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# The video game as agencement and the image of new gaming experiences: the work of indie video game developers

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**ABSTRACT**

The growth of the global video game industry has resulted in an inflow of new entrants who aspire to create novel video games and preferably new video game genres. From an empiricist perspective presented by Gilles Deleuze, a video game is an agencement that materialize on the basis of the relations between the elements included in the game (e.g. computer code, game design ideas, the narrative structure of the game, interface design, etc.). A study of indie video game developers examines how the video game as agencement is composed of technical and narrative elements, and how the subject-formation process of the developer is bound up with the creation of video games. That is, indie video game developers are part of the creative work to develop new digital artefacts that *per se* are relational and composite in nature, as premised by the concept of agencement.

## Introduction

The purpose of this article is to examine video game development as the production of an *agencement* (commonly translated into 'assemblage'), i.e. an entity that is constituted as a 'set of relations which are not separable from each other' (Deleuze and Parnet 2002, vii–viii). That is, rather than being a coherent and self-enclosed entity, an agencement is premised on its relational qualities, by what is 'in-between' and includes a variety of technical and narrative components, yet cannot be reduced to its constitutive parts (Deleuze and Parnet 2002; Deleuze and Guattari 1988). To substantiate this theoretical perspective on video games, and the video game development process, empirical material derived from a study of Swedish indie video game developers is presented. This theoretical elaboration underlines the importance of recognizing and theorizing the video game as an idiosyncratic medium with its own specific qualities, playing a larger role in the contemporary digital economy. Video game production is no longer some sub-cultural adolescent activity at the fringe of popular culture, but has emerged as a major industry during the last two decades (Bernal-Merino 2017; Johns 2006). In the US alone, it is estimated that 126 million people now use their smartphones for gaming (Dean 2015, 1244). Furthermore, 59 per cent of the American population play computer games on a variety of digital media (PC, mobile phones, consoles, etc.), and the revenues of the computer games industry now exceed US$15 billion (Vesa, Hamari, and Harviainen 2017, 274). Already in 2010, the global video game market was 'more than twice the size of the recorded-music industry' in terms of revenues (Storz, Riboldazzi, and Moritz 2014, 125). Management studies have increasingly emphasized video game production as a distinctively creative domain of work and new media

development, which combines computer science, digital media, game technology, and artistic and narrative skills to develop video games that are simultaneously defined by their technical features and their entertainment affordances and artistic qualities (Vesa, Hamari, and Harviainen 2017; Cohendet and Simon 2007, 2016; Tschang 2007; Beck and Wade 2004). By and large, it is either the technical or the artistic side of the video game that has received attention, with, for example, management scholars exploring how video games are developed within specific development models, including agile methods and team-based project management models (Zhao et al. 2018; Scarbrough, Panourgias, and Nandhakumar 2015). In addition to the management studies literature, video game studies is a scholarly field of expertise in its own right (see e.g. Wolf and Perron 2016; Zackariasson and Wilson 2012), which examines the video games as digital artefact (e.g. Mantello 2017), the work of the video game development community (e.g. Deuze, Chase Bowen, and Allen 2007), and the reception of video games in targeted market niches (e.g. Clarke, Lee, and Clark 2017).

Formal definitions of video games oftentimes underline the composite nature and the heterogeneity of this species of digital objects. 'As a cultural product, a video game is a complex mix of technology, art, and interactive story,' Cohendet and Simon (2007, 587) write. Cremin (2012, 73) defines the video game in terms of the embodied sensation of the gamer: 'The video game . . . crosses a boundary between the screen depiction and the player perception to create a tangible sense of copresence.' Given such definitions, the Deleuzian vocabulary is helpful when examining video games (see e.g. Cremin 2012, for an alternative use of Deleuze's work in game studies) as it provides a conceptual toolbox that actively explore *what is* from a relational perspective, and, furthermore, disqualifies any attempt to define the video game as some derivative medium constructed on the basis of previous visual media (e.g. visual arts, photographs, cinematographic images, etc.), nor other computational media (mechanical watches, calculating machines, elementary computers, modern computer technology, etc.). More specifically, the field of video game development studies is supportive of studies that examine how video games are constituted by material and cultural elements, and how they are co-produced with subject-positions. That is, to what extent can video game technology and 'gamification' enable a new gaming experience that extends outside of the competitive situation that characterize the bulk of current video games genres, and instead use the video game as a principal medium supportive of other agencies and experiences, including, for example, what Armitt (1996) calls the 'technology of the fantastic'? In this view, video games can serve alternative purposes and offer novel mechanical, interpretive, and affective difficulties (defined shortly), relatively underexplored to date. As will be demonstrated in the empirical section, indie video game developers (often referred to with the shorthand term 'developers') and other industry representatives argue that video games are composed of technical and narrative elements that needs to be functionally stabilized, yet being open to modifications, and that the developers' subject-formation processes are bound up with the creation of video games, and not the least new genres of video games, or video games that rearrange and re-organize video game technologies and devices so that new gaming experiences are provided. In the theoretical description of video games as agencement, analytical and practical new possibilities emerge, ultimately grounded in the theorizing process of Deleuze and others engaging in abstract thinking.

The remainder of this paper is structured accordingly: first, the analytical framework used to structure the empirical material is presented. Thereafter, the methodology of the study is accounted for. In the third section of the paper, the empirical material of the study is presented. In the final sections of the paper, some empirical and theoretical contributions are sketched.

## The concept of agencement and its practical use

The theoretical framework used to examine the empirical data is presented in two sections. The first section introduces the concept of agencement, and the second section examines video games as being agencements.

## The concept of agencement and its use in social theory and management studies

French philosopher Gilles Deleuze's work has served as a considerable source of influence in management studies since at least the turn of the millennium (see e.g. Mohammed 2019; Linstead and Thanem 2007; Wood and Ferlie 2003). Deleuze is not so much a speculative thinker as he enacts the discipline of philosophy as a workshop of sorts wherein new concepts are formulated on the basis of empirical observations, and thereafter applied to relevant cases (Deleuze and Guattari 1994). That is, the Deleuzian philosophical framework is intended to be applied in practical inquiries. Based on these premises, Deleuze and Parnet (2002) argues that the state of things are neither 'unities' not 'totalities,' but are understood as *multiplicities*. A multiplicity is a difficult concept in Deleuze's philosophical vocabulary, which denotes a 'set of lines or dimensions which are irreducible to one another' (Deleuze and Parnet 2002, vii–viii). That is, a multiplicity cannot be apprehended, nor understood, on the basis of abstract principles or ideas, nor can it be explained on the basis of the concept of unity – an entity that includes a pre-defined set of qualities or mechanisms. The accompanying concept of *agencement*, introduced *A Thousand Plateaus* (Deleuze and Guattari 1988), is a reworking of the multiplicity inasmuch as it denotes an aggregate of components, practices, devices, etc., which remains irreducible to its individual constitutive elements.

As remarked by several commentators, the term agencement has specific connotations in everyday French, which makes the term somewhat complicated to translate into English without a loss of polemical qualities and associations. The verb *agencer* means 'to arrange or to fit together,' Mackenzie (2009, 20) writes, and the noun *agencement* is rendered as 'an assemblage, arrangement, configuration, or layout.' Callon (2008, 38) proposes that the concept of agencement is founded on the idea that 'subjectivity is not external to the device,' i.e. the subjectivity of the agent is enacted *within* and *through* the very use of a device. '*Agencement* emphasizes the lack of a divide between human agents and the objects that have been arranged, and its agentic properties,' Beunza and Ferraro (2019, 517) add. MacKenzie and Munster (2019, 8) underline that the 'conceptual and social (and aesthetic) dimensions' of the agencement expand and change agencies whenever 'connections with other machines, both technical and social' are established. When the agencement become more closely tied to material and social resources, its capacities and agencies are modified and differentiated. Furthermore, Crary (1990, 30–31) adds that *A Thousand Plateaus* emphasizes a difference between a 'machine assemblage,' i.e. a form of 'technical arrangement,' and 'an assemblage of enunciation,' wherein the latter denotes an 'epistemological figure within a discursive order.' An assemblage therefore includes material and technical, as well as social, ideological, or communicative components.

In scholarship that applies the concept of agencement, the term is primarily used to denote entities that are 'connected to one another through ties at varying degrees of looseness or coherence,' yet what should not be treated as 'separate islands' (Du Gay, Yuval, and Penelope 2012, 1086). In line with this description, Beunza, Hardie, and Mackenzie (2006, 739) argue that financial markets are agencements as they are not 'abstract economic agents,' but rather comprise and coordinate a variety of components, including 'embodied human beings, artefacts, and technological systems.' The financial market qua assemblage also continuously generate new components such as 'disembodied information,' including 'prices, processes, events, opinions and rumours' (Beunza, Hardie, and Mackenzie 2006, 739). Similarly, Wajcman (2007, 293) suggests that technological artefacts are agencements inasmuch as they are neither distinctively material nor social but inevitably and irreducibly both at the same time; technological artefacts mobilize and align 'people, organizations, cultural meaning and knowledge' in ways that cannot be explained unless they were understood by the varying degrees of 'looseness or coherence,' stipulated by Du Gay, Yuval, and Penelope (2012).

In this context, when digital media objects, including e.g. video games, are understood as agencements, new possibilities for studying and theorizing how video games can be modified to serve a variety of goals and interests, or provide novel possibilities, previously unseen, emerges. To consider

video games as assemblages is thus a helpful way forward when seeking to theorize what video games are, and how they can be modified to make new societal contributions.

## On video games as digital objects and agencements

Video games can be described in terms of formalist qualities, and their practical implications and the experience they generate for the gamer. In the following section, these two descriptions will be made. Manovich's (2001) seminal work on new media defines a series of qualities and conditions that distinguishes, for example, digital media from previous media (e.g. printed books or television). Manovich (2001, 31) says that digital media are characterized by 'modularity' inasmuch as new media 'consists of independent parts, each of which consists of smaller independent parts, and so in, down to the level of the smallest 'atoms' – pixels, 3-D points, or text characters.' 'A new media object is not something fixed once and for all but something that can exist in different, potentially infinite versions,' Manovich (2001, 36) says. More specifically, the computer, which is the medium wherein video games are developed and eventually played, is characterized by three key features, Manovich (2001) argues. First, the visual culture of the computer medium is 'cinematographic' in its appearance, i.e. is based on the capacity to present visual representations that converge towards a specific narrative structure, first developed in the film industry. Second, on the material level, the computer medium is based on digital technology, representing an operationalization of mathematical communication theory wherein sequences of binary numbers (1s and 0s) optimize the efficiency of the transmission of information (Rider 1998). Third and finally, the computer medium is 'computational (i.e. software driven) in its logic' (Manovich 2001, 132). In other words, video games – the digital medium examined in this article – are, by implications, cinematographic in appearance, digital on the material level, and computational in their logic. Yet, these formal specifications do not prevent the individual gamer from experiencing imaginary worlds that notably operate above and beyond engineering and computer science descriptions, wherein the gamer's subjective beliefs, desires, and personal skills and ambitions are recognized and further developed.

On the level of game-play as practice, the gamer engages a variety of perceptual, sensuous, and cognitive faculties so that the gaming experience is fundamentally embodied in the immediate sense of the term (Terrien 2016). Video game researchers such as Jagoda (2018a, 133) have emphasized that video games are distinctively different from other visual media such as film or television inasmuch as video games enable agency on part of the end-user, both in technical terms (in the case of actually influencing the activities and outcomes in the gaming process) and in socio-communicative terms (in the case of video game companies with close-knit relations with the gamer community, and that carefully pay attention to their stated opinions and demands). Whereas film and television underline the geographical distance between the consumer (i.e. the viewer) and the producer (as indicated by the Greek term *television*, referred to in, for example, English as *Broadcasting*, and in German as *Fernsehen*), the video game provide possibilities for interaction between producer (i.e. the developer) and end-user (Planells 2017). This specific quality of the video game makes it unique among new media, Jagoda (2018a) argues.

Jagoda (2018b, 201) distinguishes between 'three discrete types of difficulty' that are included in the video game. First, video games include *mechanical difficulties*, i.e. the challenges and assignments that make the video game a source of entertainment and competition, and that actively engage the gamer who assumes an agential role to demonstrate prowess in the video game challenges encountered. Second, video games oftentimes include 'poetry and artworks' which needs to be read and interpreted by the gamer. Jagoda (2018b, 201) associates this act of reading and interpreting with *interpretive difficulties*, no different from any other decoding of cultural artefacts. Third and finally, the medium of the video game offers a series of affordances, choice opportunities, and alternative pathways for how to proceed when grappling with mechanical and interpretative difficulties, and which evoke emotions and generate affects in players such as 'anger, boredom, curiosity, complicity, pleasure, and uncertainty.' Jagoda (2018b, 201) proposes the term *affective difficulty* to

denote such emotional states induced by the video game (see e.g. Anable 2018). Jagoda (2018b) also suggests that these three difficulties are enfolded, and thus simultaneously experienced *en route* when gaming. The gaming experience as such does therefore not assume some two-layered structure wherein technical features and artistic expressions are parallel qualities, essentially kept apart. Given the composite nature of the video game and the components it includes, it may be suggested that neither developers nor video game studies scholars do not yet know what a video game can do, or what it can become, and what kind of gaming experience that are derived from video game technologies and devices. The video game is a comparably new medium that holds great potential for new experiences.

Manovich's (2001) characterization of digital objects and Jagoda's (2018b) description of the three generalized gaming difficulties are consistent with the concept of agencement, premised on the primacy of differences and relations; digital objects such as video are agencements whose operations and capacities need to be understood on a singular plane wherein all the parts and components are mutually constitutive and rendered operational. An *agencement* theory framework is thus helpful when seeking to understand how new media, and video games more specifically, can be modified and transformed to serve new objectives or to provide new gaming experiences. In the following, video game developers and other industry actors' view of new the video game genres and possibilities are addressed, premised on the proposition that video games can be many things, and be developed to provide a larger variety of gaming experiences.

## Methodology of the study

### *Design of the study*

The current study is a combination of case study research (Eisenhardt, Graebner, and Sonenshein 2016; Eisenhardt and Graebner 2007; Gillham 2000) and ethnographic research methods (Van Maanen 2011; Schwartzman 1993). The Swedish video game industry is in a stage of quick economic expansion, industry statistics reveal. Over the period 2012–2017, the industry turnover grew by 296 per cent, which corresponds to a turnover per employee growth of 46 per cent (Video Game Industry Report, 2018). Over the five-year period 2012–2017, aggregated job growth was 171 per cent in the industry, and the number of new registered firms grew by 137 per cent. The extensive game studies literature distinguishes middle and large size developers (so-called Double-A, or Triple-A companies) and indie developers. The case at hand is the Swedish indie video game development scene, a subset of the entire video game industry. Indie developers are video game producers who operate without contractual relations with publishers, shareholders and other actors who may influence development decision. Indie developers are understood to be the creative and less commercial fringe of the video game industry (Crogan 2018; Lipkin 2013; Ruffino 2013). In contrast to the so-called Triple-A companies (with circa 100 employees or more) or Double-A companies (in the range of 50–100 employees), indie studios may include only a handful or as few as one or two developers who produce relatively less complex, yet fully functional video games. In the industry, indie developers are often portrayed as the avant-garde of video game development, having the skills and incentives to experiment with new gaming ideas. Furthermore, as the industry originally emerged on the basis of the work of amateur or semi-professional developers (Jørgensen, Sandqvist, and Sotamaa 2017; Aoyama and Izushi 2003), the role and tradition of indie developers are honoured by industry participants.

Video game development is a recent professional domain of expertise, and the mainstream management studies literature only accounts for a schematic overview of the development activities. The ethnographic approach is thus justified by the incomplete description of the work in the scholarly corpus, and a number of previous studies of video game development (e.g. Cohendet and Simon 2016; O'Donnel 2014) and digital media (Jemielniak 2014; Thornham 2011) are based on ethnographic methods. The interviews conducted were 'ethnographic interviews' (Heyl 2001; Spradley

1979) structured around researchers asking questions that could appear to be uninformed by the interviewees, yet intended to shed light on taken for granted beliefs and practices in the industry.

## Data collections

The sample of interviewees included indie developers, representatives of university-based education programmes and business incubators (educating and hosting start-ups and indie studios), and industry interest organization representatives. In total, the empirical data include interviews from two research projects, wherein a total of 70 informants were included. Most of the interviews were conducted *in situ*, at the offices of the interviewees, and a handful interviews were conducted over the telephone. All interviews were recorded and transcribed verbatim by a professional writing bureau. A few early-stage 'pilot interviews' were transcribed by the researchers.

## Data analysis

The interviews were coded by one senior researcher, using a stepwise coding procedure as prescribed by, for example, Strauss and Corbin (1998), and more recently by Gioia, Corley, and Hamilton (2013). In the first round of coding, primarily empirical code words were used to denote the content of the interview excerpts. The second round of coding combined interview excerpts from the different interviews under shared labels. In the third and final round of coding, these different empirical categories were structured in accordance with theoretical categories. These theoretical categories were selected from a range of literatures, including management studies, video game studies literature, and economic sociology.

## Video games as *agencements*: new images of video games

In the empirical section, the video game is examined in Deleuzian terms as an agencement. The agencement is what is arranged to 'fit together,' and includes two distinct components (Crary 1990, 30–31): (1) the 'technical arrangement' of all the components that are included in the video game, and as (2) 'an assemblage of enunciation,' i.e. the narrative structure and the principal story-line of the video game, and the symbolism, semiotics, and aesthetic elements of the video game. Second, an agencement is a socio-technical arrangement wherein 'subjectivity is not external to the device.' That is, the subject-formation process is intimately bound up with the interaction with an agencement. It should be noticed that this operationalization of the video game qua agencement is arbitrary as any categorization would apply. Yet, this elementary binary model provides the benefit of imposing an analytical model that can be applied when structuring the empirical material. In terms of video game development, these conditions provide possibilities for creating novel game experiences based on narratives and experiences, previously unexplored or underdeveloped in the video game industry.

### Video games as 'technical arrangements'

Many of the interviewees argued that new ideas were developed and materialized in the indie community, and that the creative indie fringe therefore served a key role in propelling the industry. The creative fringe made these contributions on basis of a combination of a commitment to creative development work and sheer necessity, and there was an abundance of stories being told about classic indie games that operated on the basis of a rudimentary game design to reduce the complexity of the development work. In hindsight, these contributions were honoured and held in esteem as being genuinely original, while at the time the games were developed, they were largely shaped by pragmatic choices to handle practical problems, the developers argued. For instance, one of the indie developers (Indie Developer #4, Video Game Company A) made references to the video

game *When Thomas Was Alone* (2010), whom the interviewee argued used elementary geometrical shapes in its graphic design because the developer had limited graphic design skills: '[Mike Bithell, the developer] had so solve this issue somehow,' the interviewee argued. This *bricolage* was recognized by self-declared indie developers, who claimed that a shortage of skills and experience does not prevent developers from actually producing new games and new game genres. More generally speaking, several developers argued that video games were composite structures that are complicated to reduce to their elementary components without eliminating the specific quality of the video game. For instance, one internationally recognized indie developer argued that his core skills were to combine the technical work with 'a certain mood' in his games:

> My biggest advantage is that I am propelled by emotions and can build or construct 'emotional tableaus' [in the games], to put it like that. If you look at [the video game] and disassemble it and examine the graphics and all the components, there's nothing special to be found. But I have noticed that 'the cake I have made,' that is something special, right? (Indie developer, Company F)

Another internationally renowned indie developer with at least one major hit on his credentials, which had made him and his business partner financially independent for a significant period of time to come, addressed his own game in similar terms, as what is a composite of irreducible elements:

> [Imitators and clone-makers] think, 'Perhaps I can make an even more technically advanced game than this one? If that is the case, I could make even more money.' But that is not really the feature that sells the game, that it would be 'technically advanced.' It is more the ideas and the mood of the game created. (Indie developer, Company K)

The indie developer in Company K spoke about of 'the perfect game,' which included a number of qualities: '[The perfect game has] a certain artistic leverage, stringency, lacks bugs, is beautiful . . . You want to get the feeling that "This is as good as it gets." To reach your peak performance.' Also, the indie developer in Company H stressed the seamless integration of components as a mark of high quality:

> There are certain universal qualities when it comes to all types of games. For instance, to have good feedback mechanisms. If I push a button, I need to notice that something just happened. The menus should be easy to understand so that I don't feel lost when opening a game. Nice sound [matters]. (Indie developer, Company H)

One of the consequences of the functional balancing of a number of design concerns is that once the game is finished and released, there are only limited possibilities for improving the game on the basis of, for example, the recommendations from the gamer community that the developers oftentimes receive, several of the interviewees argued. The developer in Company F testified to this condition:

> Another issue are all these [gamers] who play the game and say, 'You should have added this, you should have done it this way.' You want to respond, 'So, you're new in gaming? You have just told me what everyone else has already said' . . . In those cases when you give people what they ask for, they realize the idea wasn't so good after all, and they just disappear. Those who give design advice are not held responsible for their ideas. (Indie developer, Company F)

The developer in Company H testified to the same experience, to have a hard time to improve the game on the basis of gamer community recommendations: 'Regarding [one of Company H's games], there are many suggestions and proposals submitted. In that game, it is almost impossible to make a change that has not yet been proposed by some gamer' (Indie developer, Company H).

Taken together, the video game qua agencement is composed of a number of technical components that needs to be integrated in ways that create a gaming experience that conveys the impression that the video game is designed and integrated in an optimal manner. Once the game has been stabilized, it is difficult to make further changes without compromising the technical details that the developer included in the version of the game being released.

### The video game as an assemblage of enunciation

A recurrent theme during the interviews with indie developer and other video game industry actors was that developing video games are not as uncomplicated as lay audiences or even hard-core gamers are prone to think. 'To play games and to develop games are not the same thing. These are two entirely different things. Just because you like "World of Warcraft" doesn't mean you're a skilled game designer and can build and produce games,' the developer in Company L said. Furthermore, some of the developers suggested that success and failures were largely unexpected phenomena also for industry insiders, at times with extensive video game development experience. The developer in Company F, with a substantial track record in the industry, suggested that much of the work needs to be learned through practice rather than simply being taught in education and training programmes, or through literature: 'I have read many design books, and most of it is just "mumbo jumbo" . . . It is hard to find something that works. Even in the case where something works, it is hard to fully understand *why* that is the case' (Indie developer, Company F). In addition to uncertainty regarding what works and what does not in video games, it was widely regarded to be complicated to anticipate how the gamer community would respond to the release of a new game. The director of tertiary education game development programme compared the work to music composition, riddled by limited or concealed information regarding how to 'write a hit song':

> It is like in the music industry, 'I am going to write this hit!' But you need to write a fair amount of crap songs before you can write a hit . . . People hear a song and go, 'Jeez, I could have written this!' 'Sure, go ahead. But it is more complicated than you think.' (Director of game development education programme)

The CEO and founder of Indie Company D argued that in order to make a video game popular, it was complicated to only introduce new elements. Instead, he argued, there should be a certain continuity between what is familiar to the gamer community, at the same time as some new and intriguing components are included: 'To make something popular, to make it stick with the users, there need to be 50 percent old and 50 percent new things,' he said.

Several of the interviewees argued that a video game represents a cultural expression that draws on a shared cultural repository to be explored in video game development activities. The director of a university-based game development programme emphasized how popular culture served as a repository that game developers actively draw on: 'I consider video games as being part of a broader subculture wherein for instance Anime and Manga is included. Fan fiction is another thing. There are quite a bit of sub-cultural expression that are related to video games' (Director of game development education programme). Based on this proposition, the director of the game development programme was concerned that a majority of new video games were still structured around a competitive situation, and thus failed to further explore other gaming experiences that would potentially appeal to many gamers. In many cases, the director argued, video games were structured around the solving of some pre-defined problem defined by the game designer. When structuring the video game experience around a competitive situation or to some problem to be solved, a linear rationality was imposed on the gaming experience. This emphasis on accomplishments and problem solving – which everyday life is already replete with – reduce the scope for how video game technology can be applied to create novel gaming experiences. The director emphasized that the medium of the printed book was an inspiration in terms of escaping such a linear narrative, potentially because books are an older and allegedly more respected medium in comparison to video games:

> There are a considerable proportion of culture for children that is not directed towards acquiring facts or expertise in areas, but that essentially is about listening to a story and become engaged in something. With games, that is not really tolerated. Games never acquire that cultural status on their own. I think that is deeply problematic. There are for instance quite a bit of low-quality literature for children, but that's okay, simply because these are books. (Director of game development education programme)

The director argued it is important that the industry and the community actively encourage novel and critical thinking regarding how video game technology is applied, and what ends video games can serve:

> It is more a matter of how we regard games. How can we use games in new contexts? How can we work with games and young adults, and how can we create an interest for games as a form of creative expression? (Director of game development education programme)

In the agencement perspective, a video game emerges as a network of relations that includes a great variety of components, devices, and mechanisms, whereof some as technical and some are narrative (in the widest sense of the term, as being meaning-carrying components of the video game), and the informants argued that it is the video game developer's prerogative and predicament is to consider new ways to further develop the video game concept to enable new gaming experiences.

### The video game and subject-formation

The conventional wisdom is that gamers are infatuated by all kinds of video games, and that the developer's career choice is above all a form of life-style choice, a fulfilment of a dream to develop one's own video games. In several cases, the indie developers accounted for other experiences that defy such propositions. Some interviewees argued that they never felt attracted by classic video games genres, or that they were no longer intrigued by this specific genre of games. The CEO and co-founder of Company E, a studio that develop mobile phone games (so-called *casual games*) that feature cute cat and dog avatars, and that appeal to an essentially non-hard-core gamer community, the CEO claimed, said that she never felt any attraction to conventional video games:

> It's great that the students [at the education program] played video games, but those games did not attract me. They were 'Big Games' – dark, tragic, and grandiose action games. None of that is particularly interesting, really. (CEO and co-founder, Company E)

In the CEO's view, this genre of games served as the exemplary or ideal category of games in the industry, whereas the casual games that her own company developed were largely dismissed as being a form of 'light entertainment,' and were consequently less prestigious to develop. The CEO's claim that the game development work needs to be meaningful, i.e. supported by individual and collective preferences, norms, and values, was a topic addressed by other interviewees. The CEO of Company C, with a handful of successful game releases in the portfolio, declared that he and his colleagues 'strongly felt that we need to develop games with a purpose': 'We have started to develop a more artistic perspective: Why do we develop games? What is it that we want to accomplish? What is it that we want to offer through the game?, the CEO said. Many of the developers who felt that they would not be happy to develop just any game but only the specific game ideas they and their colleagues formulate themselves, were particularly concerned regarding the game release event, the moment where personal commitments and convictions, laid down in the digital artefact of the video game, encountered the gamer community – its targeted audience:

> A: There are many things that are demanding. There are many challenges . . . You cannot know for sure whether you do good stuff. That is complicated to determine until people show up and tell you if that is the case. (CEO and Founder, Indie Company D)
>
> Q: But isn't that a principal motivator? To release a game and get the cred and to enjoy it all?
>
> A: I'd say so. Absolutely! It is very rewarding when gamers tell you they like it . . . We decided to start a company and make an investment, and that is a scary thing to do. Been working for a full year. That is a considerable period of time, after all. And then you click a button to release the game: 'Jeez, would the community say that what we have done is good?' That is such a stressful situation. But it is so nice when gamers express their gratitude. But there are also those who remain unimpressed. (CEO and Founder, Indie Company D)

Another aspect of the video games influence in the subject-formation process is the relative loss of interest in gaming over time that several developers accounted for, both as an industry

phenomenon and as a personal experience and/or predicament. Developers claimed that their fascination for video games tended to wane over time as they learned the details of the video game mechanisms, both in video game development education programmes and in the day-to-day development work. One of the business counsellors at one of the business incubators, associated with a university education programme, addressed this sense of a weakened interest in gaming among the students:

> Many developers lose their interests in the game. At least they say so. I have heard that many times, that they 'no longer play.' Not everyone suffer from this problem, but many do. At some point, when they learn about the development process, they start to decode how the game is constructed. Then it is easier to beat [the game]; you understand the game logic. For me personally, that has reduced the charm. My guess is that this is the same for some of [the students]. You start to look beyond the code: 'How is this designed and how can I beat it?' In that case, it is more of a problem-solving process than a 'gaming experience.' (Business Counsellor #1, Video Game development Incubator #3)

'I do not play games as much as I used to do in the past,' the CEO and co-founder, Indie Company D, said: 'They warned us about that at the school, that we would lose the interest in games when you learn more about how they are developed.' In some cases, interviewees eventually returned to gaming, at times with new preferences regarding what genre of games being worth playing, as in the case of one of the developers who said that he had 'just started to play games again, on my mobile':

> Since I started to develop video games I have not played that much . . . We work in front of the computer all day long. After work, it feels good doing something else. Both of us [the business partners] share this music and film interest. (Indie Developer #1, Company B)

Apparently, also for heavily committed hard-core gamers, there is a limit for how much video games everyday life can contain. Under all conditions, video game development is a professional or semi-professional practice that fully engages the individual. The subject-formation process is entangled with the agencement of the video game being developed. The digital artefact of the video game is simultaneously a materialization of the subject's preferences and beliefs, a form of inscription, and the entity whereupon subject-positions are formed.

## Discussion

An agencement is a multiplicity inasmuch as it is characterized by the qualities that derive from what is 'in-between' its constitutive elements (Deleuze and Parnet 2002; Du Gay, Yuval, and Penelope 2012); the agencement is defined not so much in terms of what *it is* as on the basis of *how it is constituted* as a set of relations and differences (Callon 2008). To consider a video game in such terms, composed of technical (hardware), digital (various levels of computer code), and cultural elements (narratives, aesthetic, symbolism, affective qualities), is to recognize and affirm new ways of thinking what a video game can be, and how video games are enacted within the video game development and gamer communities. One of the principal difficulties when reformulating what an agencement can be is to overcome inherited or learned perceptions and images that structure the creative development work. Deleuze (2006) illustrates this issue with reference to visual art, already saturated with preconceived ideas regarding genre conventions:

> A canvas is not a blank surface. It is already heavy with clichés, even if we do not see them. The painter's work consists in destroying them: the painter must go through a moment when he or she no longer sees anything thanks to a collapse of visual coordinates. (Deleuze 2006, 183)

In this view, the idea of the painting (or the video game) being developed is already haunted by the past, the conventional wisdom that not only impose preconceived ideas that creative individuals consciously process and relate to, but also actively structure the visual field and the capacity to cognitively process available information and ideas (see e.g. Stafford 2009). In terms of video game development, one of the principal challenges is to not only overcome inherited and predominant

images of what a video game is or should be, but to actually develop a vocabulary and a new perspective of video games as agencement, the CEO of Company C argued: 'We barely have the vocabulary to speak about video games. It will be interesting when the university system and culture journalism catches up.' Being dependent on a vocabulary that to a certain extent precludes new ways of thinking is a challenge for the developer community. Indie developers oftentimes refer to themselves as the *avant-garde* community that either have the capacity to handle development issues in innovative ways, or consider new solutions to perceived problems out of sheer necessity. If this functional role is to be preserved, indie developers should invent a vocabulary that is supportive of new thinking.

Crary (1990, 30–31) defines agencement as an entity that is simultaneously a 'technical arrangement,' and 'epistemological figure within a discursive order.' The digital artefact of the video game, developed by both indie developers at the fringe of the industry and Triple-A companies, are thus composite entities that integrate technical, social, and cultural elements. At the same time, the agencement is closely bound up with the developers' subjectivities inasmuch as they are committed to the work to develop novel game ideas and game genres, a practice that is constitutive of their subject-formation process. The developers included in the study for most part expressed their deep commitment to the video development work, and some even regarded the work as their only possible career opportunity. For instance, the developer in Company F, a bona fide indie developer character with an internationally respected track record, addressed this concern: 'I am 43 now and I can't do anything else. I would just be miserable . . . I got this bug, and I really need to do exactly this. But it never really feels like a sacrifice . . . It is a life-style choice—a matter of personality.' For this developer, there were few alternatives to the indie developer calling.

Deleuze's affirmative view of art and artistic creation contrasts against the mainstream reception of video games, at times characterized by a sceptical or even hostile attitude among commentators. For critical commentators, video games are associated with 'a realm of escapism and fantasy,' Molesworth and Watkins (2014:, 2) say, and the 'dominant discourse of adult play' tend to portray video gaming as 'trivial and childish, or worse, damaging' (Molesworth and Watkins 2014, 6). New technology and new media are commonly treated with considerable scepticism, and the masculine (adolescent) dominance in computer science (e.g. Ensmenger 2015) and video game development (e.g. Salter and Blodgett 2012) has arguably added to the burden of proof when it comes to the video game medium. While the first generation of gamers are coming of age, now at midlife, the industry has for the first time formal and institutionalized spokespersons who defend the industry against its detractors and unsubstantiated allegations. In addition, new industry entrants, and not the least female and minority developers, actively question current industry practices, and seek to expand the space for video game technology to better accommodate new and innovative game design and the pursuit of alternative game experiences. Many self-declared indie developers are apparently committed to create new games within existing genres, either because that is what they want to accomplish in their professional work, or, in more pragmatic terms, because that is where the money that would ensure further development work projects can be made. At the same time, a sub-set of the indie community includes individuals who are dissatisfied with the current output of video games, and actively call for new game design and new gaming experiences, i.e. who have a faith in video games having the potential to be developed along a variety of diverging pathways.

## Conclusion

The considerable growth of the video game industry and the output of video games on the global market is a notable cultural, economic, and financial accomplishment, arguably not yet fully recognized by news media and in management studies scholarship. Furthermore, video gaming as cultural expression and popular culture genre tends to be associated with previous media (especially cinema), and the specific cultural order of an adolescent and masculine hard-core gamer subculture.

As new hand-held media (smart phones, tablets, laptops) are now widely used, new categories of gamers, including, for example, women and elderly people, enter the market. Such categories of gamers are not necessarily intrigued by games structured around competition, the taming of chance, or other conventional gaming narratives but may actively look for other experiences, many developers argue. Rather than to merely provide the gamer with a conventional contest situation, or a puzzle to be solved, a video game can create experiences that extend outside of pre-defined and 'programmed' game narratives. Certain moods, feelings, sensuous impressions, etc. (i.e. Jagoda's [2018b] 'affective difficulties'), are also part of the gaming experience, developers argue.

Drawing on Deleuze's concepts of multiplicity and agencement to examine the socio-technical potentiality of video games, it may be suggested that we do not yet know what a video game can do, what it can become, and what kind of experiences that are generated on the basis of gaming technology, and other cultural and material elements included in the video game. Further scholarly research should shed light on how such developers work to fulfil their visions and stated ambitions, and how they tinker with the video game agencement and its constitutive elements. Management studies should preferably further examine how video games are developed, distributed, and received by audiences in the contemporary economy, not the least because the video game industry is exemplary of an entrepreneurial, high-growth industry, being both 'born global' (i.e. target a global audience of gamers via distribution platforms) and based on the use of digital media.

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