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Repositorium für die Medienwissenschaft

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2022

https://doi.org/10.25969/mediarep/19003

Veröffentlichungsversion / published version
Zeitschriftenartikel / journal article

DFG Deutsche
Forschungsgemeinschaft

Philipps Universität
Marburg

PLAYING WITH LIGHT

On the Materialities of Video Game Spaces

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ABSTRACT

When playing video games players are encountering light in many different ways. On the one hand the display rendering the game space visible is emitting light into its surroundings. On the other hand the environment itself may become visible in reflections on the display. Both phenomena contribute significantly to the experience of playing video games. Consequently this calls for an investigation regarding the constituent effects of light in the process of playing video games. This contribution is going to question the superimposition of spatialities of light as well as the construction of the space of light in the act of playing. The second part of this contribution deals with the question of the processuality of the light play space. Thirdly, the meta-materiality of light as a constituent element of the video game is of particular interest. Light in video games appears as a process of constant transformation and manifests itself as representation of sand, water and spaceship corridors and other materialities. Since it seems to always be visible only as a reference, the question must be asked whether light is ultimately describable as the simulacrum of the video game.

Keywords: light, surface, simulacrum, space, process.

1. INTRODUCTION

The playing of video games has become so commonplace that its closer examination often seems mundane or superfluous. But it is precisely this mundanity that should prompt us to take a closer look. And so this human-game arrangement of playing video games is mostly concealed within formulations such as *while playing computer games* or *in the video game situation* mentioned at the beginning. The subsuming under a situation or mediation arrangement also necessarily eclipses the current variety of quite different human-play arrangements, be it situated on the sofa, on the bus or at the desk. However, these arrangements all have at least one thing in common: they are spaces of light.

The following remarks are preceded by several basic assumptions. The first is that light as the precondition for the video game in the first place. Secondly, it is that of light as the material of that which appears in the video game, which refers to the fact that the light of the video game image always appears to us as something else – it disguises or conceals itself. Looking closely is important if the different spaces of light of the video game situation are to be identified. Not only am I sitting at my desk in front of the monitor in a room that will be lit in one way or another, be it by daylight through the window, by a street light or artificial light sources within the room, but I am also looking at a spatiality represented by the monitor image, which firstly is only created by the light emanating from the monitor itself and secondly radiates into my room through its openness to it. This effect that can be distinctly observed during night-time walks in the city. In addition, the space of light around the desk merges with that of the video game, which ideally is not consciously experienced and only becomes noticeable in the disturbance caused by reflections on the otherwise translucent surface of the screen. Accordingly, we can say that in this specific arrangement of the video game, two different and diffuse spatialities come into contact with one another. The light radiates beyond the border of the monitor, originating from the two points mentioned here, which otherwise always diametrically oppose each other in the medial boundary logic, which reveals the display surface as a semi-

permeable surface, or threshold, between the real and the virtual. The overlapping of spaces that takes place in the process of playing video games blurs the boundary that, with regard to immersion theory, would otherwise always mark a crossing over, entering or moving into. Consequently, when looking at the light of the video game, it becomes clear that such demarcations cannot be maintained in this arrangement of mediation. It is therefore necessary to approach this arrangement from a different point of view: It should be seen less from the position that perceives them as separate spheres that can be entered and left at will, and more as a process of cooperation, or rather the interplay of video game and player.

The term *Lichtspielraum* (play space of light) is meant to describe the spatiality that emerges from the interaction of game and player, meaning from the relationship between hard, soft and wetware. With reference to Gilbert Simondon's theory of *individuation*, the *Lichtspielraum* is actualized from the accumulation of potentialities emerging from the interaction (Simondon 2008, 2020). So it is not something that can simply be switched on and then be observed. Emerging from the aforementioned relationship, the *Lichtspielraum* marks the spatiotemporality of the video game, and thus it also becomes clear to what extent its processuality is characterized, particularly at the beginning and end of the video game activity.

Taking a step back and looking at the video game image itself, it becomes apparent that in its basic mode of existence the image as a composite of light of different wavelengths already appears as a process. While this fact can be illustrated very well when observing how CRT monitors generate images, the process of generating individual frames is not as easy to visualize with current screen technologies (The Slow Mow Guys 2018). Suffice it to say, however, that the same principle of line-by-line frame building can be seen when looking at CRT monitors. With regard to current technology, this takes place in the background within a buffer memory from which the fully calculated images are displayed at high frequency. Accordingly, the video image at hand is continuously updated, even during the presentation of apparently motionless scenes. The particular processuality of the video game image is also noticeable when

looking at the possibility of selecting an image section at will. Everything that is off-screen as a result of my selection is not visually represented and is also not calculated by the image processing. And yet, the off-screen, which was only made conceivable by the film and its editing practices in the first place, can be assigned a certain potentiality from which the video game image is also continually updated, or rather actualized.

For much more than in the film, the off-screen in video games remains present when moving through the architecture of the game space and thus refers to the absence, or rather to the blank space, as a fundamental component of the realization of the experiential space of video games. In general, orientation in virtual space, especially in the three-dimensional space of the video game, only works when the player accepts that the images that are not represented at any particular moment in time are still present in some form off-screen, and therefore co-constituates or *informs* that which is present. In this respect, both the presence and absence of light is constitutive of the *Lichtspielraum* and consequently the potentiality of this relationship presents itself as an open space of possibility and a basal component of this space of experience. Two examples below will illustrate that the presence or absence of light does not necessarily have to be located in the off-screen, but both can become *Lichtspielräume* as a special means of design.

2. MATERIALITIES OF THE *LICHTSPIELRAUM*

Throughout the history of video games, there has been a persistent effort to visually recreate the physical real world as accurately as possible. For example, there are special techniques to transform two-dimensional textured wallpapers into richly detailed reliefs, depicting brick walls, tiled floors or wood-panelled conference rooms as realistically as possible. The effect of current graphic design methods and possibilities is that, as soon as we come into contact with these surfaces in video games and already have had experiences with their real-world equivalents, we are affected in a very similar yet also somehow different way. With each new generation

of graphics cards, manufacturers promise even more realistic representations of surfaces, bodies and materialities. What gets lost in the marketing-driven gibberish and the continual promises of finally having achieved realism is the question of whether there really is a fundamental desire for realistic, meaning real-world and physically "correct" representations of, for example, light reflections on water or shadows cast by pebbles on the beach. On the surface this may be the case, but in my view, it's worth considering what kind of a reaction an all-too-realistic depiction of a summer's midday in the CALL OF DUTY series might provoke in the player. Given the consistently flat appearance of this image due to the particular lighting, devoid of any contrast or drama, the disappointment would probably be great.

The aesthetics of many games suggest that in the process of playing video games we usually want to experience not so much the closest possible representation of reality, but rather something that affects us in a meaningful way. In this context, the representation must be consistent within its larger framework and at the same time contain gaps according to which it can be distinguished. Realism in the sense of objective reality is thus more of a sales strategy and less of a concretely aesthetic demand made on the video game's *Lichtspielraum*. The video game must struggle with one crucial fact: the lack of haptics. Although we operate hardware interfaces that are integrated into our body schema when we play, these interfaces translate our input movements into character movements and consequently mediate between the game space and the play space. However, the resulting kinesthetic connection builds on a variety of audiovisually constructed aids to simulate the very lack of haptics of real-world material, among other things.

Fig. 1: Cobblestone in ANTHEM (2019). (Author's screenshot)

If we think of the representation of various ground surfaces in video games, such as cobblestone after a rain shower, we are able to recognize it as wet cobblestone. And we also know what it feels like to walk or ride a bicycle on this surface, or what it feels like to touch it with our hands. What is simulated here, however, is not the realistic impression of walking over cobblestone, but rather the approximation of what it would be like to walk over this particular kind of cobblestone in this particular situation. Paradoxically, the aim of this superficially realistic representation of cobblestone is not to approximate the real thing as closely as possible. It is much more important to try to close the gap of the missing haptics of the video game experience. On the one hand, this is done by calling upon past experiences as well as by referring to an assumed exemplar of the real. However, the representation must be more than these exemplaries, and is thus always an idealistic representation.

As a brief interjection, it should be noted that in addition to the visual level, the auditory level must not be neglected, which, in combination with the visual, constitutes the special aesthetics of the light room. As Michel Chion has noted for the film as a medium, sounds are also used in the video game to set situations to music that has little in common with the real soundscapes of these situations. So in addition to the ideal representation of cobblestone, a sound is also sought that corresponds to walking on this

surface, but this sound is not necessarily produced on the basis of the actual practice of walking on the particular surface. The film spectator recognizes sounds to be truthful, effective and "fitting not so much if -they reproduce what would be heard in the same situation in reality, but if they render (convey, express) the feelings associated with the situation (sic)" (Chion 1994, 109).

However, there are also video games that reduce the representations of their materialities to such an extent that the workings of light itself are made visible. Consider the cases of *The* UNFINISHED SWAN (2012) and SCANNER SOMBRE (2017). In THE UNFINISHED SWAN, players begin in a completely featureless white space and need to throw black blobs of paint to make the surrounding architectural space visible via stark black and white imagery. Conversely, in SCANNER SOMBRE, players face a pitch black environment that needs to be mapped with a scanning tool, revealing the surroundings as a dotted pattern that changes color depending on the distance between mapped surfaces and the player. What these examples illustrate is that the extreme reduction in both cases runs diametrically opposed to the claim of realism often presented by large-scale video game productions, thereby revealing various modes of operational lighting.

It is recognizable that light plays a prominent role in both examples, both in its presence and absence. As players, we work directly with light and, by contrasting it, create the spaces that surround us ourselves. The extreme reduction and the practice of playing with these gaps reveal the ontological part of light in the emergence of the *Lichtspielraum*, which is not only a *Lichtraum* (space of light) but also a *Licht-Spielraum* (space of playing with light).

If we look at any one of James Turrell's Ganzfeld installations for comparison, we can say that in both cases light is brought into the foreground and appears as an actant and not so much as a background phenomena (On the relationship between actor and actant see Latour, Bruno, 1996). In Turrell's work, light appears completely self-referentially as a perceptual space in which, to paraphrase Maurice Merleau-Ponty, light as *that which is seen* coincides with us spectators as *the ones seeing* (Merleau-Ponty 2003, 167). Both spaces, that of light in Turrell's work and that of the play

of light, emerge from the process of cooperation. In Turrell's work, light itself becomes space and materializes as an object of experience. Designed on the basis of Euclidean space, however, it transcends it and as a result architectural boundaries appear diffuse and are no longer clearly perceptible.

In THE UNFINISHED SWAN, and to some extent in SCANNER SOMBRE, something similar can be observed at the very beginning when players are confronted with the infinitely deep (or flat, however you may look at it) white or black. In the former, players first observe the light of the video game in its purest form, and incidentally also the corresponding potentiality mentioned at the beginning of this contribution: just think of the construct in THE MATRIX (1999) that serves as the basis of loading anything imaginable, or in this case programmable. In any case, players would be hopelessly lost if they could not somehow load the program, or the game, by wresting contrast from the blinding excess of light and thus effectively allowing the game space to emerge. In contrast to Turrell's light, the light in the video game is not completely self-referential, but serves to represent something else. Through digital processes, light is consequently modelled, transformed and appears in the form of objects, surfaces and their illumination as sand, water, leaves on a tree or corridors inside a spaceship. Light refers predominantly to surfaces, structures, cracks, folds and at times to atmospheres or diffuse spaces.

3.   HYPERREALITY

With reference to Jean Baudrillard, we could also say that a hyperreality becomes visible in the workings of the light in video games when, for example, this one surface texture of cobblestone emerges from processing countless real-world exemplaries gathering in elaborate production processes with hours of research and design work. This is necessary because it is only in this way that the resulting texture ultimately functions in the context of its hyperreal environment, for truly realistic representations would be largely out of place in the context of the video game due to their mundanity. Regarding what I have coined as the closing of the *haptic gap*,

a further point must be added because the hyperreal audiovisuality transgresses its initial modalities of mediation in the process of play. By addressing perception, sensation and past experiences, meaning the rendering mentioned by Chion, the eyes become hands, to a certain extent, seeing becomes touching. The material, the ontological basis of which is light, is thus not only visible, but can be felt in a diffuse way in the millimeter-thin space between fingertips and hardware interface. The light of the video game as sand, pebbles, dust and debris seizes us in a way that no mundane real-world light situation ever could, precisely because it is a technical-medial mediation performance.

Baudrillard's concept of the hyperreal leads us to the closely related notion of the simulacrum. According to Baudrillard's considerations, the hyperreal characteristically stands for the referencelessness of signs in the ongoing simulation event. He understands simulation not as a form of illusion, but as the basis of reality qua the distinction between the signifier and the signified (On hyperreality and the simulacrum see Baudrillard 1978a, 1978b, 1994). Applied to the cases addressed here, we can also take it to distinguish between the representation and that what is represented by it. The hyperreal is characterized by the fact that, due to the continuous development of signs, these can no longer be distinguished from real-world objects. Furthermore, the real only consists of signs, which are themselves devoid of meaning because they refer to nothing other than themselves.

Admittedly, in the present case we are dealing with a mixture of two levels of reference. One is the representation of materiality through light; the other is the reference being made by video game-materialities to materialities of what Baudrillard calls objective reality. The second level of reference is directly connected to comparable considerations by Baudrillard on stereo music reproduction, which in the hyperreal no longer allows any difference to be detected from the experience of hearing music at a live show (Kneer 2005, 150). Nevertheless, using the example of the cobblestones, we have established a difference between the video game representation as the essence of all cobblestones in existence and their reference to their real-world counterparts, and located the specificity and

functionality of the video game representation precisely within that difference.

In this case however, the video game-specific Platonism of the material opposes the emptiness of meaning of the simulacrum of the hyperreal order as formulated by Baudrillard. In the tense relationship of the aspiration of realism and the *going-beyond* that is necessary for the function of video game materiality, the actual hyperreal form is revealed, which, to be precise, is not a form at all, but a representation of its original. The materiality produced from countless images of real-world images of the Platonic ideal presents itself to us in the video game not as a second-order image, but rather as the ideal itself that is realized from all the assembled fragments of exemplary reality. Video game materiality always appears as an ideal in its respective context and is neither in itself closed, nor part of a closed space of experience, but rather open towards potentiality. With regard to each video game-specific ideal of materiality, the difference between type and token is in a sense annulled, but in my view this should not be taken as an indication of an absence of meaning in the hyperreal order. The functionality of the human-game arrangement is fundamentally characterized by an openness toward its various environments and, as Baudrillard describes it in the context of his simulation theory, is built on meaning generated by differences between sign and signified. These spatiotemporal mediating situations in flux thus position themselves against the ideal of an extra-medial and objective reality and make this utopian horizon itself recognizable as hyperreality. Ultimately, light in video games brings forth situationally ideal materialities in an emenating and modelling manner and, as an ontological component, video game light sometimes appears self-referential.

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