The Labyrinth
Digital Games as Media
of Decision-Making

Rolf F. Nohr

Abstract   The labyrinth is a metaphor, an 'archetype' and a praxeology of the game. It is an ambivalent formation of both orientation and disorientation. It evokes pathfinding as well as simultaneously blocking the (linear) path. It limits the subject and functions as a machine of training (or: trimming) and yet provokes the breakout and breakthrough. It is a metaphor for individual experiences of excessive demands, and it sees the maze as a function of order. The computer game is to be understood as a permanent labyrinth. The paper would like to focus on the figure and practice of decision-making. The centre of the digital game is therefore not any kind of unfolding narrative but the playing subject's labour with the algorithm—the continuous attempt to understand the algorithms and 'operate' them correctly to win the game.

Keywords   Labyrinth, decision, game space, algorithmic culture

Introduction

Starting from the idea that digital games exist in a kind of 'fetishistic' relationship to space and topology (see Nohr 2006), this paper will reflect on the figure of the labyrinth in relation to computer games. I want to argue that the spatial order of the labyrinth is not only a pragmatic order of space in relation to games (in a sense of limitation, guidance or steering of action) but also an architecture in the sense of translation and materialisation of decision-making as can be seen in the top-down perspective onto *Pac-Man*'s (Namco 1980) game world (*» Fig. 1*).

This chapter will focus primarily on the *architecture of the decision*, which is coded into the spatial configuration—and less on the spatiality of the game itself. The idea that game space is designed and structured in different ways is nothing new, and
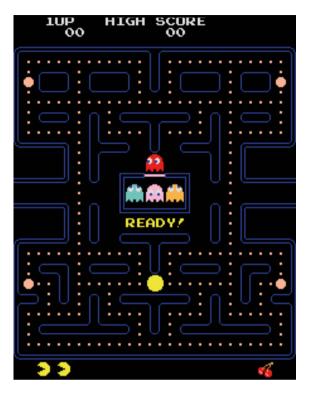
Fig. 1 The labyrinth as game world in *Pac-Man*.

neither that its 'enigmatisation' can be created by means of labyrinths and mazes. So instead of thinking about labyrinths as genuine architectures in game space, I want to understand them as subject techniques.

The labyrinth is a central metaphor of the game. It is an ambivalent formation of both orientation as well as disorientation. It invites one to find their way as it simultaneously blocks the (straight) path. It limits the subject and is a training tool—and provokes subversion and emancipation as well. It is a metaphor for the individual experience of being overtaxed (like Theseus) as well as for the experience of making supra-individual order visible (like Ariadne). But here, I would like to argue that the labyrinth is to be understood as an *architecture of decision*. It is the materialised reality of a specific algorithmic decision rationality. Therefore, the central thesis of this chapter is that (certain) video games are to be understood as a permanent labyrinth and therefore as 'machines of decision training.'

Fetishism of Space

Games seem to be strikingly dominated by maps, enclosed spaces or spread-out landscapes that invite one to stroll through them. The game, and that is obviously one of the central themes of this book, seems to use space as the central moment of its narration and functionality. Mastering the game space is the 'ergodic work' (Aarseth 1997) that brings computer gaming itself (as an experience) into existence. But this 'game-space-work' is worth a closer analysis—simply because the very specific interrelation of rules, game world, and gameplay form different and specific rationalities of action in different articulations. Each specific architecture of the game space has its own (discursive) rationality. With regard to the labyrinth, this is a very specific mode of action (or experience) that seems to be central here: the mode of exploration.

Following the idea of ergodic work, playing a video game (and especially interacting with its topology) is deeply interrelated with the mode of action. For our argument, we will deal with the mode of exploration under the conditions of a disguised and obstructed space. The genre of adventure games is not the only one dominated by the "gesture"[1] of exploring spaces. New doors and passageways constantly reveal further, linearly constructed, meandering or labyrinthine topographies that initially represent themselves as 'white spots', as abstract spaces covered by the so-called 'fog of war'. It is the player's spatial action, the walking, mastering, fighting or solving of puzzles that transforms these abstract spaces into a sensory landscape. In first- and third-person shooters, the situation is often similar. Here, these entangled spaces simply have to be appropriated: once freed from hostile NPCs, a space is then not only discovered within the topography of the game but also conquered (Gunzenhäuser 2002, 6). In short: the materiality of the actually intangible space of the game, which is necessary for goods to become, fetishises the game (and its space), making it something supposedly natural (Nohr 2006). Especially this last point, the naturalisation of the game (space), can be demonstrated, in my opinion, by taking a close look at the labyrinth.

---

1   Vilém Flusser articulated the concept of gesture as the subject expressing its being in the world through a range of movements and actions. For him, gestures are "movements of the body and, in a broader sense, movements of the tools attached to the body" (Flusser 2014, 1). These movements are expressions of intention—such as lifting a camera to your face to take a picture. The walking, exploring, driving, and climbing in computer games may also be understood as gestures, as expressions of an intention. The intention to act, an action that brings the game into existence in the first place. In a certain sense, this text is all about the gesture of acting in the surroundings of the computer game as a form of subjective expression.

Pragmatics of the Labyrinth

In the following, I would like to focus on a very specific, and—as I think—paradigmatic and also dispositive structure which is spatial, but also exceeds (game) space and topography: the labyrinth. What are the key features of a labyrinth? I would like to define the labyrinth as follows:

— A limited number of paths leading from an entrance to a destination;
— The paths are organised as a (more or less) binary structure;
— The destination is a promise: when entering the labyrinth, it is usually unclear what awaits us at the end of the path;
— The labyrinth's path is organised as a detour: a labyrinth contains the maximum distance within its confinements;
— The labyrinth provokes uncertainty: dead ends are always possible, detours probable, reaching the destination may simply mean turning back;
— The labyrinth is an enigma of space;
— The labyrinth turns abstract, calculated space into something that can be experienced subjectively.

In English, the terms 'labyrinth' and 'maze' are mostly used synonymously. As a result of the long history of *unicursal* representation of the mythological Labyrinth, however, many contemporary scholars observe a distinction between the two (e.g. Kern 2000, 53ff). In this specialised usage, the term 'maze' refers to a complex, branching, *multicursal* puzzle with choices of path and direction, while a *unicursal* 'labyrinth' has only a single path to the centre. A labyrinth in this sense has an unambiguous route to the centre and back and presents no navigational challenge (e.g. Saward 2017). I will ignore this—quite important—distinction, as it typologises the overview, but not the use: on entering a labyrinth, one does not know at first whether one has entered a *multicursal* or *unicursal* folded space. This knowledge only emerges after (or in the best case: while) using the labyrinth. And here, I am primarily interested in labyrinths in use.

By pointing to the idea of the labyrinth in use, we emphasise its performative characteristic. The labyrinth is an architecture that makes decisions distinct. Left or right, yes or no. The game labyrinth turns its players into Theseus, equipped with Ariadne's thread and a sword, in search of the Minotaur. The labyrinth is reduction and selection. In its essence, the labyrinth is a *teleology*.[2] The labyrinth organises the player's action

---

2   As long as you read *teleology* as a reason or explanation for something as a function of its end, purpose, or goal. Every path and every labyrinth has its *telos* (reading said telos as an end, or a purpose) and its *logos* (reading that logos as a reason to enter the labyrinth or to begin your

according to a purpose. It directs the path and the action towards a single meaning: the boss fight against the Minotaur at the end of the path. In addition, the labyrinth evokes a clear concept of the subject. The subject is controlled by the labyrinth—or processed by the topography of it. And the pure clarity of the labyrinth (its topology as well as its architecture) reflects the hidden processing, the calculating, and also the algorithm working 'behind' the 'interface' of the game labyrinth.

Pragmatics of Decision-Making

If we concentrate solely on the action level of the game (and the labyrinth), we neglect the other components of the game act (for example the aesthetic level) for the moment. However, I consider this to be meaningful inasmuch as, in my opinion, it is precisely at this level of action that the game's central moment of effect is created (the subject effect) and thus questions of aesthetics, narration or immersion are ultimately questions of the player's reality of action. This level of action is centrally shaped by the algorithmically impregnated space of the labyrinthine.

The genuine architecture of the labyrinth is thus a kind of decision support system. The labyrinth stages the decision-making as *the* central moment of the game process: outside every door, the same question arises: left, or right? In principle, the labyrinth stages the decision-making process as an act of action that is usually organised in binary form and directed towards a final goal. *The Stanley Parable* (Galactic Café 2013), for instance, is one of the most hilarious parodies of this binary logic (*» Fig. 2*). This act of action determines the game substantially and not just formally. The main idea of decision-making in the labyrinth has to be understood in a broader sense as a media technology that anticipates the operational nature of digital culture.

In that sense, certain formal procedures within digital media must be read as disciplinary procedures that force their users into a specific mode of decision-making, similar to the labyrinthine decision. Here, decisions are reduced, by the limitations of the code and the algorithms, to a narrow, distinct space of possibility. This is the birthplace of the lack of alternatives ("Alternativlosigkeit"). The use of such medialised decision support systems takes place under algorithmically determined conditions. German media theorist Hartmut Winkler speaks of "'tunneled' decisions" (translated

path). This special *teleology* of the labyrinth is only shaped by the computer game labyrinth: only here do we have the concept of pressure to act. Without action—no game. Without the will to win the game—no *teleology* of the labyrinth. The Theseus of a computer game is intrinsically motivated to find his Ariadne-Trophy and is therefore a subject of an almost Aristotelian *teleology*.

Fig. 2 "When Stanley came to a set of two opened doors, he entered the door on his left" (Galactic Café 2013).

from German by the author, 2016, 218), which are preformed and limited in a space of programmed decision preparation that turn the computer into a medium of the 'or':

> The most basic implementation of the 'or' is the switch […]; and this is the basis of all computer hardware—first as a switching transistor, and then combined into integrated circuits. Computer processors are now systems of billions of switches, characterised by the fact that they not only switch signal currents, but are also switched by signal currents […]. In this respect, it is not surprising that the 'or' is closer to the computer than the 'and'; and with the switch, the image of paths and crossroads returns once again […] because an item can only be switched if it has been implemented as a switch/hardware beforehand (translated from German by the author, ibid., 221).[3]

3　Orig.: „Die schlichteste Implementierung des ›Oder‹ ist der Schalter […]; und dieser liegt—zunächst als Schalttransistor, und dann zu integrierten Schaltkreisen zusammengefasst—aller Computerhardware zugrunde. Computerprozessoren sind Systeme von inzwischen Milliarden von Schaltern, die die Besonderheit haben, dass sie Signalströme nicht nur schalten, sondern von Signalströmen auch geschaltet werden […] Insofern ist es wenig verwunderlich, dass das ›Oder‹ dem Computer näher ist als das ›Und‹; und mit dem Schalter kehrt auch das Bild der

Winkler shows how decision-making in the labyrinth as a 'medium' strips the decision-making process of its praxeological and epistemological dimensions. The freedom of choice in computer games is similar to the promise of the consumer's freedom of choice (as in online shopping):

> It becomes a mechanical constraint to constantly have to choose 'freely'. The concept of thinking is: Everyone wants to be well-informed, everyone wants to be 'free', to choose from 8,448 different jeans, toothbrushes, insurance offers etc. etc.... (translated from German by the author, Schröter 2015, 131).[4]

The interesting thing is that the player of a labyrinthine game is driven into an analogous (and yet algorithmic—see below) space of decision. Nevertheless, the game decision differs substantially from the act of choice while shopping at Amazon. In the digital game, every decision has immediate consequences.

Decisions: Limitations, Postponement, Rationalisation

How can we describe the rationality of the decisions evoked by the labyrinth's path in the game? The specific (discursive) idea of decision-making that we are confronted with in digital realities is the idea of the cultural technique ("Kulturtechnik"). To put it more precisely: decision-making is a strategy for dealing with complex realities. This is primarily because every society develops certain cultural techniques to cope with complexity. A more precise description of the cultural technique of decision-making could be summed up like this: making a decision always means excluding alternatives. This pragmatic definition is the basic part of most decision theories: within the framework of decision theory, the term 'decision' is so broadly defined that it includes every act of choice. In general, decision is "the (more or less conscious) selection of one of several possible alternatives for action" (Laux 2005, 1). Ideally, this means reducing an ensemble of possible courses of action based on a specific order of knowledge in a rational procedure to the point of 'alternativelessnes'. This reduction and the planning 'simulation' of actions and consequences determines 'correct' options for action. Such an approach, which recognisably refers to a very specific concept of rationality, is a

---

Wege und der Wegkreuzung wieder […] weil nur das geschaltet werden kann, was zuvor als Schalter/Hardware implementiert wurde."

4 Orig.: „Es wird zum maschinellen Zwang, ständig ›frei‹ wählen zu müssen. Das Bild des Denkens ist: Jede/r will informiert sein, jede/r will, um ›frei‹ zu sein, aus 8.448 verschiedenen Jeans, Zahnbürsten, Versicherungsangeboten und und und auswählen, jede/r will ständig selektieren."

discursive setting. Following Niklas Luhmann, on the other hand, shows that this way of thinking involves a temporally directed transformation of perceptual realities (2018, 122–46). Once a decision has been made, it eliminates the alternatives available at the moment of the decision—it erases the past.

> The common denominator of the autopoiesis of decision-making is therefore uncertainty, uncertainty with the prospect of uncertainty. In what follows we shall therefore also be speaking of uncertainty absorption—not only in the sense that uncertainty is more and more reduced but also in the sense that uncertainty is built up at the same time, and thus renewed. […] Thus, by fixing the result of its past as alternative, a decision generates an uncertain future. By presenting a multiplicity of possibilities as simultaneously given, it generates ignorance about how things are to continue (ibid., 132).

Retrospection exaggerates the decision we have made into a rationally legitimated decision—based on the lack of (former) alternatives. Such a decision rationality, however, is merely fragile in the game. We are aware of such concluding effects of the substantial decisions we have to make in the game.

For instance: Who to save while playing the Virmire level in *Mass Effect* (BioWare 2007)? *Mass Effect* is certainly one of the computer game series (2007–2012) in recent years that, from the very start, attempts to make the player aware of how important their decisions are within the game and what (alleged) consequences said decisions will have. Of course, a lot of this is nothing but good marketing: few of the elaborately staged decision-making situations substantially change the actual gameplay. Nevertheless, the series always successfully stages individual decisions as relevant experiences. For example, at the aforementioned point in the game where the player's avatar, Shepard, has to decide which of the two NPCs he will save: Kaidan Alenko or Ashley Williams. The entire, action-packed staging of this level forces the player into a situation in which they almost compulsively search for a way to save both characters. During the last hours of play, the player has spent a lot of time with both of them: They are sympathetically designed and may have been developed and individualised by the player by means of levelling and achievements. And suddenly, the level's labyrinthine system forces the player to decide which of her nicely shaped NPCs to sacrifice. This substantial decision is staged as a decision on the running direction: if the Shepard avatar runs to the left, he saves one, if he runs to the right, the other character will survive (»*Fig. 3*). No matter how fast he tries to reach the other direction after saving one character, Shepard can only helplessly witness the death of the other. Here, the act of decision-making is exaggerated into a dramatic sacrifice which pushes the player into an Old Testament-style situation: in Abraham's shoes, the player has to sacrifice one of his two Isaacs—always in the hope that God's voice will prevent the sacrifice at the last

Fig. 3 Decision of who to save in *Mass Effect*'s Virmire level.

second this time around, as well—until the player is forced to realise that, at this point, the game is a God who takes no pleasure in trial action.

How typical is a decision-making situation like the 'Virmire dilemma' described above? In some ways, it is very typical. Computer games in their historical and aesthetic differentiation seem to make the act of decision-making more and more central to a core element of the textual and formal structure, a development recently described as "decision turn" (Schöffmann, Unterhuber and Schellong 2016). Think of the highly formal, narrative and discursive efforts that developers like BioWare or Telltale have implemented in their games to suggest the irreversibility of decisions, and how important the documentation and evaluation of decisions seem to be for games like *The Walking Dead* series (Telltale Games 2012–2019) or *Life is Strange* (Dontnod Entertainment 2015).

The effort of implementing and quantifying decision-making in games aims at a simple aspect of game design and game functionality: trial action. Every decision in the game seems to be reversible at first. Every player can respawn, jump back to the last save point and undo everything. Up to now, the decision-making rationality that characterised digital games for a long time was (and is) the ambivalence of reversible decisions (which thus seem to be substantial) and decisions that are trivial and thus eliminate reversibility. They are irreversible by marginality. And these marginal and trivial decisions are, according to my idea, coded into the path structure of the labyrinth. It is the sheer quantitative number of decisions that makes the chain of labyrinthine decisions an ultimately *teleological* act. Even before I take my first step into a complex labyrinth, I may decide to just turn left at every fork, hoping to reach my goal this way. But I will not reload at every fork or start over again.

There are, generally speaking, only two options for action: either to proceed through the maze in a very planned and strategic manner by following a pre-set plan or by trying to find the exit in a type of trial-and-error method. Most of the time, the chosen action concept is undermined by stressors in the game: attacking enemies. Nevertheless, walking through a labyrinth, regardless of whether it is a pleasure walk or a storm run, is a long chain of trivial decisions. By making those irreversible, I turn trivial decisions into an algorithmic machine. But the decision-machine I am turning into is not supposed to carry out performative actions. And this not only because every action in the game is always merely a symbolic action but also because the trivial decisions cannot be made at all. Every actual decision in the labyrinth has already been predisposed.

Following Hartmut Winkler (2016, 218f), I would like to separate two specific spaces with regard to decision-making: a space of possibility and 'decision preparation', in which decision alternatives are made recognisable within the framework of a discursive operation in a 'space of preparation' and the 'decision space' itself (terms translated from German by the author). For the labyrinth, this seems obvious: 'decision

preparation' is the conceptual decision to recognise a labyrinth as such, to enter it and to know that one can and should walk through it. The actual decision-making act (or space) is the (iterative) question: to the right or to the left? But how does this division relate to the decision-making act of the Virmire level? The player wants to save both NPCs, but the game system (the algorithm) has already predisposed its decisions differently: Shepard can only save one defined software entity. The actual decision space is limited in a different manner than the player would like to assume. This offence against the player (of which—more than a dozen years after the game was published—many game forums on the internet still provide eloquent information) is the experience of having to enter a different space of possibility than one had assumed from the perspective of alleged self-determination. The actual decision space is more limited and predisposed than the free 'self' had assumed. But actually, the conflict (or trauma) that occurs here is an inherent part of the digital game, which is always predisposed by algorithms. Every space of decision preparation is coded into the algorithm and the subject always only enters the limited decision space. In short: in computer games, you do not decide if and how to enter a labyrinth—you are thrown into a labyrinth in which all junctions are already bricked-up and you are drawn through a nicely designed tunnel as if on rails. It is impossible to make (wrong) decisions here. If you fail, you are just too stupid to walk straight.

The decision-making space only becomes a rational space through the preceding predisposition process, in which the decisive subject can choose between preselected and predisposed possibilities. But the computer game completely outsources this predisposition to the algorithmic system, meaning the rationality of decision is impregnated by the logic of the calculus and not of free will. Due to predisposition, the algorithmic discourse thus secures the field of selection by reducing the contingency of reality to such an extent that it defines a field of rational decision in which the subject can become active in the first place. Applied to computer games, this means that the actual passage through the labyrinth opens a possibility space, and the actual game design must be read as a predisposition of decision trees. The point is that this predisposition only becomes this obvious and exciting in (rare) examples such as the abovementioned *Mass Effect* moment. Much more often, we—playfully—take the restriction of our power of action by the rigid predisposition of game design as given and natural. This predisposition is organised and stabilised by the pressure to act which is inherent to every game. Only those who act, play; only if there is action, is there a game. A typical example for this is a seemingly brief moment in *Portal 2* (Valve Corporation 2011), when NPC Wheatley urges the player more or less obtrusively to push the red button highlighted in the level structure (*» Fig. 4*):

Wheatley: *cough* Button.
Wheatley: *cough* Button. Button.
Wheatley: *cough cough* Pressthebutton.
Wheatley: *cough* PRESS THE BUTTON.
Wheatley: *cough* Press the button, would you?" (ibid.)

Fig. 4 To press the button or not to press button in *Portal 2*.

The algorithmic structure of the computer game generates an overpowering evocation of action. It seems nearly impossible to avoid the call to action that is evoked by a softly glowing and obviously visible button that is the only manipulable image object in a locked room. How can we *not* act here? Pushing the button not only means making a (trivial) decision in a narrative or topological surrounding but it also means making the decision to play on: to open the next door, enter the next room, smash the next wooden box, kill the next enemy. Trivial decisions are interrelated with the act of action. Decision-making is the subjective task that brings a computer game to life. Decision-making is action. And action leads to reward: Whoever presses the button may continue to play, will continue to make decisions. The one who acts may pass through an opening door, the one who acts will obtain the high score, achievements, extra lives. The one who acts has already decided.

As Luhmann argued: The act of decision eliminates its alternatives (2018, 134f). If I go left, the left door closes irreversibly behind me, and the right door will disappear (as long as I do not go back to the last save point). They are not meant to be a trial-and-error action (see Nohr 2013). As already indicated, the decisive (ideological) 'impregnation' of the labyrinth takes place by creating models and algorithms that ensure control over the playing subject in the topography. This control not only contains its path but also its freedom of choice, by limiting decision possibilities through the rigid administration of decision predisposition. The specific rationality that underlies the concept of decision used here is closely related to the concept of the topographical rationality of the labyrinth.

But there, of course, lies the main difference: in computer games we have to make decisions, and our decisions will have *symbolic* consequences (e.g. Kaidan or Ashley will die immediately, but nobody will be hurt). However, that is not the case in everyday life: here, the consequences of decisions are infinitely delayed. If one decides to build an airport (for instance in Berlin), one will never really experience the consequences of this decision. If one decides to build an airport in *SimCity* (Maxis 1989), it is completed with a click.[5] Or to quote Gilles Deleuze and his *Notes on the control society*: "In the disciplinary societies one was always starting again (from school to the barracks, from the barracks to the factory), while in the societies of control one is never finished with anything […]" (1992, 5).

Perhaps it is this suggestion of power to act that reconciles us with the limitations of our decisions? Perhaps we are ready to give up our freedom to go where we want to, to finally face the choice of freeing Ariadne or being eaten by the monster? Perhaps the promise of 'either–or' is so efficacious because in 'real life' freedom of choice only means choosing between 8,448 different pairs of jeans?

Quintessence

Let me collect these scattered ideas: in computer games, there is a 'fetishistic' relationship to space and topography (as well as to topology). The labyrinth is the central metaphor and a praxeology for computer games. The playing/walking subject is processed through the topography of the labyrinth. But the impact of the labyrinth is not a spatial effect—it is more or less a good metaphor for a certain governmental power relation. The key element is the transformation of decision-making into an action-based concept. To the player, this action seems to be naturalised: making distinct decisions and coping

---

5   Winkler and Adelmann outline an action theory of computer games by referring to the cultural concept of Norbert Elias and describing computer game action as a kind of compensation for the 'action-effect delay' that accompanies modernisation (2014).

with an enormous number of trivial decision situations seems normal to the inhabitants of digital cultures. The specific (discursive) idea of decision-making with which we are confronted in digital realities is a cultural technique. Making a decision under pressure always means excluding alternatives. The decision rationality that actually distinguishes the game is thus the ambivalence of allegedly reversible decisions (which therefore seem to be substantial) and decisions that are trivial and thus elude reversibility. Therefore, decision-making in a computer game is immediate and has consequences. Even though, or precisely because, the game is symbolic, it differs substantially from life.

The labyrinth in the game is therefore part of a kind of decision support system (DSS).[6] Current informatic DSSs work on an (albeit not radically displayed) 'elimination of irrational subjectivity'—at least in the sense that the subject of decision is connected to a regulating and adjusting system of decision processing. The labyrinth as DSS is founded in an archaeological and genealogical line that stretches back to the development of hard- and software in the 1950s to 1970s. Here, various actors explored an epistemology of decision-making that was specifically triggered by the algorithmic logic of the computer, especially its capacity to simulate spaces of action, wherever and whatever they might be. Predictably, the military-industrial complex (e.g., the RAND Corporation) were interested in winning wars and making money. But as this epistemology spread throughout industrialised societies, a discursive shift began to occur in many tangential 'spaces of action', a shift characterised by a hybridisation of military, economic, pedagogical, and psychological operationalisation designed to amalgamate and naturalise the computerisation of human decision-making. A lot of different protagonists, institutions, parts of the military-economical complex and sciences can all be understood as individually and collectively contributing to the rise of a widespread and widely admired epistemology determined by the core idea of an objective control rationality. This epistemology articulated the countless ways in which human, social, economic, and even cultural values could be gleaned from the transformation of contingency and reactivity (i.e. subjectivity) into calculable processes that, while not foolproof, purported to lever probability towards any desired end (to make this short story long, see Nohr 2019a; 2019b). In a certain sense, a variety of computer games can be read as DSS, systems that allegedly assist the subject by limiting, for instance, the choice between a number of possibilities or orders of complexity. But they also assist player-subjects in situating themselves in a specific order of rationality designed to severely limit the scope of decision processing.

---

6   The constellation of the DSS can be found in Herbert Simons and Allen Newell's General Problem Solver (GPS) from 1957, as well as in the work of researchers such as Doug Engelbart, one of the pioneers of the personal computer. In the literature of this time, it is fascinating to observe how various central and marginal stakeholders euphorically took up the banner of programmed decision-making (cf., Haigh 2007, 59).

Decisions made by the player in the labyrinth of their possibilities are no longer subjective. The player is now part of a decision algorithm. And this algorithm cannot be controlled—it does, however, strive for hegemonic control over the subject. This emphasis of the algorithmic can also be found in the works of Alexander Galloway (e.g. 2006). His methodological idea aims at understanding computers (and computer games) as leading technologies and media of a current (so-called) "algorithmic culture". Galloway also defines the Deleuzian control society as its guiding principle. Computer games fetishise the mode of control: both narratively and through the inherent logic of information. The centre of the digital game is not any kind of unfolding narrative but the playing subject's labour with the algorithm—the continuous attempt to understand the algorithms and 'operate' them correctly to win the game. In my opinion, game labyrinths are the material architecture of the algorithm.

Figures

Fig. 1: Namco 1980 under fair use (uploaded by 'CountingPine', June 28, 2007); https://upload.wikimedia.org/wikipedia/en/5/59/Pac-man.png.
Fig. 2: Uploaded by Aley 'The Animist' Duncan, January 27, 2014, http://theanimistblog.files.wordpress.com/2014/01/choice.jpg.
Fig. 3: Uploaded by "The Sword Emperor" March 7, 2012, BioWare 2008, https://theswordemperor.files.wordpress.com/2012/03/save-kaidan.png.
Fig. 4: Screenshot by the author (Valve Corporation 2011).

References

Ludography

Life is Strange (Dontnod Entertainment, Square Enix 2015).
Mass Effect (BioWare, Electronic Arts 2007).
Mass Effect series (BioWare, Electronic Arts 2007–2012).
Portal 2 (Valve Corporation, Valve Corporation 2011).
SimCity (Maxis, Maxis 1989).
Tetris (Alexey Leonidovich Pajitnov 1984).
The Walking Dead series (Telltale Games, Telltale Games 2012–2019).

Bibliography

Aarseth, Espen. 1997. *Cybertext* : *Perspectives on Ergodic Literature*. Baltimore: Johns Hopkins University Press.

Adelmann, Ralf, and Hartmut Winkler. 2014. "Kurze Ketten: Handeln und Subjekt-konstitution in Computerspielen." In *Diskurse des strategischen Spiels: Medialität, Gouvernementalität, Topografie*, edited by Stefan Böhme, Rolf F. Nohr and Serjoscha Wiemer, 69–82. Münster: Lit-Verlag.

Deleuze, Gilles. 1992. "Postscript on the Societies of Control." *October,* no. 59, 3–7.

Fernández-Vara, Clara. 2007. "Labyrinth and Maze: Video Game Navigation Challenge." In *Space Time Play: Computer Games, Architecture and Urbanism; The Next Level*, edited by Friedrich Borries, Matthias Böttger and Steffen P. Walz, 74–87. Basel: Birkhäuser.

Flusser, Vilém. 2014. *Gestures*. Minneapolis: University of Minnesota Press.

Galloway, Alexander R. 2006. *Gaming: Essays on Algorithmic Culture*. Minneapolis, London: University of Minnesota Press.

Gunzenhäuser, Randi. 2002. "Raum, Zeit und Körper in Actionspielen: Max Payne." *Dichtung Digital*, March 22, 1–8. Accessed November 15, 2019. http://www.dichtung-digital.de/2002/03/22-gunzenhaeuser/index3.htm.

Haigh, Tomas. 2007. "'A Veritable Bucket of Facts': Ursprünge des Datenbank-managementsystems." In *Daten*, edited by David Gugerli, Malte Hagner, Michael Hampe, Barbara Orland, Philip Sarasin and Jakob Tanner, 57–98. Nach Feierabend: Züricher Jahrbuch für Wissensgeschichte 3. Berlin: Diaphanes.

Kern, Hermann. 2000. *Through the Labyrinth: Designs and Meanings over 5,000 Years*. London: Prestel.

Laux, Helmut. 2005: *Entscheidungstheorie*. Berlin: Springer.

Luhmann, Niklas. 2018. *Organization and Decision*, edited by Dirk Baecker and R. Barrett. Cambridge: Cambridge University Press.

Matthews, Victor H. 2001. *Mazes and Labyrinths: Their History and Development*. New York: Dover Publications.

Nohr, Rolf F. 2006. "Raumfetischismus: Topografien des Spiels." In *Computer/Spiel/Räume: Materialien zur Einführung in die Computer Game Studies*, edited by Klaus Bartels and Jan-Noël Thon. Hamburger Hefte zur Medienkultur, no. 6, 61–81. Hamburg: Institut für Medien und Kommunikation, Universität Hamburg.

——. 2013. "Restart After Death: 'Self-optimizing,' 'Normalism' and 'Re-Entry' in Computer Games." In *The Game Culture Reader,* edited by Marc Ouellette and Jason Thompson, 66–85. Newcastle upon Tyne: Cambridge Scholars Publishing.

——. 2019a: *Unternehmensplanspiele 1955–1975: Die Herstellung unternehmerischer Rationa-lität im Spiel*. Unter Mitarbeit von Tobias Conradi, Tim Glaser, Kerstin Hoffmann und Theo Röhle. Münster: Lit-Verlag.

——. 2019b: "The Development of Decision Support Systems in the 1960s as Antecedent of 'AI-Rationality.'" *Eludamos*, 10, 1. Accessed November 15, 2019. https://www.eludamos.org.

Saward, Jeff. 2017. "Mazes or Labyrinths ... What's the difference & what types are there?" *labyrinthos*, 1–11. Accessed November 15, 2019. http://www.labyrinthos.net/Labyrinth%20Typology.pdf.

Schmeling, Manfred. 1987. *Der labyrinthische Diskurs: Vom Mythos zum Erzählmodell*. Bodenheim: Ätheneum.

Schöffmann, Andreas, Tobias Unterhuber, and Marcel Schellong, eds. 2016. *I'll remember this: Funktion, Inszenierung und Wandel von Entscheidung im Computerspiel.* Glückstadt: Hülsbusch.

Schröter, Jens. 2015. "8448 verschiedene Jeans: Zu Wahl und Selektion im Internet." In *Paradoxien der Entscheidung: Wahl/Selektion in Kunst, Literatur und Medien*, edited by Friedrich Balke, Gregor Schwering, and Urs Stäheli, 117–38. Bielefeld: transcript.

Winkler, Hartmut. 2016. "Don't be a Maybe: Entscheidungslust, Entscheidungsdruck und Entscheidungsnot unter den Bedingungen der Moderne." In *Medien der Entscheidung*, edited by Tobias Conradi, Florian Hoof, and Rolf F. Nohr, 209–25. Münster, Berlin: Lit-Verlag.