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Negotiating Ideational Videogame Space

In this chapter, I take a closer look at the building blocks of the "videogames space," which will serve as analytic level for my case studies. What is this space, what kind of space is it, and what generates it? Most importantly, in what sense is it welcoming to otherness and disruptive conflicts on a structural level? This is both a question of the general mechanics that contribute or generate videogame spaces and the potentials resulting from the way in which elements are combined in it, and about a detailed engagement with specific elements this space can or cannot host. However, in this book, I focus more on the former question and leave the latter largely to the case studies, during which I will look at specific combinations of elements and their productive effects on the respective videogame spaces.

In the previous chapter, I identified unresolved conflicts as a promising source of a disruption that points beyond critique and might stimulate our imagination of radical alternatives. The search for these conflicts is a search for those moments when the videogame space escapes our colonization, instead confronting us with a profound but simultaneously stimulating uncertainty. Before I turn to concrete case studies, I would first like to address the question of what videogame space is in the context of this book, and how this space may welcome otherness. This is a question of its boundaries and of its characteristics. However, I am not interested in defining videogames comprehensively. Instead, the following chapter aims at shifting the perspective on their space toward their theoretical potential to disruptive conflicts. In other words, I use videogames and the concrete examples I analyze to identify an ideational space that can host such conflicts due to its combinatory character and building blocks. This space is only one way of looking at videogames among many others, and its definition may well exceed or otherwise fail to match the boundaries of what is considered as a videogame in other perspectives.

The following characterization of videogame space is an attempt to come to

terms with the dynamic, contingent quality of videogames and the resulting ontological status of videogame worlds. Their worlds are generated by various factors at play. Two worlds generated by playing the same game may diverge significantly. In terms of narratives, games like *Chrono Trigger* offer a great variety of endings depending on player choices, which, as I will discuss later, lead to very different situations and conclusions (see Chapter four). Character and equipment choices, as well as strategic and tactical decisions change the options and gameplay a player experiences to various degrees. Think of the character choices in *Street Fighter II*, for example, which have some effect on how a player plays the game.

However, videogame space is not just an umbrella term for the sum of all choices the player has in a game. I argue that it is a space that emerges from a negotiation between three abstract actors, namely the "designers" responsible for designing and creating a videogame software,[1] the players and the computer. This third actor, the computer, actively contributes to the dynamic, contingent character of a given videogame world. Videogames are more than their program code. This code often does not specify a situation in detail, but provides a framework for it, not unlike a music score. The computer does not just reproduce it (by printing the code on the screen as text). As I will show, it performs this code or score in a specific way, with a considerable amount of "interpretation," ranging from "programmed randomness" to more or less intelligent decisions.

In sum, this negotiation makes videogame spaces particularly promising and welcoming to conflict. At the same time, such framing demands a serious consideration of the computer, and paying close attention to the technological qualities and building blocks of videogame spaces. Here, I take inspiration from Thomas Lamarre's groundbreaking work on anime, which he regards as a "multiplanar machine" that is both "technical/material and abstract/immaterial."[2] This machine is not limited to the immediate technical system—i.e. the apparatus—but includes the techniques and practices involved in the creative process. In the case of anime, a work thus emerges from the compositing of various planes or layers. Although I do not explore all the planes involved in each case fully in this book, I propose to understand videogames in a similar sense, as complex results of a "machinic" composition. As Lamarre points out, this means exposing the material boundaries of the machine, which afford and limit its space.[3]

The boundaries I am looking for in the subsequent sections of this chapter

surround an ideational space in which conflicts between various elements and across the different planes combined in games are located. This space emerges from the ways in which videogames combine play, media and computation and, by extension, the various expressive elements and layers, like narrative, rules, video and audio, etc. It also emerges from the dynamic, contingent and repetitive character of the medium. As I will argue below, this characteristic distinguishes videogame space from anime and a variety of other media, because its possibility—and ontological status—hinges on its physical manifestation in specific videogame worlds. These worlds, in turn, depend on their "machine" as much as they depend on the contingency and choices its program affords the computer and the player. The following sections are an attempt to highlight this relation, and to identify the central qualities on which videogame space is built, and from which it draws its potential for conflict.

Rules, Narrative and Representation

In the context of this book, videogames are framed as a combination of play, media and computation. By extension, they are also a rich space of expression, combining video, audio, text, algorithms, narratives, menus, rules and many other elements. The absence of any clear sense of hierarchy or order in this list already suggests that videogames are decisively difficult to make sense of in terms of analytic dimensions and layers. Arguably, this is a second level of combinatory character—that is, again, not unique but distinct, and certainly with particular effects on the videogame worlds and spaces it affords. Since it is these spaces I am interested in here, I will make no attempt to define videogames as such (many others have done substantial and important work in this direction). Arguably, videogame studies has emerged from an aim to make sense of videogames, and from an urge to identify the specific expressive means the medium features. From early on, game scholars like Markku Eskelinen or Espen Aarseth have pointed out that games are more than text and images.[4] Jesper Juul has offered an important contribution to the discussion, arguing that videogames are predominantly about rules, and less about fiction.[5] Even if the infamous dispute between narratologists and ludologists should be read less as one of ideological positions and more as a contribution to mapping different viable approaches to videogames,[6] the tension between narrative and ludic elements in games has been a central focus in many attempts to define the distinct potentials of videogames.

This discourse has been refined productively by many scholars, who have discussed the representational, simulative and narrative qualities of videogames.

Ian Bogost, for example, emphasizes their rule-based, algorithmic structure, arguing that computers and videogames are "particularly adept at representing real or imagined systems that […] operate according to a set of processes."[7] For Bogost, this necessarily includes representations of culture, society and human behavior.[8] In other words, he is most interested in the simulative quality of the medium, or on its potential to represent "reality." Bogost's view expresses a widely shared understanding of game worlds as representations of (or at least related to) reality. From a different perspective, Grant Tavinor shares a similar interest in representation, albeit focusing on aesthetics. In his inspiring attempt to situate videogames as interactive fictions in a philosophical discourse on art, he justifies their categorization as art through their "representational beauty," frequently emphasizing their capacity for adequate, realistic representation.[9] Narratological approaches have likewise contributed much to the understanding of what is going on in videogames. Since the early days of videogame research, the concept of story has been expanded significantly to cater to the dynamic and contingent character of videogame narratives, and the plurality of narrative layers, from the story of the game to the story of the player—the latter not being limited to games in its application. In a nuanced discussion of existing approaches to "represented worlds of literary narrative texts," Thon recently proposed a transmedia approach to "storyworlds," which he defines as "normative abstractions about ideal mental representations based on narrative representations."[10] This implies, according to Thon, distinguishing between "the external medial representation of a storyworld, the internal mental representations of that storyworld, and the storyworld itself," and taking into account "recipients' collective mental dispositions, (medium- as well as genre-specific) communicative rules or representational conventions, and (hypothetical) authorial intentions" in any reconstruction of narrative meaning making.[11] He draws attention to the difference between storyworld and possible worlds, and between "*locally represented situations* and the more complex *global storyworld as a whole* into which they are combined."[12]

These theories offer rich inspiration for my approach to videogames. However, in most cases, their focus in on how meaning is (successfully) made. How simulation succeeds in simulating "reality," how representations succeed in "re-presenting" reality and how stories are successfully reconstructed, more or less coherently, by their audiences and players. In this book, I would like to explore the opposite direction. Instead of looking at the means videogames offer to "re-present" or simulate non-game reality, my focus is on the mechanisms by which their space eludes the known. In other words, I am interested in precisely

those moments when simulation goes sideways, representation fails to re-resent "reality" and storyworlds collapse, while remaining part of the same videogame space. Such moments might confront us with internal conflicts that arise from any combination of elements on or between any of the above-mentioned layers. Why is this shift in perspective so important? Given the initial assumption that it is profoundly difficult to imagine alternatives to the status quo today, one may expect that this task just as troublesome in the videogame medium. To use Jameson's words, what is at stake in the imagination of the other is nothing less than resisting the colonization by the present. If videogames simply portray what we already know in the same way as we know it, the disruptive, conflicting effect will be marginal, even if the reality portrayed was one we have not experienced ourselves yet (like driving a race car, for example).

As such, the question is how to characterize videogame space in a way that encompasses all possible elements and layers, as well as the ways in which they can be combined to form videogame worlds, asking how these combinations might be host to conflict and challenge meaning, rather than reinforcing its smooth narrative, ludic or representational production.

Reification of Play

Hence, what I am searching for is not boundaries related to any specific perspective on videogames (rules from the ludological perspective, storyworld from the narratological, etc.), but boundaries that define a space in which these different elements and layers can intersect and in which the contingent, dynamic character of videogames is reflected. In order to find these boundaries, I would like to take a brief detour to the concept of play and the ontological possibility of play spaces.

Among several other philosophers and play scholars, Hans-Georg Gadamer discusses this necessary transformation of ideal play into a human activity in more detail. He understands play in general as a "to-and-fro movement that is not tied to any goal that would bring it to an end," and regards human play as a particular case.[13] Human play, he claims, always plays "something," meaning that it is necessarily structured by rules and orders, or, as he puts it, "the way the field of the game is filled."[14] Whereas Eugen Fink, Ute Saine and Thomas Saine regard play as a mode of human being that rejects the purposive structure of the ordinary and is not afraid of "profound uncertainty,"[15] Gadamer argues that one cannot abandon the ordinary and is

> even in his play, still someone who comports himself, even if the proper essence of the game consists in his disburdening himself of the tension he feels in his purposive comportment. […] Every game presents the man who plays it with a task. He cannot enjoy the freedom of playing himself out without transforming the aims of his purposive behavior into mere tasks of the game.[16]

For him "the space in which the game's movement takes place is not simply the open space in which one 'plays oneself out,' but one that is specially marked out and reserved for the movement of the game. […] Setting off the playing field […] sets off the sphere of play as a closed world, one without transition and mediation to the world of aims."[17] In other words, human play can only exist in a structured form with rules, orders and tasks or "make-believe goals."[18] This is not to say that such separate spaces cannot, in Roger Caillois' terms, range in their character on a continuum between the convention-oriented "ludus" and the uncontrolled "paidia."[19] However, I do follow Gadamer insofar as I believe that uncontrolled play (paidia) in its ideal form can only exist in brief instances. This is another way of saying that in human conduct, ideal play can only exist in its reified form of a game, and must be consciously upheld by the players.[20]

In its reification, the temporary game world distances the action from the ordinary but never manages to detach it completely.[21] This framing highlights a significant difference between "conventional" games and videogames. In videogames, rules are indispensable. In their space, "there is no 'ball' that can be out of bounds,"[22] because the rules are authored by the designers in the program code. To be sure, there are numerous examples of rule changes or reinterpretation in the form of player agreements or norms established in a player community.[23] In other words, the social dimension of the ontological status of a videogame is not lost. However, with regards to the videogame space in which a broad range of elements conflict, the program code or software appears as the most fundamental, and, at the same time, least common denominator. This sum of rules and the space it affords diverts significantly from those of the game intended by the designers, or those agreed on or invented—in addition to the software—by the players.[24]

As such, the ideational videogame space is different from what Thon calls "*global storyworld*" (see the previous section), because it contains not only the narrative possibilities and the rules of the storyworld, but also all rules related to configuration, like menus and aesthetic representation, like sprites, icons, object shapes and looks, etc. It is also different because, for the purpose if this book, it is

limited to the space created by individual videogames and, as in my concluding chapter, across a videogame series. Finally, while I argue that it is accessed and can be experienced only at play, the space itself does not encompass the "mental representation" within the players, let alone the intersubjective constructions of this space by player communities. Thon points toward such a possibility in his discussion, in particular with regards to the notion of "charity" he adapts from Kendall Walton.[25] Enhancing this concept in such ways remains a future task. At this point, I believe it is important to separate and single out the factors contributing to the possibility of the ideational space from the ways in which it is interpreted, communicated or shared by the players. This is also a reason to maintain the singular form when speaking about the "player," as is the case hereafter, in contrast to the designers, whose collective effort is acknowledged and addressed.

This separation is important not least because, once we move to the level of code, the regular videogame player is (almost) unable to change the rules and datasets inscribed in a software, in particular when speaking about console games. Thus, as far as the software itself is concerned, the rules are upheld by the computer, "freeing the player(s) from having to enforce the rules; and allowing for games where the player does not know the rules from the outset."[26] Michael Liebe claims that while in traditional games, restrictive rules differentiate the game space from ordinary life,

> in a computer game everything is programmed, every possible action, every physical simulation, even the boundaries of the virtual space itself. […] Players do not have to adhere to the code of behavior and the rules, but simply have no other choice than to act within the frame of the possibilities provided by the computer program.[27]

Juul and Liebe point to an important potential and limitation of the player's agency. On the one hand, action is confined to what is afforded by the software. This limitation is necessary, because it yields the game goals and the challenge, thus making gaming pleasurable.[28] On the other hand, rules may be learned in the process, a point that I will return to later. Within this totality of rules and data inscribed in the software, the player "does not have to artificially limit his action possibilities according to the rules in order to play correctly. Illegal actions cannot be performed or they are automatically penalized. The rule system does not have to be magically upheld by aware players. The rules are upheld by the program code."[29] In his theory of narrative consumption,

Japanese critic Ōtsuka Eiji suggests an even more radical effect of this structure when he writes that "[t]he program is thus sometimes defined as 'the regime of all thinkable [in the text, literally "can be memorized," *souki shiuru*] possibilities within the closed world existing inside the game software'. Each play, on the other hand, corresponds to one of the many individual stories. Using the same software nonetheless produces a different unfolding with each player and each play."[30] While I am not prepared to accept this deterministic view—for reasons already mentioned in the context of Virilio and against the background of my empirical study—I am willing to acknowledge that Ōtsuka illustrates rather well the relation between an individual play experience of one videogame world and the rules this world is generated from. I will return to his theory of narrative consumption in Chapter four.

Overall, this status of the software rules in videogames is central to my interest in conflict and hospitality to otherness, because it implies that videogame rules serve to distance the videogame space from the everyday more decisively than "ordinary" play rules can. Regarding the latter, Huizinga claims that "[t]he play-mood is *labile* in its very nature. At any moment, 'ordinary life' may reassert its rights either by an impact from without, which interrupts the game, or by an offence against the rules, or else from within, by a collapse of the play spirit, a sobering, a disenchantment."[31] Videogame spaces are less labile than ordinary play spaces.[32] I will omit some detail here as I have examined the relationship between play and everyday life in more detail in my PhD thesis, which served as a starting point for this book, and which is available online.[33] What is important is that once the player enters and enacts a videogame, the computer upholds the illusion of a space apart, regardless of the player's actions.

The videogame space in question here is based on play reified in the sum of all rules authored in the software. This space is ideational in the sense that it is a set of rules or ideas that define a structure and a series of mechanisms through which this structure is instantiated during play-time. This is where the difficulties start. My interest is in the structure and mechanisms inscribed in the software and their potential for conflicts. However, the ideational space of a videogame cannot be reduced to its code without loss. Why not? The software defines a videogame on an abstract level, not only with regards to its rules, but also with regards to the objects of the game world, their behavior and, in most cases, their appearance in the shape of included databases. Yet, these abstract definitions are different from the game worlds a player may encounters at play. Even in the unlikely event that we have access to the code of a game and enough knowledge to make sense of it, it would only reveal the structure

of the game, and would tell us little about the space a specific player experiences at play. After all, concrete game worlds are dynamically generated by the computer, based on the output of programmed algorithms, the data provided as part of the software and the player's input. As Bernhard Rieder and Theo Röhle remark,

> [s]ome of the approaches computer science provides us with are positively experimental, in the sense that the results they produce cannot be easily mapped back to the algorithms and the data they process. Many of the techniques issued, for example, from the field of machine learning show a capacity to produce outputs that are not only unanticipated but also very difficult for a human being to intellectually reconnect to the inputs. Despite being fully explicit, the method becomes opaque.[34]

Moreover, not only does software tell us little about the videogame worlds it affords, it usually also inscribes the possibility of multiple, sometimes strikingly different versions, all of which contribute to the same videogame space. While the rules remain the same, the videogame space may play out differently each time a player plays a videogame. Katie Salen and Eric Zimmerman call this the "same-but-different" quality of games, meaning "that a game provides consistent structure each time same but different experience and outcome every time it is played."[35] They argue that this makes videogames "[…] a powerful engine that sustains and encourages play."

A look at contemporary software design and its guiding principle of object orientation helps to further scrutinize this characteristic. Object-oriented programming (hereafter oop) follows the idea that a program is most efficiently structured in the form of independent objects that are instantiated and interact during run-time. Bogost mentions four main characteristics of oop:[36] It has to follow the principle of abstraction, meaning that programmed objects must be disassociated from any specific use. It has to be encapsulated, meaning that an object's content remains hidden to other parts of the program or system. It has to be polymorphic, meaning that instances of a class can have different behaviors. And it must be based on *inheritance*, meaning that a class can be created from or based on a parent class. These principles hint at the distinction between classes in the program code or software, and concrete instances of these classes during program run-time. A class is defined only once and in an abstract manner. If equipped with variables, the computer can not only create multiple instances of it, but also assign different content to each instance as needed.

This dual structure of software is not new to information scientists.[37] However, in combination with the importance of player input and the dynamic, algorithmic character of videogames, it implies that videogame space, as defined by the sum of all rules in the software, is also the sum of the multiple material realities the software affords. If all the ways that a player can act on the game in each moment are taken into account, their number easily approaches infinity. At the same time, it suggests that the computer is involved in the instantiation and, as I will discuss in more detail below, may not be "neutral" with regards to its outcome.

Taken together, both consequences of the character of software imply that the ideational videogame space I am interested in here is only accessible in its concrete instances at play. In his discussion of *Fictional Worlds*, Thomas Pavel offers a helpful model for a similar problem.[38] He regards any number of fictional worlds as members of a universe or set K if they meet the conditions specified by an actual member of K and a relation R of alternativeness. Any world x1 that is possible given a specific relation R to a given member of K is part of K. According to Pavel, R can follow different conceptions of possibility, such as logical, metaphysical or psychological. However, in my case, the alternativeness of the possible worlds in a videogame is given by the sum of all rules that make them possible. Slightly adjusted, then, I propose to capture the contingency of any specific videogame space by referring to its instances, as it appears to the player at play, with the term videogame world. This world is the concrete, physical instance of the game created in the computer memory a player experiences at play through its sensual representation.[39]

In sum, the structure of videogame space and videogame world is primarily one of physical rather than theoretical or mental possibility. My examination of the ways in which play is adapted and reified in videogames highlights the influence the player, the designers and the computer have on videogame space and the particular roles each of the actors take on. All three contribute to the instantiation of concrete game worlds at play in different ways. I propose to understand this relation as a constant negotiation between them, which may be different in each videogame, and which I attempt to schematize in Figure 2.

It is this negotiation that, with regards to each videogame, defines and constantly redefines the contours of its videogame space. This space, in turn, is accessible to the player only via a sensual representation, which, as I will explain below, is always and necessarily partial. Importantly, ideational videogame space is not just the sum of all physical videogame worlds instantiated in the

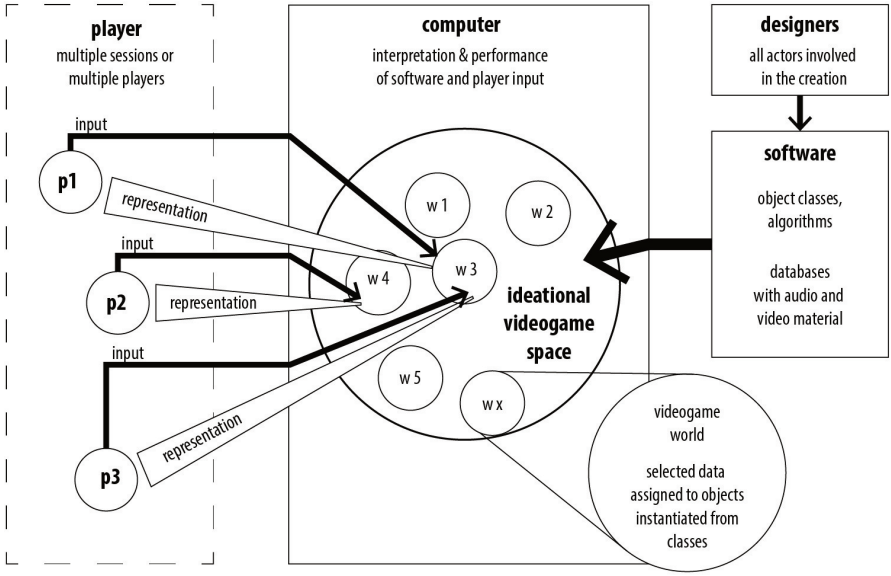

Figure 2. Ideational videogame space as negotiation.

negotiation between player, computer and the designers, who have inscribed the rules the software. It is also the sum of all possible relations between these worlds, between the elements within any of these worlds or between or any specific situation experienced as part of one such world. This relation between and across the various elements and layers is what makes ideational videogame space a potential host of conflicts. One such abstract potential for conflict is already discernible from the "same-but-different" quality of videogames: if we can experience the same game world twice in alternate versions, these versions might be different, to the extent that the difference creates a tension between them. This may be said about individual scenes as much as it applies to entire games, whether it is regarding character development in role playing, multiple endings in a story, or other elements of a videogame.

In the subsequent sections, I will explore how each of the three actors contribute to the negotiation and identify other potential sites of conflict.

Designers and Expression

The importance and status of rules in videogames should already indicate the crucial role the collective I call designers have in shaping its ideational space. It may be helpful to look more closely at the various expressive means at

their disposal. In the attempt to establish videogames as a distinct medium in its own right, much attention is directed to the rules, as the main expressive element of games. Bogost emphasizes the potential games have due to their "procedurality," meaning "a way of creating, explaining, or understanding processes."[40] He goes as far as to claim that, in videogames, "image is subordinate to process."[41] This view is representative of a widely shared conviction that, in videogame space, rules are superior to other elements.[42] According to Juul,

> [r]ules and fiction compete for the player's attention. […] However, it is not possible to deal with fiction in games without discussing rules. The fictional world of a game is projected in a variety of ways—using graphics, sound, text, advertising, the game manual, *and* the game rules. The way in which the game objects behave also influences the fictional world that the game projects. Though rules can function independent of fiction, fiction depends on rules.[43]

He adds that "[o]n a formal level, games are *themable*, meaning that a set of rules can be assigned a new fictional world without modifying the rules. […] Nevertheless, fiction *matters* in games and it is important to remember the duality of the formal and the experiential perspectives on fiction in games."[44]

Procedures and algorithms doubtless constitute a central element of videogame expressivity. The focus on procedures seems even more plausible, considering that they also regulate sensual representations and organize the image or representation. Thus, representations might be understood as subordinate to process. However, I maintain that the procedures or processes, as they exist in the software, are not sufficient to afford gameplay and its experience. On the contrary, they depend on images, audio and haptics to be perceivable and intelligible for the player.[45] Rules and procedures need to be represented in order to be experienced and engaged with by the player.

A brief consideration of the various versions and interpretations of the well-known game *Tetris* shows that the sensual representation of the rules can have a deep impact on the ideational content of a game. From a perspective on games as interpretations of experience, Janet Murray argues that *Tetris* is "a perfect enactment of the overtasked lives of Americans in the 1990s—of the constant bombardment of tasks that demand our attention and that we must somehow fit into our overcrowded schedules and clear off our desks in order to make room for the next onslaught."[46] Juul remarks that this is one possible,

allegorical reading of the game, albeit not a very convincing one.[47] On the other hand, it should not be too difficult to imagine a version of *Tetris* where the falling bricks look like documents and files, and the bottom of the playing space resembles a desk. Inverted, this means that the experience of a game can change profoundly with its respective skin—particularly in the case of abstract games, mechanics and rules can be deployed for expressing various meanings. Thus, even if videogames are flexible and "themable" in terms of their representation, specific themes can have a strong influence on their ideational content, and its perception and experience.[48] Molleindustria's *Queer Power* is a case in point.[49] The game is built upon the structure of a conventional fighting game, but the skin of its characters, all naked and some visibly aroused, and the fact that the usual fighting action is replaced with various forms of sexual intercourse and other sexual practices, turns its gameplay into an entirely different experience.[50]

To the extent that it operates from inside videogame culture and reflects on the generic conventions of this culture, *Queer Power* may be regarded as an intervention in Muroi's sense, although it is admittedly situated in an outspokenly artistic and avant-gardist context. Here, the theme is much more central to the game's argument than the procedure.

Extending these findings to videogame expression more generally, I propose to regard their expressivity, in principle, as generated from a flexible combination of multiple elements. In this, I agree with Souvik Mukherjee, who regards the aim of any nuanced approach to videogames "is not to privilege any univocal model—be it the game rules, the story, or the code."[51]

Against this background, Bogost's above-cited preference for rules and simulation is somewhat surprising, given that he offers a more flexible, inclusive framework for such expression in his notion of *Unit Operations*.[52] Outlining this concept, demands that "[we] should attempt to evaluate all texts as configurative systems built out of expressive units."[53] Bogost thus argues for a broadly defined analytical approach to contemporary media products that views them as results of "unit operations," meaning a "configurative system, an arrangement of discrete, interlocking units of expressive meaning."[54] This approach derives its strength and flexibility from the postulated openness of the "unit," which, according to Bogost, can be anything from a single physical element to a complex thought or structure consisting of multiple interconnected units.

The concept of unit operations points to a dynamic generation of game worlds created by spontaneously deriving meaning from the interrelations of the

various discrete components inscribed in their software.[55] This includes elements familiar from other media, such as narrative structures and textual descriptions, images, or movies (cut-scenes), but also distinct elements like game rules, goals and player actions. The question of how these elements are related to each other is intricate and, arguably, dependent to a degree on the individual title. The aforementioned examples further alert us to the possibility that the different expressive elements available to designers may become sources of conflict juxtaposed with each other.

What are the boundaries of such expression? Other than the necessity to remain intelligible (and thus winnable), videogame space is not limited to the physical environment in the same sense as conventional games are, because it is fictional, digital and virtual. In conventional games, the player is part of the physical spaces of the game. In videogames, he or she is physically positioned outside of these boundaries, connected to the game space only through remote control. Whereas player actions take place within a system to which Newton's laws of force, impulse and reaction apply, the mechanics of videogame space do not have to obey such limitations. In videogames, the player environment and the videogame space are different material realities—they both physically exist but are not continuous. The player's actions are translated and transposed to be meaningful within the differing physics and laws of the game world. For Kirkpatrick, this implies that "the ironic distance or gap between what the player is doing (with the controller) and what the screen is representing is ineliminable."[56] Considering the importance of immersion and flow in contemporary game design, I am not ready to subscribe to this conclusion entirely. That said, the gap between player and game world at least potentially allows for distancing—or even detaching—the game space from a player and his or her everyday experience. In the process, it also becomes susceptible to conflicts. A good example of this experience of detachment is the game *Echochrome*, which invites the player into a "physically impossible" world not unlike the impossible constructions by M.C. Escher;[57] nonetheless, it is actionable and intelligible at play.[58]

A similar arbitrariness characterizes the semantics of the videogame space. As mentioned above, its representation is not bound to the rules of representation we are used to, but rather to those indeterminate, flexible rules applied to fiction in literature or film. A representation might be deployed in order to make the object meaningful from our point of view, but it may also have no purpose or defy our expectations—doors that cannot be opened, cars that cannot be driven.[59] With respect to its representation, the videogame space or its

objects may appear contradictory from a perspective grounded in our everyday experience and, where they are directed towards goals, even contradict fictional coherence. Furthermore, both representations and objects may have different features over time or depending on the player's actions or perspective.[60]

With regards to the expressive features available to the designers, videogame spaces are distanced from "non-game reality" from the start. Whereas, for example, utopian narratives require a distancing mechanism, like an imaginative journey through space or time, whereby the reader is prepared for the otherness of what is to come,[61] the creation of videogames is likely to reverse this process. Instead of offering explanations for the difference between the player's space and the game world, many games introduce some familiarity based on our non-game empirical reality and on other games and conventions in order to become intelligible and playable. One of the most explicit examples of this is the strong tendency toward realistic representations and toward simulation. Such realism strengthens the status of a game as mass art in Carroll's sense, increasing mass accessibility through commonplace references to game genre conventions and known natural and social laws. In turn, it serves to reduce their distance from the known.[62]

Despite these tendencies towards realism, videogames are, in principle, not bound to our familiar physical and social laws. A good example in this context is the game *Katamari Damacy*, which rearranges the relation and behavior of a broad range of objects well-known from everyday life.[63] Infused with puns and hilarious dialogs, *Katamari Damacy* is a comical game that requires the player to create a "lump" (in Japanese *katamari*) by rolling over all kinds of objects usually found in our homes and living environments, not unlike creating a giant snowball. Starting with pencils and other office supplies, the player ends up integrating large animals, cars, houses and more.[64]

The effect on the gameplay experience is striking and, in a sense, playfully disruptive. As Brown puts it, "[d]islocated from their familiar contexts, they become elements in a dynamic game of reordering the universe."[65]

Yet, the detached, virtual character of games does not mean that anything is possible. It seems appropriate to point out some of the limitations of videogame expression. Videogames can target our sight, hearing and touch, they can convey complex narratives and rapid, emergent movement; and they afford player action and reaction. They can push our emotional buttons by presenting adorable or scary creatures and, more generally, experiences ranging from

boring, joyful and empowering to horrible and angst inducing. The intensity of shooter games and the adrenaline that fast-paced action can induce are comparable to or maybe even stronger than what any other medium can offer.

Some theorists go as far as to argue that games can even convey the experience of extreme "real-life" situations. Bogost makes an argument in this direction in his discussion of the game *9-11 Survivor*, in which the player is spawned in random locations in the burning World Trade Center towers in New York on the day of the horrible attacks of 2001 and has to escape—sometimes without any chance of succeeding. He claims that the game offers an "embodied experience of the procedural interactions between plane, building, and worker" and a "careful treatment of victim's actual and potential experiences."[66] Here, Bogost certainly points to the crucial fact that videogames can deploy the variability of their procedures in ways capable of generating intense experiences and make arguments through non-repetitive repetition. However, I am skeptical about the physical dimension of this potential. Despite involving button-mashing and player input, I believe that videogame experiences are still predominantly cognitive, and by no means comparable with the actual experience of life-threatening situations human beings experience, with all their immediacy and physicality. After all, their largely virtual character makes transgressing physical and social laws possible in the first place, as it frees the player of some of the consequences otherwise attached to specific actions. Nonetheless, or maybe because of this "virtual character," emotions in games play an important role. Tavinor, for example, highlights their important function of filtering and channeling the player's attention and actions.[67] If emotions, as he argues, indeed "help to bias the choice over options so that efficient decisions can be made" in videogame space, in which our emotional buttons can be pushed "in absence of the consequences with which they are usually associated," [68] they require more care than I have given to them by solely tracking my own experiences. More so, if we consider their relation to action, about which Perron states: "Emotional action tendencies are felt as impulses and urges to act in one way or another until an emotional episode is closed due to a change of situation."[69] While I include the emotional dimension of videogame play experience in my later analysis, this aspect is certainly worth revisiting at a future moment.

In sum, videogame designers can deploy expressive variety in a materially and semantically flexible way. Unbound by familiar physical and social laws, they determine the rules and dynamics of a game, as well as the range of variations of each element within it (i.e. possible player input, avatar actions,

shapes and colors of trees, etc.). As the word "range" already suggests, this determination is often far from fixed. Videogames are not only expressive spaces, we also need to enact their worlds. In his insightful discussion of "Gamic Action," Alexander Galloway emphasizes this centrality, claiming that "*videogames are actions*" insofar as they "exist when enacted. […] With video games, the work itself is material action. One *plays* a game. And the software *runs*."[70] Importantly, Galloway distinguishes videogame action into machine acts and operator or player acts. In the next two sections, I look at the contribution these two actors make to the negotiation of videogame space.

Computer and Performance

First, I would like to turn to the role that the computer plays in turning ideational videogame spaces into concrete game worlds. As already mentioned, Galloway regards the computer as a second agent. He states that in videogames, "software instructs the machine to simulate the rules of the game through meaningful action."[71] However, the designer's instructions inscribed in the software can remain rather vague, so to speak. In combination with the contingency of the player actions and the indeterminate character of the software algorithms, the involvement of the computer shifts the designers' role from an artist of a work of art to an artist of a variable structure. This distinguishes videogames and other software-based media creations from "linear" media, like printed text or film, on a material level.

In order to explain this shift, a brief excursion to Carroll's ontological effort toward defining the "moving image" may be helpful. Among the necessary conditions for something to be a "moving image," he counts that its performance tokens have to be generated by a template that is a token, and they cannot be artworks in their own right.[72] In his view, play performances are tokens generated by interpretations. By contrast, Carroll regards the performance of moving images (the showing) not as artistic, but as a technical engagement with an apparatus. I disagree with the observation that the technical process of performing a moving image—and other kinds of media, for that matter—cannot also be considered as part of the artistic process, as, for example, Lamarre suggests with his "anime machine". Nonetheless, Carroll's terminology may serve as a starting point for the consideration of the generative process of ideational otherness in videogames.

In analogy to the moving image, videogame software can be conceived as template created by the designers. This generative process, however, differs

from that of the moving image, because it involves a two-step mediation by the computer, which cannot be reduced to a technical engagement in Carroll's sense. In the first step, the computer compiles the source code written by a programmer, creating a program or template that can be executed. During runtime, the computer generates a concrete instance of the designer's ideas from this program template (or rather, from a token of it). Due to the variability and contingency of the ideational videogame space, this generative process arguably involves a degree of machinic interpretation—terms in computer science like "interpreter," which, according to Wikipedia, refers to a program that "executes, i.e. *performs*" a source code, reflect this characteristic.[73]

Interpreting and performing the instructions in the code, the computer adds to the artistic process both during the generation of the template (the software), and during its instantiation in concrete game worlds at play. This differs from a general assumption about the influence of technology on content, for example in the sense that the token of a moving image is transformed by a machine during its performance. Such performance can be regarded as a projection in the common geometrical sense. If there is a large hole in the screen or if the projector of a film moves too slowly, it will likely have a similar effect on the entire performance and can easily be reproduced on a material level—print is a good example of this. In contrast, the performance of a videogame template during play is based on variable structures and indeterminate algorithms—most famously, random functions. Philosophically, we might debate whether terms like randomness or contingency are applicable in this case. Nonetheless, this interpretation by the computer generates materially different performances, both in the sense that the computer memory is filled with different data, and in the sense that the players are confronted with different game worlds or situations during play. Moreover, in its multiplicity, these performances involve transformations of the coded template the designers does not have to—and in certain cases might not even be able to predict or imagine beforehand.

As I have discussed elsewhere, Lev Manovich observes a similar effect in his analysis of Photoshop.[74] He shows that while filters like the "wave filter" are designed to simulate realistic effects, the range of input allowed can lead to unexpected, non-periodical, abstract effects when the algorithm is fed parameters outside of a "natural" range.[75] In other words, by playing with the parameters of algorithms originally built to represent some physical or human law or theory, it is possible to generate structures and visualizations that exceed our initial imagination.

As Rieder and Röhle point out,

> [e]ven in purely deterministic systems, small variations in the data or in system parameters may have far-reaching consequences, especially when techniques have a high iteration count, that is, when results are an aggregate of a very large number of individual calculations. What we are trying to say is that certain techniques imported from the computer sciences may never be understood in the same way we understand statistical concepts like variance or regression because there no longer is a 'manual' equivalent of the automated approach.[76]

This un-imagined generation, of course, also offers itself to be deployed in rules-based contexts, such as object behavior or artificial intelligence, which leaves the biggest part of the decision-making to the computer.

A good example of this can be found in "hack 'n' slash" games like *Sengoku Musō* (*Samurai Warrior*), in which the player is frequently confronted with large numbers of enemies. **Example 2.1** shows that, while all these enemies follow more or less complex behavioral patterns, it is rather unlikely that any specific situation the player encounters or its representation on the screen, was fully imagined by the designers when creating the game.

In all cases, the designers do not have to think about the results of a specific calculation, but only need to care about the flawlessness of the algorithm and the range permitted for the parameters—the actual calculations are made by the machine. Many of us have experienced the downside of this: a file that cannot be opened, a button that cannot be pressed, a program that freezes and erases your research paper. These are usually not instances of computer disobedience, but rather results of strict rule application, or total algorithmic bureaucracy. The reality that even intense testing, debugging and software patches cannot prevent such errors, testifies to the fact that the designers and programmers are not always fully in control of their complex creations.

As the sum of all worlds it facilitates, videogame space can be characterized as an ideational space that does not fully originate in the designer's imagination. Concrete worlds and particular sites are, to a degree, unimagined, and thus, by extension, so is the ideational space they are part of. It allows the designers to author variable, contingent ideational structures or meta-ideas (character classes, the choice of difficulty and its effect) and to define their possible content (the appearance of a specific character, the levels of difficulty available, etc.). The

concrete game world a player encounters, including its representation at any given moment, is determined at play, based on player and computer acts. The computer enacts the code as it is, with all its flaws, glitches, contradictions and bugs—unintentional mistakes in the program or rule system. At the same time, the computer is also responsible for interpreting player input. In a sense, the machine becomes a particular kind of artistic device in its own right, a non-human player who performs the program code and plays with various kinds of input to generate concrete manifestation of the variable ideas authored by the designers. In this sense, any concrete game world is not the result of a designer's creation alone, but of a negotiation between the designers (authoring the game, i.e. the sum of all rules in the software) and the machine (performing these rules). With regards to productive conflicts, the unimagined quality of videogame space suggests that, in a certain sense, this space might indeed escape the known and even our imagination. Whether this stimulates us to think outside of the status quo, or whether it merely reduces imagination to a machine logic, remains to be seen.

Player and Input

The player has a say in this negotiation. Player input is one of the most basic features of videogames—without it, playing would not be possible.[77] At the same time, player input helps generate one instance or world from the myriad possible worlds a videogame space hosts. It affords choices about a world's direction and character, from difficulty and sound volume, to narrative paths or the choice of looks and weapons. Due to the same-but-differentness and saving features in many games, a game space can be visited repeatedly and enacted differently each time, thus allowing for the exploration of multiple instances or worlds—a practice arguably at the heart of gaming. As I have argued above, the "same-but-different" structure already offers a potential site of conflict, further amplified by the possibility to save a game and experience difference versions of particular sites and situations. However, beyond its impact on world plurality, player input is also a potent source of conflict. Geuss claims that "[t]o act is in an important sense always to create something new, an object, a change in an existing situation, a new reality."[78] This is true in a literal sense in videogames, since they allow the player to act physically on their worlds and shape or alter their materiality.[79] How does such action contribute to the experience of conflicts? Does it help confront them, explore them or even create them? Or is videogame play reactive and bound to options defined beforehand by the designers, as Virilio and others have argued?

I have already mentioned the potential of exploring a game world without knowing the rules and effects of one's actions, and the limitation of player action as being constrained by the possibilities authored in the software. In conventional games, the conscious effort of maintaining the rules is a struggle against the intrusion of the ordinary. Freed from this challenge, videogame players are confronted with another task. In the absence of total knowledge about a videogame space and its inhabitants, players are prompted to explore and map the ideational space of a game. In this mindset or mode of playing, the rules themselves become subject to play: boundaries are sought out, the complex interplay of rules is exploited to create new strategies and even worlds unforeseen by the initial design. Talmadge Wright, Eric Boria and Paul Breidenbach show with empirical evidence that "[p]laying is not simply mindless movement through a virtual landscape, but rather movement with a reflexive awareness of the game's features and their possible modifications."[80] Flanagan goes as far as to claim that "[t]he digital 'magic circle' that players enter is an open environment focused on experimentation and subversion." She observes three critical practices central to play, namely: "unplaying" (enacting forbidden scenes and alternative scenarios), "reskinning" (altering characters or objects) and "rewriting" (redefining play from within).[81]

In addition, the sensual representation a player experiences is often partial, both with regards to the underlying system, which is not fully revealed, and with regards to the "physical" representation of a game (maps, environments, etc.), which often remain fragmentary and temporary. This additional "filter" of partial representation, through which the player accesses the game world and its underlying space, further amplifies the experimental character of videogame space and helps to cue playful exploration. Given the arbitrariness of videogame representation, this partiality can involve dynamic selection and transformation, which is to say that a player might be confronted with different sensual representations of the same world.

Enhanced by the partiality of its sensual representation in concrete game worlds, videogames confront us with "unknown" spaces that invite exploration and experimentation. Insofar as such activities can result in vastly different versions of the game world or specific situations, they can be considered important constituents of potential conflicts between these worlds and situations. More generally, the double structure of absolute limitation, on the one hand, and vagueness and flexibility with regards to rules and representations on the other, opens up a space that affords speculative, non-predefined player action. In *The Aesthetics of Music*, Roger Scruton discusses the importance

of "unasserted thought" and the speculative quality of the imagination. In his terms, "[r]ationality involves the ability to represent to ourselves absent or hypothetical situations, to project our thought in a speculative arch away from the immediate present, into regions which are past or future, possible or impossible, probable or improbable, and from which it returns with insight into the nature of things."[82] In a sense, speculations are important in videogame play, because they allow us to project the possible outcomes of our actions in a specific world and speculate about the underlying videogame space. As Juul puts it,

> the representation and fictional world presented by the game cue the player into making assumptions about the rules of the game. […] In video games, the rules are initially hidden from the player—this means that the player is more likely to use the game world to make inferences about the rules. In fact, the player may need a fictional game world to understand the rules. […] The way a given object or character behaves will characterize it *as a fictional object*; the rules that the player deducts from the fiction and from the experience of the playing of the game will also cue him or her into imagining a fictional world.[83]

In other words, the appearance and behavior of the game world, and the actions that correspond to input serve as the basis for a player's assumptions about a videogame space. In videogames, as elsewhere, such speculations always depend on earlier experiences and knowledge. Yet, games confront the player with spaces in which the known rules of our known physical or social reality do not necessarily apply, and with rules that we may not know in their entirety. The game worlds we experience cue us into exploring and speculating about their underlying ideational space. Each of these activities may end up confronting us with versions of the game space that conflict with our earlier experiences or imaginaries. Moreover, the tension between specific rules and their representations might extend into disruptive conflicts that emerge from the difference between our expectations shaped in everyday life and the game world: doors that cannot be opened, weapons that do not harm others, are just two examples of how representations can generate expectations the rules do not fulfil.

I should point out that exploring multiple videogame worlds and experimenting with the mechanics of videogame space is only possible due to the virtual character of any activity within this space. Wright, Boria and

Breidenbach, for example, observe how a *Counter-Strike* player group developed a habit of jumping from houses simply to create versions of the sound of the impact.[84] Or, take, for example, the counter-intuitive practice of "rocket jumps," which directs explosives to the ground while jumping, thereby injuring the player character, but also accelerating it. In a sense, this technique has to be discovered by the player, both as a way of moving and in terms of its highly demanding choreography—failing to execute it properly leads to substantial damage. However, if successful, it can propel the player to places otherwise unreachable. Such activities are possible due to the lack of physical consequences on the player.

At play, the player may disregard norms, rules of physics or biology, as well as strategy and goals, purely motivated by the potentials and boundaries of videogame space itself. As Pearce argues, emergent behavior arises from player interaction and is afforded by the play space.[85] Juul distinguishes between four levels of emergence in rule-based videogames, namely emergence as variation afforded by rules (i.e. in Chess), emergence as non-disclosed patterns that "appear" emergent for the player because they are not explicit from the rules, emergence as irreducibility due to rule complexity, and emergence as novelty due to unforeseen re-combinations of rules.[86] These categories further support my assumption that any concrete videogame world is the result of a negotiation between designers, computer and player. The designers define the rules and thus the possible patterns of action. In their strict performance by the computer and their creative enactment by the player, these rules may result in unpredictable, novel and potentially conflict-laden sites.

Crucially, videogames offer the player a chance to explore such sites actively and playfully. Whether such "playfulness" is intended by design or a result of playing with the game, has to be judged in each concrete case. Given the numerous recent examples of unpredicted "gameplay" resulting from rule complexity or glitches, it is safe to say that, in effect, some amount of emergence is at work in most contemporary videogame spaces.[87] Moreover, game designers acknowledge this unpredictability. Salen and Zimmerman, for example, point out that inventing games is neither easy, nor a straightforward process, because "it is not possible to fully anticipate play in advance."[88] On the subjective level of player experience, the degree of designers' intentionality leading to emergent gameplay may not even make a difference—if the situation or world encountered is in conflict with others, or with the experience in everyday life, it might still disrupt and trigger political imagination.

In sum, player action may factor into the generation of conflicts on various levels. Enacting the "same-but-difference" of videogame space, it helps generate various game worlds or versions of in-game situations, between which conflicts may arise. Exploring and experimenting with videogame space through these partially represented worlds, the player maps the possibilities and boundaries of this space. This activity may lead to conflicts caused by the difference between designers' intention and game world affordances or boundaries, or caused by the difference between game world mechanics and everyday experiences. Given the partiality of videogame space representation, the experience of difference and the conflicts arising from it may lead to what Scruton calls "unasserted thoughts" not only with regards to the game world itself. Rather, I believe that it might also prompt us to reflect on these differences against the background of our everyday experiences and stimulate our political imagination of alternatives.

Studying Conflict

In the preceding sections, I have defined ideational videogame space as the space generated by a negotiation between the player, the computer and the designers, who inscribe the sum of all rules, including the possible relations between all of the elements this space hosts on various levels, in the software. As a constant negotiation, each play grants access to a specific instantiation or videogame world, which, in turn, expands videogame space. Examining some of the central building blocks and sites of such negotiation, I have argued that videogame space is expressively rich and potentially detached from our physical reality and the space of the player with his or her everyday experiences. It does not depend on a conscious effort to uphold its illusion to the same extent as "conventional" play does, and is not bound to the limits of our physical laws, social norms or semantic rules. It may escape the designer's prediction and imagination, both due to the performative character of the computer enactment, and due to the possibility of emergent player action. It is actionable but not necessarily intelligible or knowable in its spatial entirety for the player, and, due to its virtuality, subject to exploration and experimentation.

While other tensions should not be ruled out. the vast variety of worlds generated in this negotiation are potential sites of conflict on roughly three levels: (1) conflicts in the experience of one world at playtime, including conflicting elements and conflicts between the three actors involved in the negotiation; (2) conflicts between different world versions (w1, w2, …) within one videogame space, and (3) in-game experiences conflicting with our

"common sense" (the status quo), which would mark the respective game world or space as space of otherness —whether this third category is related to our common expectations toward videogames and genre conventions, or, whether it indeed concerns life beyond gaming, is a question for the empirical analysis.

In the context of this book, this space is ideational, meaning that it is regarded as a space in which ideas are negotiated and in which conflicts may emerge and stimulate our political imagination. At the same time, it is an experiential space that can only be explored and experimented with at play. At least one problem arises from this conceptualization of videogame space: If videogame space hosts a potentially unlimited number of worlds and remains partial in its representation, which, in turn, is not easily reducible to the software code or the run-time data in the computer memory, then how can we analyze it? How does the contingency and potentially infinite plurality of material videogame worlds relate to my claim about potential conflicts, when I admit that other players may experience different worlds?

The latter question regarding the results of my analysis is less troubling. After all, I have already emphasized that the point of this book is not to say that all players must experience the conflicts I identify, let alone start imagining alternative futures immediately. Admittedly, my own experiences of conflict are, to some extent, a product of my particular interest in or perspective on games. Thus, I can merely claim that the games I looked at were capable of hosting such conflicts in my particular case and that this potential might exist in other games and for other players as well. An empirical study of their impact has to follow in the future. The more pressing question is how conflicts can be identified in the first place, given the vastness of most recent videogame spaces.

While different approaches certainly exist, many game researchers agree that playing is the preferred way in which a game space can be engaged and experienced.[89]

Once playing becomes a method, it has to be applied with care and, in the face of the size of many videogame spaces, while taking the constraints and limited time of the researcher into consideration. In my research, I have tried to engage with this problem in two ways. First, my analytic play benefited much from principles often subsumed under the term "grounded theory," which propagates openness, flexibility, object-orientation and context-awareness.[90] Hine formulates similar principles for ethnography in virtual spaces, of which she demands that it be an "adaptive ethnography which sets out to suit itself

to the conditions in which it finds itself." She demands that such ethnography is mobile, with its object shaped in terms of flow and connectivity rather than location and boundary as organizing principle. Boundaries are not assumed but explored in the process, the idea of a complete ethnography of a given object has to be abandoned, each decision means to reformulate the object itself.[91] This means to record, document, reflect on and analyze playing experiences as far as possible.

Second, where available, I have included additional materials about specific videogames in the analysis, in order to get a better understanding and knowledge of their spaces and the conflicts they might host. As many of the videogame spaces analyzed below offer several dozen to several hundred hours of distinct experience, I have used additional materials such as handbooks, walkthroughs and other player's comments to expand on and enhance my own exploration of each game (see Figure 3).[92]

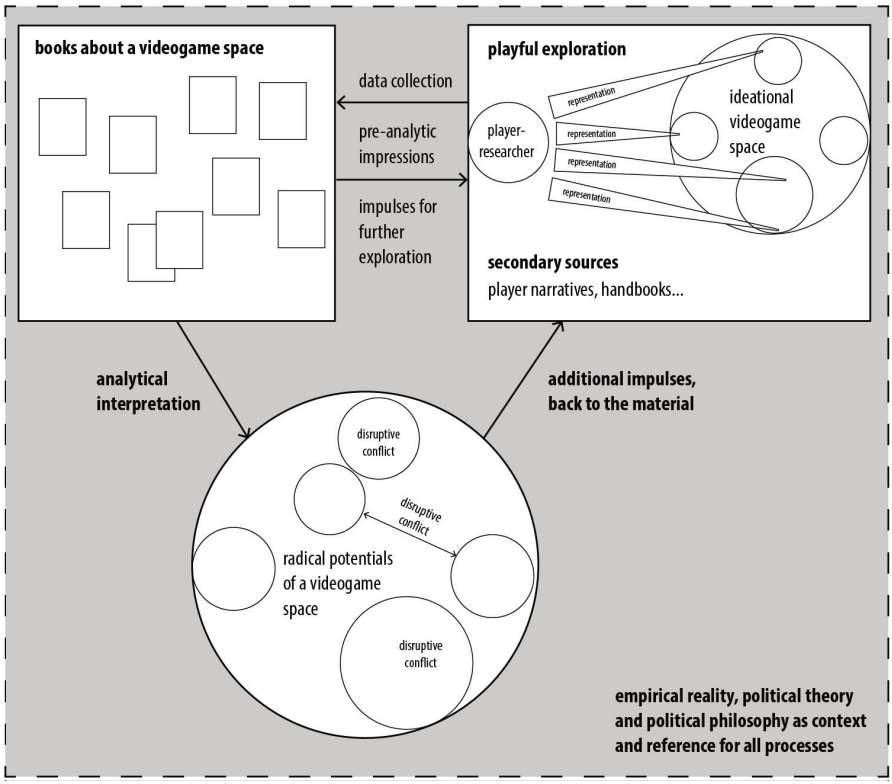

Figure 3. The process of analyzing videogame spaces.

Methodologically, this does not solve the problem of partiality, but it does allow for a rudimentary triangulation of the data,[93] thus offering a stronger empirical basis. Furthermore, even though this methodology is not applied as rigorously in the following chapters as I would have liked, I hope it may inspire further experiments and considerations toward more structured and comprehensive approaches to ideational videogame spaces.

Notes

1. As discussed above, the production of a videogame is a complex process involving many parties on various levels and hierarchies, which I cannot do justice to in this book. See Chapter 1, "Media Specificity".

2. Lamarre, *The Anime Machine*, xxvi.

3. Ibid., xxxi.

4. Aarseth, *Cybertext*; Idem, "Computer Game Studies, Year One"; Eskelinen, "The Gaming Situation."

5. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*.

6. Frasca, "Ludology Meets Narratology"; Frasca, "Ludologists Love Stories, Too."

7. Bogost, *Persuasive Games*, 5.

8. Ibid., 7–9.

9. This is, for example, the case in his discussion of the rich fictional world of *Grand Theft Auto IV*, of which Tavinor claims that its "interest in creating a more realistic and detailed graphical fictional world—in essence depicting a dynamic modern city in a virtual way—is also one of the reasons that games like *Grand Theft Auto IV* should be considered art" (Tavinor, *The Art of Videogames*, 68).

10. Thon, *Transmedial Narratology and Contemporary Media Culture*, 53.

11. Thon, 51–53.

12. Ibid., 47, italics in the original.

13. Gadamer, *Truth and Method*, 104.

14. Ibid., 107.

15. Fink, Saine and Saine, "The Oasis of Happiness: Toward an Ontology of Play," 21.

16. Gadamer, *Truth and Method*, 107.

17. Ibid., 107.

18. Ibid., 108.

19. Caillois, *Man, Play, and Games*, 13. In a similar way, Juul (*Half-Real: Video Games between Real Rules and Fictional Worlds*, 28.) argues that "*[p]lay* is mostly taken to be a free-form activity, whereas *game* is a rule-based activity." Game scholar Bo Kampman Walther

("Playing and Gaming – Reflections and Classifications") distinguishes play from games, arguing that "[p]lay is an open-ended territory in which make-believe and world-building are crucial factors. Games are confined areas that challenge the interpretation and optimizing of rules and tactics - not to mention time and space."

20. Notably, most of the above-mentioned thinkers thought and published in languages that do not distinguish between play and games (German *Spiel,* French *jeu*, Dutch *spel*). This may have contributed to *The Ambiguity of Play*, of which Brian Sutton-Smith (Sutton-Smith, *The Ambiguity of Play*, 214) shows that it primarily originates in the rhetoric of play in various fields of study. He states that "it is clear that verbalizations about a ludic experience are not the same as that experience" (Sutton-Smith, 216). By drawing on the distinction between game and play to reorder the complexity of play, I do not claim to solve the ambiguity and diversity of the term and its experience. Rather, this step is geared towards emphasizing the ideational quality of games as approximation of free play embedded in a social context, and their dependence on rules and player commitment.

21. The relation between the game or play space and the "ordinary" is widely and controversially discussed in game studies, where Huizinga's metaphor of the "magic circle," or rather, the separateness alluded to this term, has become a central element of disagreement among scholars. Mia Consalvo ("There Is No Magic Circle," 415), for example, rejects the "magic circle," arguing that "players never play a new game or fail to bring outside knowledge about games and gameplay into their gaming situations. [...] There is no innocent gaming." In a keynote given at the second *Under the Mask* conference, Garry Crawford ("Forget the Magic Circle (or Towards a Sociology of Video Games)" 9), points out that videogame players' and, more generally, "media audiences' engagement with texts will often live on beyond the screen or page." He urges the reader to "Forget the Magic Circle" and pay more attention to the interrelation and interaction between games and their social contexts. Jesper Juul ("The Magic Circle and the Puzzle Piece," 59–60) shares this critique against detachedness and reminds us "that Huizinga describes the magic circle as one type of *social space* among others. […] The magic circle is a description of the salient *differences* between a game and its surrounding context. It does not imply that a game is completely distinguished from the context in which it is played." Interestingly, he refers to the impact of social status on playing, arguing that games are not separate because "winning and losing may have social consequences, and players may play accordingly. The most obvious example is playing against a boss or playing against a child, in which case the player may decide that it is preferable to lose the game." This example arguably offers a strong case for my understanding of play as an ideal to which games aspire. Both players can only "play" the same game on equal terms if they shed their social backgrounds and balance the differences in their ability. In *Spiel als Weltsymbol*, Fink highlights this peculiar dual, illusory [*Schein*] character of the play space, observing that the "thing, *with* which the player plays, and the fellow players, *with* whom he enters the game [*Spiel*], are as real as he is, and belong to the same dimension of reality. Yet, in playing together, they enact [*erspielen*] an unreal play-world." Although play is constituted by exclusion and interrupts the continuity of purposive action, it still requires real space and real time, "but the space and time *in* the play-world never continue seamlessly into the space and time surrounding it" (Fink, *Spiel als Weltsymbol*, 229, 234, my translation).

22. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*, 165.

23. In *Cheating*, Mia Consalvo shows that, despite rigid rule-sets, videogame players nonetheless cheat and "challenge the notion that there is one 'correct' way to play a game" (Consalvo, *Cheating: Gaining Advantage in Videogames*, 2). She points out that players have different ways of defining cheating (Consalvo, 87–89). While generally regarded as an act that gives a player an unfair advantage, players' opinions as to what counts as cheating range from broad definitions like "anything other than a solo effort in completing a game" to narrow

definitions of acts that result in an unfair disadvantage of others, which do not regard the use of cheat codes and walkthroughs in single player games as cheating. Although Consalvo does not make this explicit, the latter definition implies an understanding of single-player games as the sum of all rules in the software similar to my own—anything permitted by the software is part of the game and its ideational expressivity.

24. To stick with Liebe's example, it is quite possible to use the random function of the "deck" in computer *Solitaire* for gambling, if two players decide to bet on the color of the card appearing next. Of course, this is primarily a theoretical point to highlight the flexibility of even the most rigid rule structure.

25. With the concept of "charity," Thon refers to the idea that "recipients will generally try to exhaust every possible alternative explanation before trying to imagine a logically impossible, contradictory local situation or a logically impossible, contradictory global storyworld." (Thon, *Transmedial Narratology and Contemporary Media Culture*, 61.)

26. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*, 53–54.

27. Liebe, "There Is No Magic Circle. On the Difference between Computer Games and Traditional Games," 332.

28. Flanagan, *Critical Play: Radical Game Design*, 61.

29. Liebe, "There Is No Magic Circle. On the Difference between Computer Games and Traditional Games," 333–34. For a similar argument, see Campbell, "Just Less than Total War Simulating World War II as Ludic Nostalgia," 186.

30. Ōtsuka [大塚], *Teihon Monogatarishōhiron*, 12–13, my translation. At a later point in his text, Ōtsuka compares creating contents, in particular manga, with a game-like experience. As long as you know the rules, you can create a story based on them (Ōtsuka [大塚], 78–79.)

31. Huizinga, *Homo Ludens*, 1970, 40.

32. In many discussions of play, the concept is indeed defined by its separation from ordinary life. Johan Huizinga defines play as "a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy, and the consciousness that it is 'different' from 'ordinary life'" (47). Roger Caillois, uses the terms free, separate, uncertain, unproductive, governed by rules and make-believe to describe play. (*Man, Play, and Games*, 9–10.) Heideggerian philosopher Eugen Fink regards it not only as detached from, but as opposed to the ordinary (Fink, *Spiel als Weltsymbol*; Fink, Saine and Saine, "The Oasis of Happiness: Toward an Ontology of Play").

33. Roth, "Disruptive Conflicts in Computopic Space."

34. Rieder and Röhle, "Digital Methods: Five Challenges," 76.

35. Salen and Zimmermann, *Rules of Play. Game Design Fundamentals*, 340.

36. Bogost, *Unit Operations: An Approach to Videogame Criticism*, 39.

37. In his innovative approach to *Cybertext*, Espen Aarseth (*Cybertext*, 10–11) claims that databases are an epochal break on the physical level because, through the distinction between interface and storage medium, they signify new ways of using textual material. He argues that, on a semiotic level, cybertexts show a "*unique dual materiality*" and thus have to be differentiated into surface and deeper layer (Aarseth, 40). Since the early 2000s, databases have gained increasing attention from media scholars and philosophers like Lev Manovich (*The Language of New Media*) or Azuma Hiroki (*Dōbutsuka suru posutomodan*; for the English translation, see *Otaku: Japan's Database Animals*), reflecting their increasing importance and

pervasiveness (Schäfer and Roth, "Otaku, Subjectivity and Databases: Hiroki Azuma's Otaku: Japan's Database Animals").

38. Pavel, *Fictional Worlds*, 51.

39. As such, the notion of "videogame world" applied here may be compatible with Thon's aforementioned notion of "locally represented situations" (Thon, *Transmedial Narratology and Contemporary Media Culture*, 47), as long as the focus lies on the representation and its physical quality, rather than the mental projections of the storyworld.

40. Bogost, *Persuasive Games*, 2–3.

41. Ibid., 25.

42. See, however, Miguel Sicart's ("Against Procedurality") critique of "proceduralists," whom he holds to focus too much on pre-structured, "instrumental play." Drawing on authors like Adorno and Horckheimer, and Fink, he argues that "[g]ames structure play, facilitate it by means of rules. This is not to say that rules determine play: they focus it, they frame it, but they are still subject to the very act of play. Play, again, is an act of appropriation of the game by players." Sicart's argument highlights the importance of looking beyond the rule system when analyzing videogame expression, although he exaggerates the limitedness of proceduralist perspectives—emergence, disruption and player subjectivity are far from being ignored by Bogost or Flanagan, whom Sicart mentions as representatives of "proceduralists."

43. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*, 121.

44. Ibid., 199, italics in the original.

45. As Kline et al. note early on, "sometimes the message is the message. To understand video games, we have to look not just at how they alter our perceptions of speed and space but also at how these sensory alterations are associated with and inflected by very specific sets of meanings - about, say, gender, or violence, or consumerism" (Kline, Dyer-Witheford and De Peuter, *Digital Play. The Interaction of Technology, Culture and Marketing*, 37).

46. Murray, *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*, 143–44.

47. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*, 133.

48. Notably, Bogost's (*Persuasive Games*, 103–9) own example of the game *Tax Invaders* does not support his claim about the centrality of procedure convincingly. *Tax Invaders* is a reskinned version of the popular game *Space Invaders* created by the Republican party in the US, in which the player controls a graphical representation of the head of George W. Bush and has to shoot down invading taxes (issued by the hostile democrats), represented textual through large sums of money moving towards her. Bogost regards this as a sophisticated example of procedural rhetoric, because "the player completes the game's argument [here, the conservative anti-taxation position; mer] by firing the projectiles that defend the nation from Kerry's potential tax plans." He argues that "*Tax Invaders* takes the metaphor beyond verbal and visual rhetoric," as it redefines taxes as a foreign, even alien, enemy. Although the game certainly is a striking example of a procedural argument, Bogost himself has to admit that *Tax Invaders* "mounts its argument partly through verbal rhetoric […] and partly through visual rhetoric." In order to translate its rule-based system (its procedures) into a political context, *Tax Invaders* relies heavily on both graphical and textual symbols and takes advantage of the meanings represented by the original game *Space Invaders*. Thus, although the rules of the game (shooting down intruding enemies) might be understood as "symbolic structures of a higher order than natural language," these rules—the procedure—of the game alone are not always sufficient to reframe the game. *Tax Invaders* exemplifies my argument for an inquiry of the way, in which procedural and sensual elements are combined in videogames.

49. Molleindustria, *Queer Power*.

50. For a comment on the game by its creator, see: GAME VIDEO/ART, "Interview: Paolo Pedercini Aka La Molleindustria."

51. Mukherjee, *Video Games and Storytelling*, 21. Discussing the complex relation between storyworld and representation, Thon similarly concludes that "the way in which storyworlds are represented in contemporary video games cannot and should not be reduced to either interactive simulation or narrative representation, since it is constituted precisely by the complex interplay between these two modes of representation" (Thon, *Transmedial Narratology and Contemporary Media Culture*, 107).

52. Bogost, *Unit Operations: An Approach to Videogame Criticism*. Sharing a quite similar intuition to that of Bogost, Linda Hutcheon (*A Theory of Adaptation*, 31–32) mentions Richard Dawkins' concept of "memes," or "units of cultural transmission or units of imitation" as a potentially fruitful approach for adaptation studies in *A Theory of Adaptation*, but does not actively pursue this direction.

53. Bogost, *Unit Operations: An Approach to Videogame Criticism*, 70.

54. Ibid., ix.

55. Ibid., 4–8.

56. Kirkpatrick, "Controller, Hand, Screen: Aesthetic Form in the Computer Game," 140.

57. "M.C. Escher – Image Categories – Impossible Constructions."

58. *Echochrome* is a good example of this. For those of you who are not familiar with the game, please have a look at the abundant online footage or the official documentation ("Echochrome (Playstation.Com)").

59. Juul (*Half-Real: Video Games between Real Rules and Fictional Worlds*, 184) mentions the productive, satirical potential of incongruities between rules and fiction, but does not expand on this issue.

60. A freely available multiplayer first-person shooter created by the US military as a recruiting advertisement, *America's Army* shows that even the appearance of the same object in the same videogame world can differ between multiple users. Although the players are divided into two opposing teams, the respective adversaries are represented as a "threat" to the American army to which all players belong. While fighting against each other, all players are US soldiers, always fighting an external enemy (Bogost, *Persuasive Games*, 77–78).

61. Wegner, *Imaginary Communities*, 17.

62. I am not arguing that realism in games and their qualities as simulations cannot make a contribution to specific aims. Scholars like Fujimoto Tōru (*Shiriasu Gēmu*.) or Ian Bogost (*Persuasive Games*) convincingly claim that "serious games" and "persuasive games" geared towards educating us about a specific subject, situation, or practice can contribute to our understanding of society, culture, and politics, and can convey complex messages in innovative ways. Examples like the games of La Molleindustria or newsgaming.com show the creative potential videogames have to this extent. Rather, my point is that the more a game is aimed towards simulating our empirical reality, the less likely it is to stimulate radical political imagination in the sense in which it is deployed in this book.

63. *Katamari Damashii*; *Minna Daisuki Katamari Damashii*.

64. For more information and gameplay footage, see "Katamari Damacy Game | PS2 - PlayStation."

65. Brown, *Videogames and Education*, 28.

66. Bogost, *Persuasive Games*, 126–29.

67. Tavinor, *The Art of Videogames*, 131–46. In this analysis, Tavinor discusses the "paradox of fictional emotions," i.e. the question "how something that is known to be fictional—and subsequently known to have no real existence—can be the *cause* or *object* of the strongly felt emotions evident in gaming." Against existing views, he argues that this can neither be explained with the real effort of the player or the real existence of the games as obstacles, nor by referring to concepts like "mistaken beliefs" or "suspension of disbelief," because "playing a fictive videogame involves an acknowledgement of the fictive status of the game, and so involves the special cognitive attitude characteristic of fictive practice as a whole. […] Videogames involve us, guided by digital props, imagining or 'make-believing' that certain things are the case, and the perceptual properties of these props and our make-beliefs about what is fictional are emotionally affecting. My emotions for the Little Sisters [an example of a non-player-character in the game Bioshock Tavinor refers to] are possible because what we imagine is often just as capable of causing emotions as what is believed." In a later section, he adds that "[i]t is make-believe—both in partially causing our emotions and in conditioning our response to those emotions—that is crucial to explaining how we become *emotionally immersed* in the fictional worlds of videogames."

68. Tavinor, 131–46.

69. Perron, "A Cognitive Psychological Approach to Gameplay Emotions." For a more recent and substantial engagement, see Perron and Schröter, *Video Games and the Mind*.

70. Galloway, *Gaming: Essays on Algorithmic Culture*, 2, italics in the original.

71. Ibid., 2.

72. Carroll arrives at these conditions by distinguishing the moving image from play performances. The full definition reads: "[W]e can say that x is a moving image (1) only if x is a detached display, (2) only if x belongs to the class of things from which the impression of movement is technically possible, (3) only if performance tokens of x are generated by a template that is a token, and (4) only if performance tokens of x are not artworks in their own right" (Carroll, *Theorizing the Moving Image*, 66–70).

73. Wikipedia, "Interpreter (Computing)," italics in the original.

74. Roth, "At the Edge of a 'Digital Area' – Locating Small Scale Game Creation."

75. Manovich, *Software Takes Command*, 134–39.

76. Rieder and Röhle, "Digital Methods: Five Challenges," 76.

77. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*, 60.

78. Geuss, *Politics and the Imagination*, ix.

79. There is a crucial difference between such alterations on the one hand, and ripping out pages of a book or censoring its content in some way on the other. Although these practices can be formally described in similar terms, it is crucial that alterations of the physical reality of a work are the central characteristic of videogames and to a certain extent not only intended, but also necessary for play. At the same time, they do not alter the possibilities of the medium irreversibly.

80. Wright, Boria and Breidenbach, "Creative Player Actions in FPS Online Video Games – Playing Counter –Strike." In their analysis, the authors show how this difference between the videogame as intended by the designers and the videogame world as created by the architects. Most revealing is their account of unpredicted communication practices through which "[t]he dead have found a way of communicating with the living." They show how, by exploiting the game system, the players have found ways to bypass the intended restrictions of the game. The game does not permit communication between the dead players, who can follow the gameplay through the eyes of any avatar still in the game, thus potentially able to give away enemy positions to their team members. Yet, the designers overlooked the

possibility of voting, a communication tool available at all times. Voting an opponent's position away is not recognized as a rule-breach by the computer, although it might be conceived of as cheating by the human players.

81. Flanagan, *Critical Play: Radical Game Design*, 61, 33–34.

82. Scruton, *The Aesthetics of Music*, 88.

83. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*, 176–77, italics in the original.

84. Wright, Boria and Breidenbach, "Creative Player Actions in FPS Online Video Games – Playing Counter –Strike," 6–7.

85. Pearce, *Communities of Play*, 24.

86. Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*, 73–83.

87. Discovering and sharing unintentional glitches is an important dimension of explorative videogame play. Today, players are well-aware that their discoveries may quickly lead to updates issued by the designers. See, for example, the VaatiVidya's Youtube video "Dark Souls 3 ► 10 Early Game Secrets." As predicted by VaatiVidya, the glitch shown in the video was indeed fixed by the time I started playing the game a few weeks later.

88. Salen and Zimmermann, *Rules of Play. Game Design Fundamentals*, 11–12.

89. Kirkpatrick, for example, argues that "it is through investigation of what computer games feel like to play (their aesthetics) that we unearth their political dimension. The most important thing about computer games is not their content, if this is understood to mean a message that is transmitted and then interpreted by audiences." Consequently, he deems it "necessary to play them to experience their distinctive effects and characteristic limitations" (Kirkpatrick, *Computer Games and the Social Imaginary*, 160–61). Likewise, Espen Aarseth argues for playing as the primary access to videogames: "If we have not experienced the game personally, we are liable to commit severe misunderstandings, even if we study the mechanics and try our best to guess at their workings. And unlike studies of films and literature, merely observing the action will not put us in the role of the audience. When others play, what takes place on the screen is only partly representative of what the player experiences. The other, perhaps more important part is the mental interpretation and exploration of the rules, which of course is invisible to the non-informed non-player. As non-players we don't know how to distinguish between functional and decorative sign elements in the game" (Aarseth, "Playing Research," 3).

90. Pentzold, Bischof and Heise, *Praxis Grounded Theory*.

91. Hine, *Virtual Ethnography*, 63–65.

92. In doing so, I followed Aarseths suggestion to study design, rules and mechanics, as well as to observe other players or studying their thoughts about games, where available (Aarseth, "Playing Research" 3), admittedly without knowing of this text at the time of the research.

93. In the context of qualitative social studies, triangulation refers to the use of multiple methods, perspectives or types of data in the research process. This approach is expected to provide a better understanding of complex phenomena and subjects (Rothbauer, "Triangulation"). Summarizing the existing literature, Uwe Flick (Flick, *Qualitative Sozialforschung*, 519–20) refers to four types of triangulation: "data-triangulation," "researcher-triangulation," "theoretical triangulation" and "methodical triangulation. He argues that triangulation is not so much an aid to strengthening validity claims (although originally designed as such), but rather an alternative to "validation strategies," capable of elevating breadth, depth, and consistency of a methodical approach. For example, an empirical study of

the significance of music in the everyday of teenagers, in which the interviews with the respective age group are complemented with a study of recent trends in popular music, allows the interviewers to ask more precise questions based on his or her first-hand knowledge, to understand the answers given better and to respond to the answers given more adequately, thus potentially offering a deeper insight. Likewise, my exploration of videogame spaces and their interpretation benefited from the knowledge of the games and other players' perspectives and observations.