical duplication of a specific part of the game world.	Duplication and arrangement of objects that are part of a subset of space.	WAO Part I: Propagation/Extinction
48	Spatial contradiction	incoherent spatial composition	Space recursion	[Specific form of space multiplication] Physical and repeated duplication of a specific part of the game world and then linear rearrangement of the corresponding subspace.	Duplication and arrangement of objects that are part of a subset of the space. To give a sense of infinity, a piece of subspace can be moved from one end to the other depending on the location of the camera within the recursive space.	WAO Part I: Propagation/Extinction
49	Spatial contradiction	incoherent spatial composition	Overlay of views	Overlay of disjunct views based on any variation such as position, orientation, or field of view applied to more than one camera. Each new view is rendered on top of one (or more) previous view, the latter appearing in the background.	Use of several cameras simultaneously. Only the first camera should apply a certain background if necessary. Each camera can vary various parameters related to the point of view (parameters of the Transform or the Camera object for example).	WAO Part I: Propagation/Extinction [Not implemented but reflected on during development]

50	Spatial contradiction	incoherent spatial composition	Overlay of views by depth layers	Overlapping disjunct parts of the world based on a particular rendering distance from a vantage point (specific minimum and maximum distances). Each part can be changed individually, for example by varying the rotation or field of view values of each camera involved.	Use multiple cameras simultaneously with separate Clipping Planes values. Each camera can vary various parameters related to the point of view (parameters of the Transform or the Camera object for example).	WAO Part I: Propagation/Extinction [Not implemented but reflected on during development]
51	Spatial contradiction	incoherent spatial composition	Layered planes/backgrounds	Superposition of large areas in the background. This overlay can be partial and transitive, so that one gradually moves from one background to another while moving in space.	Superposition of two non-opaque surfaces. For a typical 3D background, you can use very large spheres with a visible inner side that follow the movements of the camera.	WAO Part III: Superpositions/Extraction
52	Spatial contradiction	incoherent spatial composition	Decal overlay	Applying unusual decals to objects or regions of space. Animating these decals amplifies the effect of strangeness.	Working with DecalProjector objects and transformations (translations, rotations) of these objects.	WAO Part III: Superpositions/Extraction
53	Spatial contradiction	incoherent spatial composition	Integration of objects that do not quite respect the structure of the world	Representation of physical objects that clearly appear to obey a different configuration of the world than what is represented as a whole (e.g. spheres that collide with	Invisible configuration (e.g. Colliders) of elements on which visible objects use to react with the environment.	WAO Part III: Superpositions/Extraction

				walls that are different from the visible walls).		
54	Spatial contradiction	incoherent spatial composition	Applying unusual textures to the screen	Added transparent textures to the screen without obvious logical justification.	Added textures through UI.	WAO Part III: Superpositions/Extraction
55	Spatial contradiction	incoherent spatial composition	Superposition of distinct worlds	Superposition of conceptually distinct worlds on the same image. At most, a world should be entirely opaque (rendered first). A simple and still clear application of such an effect is to represent a partially transparent 2D world on a 3D world.	Creation of two distinct worlds and then use of multiple cameras to render the worlds in succession. Separate effect volumes can also be assigned.	WAO Part III: Superpositions/Extraction
56	Spatial contradiction	incoherent spatial composition	Image or video superimposed on screen	The superimposition of a partially transparent image or video on the image rendered on the screen.	Applying a layer in UI (Image, RenderTexture for a video).	WAO Part III: Superpositions/Extraction

57	Spatial contradiction	incoherent spatial composition	Indoor/outdoor space	Representation of a space that is both indoor and outdoor. Elements that should only be visible from the outside (e.g. a starry background) are found in an environment clearly surrounded by walls and a ceiling.	Use of a custom shader that generates nocturnal elements specific to the outside (stars, planets, galaxies). This shader is applied transparently to the inside of a sphere very close to the camera, which is itself located in a room. The starry texture follows the camera, so it feels like it's far away from the camera than the surrounding walls and ceiling.	WAO Part V: Space Manipulation
58	Spatial contradiction	incoherent spatial composition	1D or 2D spaces	Complete change in the rendered perspective (3D to 2D or 1D, and vice versa).	To change from 3D to 2D or from 2D to 3D, change the type of projection associated with the camera. For a 1D representation or for 2D/3D representations other than those present by default, various configurations may be required.	WAO Part V: Space Manipulation [Not implemented but reflected on during development]
59	Spatial contradiction	Transformed space	Rotation of the whole world	Rotation of all elements in the world in which the camera is located, but not of the camera itself. The general directions (up, down, front, back, right, left), then seem inconsistent.	Rotation of the parent object including the components of the corresponding world, excluding at least the camera.	Restart

60	Spatial contradiction	Transformed space	Lens distortion effect	Exaggerated effect of distortion of a camera's lens, giving the impression of a repetition of components of the world.	Added Lens Distortion module, which has a very low Scale parameter.	WAO Part I: Propagation/Extinction
61	Spatial contradiction	Transformed space	Partial reduction (depth)	Reduced the total render distance of the camera.	Increasing the minimum distance or reducing the maximum rendering distance of a camera (Clipping Planes).	WAO Part I: Propagation/Extinction
62	Spatial contradiction	Transformed space	Stretching/Compression parallel to the screen	Modification of the camera's field of view. In particular, a very large field of view creates strange artifacts in visible space.	Variation of the Field Of View parameter.	WAO Part I: Propagation/Extinction
63	Spatial contradiction	Transformed space	Overlaying fragments of a view	Fragmentation of the image rendered into specific pieces and then different superimposition of these fragments on the screen.	Use of a custom post-processing shader that cuts and composes the screen in a desired way.	WAO Part III: Superpositions/Extraction
64	Spatial contradiction	Transformed space	Variations in spatial scaling	Gradual stretching or contraction of a space.	Variation of the Scale of the parent object containing the components of the space to be stretched and/or compressed.	WAO Part V: Space Manipulation

65	Spatial contradiction	Transformed space	Coloring space	Applying colors to surfaces based on the spatial position of each individual region (associated with a pixel) rendered.	Use of a custom shader for ray traced rendered space manipulation. Applying a color back to the path of visibility rays when they reach specific surfaces. The color assigned depends on the position of the intersection relative to the camera position.	WAO Part V: Space Manipulation
66	Spatial contradiction	Reconfigured space	incoherent appearance of spaces	Inconsistent visual representation of spaces based on gameplay's distinct points of view. For example, it is common for games that depict accelerated movement on an overworld map to represent various elements of that world (e.g. cities and towns) differently.	Design of at least two fundamentally different points of view of the world, which represent elements that are a priori identical, differently.	Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition, (Square Enix, 2020)
67	Spatial contradiction	Reconfigured space	incoherent mapping of spaces	Incoherent representation of the mapping of the world according to gameplay's distinct points of view. For example, in "Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition", it is possible to switch between a 2D or 3D visualization. However, the different	Design of at least two fundamentally different points of view of the world, which present different configurations of the same world.	Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition, (Square Enix, 2020)

				spaces are configured very differently from one mode to another (2D space is not at all the same as a reliable 2D projection of space in 3D from the sky).		
68	Spatial contradiction	Reconfigured space	Modification of the environment without affecting a character	Destruction or significant modification of the environment, in a progressive manner. A character within this environment, however, seems unperturbed, as if he or she is not really part of the world depicted.	Integration of the corresponding content.	Genesis Noir (Feral Cat Den, 2021)
69	Spatial contradiction	Reconfigured space	Sudden transition between spaces of a character	Suddenly, the environment around a character can change its configuration entirely. One or a few elements of the previous environment may remain in order to establish that it is not simply a time jump.	Integration of the corresponding content.	Genesis Noir (Feral Cat Den, 2021)
70	Spatial contradiction	Reconfigured space	Variations of space while in the dark	Significant changes to the configuration of a region when it is temporarily plunged into darkness.	Design of the corresponding content. It can be made by activating/deactivating	Liberti

					objects while darkness is achieved.	
71	Spatial contradiction	Reconfigured space	Sudden changes in visible space	Sudden and unexplained changes in the configuration of objects in a visible region.	Activating and deactivating objects and/or various transformations applied to objects.	Liberti
72	Spatial contradiction	Reconfigured space	Imperceptible variation in the size of a space	A representation of a navigable space which, depending on the perspective, can vary in actual size imperceptibly (the space moves closer or further away from the camera so as to preserve its apparent size as long).	Variations of distance and actual size of an object proportionally, such that it still appears unchanged.	Superliminal (Pillow Castle, 2019)
73	Spatial contradiction	Reconfigured space	Conditional existence of a passage (visible objects)	Existence of a passage from one region to another conditional on at least one object being visible in the other region.	Collisions of a barrier between two regions conditional on the position of the camera and another object.	Superliminal (Pillow Castle, 2019)
74	Spatial contradiction	Reconfigured space	Alternating world structure	Sudden, non-progressive and unexplained alteration of the configuration of a large number of elements populating a subspace. This operation can be understood as the instantaneous sum of many other operations	A variation of various parameters related to a set of GameObject objects.	WAO Part II: Switches

				(activation/deactivation of objects, alternation of light sources, alternation of spatial parameters of an object, etc.).		
75	Spatial contradiction	Reconfigured space	Changing the scene configuration off-screen	Considerable modification or total alteration of a space at a desired time when that space is not visible. For example, a door to any room may close and then reopen to reveal a completely separate room.	Disabling and enabling sets of objects at specific points in the experience.	WAO Part V: Space Manipulation
76	Spatial contradiction	Discontinuous space	Overlapping spaces in a cycle	Superimposition of spaces whose different versions appear, one after the other, moving according to a cycle. Much of the repeated regions are invisible (behind walls).	Integration of several sets of objects in the same space. Only one set of objects is active at a time. The general configuration of the space, in addition to forming a cycle, contains elements that block the view of sets of objects (e.g. walls) when they are changed. The changes of sets can be made in a defined order according to the direction of the displacement in the cyclic space.	Antichamber (Demruth, 2013)

77	Spatial contradiction	Discontinuous space	Overlapping spaces in a cycle (portal)	Superimposition of spaces whose different versions appear, one after the other, moving according to a cycle. A very small part of the repeated subspace is invisible (behind a thin object, for example).	Creation of portals visible on each side of the cycle. For example, if we cycle around a column, the portal can be placed on either side of the column relative to our position in space. What appears on portals depends on the level of depth in which one is in recursive space. The implementation of such a portal, without using ray traced rendering, can be done using a texture displaying the rendering of another camera, or using a stencil buffer.	Antichamber (Demruth, 2013)
78	Spatial contradiction	Discontinuous space	Overlapping spaces divided by entry points	Overlapping spaces with different versions depending on the entry point to these spaces. For example, the inside of a cube bounded by its edges can vary depending on which face is being looked through.	Creation of portals on each entry point to a confined space. The implementation of such a portal, without using ray traced rendering, can be done using a texture displaying the rendering of another camera, or using a stencil buffer.	Antichamber (Demruth, 2013)

79	Spatial contradiction	Discontinuous space	Enclosed, cyclical, infinite space in one direction	Through an enclosed space whose ends are hidden (by walls for example), infinite repetition of the space explored, although this exploration does not form a real cycle. For example, you can build a stairwell that goes up or down infinitely.	Creating a region repeated three times in one direction (starting in the middle subspace). When the player reaches one of the other regions, the avatar is moved to the corresponding location in the central region (this transition should not be perceived).	Antichamber (Demruth, 2013)
80	Spatial contradiction	Discontinuous space	Space compression in a closed room (invisible transition)	Representation of an enclosed space that is much larger (perceived from the inside) than its container (perceived from the outside). The configuration of the space is such that the contradiction is only perceived through exploration, and not simply by looking inside from the outside (no need for a portal).	Design of an interior space much larger than the container perceived from the outside. A change of scene when moving from outside to inside and back can make the transition easier.	Control (Remedy Entertainment, 2019)
81	Spatial contradiction	Discontinuous space	Refractive Effect	Applying a significant refractive effect through a transparent surface. The operation depends on the nature of the associated object, which should not visibly be part of the whole	Application and parameterization of a "Refraction Model" on a surface using a shader that allows it (e.g. Transparent HDRP/Lit).	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り

				as a physical object from which such a refractive capacity is expected.		
82	Spatial contradiction	Discontinuous space	Space Translation (Hidden Objects)	Representation of cuts in space enjoining distinct regions (similar to teleportation portals). The area linking the two linked regions cannot be perceived by the camera (hidden by an object).	Translation of objects when they reach the invisible region linking the two visible regions.	Frame of Mind ([SAMPLE TEXT] Studios Ltd, 2021)
83	Spatial contradiction	Discontinuous space	Space compression in a closed room (visible transition)	Representation of an enclosed space that is much larger (perceived from the inside) than its container (perceived from the outside).	Implementation of an entrance surface towards the inside of the enclosed space, then creation of a portal on this surface that renders the interior of the room. A second portal can be used to reverse the path. The implementation of such a portal, without using ray traced rendering, can be done using a texture displaying the rendering of another camera, or using a stencil buffer.	Kid A Mnesia (Epic Games, 2021)

84	Spatial contradiction	Discontinuous space	Teleportation Portal	Cuts limited to a surface in space enjoining distinct regions.	Creation of a portal on a surface that renders another space, or the same space from another point of view (position, orientation). A second portal can be used to reverse the path. The implementation of such a portal, without using ray traced rendering, can be done using a texture displaying the rendering of another camera, or using a stencil buffer.	Portal (Valve Corporation, 2007)
85	Spatial contradiction	Discontinuous space	Fake cyclic space	Space that seems to cycle infinitely by moving the camera to the extremities of a region, from a point where such a translation appears seamless (for example in the middle of an ocean).	Moving the camera from one end of a repeated space (boxed region) to the opposite end when the camera is about to exit the region.	Restart

86	Spatial contradiction	Discontinuous space	Spatial filter	Applying a filter (a surface in space) that divides the world and applies different effects in the divided regions of that space (e.g. decreasing vs. increasing the perceived saturation on the screen).	Integration of a transparent surface using a custom shader. The custom shader takes what can be perceived behind the surface and applies a desired effect. To divide the world in two, we superimpose two such surfaces whose effects are different and the visible sides rotated in opposite directions. A post-processing effect corresponding to the space in which the camera is located is also applied, since the transformation surface is not visible from this space.	Restart
87	Spatial contradiction	Discontinuous space	Labyrinth with multiple spatially contradictory cycles	Representation of a space divided into nodes connected to each other. Each node offers several possible exit points. Some point to other nodes, some generate a cycle, in the same node or directly to the exit of the maze (often or always the same).	Separation of a space into regions. When choosing an exit, a transition lets us continue or takes us back to a region we have already visited, for example through a fade transition, or by activating and placing the next region where we are directed within the simulation's (world) space.	The Legend of Zelda series (Lost Woods) (Nintendo)

88	Spatial contradiction	Discontinuous space	Conflicting views of the outside world	From an enclosed place (a room for example), contradictory points of view on the outside world through distinct windows.	A simple implementation consists of forming spaces of a distinct nature on two opposite sides of an enclosed space, visible through windows. Lighting, objects, and local post-processing effects can be used to distinguish the two regions.	WAO Part II: Switches [Not implemented but reflected on during development]
89	Spatial contradiction	Discontinuous space	Spatial distortion (aqueous surfaces)	Distortion of space from a given surface, distinctly similar to distortion caused by aqueous surfaces.	Use a WaterSurface object to which distortion effects are applied but most of the effects (colors, opacity) are reduced or eliminated.	WAO Part V: Space Manipulation
90	Spatial contradiction	Discontinuous space	Space curvature	In ray traced rendering, applying curvatures to space.	Use of a custom shader for ray traced rendered space manipulation. Repeated transformations (translations and/or rotations) and very numerous applied to visibility rays. The rays travel very small distances before each new transformation.	WAO Part V: Space Manipulation
91	Spatial contradiction	Discontinuous space	Space translation (visibility)	In ray traced rendering, cuts in space joining distinct regions (similar to teleportation portals).	Use of a custom shader for ray traced rendered space manipulation. Translation applied to the visibility rays when they come into contact with a given surface.	WAO Part V: Space Manipulation

92	Spatial contradiction	Discontinuous space	Space rotation	In a ray traced rendering, cuts in space that generate strange distortions along surfaces. This can easily be combined with space translations, among other things to give the impression that we have changed the direction of our point of view from a surface.	Use of a custom shader for ray traced rendered space manipulation. Rotations are applied to the visibility rays when they come into contact with a given surface.	WAO Part V: Space Manipulation
93	Spatial contradiction	Discontinuous space	Space annihilation portal	In ray traced rendering, the absence of any form of graphics rendering within a specific region.	Use of a custom shader for ray traced rendered space manipulation. Translations are applied to the visibility rays so that they continue their way beyond the determined region. If the ray should not be able to travel beyond the region (render distance is too short or region is infinite in the given direction), the ray is ignored.	WAO Part V: Space Manipulation
94	Spatial contradiction	Discontinuous space	Space translation (physical)	Camera translation when it passes through a surface (such as a teleportation portal). This operation can be used with "space translation (visibility)", but specifically concerns the processing of the avatar, and therefore has	Translation applied to the camera when passing from one side of one surface to another (sometimes a comparison test along a single axis of space is sufficient, coupled with collision detection if needed).	WAO Part V: Space Manipulation

				nothing to do with ray tracing rendering.		
95	Spatial contradiction	Discontinuous space	Infinite recursive space (portals/physical)	Recursive camera translation that creates the impression of infinite space.	Translation applied to the camera when passing from one side of one surface to another (sometimes a comparison test along a single axis of space is sufficient, coupled with collision detection). One or more portals can be placed in such a way as to generate an endless loop of movement.	WAO Part V: Space Manipulation
96	Spatial contradiction	Discontinuous space	Infinite recursive space (portals/visibility)	In ray traced rendering, cuts in space joining distinct regions (similar to teleportation portals), recursively.	Use of a custom shader for ray traced rendered space manipulation. Translation applied to the rays of visibility when they come into contact with a given surface. The rays are projected in such a way that some can pass through the same portal again, a set number of times. In practice, this number is finite, but it is possible to give an impression	WAO Part V: Space Manipulation

					of infinity with a sufficient number of translations.	
97	Spatial contradiction	Discontinuous space	Variations in spatial scales (ray tracing)	In ray tracing, compression or expansion rendering, the space within a given volume.	Use of a custom shader for ray traced rendered space manipulation. This is a specific implementation of space translation that, from a surface, deflects rays deeper into a volume, or farther away from that volume.	WAO Part V: Space Manipulation [Not implemented but reflected on during development]
98	Spatial contradiction	Reflection effects (space)	Blurred reflections (denoise)	Sudden and unexplained blurring of reflections.	In ray traced rendering, exaggerated application of a "denoising" effect on the reflection (in the ScreenSpaceReflections module).	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り

99	Spatial contradiction	Reflection effects (space)	Compressing a reflection until it enters the real world	Representation of a reflection on a surface (a mirror for example). The reflection compresses the closer you get to it. At a certain point, the reflection turns into a texture applied to a figure that "comes out" of the reflection towards the camera, the closer we get to it.	Implementation of a reflection (e.g. Planar Reflection Probe). Compression can be simulated by changing the position parameter of the reflection (and not of the object containing the mirror),	Superliminal (Pillow Castle, 2019)
100	Spatial contradiction	Reflection effects (space)	Reflections	Reflection of a large part of the world giving the illusion of continuity of space. This operation, in order to generate a potential contradiction, requires that the reflection is not clearly justified by the context of the work, for example by the physical presence of a mirror.	Using a Planar Reflection Probe object.	WAO Part I: Propagation/Extinction
101	Spatial contradiction	Reflection effects (space)	Incoherent reflections	Intentionally incorrect reflections applied to reflective surfaces.	Variation of various parameters related to the chosen reflection tool (e.g. Planar Reflection Probe) that do not correspond to what they should be for realistic reflection.	WAO Part III: Superpositions/Extraction [Not implemented but reflected on during development]

10 2	Spatial contradiction	Reflection effects (space)	Perfect and multiple reflections	In a ray traced rendering, representation of many reflective surfaces, especially walls, with a large number of reflections allowed for the same ray of visibility. The effect seems to be amplified when there are few landmarks and relatively homogeneous surfaces: we seem to get lost and not necessarily know if we are facing a wall or if we can move forward.	Use the Recursive Rendering module or the Screen Space Reflections module, in both cases with a high number of bounces allowed.	WAO Part V: Space Manipulation
10 3	Spatial contradiction	Reflection effects (space)	Incoherent reflections (limitations)	In ray traced rendering, the application of effects that are rendered to objects or spaces, but are not visible through reflections.	Use effects that are not performed on reflections obtained by the ray tracing rendering system. This is related to system limitations. It is possible that some of its limitations no longer exist in the future, or to implement custom fixes.	WAO Part V: Space Manipulation
10 4	Object-based contradiction	incoherent composition of an object	Height maps manipulation	Application of exaggerated height maps on surfaces, causing strange effects depending on the point of view, especially on large surfaces from which one can	Added height maps to the corresponding parameter of an object (built-in shader (e.g. HDRP/Lit) or custom shader).	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り

				approach and move away relatively freely.		
10 5	Object-based contradiction	incoherent composition of an object	Unusual normal mapping	Application of strange and unexplained normals to surfaces that should not contain these normals. This can be mixed with other effects on surfaces, such as manipulating height maps.	Use of unusual (potentially animated) textures as a "Normal Map" of a surface.	Degradation: Kyomu's Fury - 劣化 : キヨム の 怒 り
10 6	Object-based contradiction	incoherent composition of an object	Surface degradation using texture tiles	Applying texture tiles to a surface with extremely small repeated frames. Depending on the distance, the nature of the surface may seem inconsistent (the effect may be reminiscent of Moirés).	Applying textures to a surface's shader settings and corresponding Texture Scale settings. The resulting effect depends a lot on the textures chosen (main, normal, emission).	Degradation: Kyomu's Fury - 劣化 : キヨム の 怒 り
10 7	Object-based contradiction	incoherent composition of an object	Impossible geometry of an object	A representation of an object whose geometric properties are impossible (a staircase with a finite appearance that always seems to be going up, for example).	Integration of the corresponding artistic content. These are mainly visual illusions that require a specific perspective. Several levels in The Bridge offer a great example of these impossible configurations.	The Bridge (The Quantum Astrophysicists Guild, 2013)

108	Object-based contradiction	incoherent composition of an object	Surfaces composition by superposition	Overlay distinct textures to create a complex surface. At most, one of the textures should be opaque (rendered first). Textures can act differently (use different shaders), be animated differently, or vary in level of transparency.	Overlapping of two surfaces, one of which is opaque at most.	WAO Part III: Superpositions/Extension
109	Object-based contradiction	Duplicate object	Conditional multiplication of a bundled object	Duplication of an object based on the specific configuration of a group of the same type. For example, a rule can cause cubes to multiply when they form a frame (a surrounded region) until the inside is filled with these copied cubes. This results in a potentially unlimited number of these cubes (this is one of Antichamber's mechanics for solving many puzzles).	Instantiation of objects when a condition is met.	Antichamber (Demruth, 2013)
110	Object-based contradiction	Duplicate object	Unnoticeable duplication of an object	Duplication of an object when it is selected. The generated copy is placed in front of the original object and is slightly smaller so that the duplication process is seamless.	Enabling of disabling objects. The position of the object and its size may depend on the position and orientation of the camera.	Superliminal (Pillow Castle, 2019)

11 1	Object-based contradiction	Duplicate object	Overlapping objects in the same volume of space	Overlapping copies of objects on top of the others (at the same position in space). Overlay is revealed when these objects move individually, revealing a copy of themselves where they are initialized.	Use of identical copies of a physical object.	WAO Part III: Superpositions/Extension
11 2	Object-based contradiction	Incomplete object	Conditional existence of an object (visibility)	Existence of an object conditional on its visibility in the camera view.	Visibility and collisions of an object conditional at the intersection of the object with the camera's view pyramid (this pyramid can be simulated with a Mesh if needed).	Frame of Mind ([SAMPLE TEXT] Studios Ltd, 2021)
11 3	Object-based contradiction	Incomplete object	Reference to a non-existent/hidden object	A reference to an object that cannot be perceived by the camera and should be perceived by the narration or a textual indication deemed reliable.	Integration of the corresponding text or sound content.	Restart
11 4	Object-based contradiction	Incomplete object	Cyclic Activation and Deactivation	Automatized, perhaps rapid, appearance and disappearance of objects in a cycle. This effect can be seen as a representation of objects that both exist and do not exist.	Repeated enabling and disabling of an object through a cycle.	Restart

11 5	Object-based contradiction	Incomplete object	Conditional existence of an object (other interaction)	The existence of an object conditional on another object already interacting with it. For example, a platform could be used by the player only if an object is already on the platform.	Collisions of an object conditional on a currently recorded collision with another object.	Superliminal (Pillow Castle, 2019)
11 6	Object-based contradiction	Incomplete object	Conditional fake wall	A representation of a wall or barrier that, at least at some point, is visible but has no physical consistency.	Deactivate the corresponding wall collider when the desired conditions are met.	The Human Test
11 7	Object-based contradiction	Incomplete object	Unique perception to an avatar	Representation of an object that can only be perceived by a character being played or a possible point of view among several in the same space.	Use of multiple cameras with a matching culling mask. If a notion of collision is included, the corresponding physics parameters must be configured so that only one avatar interacts with the object.	Two Minds
11 8	Object-based contradiction	Incomplete object	Complementary visual and physical perception between avatars	Representation of an object that can only be visually perceived by one character being played or one of several possible points of view in the same space, and that can only be touched by another.	Use of multiple cameras with a corresponding Culling Mask. Physical settings must be configured so that only one avatar interacts with the object.	Two Minds

11 9	Object-based contradiction	Incomplete object	Complementary visual and physical perception between avatars (with physical interactions)	A representation of an object that can only be visually perceived by one of several played characters or a possible point of view in the same space, and that can only be touched and manipulated (e.g. pushed) by another.	Use of multiple cameras with a matching Culling Mask. Physical settings must be configured so that only one avatar interacts with the object. If the camera that visually perceives objects must not pass through these objects, a second version of the object, a child of the other (or which in any case follows its position) must be created, which does not have a Rigidbody and therefore cannot be pushed. This version cannot come into contact with the camera whose body is able to manipulate/push the object.	Two Minds
12 0	Object-based contradiction	Incomplete object	Visual perception unique to an avatar	A representation of an object that can only be visually perceived by one of several characters being played or a possible point of view in the same space, and that can be touched by all characters or regardless of the point of view.	Use of multiple cameras and a corresponding Culling Mask. Physical settings must be configured for all avatars to interact with the object.	Two Minds

12 1	Object-based contradiction	Incomplete object	Physical perception unique to an avatar	A representation of an object that is visually perceived by all characters being played or all possible points of view in the same space, and which can only be touched by one of these characters/points of view.	Use of multiple cameras and a corresponding Culling Mask. Physical settings must be configured so that only one avatar interacts with the object.	Two Minds [Not implemented but reflected on during development]
12 2	Object-based contradiction	Incomplete object	Enabled/Disabled object	The sudden, logically unexplained appearance or disappearance of an object.	Enabling or disabling a GameObject.	WAO Part II: Switches
12 3	Object-based contradiction	Incomplete object	Collision Activation/Deactivation	Unexplained activation or deactivation of an object's collision system.	Enabling or disabling a Collider.	WAO Part II: Switches
12 4	Object-based contradiction	Incomplete object	Integration of partial objects into the environment	Removal of some fundamental components of an object (some of the faces, collision effects, textures).	Use of surfaces with missing triangles or elimination of certain systems (e.g. the Collider).	WAO Part III: Superpositions/Extraction
12 5	Object-based contradiction	Incomplete object	Fake obstacle	Representation of obstacles that do not interact with the player. These can be objects without a collision system. This is different from the "integration of partial objects into the environment" in that the objects may frighten us, seem to need to be avoided, or seem to act as barriers.	Design of fake obstacles (e.g. matching objects without Collider).	WAO Part IV: Lies

12 6	Object-based contradiction	Incomplete object	One-way visibility of a surface	Representation of a surface visible on one side and invisible on the other.	By default, surfaces are rendered on only one side. It is enough simply not to hide any of the corresponding faces to generate the effect.	WAO Part V: Space Manipulation
12 7	Object-based contradiction	Transformed object	Texture degradation	Variation in the quality of some textures applied to objects.	Modification of the textures used at the source.	Degradation: Kyomu's Fury - 劣化: キョムの怒り
12 8	Object-based contradiction	Transformed object	Imperceptible transformation objects into one (or vice versa)	Representation of several objects which, seen from a specific point of view, seem to form another object. When this point of view is reached, the initial objects are replaced by the object "formed" through perspective.	Disabling and activating objects based on a camera position and rotation.	Frame of Mind ([SAMPLE TEXT] Studios Ltd, 2021)
12 9	Object-based contradiction	Transformed object	Off-screen activation/deactivation (object)	Activation or deactivation of an object when it is not in the camera's field of view.	Activation or deactivation of an object at a prescribed time (inside a cinematics for example), or according to the position and rotation of the camera around the object.	Restart
13 0	Object-based contradiction	Transformed object	incoherent and random size of objects	Repeatedly changing size of objects randomly chosen with each change.	Choice of a pseudo-random value that determines the size of an object, repeated after a specified time interval.	Restart

13 1	Object-based contradiction	Transformed object	Size relative to avatar location	Variation in the size of an object based on the relative position of the avatar.	Modification of the "scale" of an object according to the positions of the object and the camera in space (can be simply proportional to the distance for example).	Restart
13 2	Object-based contradiction	Transformed object	Imperceptible transformation of textures into an object (or vice versa)	Representation of textures on surfaces (e.g. walls) that resemble another object from a specific point of view. When this point of view is reached, the texture is changed and, instead, the object "formed" through the perspective is generated in 3D.	Disabling and activating objects based on a camera position and rotation.	Superliminal (Pillow Castle, 2019)
13 3	Object-based contradiction	Transformed object	Imperceptible variation in the size of an object	Representation of objects that, depending on the perspective, can vary in size imperceptibly (the object moves closer or further away from the camera so as to preserve its apparent size as long as it is not let go from a specific line from the camera).	Modification of the distance of an object and its size so that it appears unchanged.	Superliminal (Pillow Castle, 2019)
13 4	Object-based contradiction	Transformed object	Appearance of a surface dependent on its position in space	The display of a color and/or texture (animated or not) on a surface, visible only on parts of that surface that are	Use a custom shader that changes part of a texture when the region perceived by	Two Minds

				situated within a restricted space.	the camera is included in a specified region.	
13 5	Object-based contradiction	Transformed object	Alternating faces over a surface	Alternation of the visible side of surfaces of a geometric shape.	Variation of the Culling parameter present in some shaders.	WAO Part II: Switches
13 6	Object-based contradiction	Transformed object	Alternating textures	A variation in the textures applied to a surface.	Variation of textures in inputs provided to some shaders.	WAO Part II: Switches
13 7	Object-based contradiction	Transformed object	Alternating spatial parameters of an object	Sudden, non-progressive, and unexplained change in the position, orientation, and size of an object.	Variation of an object's Transform parameters.	WAO Part II: Switches
13 8	Object-based contradiction	Transformed object	Alternating the nature of an object	A sudden, non-gradual, and unexplained change in the appearance (entire shape) of an object. For example, an apple that suddenly becomes an orange.	Activating one object and deactivating another object, the two objects being spatially conjoined.	WAO Part II: Switches
13 9	Object-based contradiction	Transformed object	incoherent levels of detail (LODs)	The nature of an object as a function of its distance from the camera.	Application of different transformations (translations, rotations) to different versions of an object using levels of detail (LODs) for its rendering.	WAO Part III: Superpositions/Extraction

14 0	Object-based contradiction	Transformed object	Alternating truth and lies	An operation similar to the alternation of the nature of an object. An object can alternate between two states. In this case, however, the alternation is not arbitrary. Experience seems to attribute a greater value to one state, as if one were true and the other illusory.	Activating one object and deactivating another object, the two objects being spatially conjoined. The context of the object must present one of the objects as its true form.	WAO Part IV: Lies
14 1	Object-based contradiction	Transformed object	Conditional collision of an object (visibility)	Detection of collisions of an object with the avatar and other objects conditional on its visibility in the camera.	Collision detection with an invisible object representative of the camera's view pyramid.	WAO Part V: Space Manipulation
14 2	Object-based contradiction	Transformed object	Change of configuration according to the perspective	Modification of one or more parts of an object (e.g. one side of a cubic-shaped object) when they are completely hidden depending on the viewing angle.	Division of an object according to a relevant hierarchy (sub-objects component it) and then predetermined modifications of these sub-objects, according to the position and rotation of the object relative to the position and rotation of the camera.	WAO Part V: Space Manipulation
14 3	Object-based contradiction	Transformed object	Moving textures	Moving a texture, but not the attached object. This operation requires that the texture be assumed to be physically intrinsic to the	Variation of the "Offset Texture" related to any texture in the shader used.	WAO Part V: Space Manipulation

				object, and not, for example, a screen projection.		
14 4	Object-based contradiction	Transformed object	Mesh transformations	Transformation of object surfaces based on their position in space.	Use of a custom shader that translates the vertices of a surface based on their position in space.	WAO Part V: Space Manipulation [Not implemented but reflected on during development]
14 5	Object-based contradiction	Reflection effects (object)	Objects only found in reflections	Representation of objects that are only visible in reflections.	In ray traced rendering, it is sufficient to consider a "layer" corresponding to the objects in the ScreenSpaceReflections system, but not in the Culling Mask parameter of the camera.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
14 6	Object-based contradiction	Reflection effects (object)	Objects without reflection	Representation of objects without reflection.	In ray traced rendering, it is sufficient to consider a "layer" corresponding to the objects in the Culling Mask parameter of the camera, but not in the ScreenSpaceReflections system.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り

14 7	Multiple/incoherent identities	incoherent controls	Temporary removal of user controls	Temporary withdrawal of one or more user controls, without justified withdrawal in the fiction of the corresponding possibilities of action. For example, we don't prevent the avatar from jumping in the context of fiction, rather we no longer make the control that allows a player to jump work.	Added condition (e.g. an enemy attack) that affects user controls by rendering them unusable.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
14 8	Multiple/incoherent identities	incoherent controls	Total elimination of controls	Prolonged and unexpected removal (e.g. without appearing to enter a cinematic) of user controls.	Design of the corresponding content.	Liberti
14 9	Multiple/incoherent identities	incoherent controls	Propagation of controls	Associating a user control with several logically distinct actions in the game space.	Associating a user input with multiple concurrent actions.	WAO Part I: Propagation/Extinction
15 0	Multiple/incoherent identities	incoherent controls	Localized removal of controls	User control sometimes non-functional based on a location in space, with no logical justification in the game world.	Added conditions to the consideration of a user input.	WAO Part I: Propagation/Extinction [Not implemented but reflected on during development]
15 1	Multiple/incoherent identities	incoherent controls	Random action successes/failures	User control sometimes non-functional, randomly, without logical justification in the game world.	Adding randomly tested conditions to consideration of any user input or action.	WAO Part II: Switches

15 2	Multiple/incoherent identities	incoherent controls	Alternating functions of the game interface	Sudden and unexplained variations in the effects of user controls in the game world (e.g. reversing the direction of travel based on directional keys or an analog controller).	Variation of user controls related to an action.	WAO Part II: Switches
15 3	Multiple/incoherent identities	Incoherent nature (player/avatar)	Different events depending on the difficulty chosen	Fictional events that differ depending on the game difficulty chosen. The idea here is that the chosen difficulty is not typically understood as a fictional element, but rather an accessibility parameter solely related to the gameplay.	Design of corresponding events.	Degradation: Kyomu's Fury - 劣化: キョムの怒り
15 4	Multiple/incoherent identities	Incoherent nature (player/avatar)	Avatar addressing a player	Depiction of a controlled character that speaks directly to the person who controls it. The character in question can, for example, refuse to execute a command.	Integration of the corresponding text or sound content.	Everhood (Foreign Gnomes, 2021)
15 5	Multiple/incoherent identities	Incoherent nature (player/avatar)	incoherent avatorial identity (shadows)	Depiction of an avatar whose nature appears inconsistent over time, based on the shadows generated (or sometimes not generated) at different points in the game experience.	Use of different models over time to generate the shadows of the controlled character.	Kid A Mnesia (Epic Games, 2021)

156	Multiple/incoherent identities	Incoherent nature (player/avatar)	Sudden change in point of view (orientation)	Sudden, unexplained and lasting change to the camera's point of view.	Sudden transformation performed on the camera relative to the controlled avatar (e.g. a local rotation).	Liberti
157	Multiple/incoherent identities	Incoherent nature (player/avatar)	Avatar/camera detachment	From a first-person view, animation of the camera in such a way that the avatar is visible.	Translation and rotation the camera after removing the camera from the hierarchy associated with the avatar.	Liberti
158	Multiple/incoherent identities	Incoherent nature (player/avatar)	Physical identity incoherent with events	Visual representation of an avatar that seems to make no sense based on the actions they can perform. The actions in question must not be perceived/animated (e.g. by using a first-person view).	Gameplay mostly in first-person, with opportunities to see the avatar controlled, for example during cutscenes.	Liberti
159	Multiple/incoherent identities	Incoherent nature (player/avatar)	Diegetized muting effect	Implementation of a fictional event related to the application of the mute option in the game settings.	Design of the corresponding events conditional on the activation of the mute effect.	Restart
160	Multiple/incoherent identities	Incoherent nature (player/avatar)	New contradictory perspective	Notable change in the point of view used to explore a space that has already been visited, without this change seemingly explained by fiction.	Use of a different camera, and if desired different controls, or even an entirely different scene but which mostly uses the elements of a previous scene (so that you still have the impression of having returned to it).	Restart

16 1	Multiple/incoherent identities	Incoherent nature (player/avatar)	Simultaneous control of a character and an environment	Development of controls that directly affect a character, but also controls that affect the environment. For example, in The Bridge, you can move a character and rotate the environment in which he finds himself. The effect requires that the player be able to identify with the character in some way, such that they are not clearly an omniscient entity that commands characters like in a management game. Controls must be able to be performed simultaneously on a character and on the environment.	Integration of the corresponding content.	The Bridge (The Quantum Astrophysicists Guild, 2013)
16 2	Multiple/incoherent identities	Incoherent nature (player/avatar)	Duplicated controlled character	Duplication of a player-controlled character. Actions (e.g. moves) apply to all versions of the character (each version is instantiated in a different location).	Applying the same control script for two in-game instances.	The Bridge (The Quantum Astrophysicists Guild, 2013)
16 3	Multiple/incoherent identities	Incoherent nature (player/avatar)	Required automation of controls	Development of a challenge that requires an external form of control automation (e.g., an auto-clicker) to be overcome.	Design of a corresponding experience.	The Human Test

16 4	Multiple/incoherent identities	Incoherent nature (player/avatar)	Partial stoppage in pause mode	Implementation of a pause mode that only partially stops time, for instance by letting the player rotate the camera.	Timeflow (Time.timeScale) being put to zero, and the use of some non time scaled controls that are not disabled when the game is paused.	The Human Test
16 5	Multiple/incoherent identities	Incoherent nature (player/avatar)	Temporal manipulation of the platform by the player	Development of a challenge that requires the manipulation of the system clock.	Design of a corresponding experience.	The Human Test
16 6	Multiple/incoherent identities	Incoherent nature (player/avatar)	Required access to real-world information	Development of a challenge requiring the search for information that can only be found in the real world.	Design of a corresponding experience.	The Human Test
16 7	Multiple/incoherent identities	Incoherent nature (player/avatar)	Modification of game files by the player	Development of a challenge requiring the manipulation of game files.	A simple way to do this is to use the StreamingAssets directory, which is used by default to access data (texts, images, videos) that can be edited directly in the platform's files by the player and that can be accessed by the system. The rest of the implementation is for typical file processing in C#.	The Human Test
16 8	Multiple/incoherent identities	Incoherent nature (player/avatar)	External manipulation of fictional data	Development of a challenge requiring the manipulation of data accessed only through fiction. For example, a player may be required to capture an in-game image and then	Design of a corresponding experience.	The Human Test

				modify it using software to perceive hidden elements.		
169	Multiple/incoherent identities	Incoherent nature (player/avatar)	Manipulation of Windows registries by the player	Development of a challenge requiring the manipulation of Windows registries.	The PlayerPrefs class is normally used to store preferences related to a game account (e.g. chosen options). Since the corresponding data is saved and read in the registers (on Windows), it is possible to require a modification of these registers by the player to continue the experience.	The Human Test
170	Multiple/incoherent identities	Incoherent nature (player/avatar)	Reference to the person playing/system running the program	Mention in the fiction of the person who plays, and not only of the avatar they control.	Integration of the corresponding text or sound content.	The Human Test
171	Multiple/incoherent identities	Incoherent nature (player/avatar)	Bad tutorial (multiplayer)	A tutorial that evokes instructions that apply only to another player in a multiplayer experience.	Integration of the corresponding text or sound content.	Two Minds
172	Multiple/incoherent identities	Incoherent nature (player/avatar)	Dual identity	In the case of a multiplayer experience, effects generated on the same entity (the same avatar) by all control interfaces. Controls can be	Design of controls from two separate interfaces on the same character in a multiplayer experience.	Two Minds

				added, cancelled, averaged, as appropriate.		
17 3	Multiple/incoherent identities	Incoherent nature (player/avatar)	Reconfiguration of the player's point of view by overlay	Superposition of a rendered image on a whole which gives it a totally different meaning. For example, one can reproduce the appearance of a development software and integrate the rendered image for the game, giving the impression that players are previewing the experience in the software. More simply, one could imagine the game image rendered on a television screen in the virtual space.	Creation of a relevant frame (can be a UI element) and then rendering of the localized image using the camera's Viewport Rect.	WAO Part III: Superpositions/Extraction
17 4	Multiple/incoherent identities	Incoherent nature (player/avatar)	Superposition of distinct actions	Operation related to the "superposition of distinct worlds". Controls can be separately associated with each world while using similar inputs (e.g. the same keyboard keys to move).	Corresponding configuration of the control system.	WAO Part III: Superpositions/Extraction

17 5	Multiple/incoherent identities	Incoherent nature (player/avatar)	Segmentation of the experience across multiple projections (screens)	Similar to "division of views". Division of the screen into several distinct segments representing distinct worlds. The effect seems more inconsistent if the experience is not multiplayer.	Use multiple cameras with a corresponding Rect Viewport. However, the cameras render distinct spaces or objects.	WAO Part III: Superpositions/Extraction [Not implemented but reflected on during development]
17 6	Multiple/incoherent identities	Incoherent nature (game world)	Random Event Achievements	Representation of actions, events, or dialogues whose nature depends on chance rather than on the conditions of the content of the fictional world. For example, the success of an action can be determined by the roll of a virtual die.	Integration of the corresponding content. Random success can apply to all kinds of functions, and random calculation can follow a variety of rules.	Baldur's Gate 3 (Larian Studios, 2023)
17 7	Multiple/incoherent identities	Incoherent nature (game world)	Glitch effect on the image	Applied glitch effects to the rendered image on the screen.	Use of glitches with post-processing effects or custom shaders.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
17 8	Multiple/incoherent identities	Incoherent nature (game world)	Low-resolution simulation	Reduction of the image resolution rendered on the screen.	Applying a custom post-processing effect that reduces the resolution of the rendered image.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
17 9	Multiple/incoherent identities	Incoherent nature (game world)	Visual grain	Application of a significant visual grain effect to the image. The grains can take the form of large, complex textures if desired.	Use of the corresponding post-processing module (Film Grain).	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り

180	Multiple/incoherent identities	Incoherent nature (game world)	Decreased frames per second	Decreased number of frames rendered per second.	Variation to the "Application.targetFrameRate" setting's value.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
181	Multiple/incoherent identities	Incoherent nature (game world)	Screen concealment by UI	Application of a texture to the screen that is suggested to belong in the fiction.	Applying a texture in UI.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
182	Multiple/incoherent identities	Incoherent nature (game world)	Variation in DLSS settings	Degradation of the rendered image. Similar to low-resolution simulation, but specifically involving the DLSS system.	Applying a DLSS effect and decreasing the resolution of the initial image (before super sampling).	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
183	Multiple/incoherent identities	Incoherent nature (game world)	Self-referencing of the game	Reference to the game itself through the narration or story.	Integration of the corresponding text or sound content.	Restart
184	Multiple/incoherent identities	Incoherent nature (game world)	Transformations related to the sudden movement of the camera	Transformation of objects from the fictional world conditional on the sufficiently rapid movement (rotation) of the camera. If the speed of movement is very high, the transformations may not be perceived gradually, but their effects may be perceived when the camera stops being manipulated.	Calculation of the average rotational speed over a given time interval and then application of the desired transformations as long as a given minimum speed is reached.	Restart

18 5	Multiple/incoherent identities	Incoherent nature (game world)	Sound volume relative to the position of the camera	Variation in the general sound amplitude (not just of an object) as a function of the camera's position in space.	Variation of the "volume" setting of the AudioListener depending on the position of the camera (e.g. the distance between the camera and a specific point in space).	Restart
18 6	Multiple/incoherent identities	Incoherent nature (game world)	Fusion between intradiegetic and extradiegetic sounds	Use of extradiegetic sounds (e.g. background music) that suddenly seems to be directly affected by real-world manipulation (e.g. a radio with a volume control).	Integration of the corresponding content.	Superliminal (Pillow Castle, 2019)
18 7	Multiple/incoherent identities	Incoherent nature (game world)	Access to information about the gaming platform by the system	System accessing data about the platform being used.	The Environment class (C#) provides access to various data on the platform.	The Human Test
18 8	Multiple/incoherent identities	Incoherent nature (narrator)	New controls granted by a narrator	Assignment of controls by a narrator speaking directly to a character or player.	Integration of the corresponding text or sound content.	Liberti
18 9	Multiple/incoherent identities	Incoherent nature (narrator)	Alternating modes of communication	Unexplained alternation of modes used by a reliable narrative source to communicate with the player.	Implementation of multiple modes of communication (UI texts, sounds, videos) for the same instance (Text, TextMeshProUGUI, AudioSource, VideoPlayer).	WAO Part II: Switches
19 0	Multiple/incoherent identities	Incoherent nature (narrator)	Alternating text formats, within the same mode of communication	Unexplained alteration of the text format representing the voice of a reliable narrative source.	Variation of parameters related to a text (Text, TextMeshProUGUI).	WAO Part II: Switches

19 1	Multiple/incoherent identities	Incoherent nature (character)	Character looking at the camera	Representation of a character who follows the camera with their eyes, or even signals to it.	Integration of the corresponding content.	Death Stranding (Kojima Productions, 2019)
19 2	Multiple/incoherent identities	Incoherent nature (character)	Character acting on the game system	Evocation of a character acting on the game system (applies visual or sound effects, has an influence on user controls). These effects may be related to other operations in this database.	Fictional description of interactions between a character and the game system, resulting in perceived effects that do not otherwise seem to be explained in fiction.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
19 3	Multiple/incoherent identities	Incoherent nature (character)	Characters commenting on the difficulty chosen by the player	Reference by a character of the fiction to the chosen game difficulty.	Integration of the corresponding text or sound content.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
19 4	Multiple/incoherent identities	Incoherent nature (character)	Degradation of language level	Decreased level of language used by characters.	Integration of the corresponding text or sound content.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り [Not implemented but reflected on during development]
19 5	Multiple/incoherent identities	Incoherent nature (character)	Characters traversing more than one level of fictional depth	The representation of characters both in a fictional world and a fictional sub-world that it contains. For example, a character that you control can tell a fictional story, which is itself	Integration of the corresponding content. Two distinct fictional spaces must be created.	Everhood (Foreign Gnomes, 2021)

				represented in the form of a game phase in which you control the same character.		
196	Multiple/incoherent identities	Incoherent nature (character)	Character aware of past games by the player	A depiction of a character who knows when the player has already completed the game and/or committed specific actions in past saves.	Integration of the corresponding text or sound content. Some information must be kept between save files.	Everhood (Foreign Gnomes, 2021)
197	Multiple/incoherent identities	Incoherent nature (character)	Game developers as characters	The representation of characters in fiction as the people who developed the work.	Integration of the corresponding content.	Everhood (Foreign Gnomes, 2021)
198	Multiple/incoherent identities	Incoherent nature (character)	Character duplication	A simultaneous visual representation of multiple versions of the same character in a space. The character does not seem to be a clone based on fictional events.	Integration of the corresponding content.	Genesis Noir (Feral Cat Den, 2021)
199	Multiple/incoherent identities	Incoherent nature (character)	Character with an incoherent potentials	Representation of a character whose capacity for action seems entirely arbitrary. In Kyle Is Famous, Kyle appears to be a human, but he can eat a refrigerator, morph into an insect, or die to become a	Integration of the corresponding content. The effect seems easier to achieve through a textual description of a character and events.	Kyle Is Famous: Complete Edition (John Szymanski, 2021)

				ghost before returning to human form.		
200	Multiple/incoherent identities	Incoherent nature (character)	Distinct characters declared identical	Representation of different characters who are nevertheless evoked as identical.	Integration of the corresponding content. The effect seems easier to achieve through a textual description of a character and events.	Kyle Is Famous: Complete Edition (John Szymanski, 2021)
201	Multiple/incoherent identities	Incoherent nature (character)	Character referencing storytelling	Representation of a fictional character referring to a narrator who is not part of the fiction.	Integration of the corresponding text or sound content.	Liberti
202	Multiple/incoherent identities	Incoherent nature (character)	Reordered words in a dialogue	Change in the order of the words of a dialogue, of a character who normally expresses himself correctly. The result is potentially incomprehensible.	Integration of the corresponding text or sound content.	Superliminal (Pillow Castle, 2019)
203	Multiple/incoherent identities	Incoherent nature (character)	Randomly variations between a character's named identities	Random alternation of the name used by a character to identify himself.	Assignment of a list of possible names and random selection when displaying the name during a dialog.	WAO Part II: Switches
204	Multiple/incoherent identities	Incoherent nature (character)	Superposition of voices under the same identity	Superposition of distinct voices that are clearly associated with the same character. The latter seems	Using multiple voices or effects to generate the voice file(s).	WAO Part III: Superpositions/Extraction

				to be saying two things at once.		
205	Multiple/incoherent identities	Multiple points of view	Superposition of views (different frames)	Superposition of disjunct views based on any variation such as position, orientation, or field of view applied to more than one camera. Each new view is framed differently (significantly smaller) than the main view (entire screen) and is rendered on top of it.	Use of several cameras simultaneously. A first camera occupies the entire screen. The following cameras have a different Clipping Plane, so their rendering takes up part of the main view. Each camera can vary various parameters related to the point of view (parameters of the Transform or the Camera object for example).	Liberti
206	Multiple/incoherent identities	Multiple points of view	Division of views	Division of the display into several points of view (separate cameras).	Use multiple cameras with their own Rect Viewport.	WAO Part I: Propagation/Extinction [Not implemented but reflected on during development]
207	Multiple/incoherent identities	Multiple points of view	Unevenly alternating points of view	Sudden switching between a primary camera viewpoint and one or a few other secondary viewpoints. The secondary viewpoints are impractical and seem to	Alternating between multiple cameras or transformations (position and orientation) of a single camera based on specific viewpoints.	WAO Part II: Switches

				break the normal exploration experience.		
208	Multiple/incoherent identities	Multiple points of view	Evenly alternating points of view	Sudden switching between two or more camera points of view, treated equally (no point of view is considered primary or secondary).	Alternating between multiple cameras or transformations (position and orientation) of a single camera based on specific viewpoints.	WAO Part II: Switches
209	Incoherent physics	incoherent physical composition	Linked spaces with incoherent physics	A representation of a space that seems to be divided according to inconsistent physical rules. For example, a region may follow the rules expected of an underwater environment (creatures swimming, air bubbles forming) while being linked to another region that follows the rules in an environment out of water, without the expectation transitions (e.g. without a watery surface).	Design of restricted regions in space following distinct physical rules. Elements in a region can be forced to remain in that region to simplify implementation. Otherwise, multiple versions or a reparameterization of the components governing the physics of objects (e.g. Rigidbody) may be required during a transition. Local effect volumes may also be relevant, in particular to represent distinct physical behaviors on light.	Death Stranding (Kojima Productions, 2019)

21 0	Incoherent physics	incoherent physical composition	Superposition of gravitational rules	Application of distinct gravitational effects (amplitude, direction) on different sets of objects. If the gravitational effects can change, these changes can be made individually.	Application of forces in scripts that manage the physics of the objects involved. The gravitational effect implemented by default in the craft can only be used for a set of objects.	The Bridge (The Quantum Astrophysicists Guild, 2013)
21 1	Incoherent physics	incoherent physical composition	Environment superposition	Fluid segmentation of the world into dissonant parts. For example, we can imagine a very small snowy and storm-affected region, in the middle of a forest full of greenery and sunlight.	Corresponding space segmentation (can use all kinds of objects or localized effects).	WAO Part III: Superpositions/Extraction
21 2	Incoherent physics	incoherent physical composition	Superposition of post-processing effects	Application of various post-processing effects depending on the location in the space, without logical justification.	Use of local effect volumes.	WAO Part III: Superpositions/Extraction
21 3	Incoherent physics	Incomplete physics	Elimination of physical laws	The sudden and unexplained elimination of some physical law, which until then seemed inalienable in fiction.	Integration of the corresponding content.	Death Stranding (Kojima Productions, 2019)
21 4	Incoherent physics	Incomplete physics	Withdrawal of the sky	Elimination of the sky but not of the ambient light.	Variations of sky-related settings. Several modules can be involved, depending on the type of sky created (Visual Environment, Physically Based Sky, Fog, etc.).	Degradation: Kyomu's Fury - 劣化: キョムの怒り

21 5	Incoherent physics	Incomplete physics	Reflection from the sky only	Reflective surfaces that do not represent the objects between these surfaces and the background.	More or less the default behavior of specular reflection surfaces (they do detect other Light objects, however).	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り [Not implemented but reflected on during development]
21 6	Incoherent physics	Incomplete physics	Movement conditional on camera view	Animation of an object conditional on its presence in the camera's field of view.	Scripted animation based on the position and rotation of the camera relative to the corresponding object.	Restart
21 7	Incoherent physics	Incomplete physics	Elimination of background computation	Lack of background rendering from one frame to the next, preserving pixels from previous images that should not be rendered.	Lack of any background type in the Camera class. Mist and cloud effects can also be removed to amplify the effect.	WAO Part I: Propagation/Extinction
21 8	Incoherent physics	Unexpected properties of an object	Sudden change in a character's physical characteristics	Sudden and unexplained modification of a character over a very limited period of time. For example, an emaciated character can suddenly gain a lot of mass, without a logical explanation provided in the fiction.	Integration of the corresponding content.	Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition, (Square Enix, 2020)
21 9	Incoherent physics	Unexpected properties of an object	Exaggerated influence of an object	An exaggerated effect caused by an object in fiction, relative to what is logically expected of such an object. For example, a small paint	Integration of the corresponding content into the fiction.	Restart

				container can emptied into an ocean, changing the color of the ocean entirely.		
22 0	Incoherent physics	Unexpected properties of an object	Alternating sound amplitudes related to objects	Sudden, non-gradual, and unexplained change, activation, or deactivation of the amplitude of object-related sound effects.	Variation of the Volume parameter in the AudioSource class.	WAO Part II: Switches [Not implemented but reflected on during development]
22 1	Incoherent physics	Light effects	Light degradation	Reduction or elimination of ambient light in favor of very localized lights. The effect seems to be effective in an outdoor environment, for example by eliminating the influence of sunlight in an environment that seems otherwise sunny.	Reduction of the corresponding light intensity. It is also possible to change some settings of the "Lighting Settings".	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
22 2	Incoherent physics	Light effects	Shadow extension	Exaggerated contact shadows, resulting in shadows that seem to invade surfaces.	Variations in the settings governing the Contact Shadows module inside an effects volume.	WAO Part I: Propagation/Extinction
22 3	Incoherent physics	Light effects	Partial shadow reduction	Reduced length of shadows.	Decreased maximum rendering distance of shadows in the Shadows module inside an effects volume.	WAO Part I: Propagation/Extinction

22 4	Incoherent physics	Light effects	Light extension	Apparent amplification of the effects of volumetric light.	Modification of the parameters governing volumetric light (the Fog module and the corresponding parameters in the Light class), and potentially other brightness-related parameters such as light intensity and exposure parameters.	WAO Part I: Propagation/Extinction
22 5	Incoherent physics	Light effects	Fake shadow casting	Apply shadowy textures to surfaces directly from light sources.	Application of a Cookie to a light source.	WAO Part I: Propagation/Extinction
22 6	Incoherent physics	Light effects	Texture projection	Application of illuminating textures to surfaces from light sources.	Application of a Cookie to a light source.	WAO Part I: Propagation/Extinction
22 7	Incoherent physics	Light effects	Alternating light sources	Sudden and unexplained alteration of light sources. The operation is more relevant if it affects sources that should not be able to be very dynamic, such as sunlight.	Variation of various parameters of the Light class.	WAO Part II: Switches
22 8	Incoherent physics	Light effects	Shadows activation/deactivation	Sudden, non-gradual and unexplained activation or deactivation of all shading effects.	Variations applied in the Shadows module in an effects volume.	WAO Part II: Switches [Not implemented but reflected on during development]

22 9	Incoherent physics	Visual effects on the image	Depth of field	Unexplained and remarkable application or variation of a depth of field effect.	Use of the corresponding post-processing module (Depth of Field).	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
23 0	Incoherent physics	Visual effects on the image	Removing colors	Transformation of the image into graytones.	Decreased saturation level of the image (ColorAdjustments module).	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
23 1	Incoherent physics	Visual effects on the image	Color Filter	Color filter applied to the rendered image.	Use of the color filter in the ColorAdjustments module.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
23 2	Incoherent physics	Visual effects on the image	Path tracing	Use of path tracing as a real-time rendering technique. Since the technique takes an enormous amount of time to generate quality images, it seems to be unstable in nature (in Unity, as of now, a single image improves over time as long as no movement is detected by the camera).	Using the Path Tracing module.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
23 3	Incoherent physics	Visual effects on the image	Limiting the quality of path tracing	Use of path tracing as a real-time rendering technique while applying strange parameters to the rendering process (e.g., not considering any calculations to a visibility ray until the ray has performed a specific number of bounces).	Manipulation of the parameters of the Path Tracing module.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り

23 4	Incoherent physics	Visual effects on the image	Alternating applied volumes	Changes between various volumes of effects with no obvious explanation in the physical context of the game space.	Enabling or disabling objects containing a Volume, or changing the profile applied to a volume.	WAO Part II: Switches
23 5	Temporal contradiction	Incoherent timelines composition	Event temporalized in parallel with a main timeline	Representation of certain events in parallel to a main time frame. These events are taking place, but there are indications that they are not. For example, in Baldur's Gate 3, after choosing to spend the night at the camp in the middle of a dungeon, you are immediately taken back exactly to where you were when you left for the night.	Integration of the corresponding content.	Baldur's Gate 3 (Larian Studios, 2023)
23 6	Temporal contradiction	Incoherent timelines composition	Two merging narrative lines	Simultaneous representation, in the same space, of two series of events that cannot take place simultaneously. For example, two characters may take the time to talk when they seem to be in a hurry to save themselves from nearby enemies, who are about to shoot them, without the latter reacting.	Integration of the corresponding content. Some expected events may never happen or be postponed.	Death Stranding (Kojima Productions, 2019)

23 7	Temporal contradiction	Incoherent timelines composition	Integration of audiovisual references to the past into the present	Inclusion of visual effects (e.g. light shows) and sounds in the present world, which exist only to support or refer to past events narrated by a character.	Integration of the corresponding content in parallel with a story told by a character.	Death Stranding (Kojima Productions, 2019)
23 8	Temporal contradiction	Incoherent timelines composition	Two merging timelines	Simultaneous representation of the same space at two different times by composing the space of objects from two distinct instants.	Integration of elements specific to the current and past versions of the same space.	Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition, (Square Enix, 2020)
23 9	Temporal contradiction	Incoherent timelines composition	Temporal description incoherent with events	Narrated temporal description that conflicts with past events. For example, you can perform a flashback with a character, while maintaining the exact characteristics of that character in the present moment rather than in the past.	Design of the corresponding content.	Liberti
24 0	Temporal contradiction	Incoherent timelines composition	Misleading or satirical theme or mood	Creation of an atmosphere or representation of themes that do not correspond to future events in fiction. For example, a seemingly idyllic space filled with characters claiming to be happy may be imbued with violent events of	Design of a contradictory atmosphere and events.	WAO Part IV: Lies

				which the characters are obviously victims.		
24 1	Temporal contradiction	Temporal delinearization	Past time travel	Representation of a return in time in fiction.	Repeated visit to a scene, a space, past events.	Degradation: Kyomu's Fury - 劣化: キヨムの怒り
24 2	Temporal contradiction	Temporal delinearization	Time branching	Forced representation of a different timeline following a return in time.	Repeated visits to a stage, a space, past events, and then a representation of events that did not take place.	Degradation: Kyomu's Fury - 劣化: キヨムの怒り
24 3	Temporal contradiction	Temporal delinearization	Interactions with a past that affect known events	A representation of a kind of time travel, which involves interactions that were necessary for the production of subsequent known events.	Integration of the corresponding content.	Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition, (Square Enix, 2020)
24 4	Temporal contradiction	Temporal delinearization	Past event dependent on a future event	A representation of an event in the game that can only take place on the condition that a future event has already taken place. For example, in "Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition", the optional boss "End of Time" is intended to be a test given	Integration of the corresponding content.	Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition, (Square Enix, 2020)

				to playable characters before they fight Calasmos (the final boss) in the fiction. However, "End of Time" is only accessible once the game is over, when the player returns to their game (once the final boss is defeated, it is possible to go back in time shortly before the last events).		
24 5	Temporal contradiction	Temporal delinearization	incoherent series of continuous actions	Representation of a character who moves in a space by chaining actions that seem incoherent. For example, a character may run in one direction and then, suddenly, fall in the same direction, as if these events were actually separated further in time.	Integration of the corresponding content. The effect seems easier to achieve in a very abstract environment. A minimalist 2D rendering seems to lend itself well to this: you can then chain incoherent actions without it looking too strange depending on the updated configuration of the environment in which you are evolving.	Genesis Noir (Feral Cat Den, 2021)
24 6	Temporal contradiction	Temporal delinearization	Returning characters	Reappearance of characters in revisited places, which should no longer be found there (because they are dead or gone). This is common in games that are separated by	Applied conditions that reset the configuration of the characters involved off-screen.	Inspired by the Mega Man series (Capcom)

				levels that can be revisited. The enemies, in particular, find themselves in the same initial configuration.		
24 7	Temporal contradiction	Temporal delinearization	Returning Items	Reappearance of identical objects in revisited places, which should no longer be found there (because they are dead or gone). This is common in games that are separated by levels that can be revisited. The items to be collected, in particular, are found according to the same initial configuration.	Applied conditions that reset the configuration of the affected objects out of scope.	Inspired by the Mega Man series (Capcom)
24 8	Temporal contradiction	Temporal delinearization	Continuous time flashback	Time flashback showing all the elements that have happened so far (no jumping).	Recording in data structures of the different past states to reproduce them when going back in time, or recording past actions (when these are easily reversed with high accuracy) for a similar purpose.	The Bridge (The Quantum Astrophysicists Guild, 2013)
24 9	Temporal contradiction	Temporal delinearization	Past event dependent on future information	Representation of an event that can only take place after obtaining information that emerges from that event. For example, in Ocarina of Time,	Integration of the corresponding content.	The Legend of Zelda: Ocarina of Time (Nintendo, 1998)

				we learn for the first time a song from a character who heard it played by our avatar in the past.		
25 0	Temporal contradiction	Variation in the flow of time	Separate time flow for groups of controlled characters	Representation of controlled characters who do not follow the same time rules depending on the state of the game in which they find themselves. For example, in Baldur's Gate 3, the battle mode is a turn-based mode. While some characters are in combat, but others are not (because they have remained hidden), the latter follow the regular time mode.	Implementation of two distinct time modes. These modes are applied not to the entire experience, but rather to the characters who transition from one mode to another.	Baldur's Gate 3 (Larian Studios, 2023)
25 1	Temporal contradiction	Variation in the flow of time	Compression or time dilation	Representation of events whose duration is mentioned (e.g. through a dialogue or a stopwatch that is occasionally visible), but which obviously take more or less time to occur.	Integration of the corresponding content.	Death Stranding (Kojima Productions, 2019)

25 2	Temporal contradiction	Variation in the flow of time	Zero time scale	Zero time scale for all objects whose behavior depends on a time flow (objects that transform consistently frame by frame will not be affected).	Variation of the "Time.timeScale" parameter.	Degradation: Kyomu's Fury - 劣化 : キヨムの怒り
25 3	Temporal contradiction	Variation in the flow of time	Missing events between two points in time (parallel events)	Representation of an event related to an entity (a character for example), then other events in parallel, and finally, an event related to the previous entity but which appears impossible based on the time elapsed between the two events.	Integration of the corresponding content. The intermediary shares of the entity concerned must remain unknown.	Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition, (Square Enix, 2020)
25 4	Temporal contradiction	Variation in the flow of time	Characters on pause	Representation of characters who wait for an event before acting, without this expectation being justified in fiction. This phenomenon is common in turn-based RPG games.	Animations or launching character actions conditional on particular events.	Dragon Quest XI S: Echoes of an Elusive Age - Definitive Edition, (Square Enix, 2020)

25 5	Temporal contradiction	Variation in the flow of time	Missing events between two moments (smooth transition)	Representation of an event related to an entity (a character for example), then continuous transition (no perceptible time break) to a second event that could not already be taking place. A character can thus go from one place to another in a logically too short time. The transition, in this case, may simply be a movement of the camera between two distant locations, with the character having left the field of view during this transition.	Integration of the corresponding content.	Genesis Noir (Feral Cat Den, 2021)
25 6	Temporal contradiction	Variation in the flow of time	Partial time stop (groups of objects)	A temporal stop applied to specific groups of objects, or to a specific space.	Stopped animations or operations of the objects' corresponding scripts, without disabling the affected objects.	Liberti