

Introduction: Computer Games and Children – Concerns, Infrastructures and Cultures¹

ESTRID SØRENSEN

Tell me about computer games. What are they?

How and where do you start talking about computer games? Do you talk about pixels and animations, about Boolean logic and programming? Do you tell about the thousands of hours you spent on *World of Warcraft* (Blizzard Entertainment, 2004)? Do you report about elves and dragons, about gloomy soundscapes and astonishing landscapes? About sad stories and impossible riddles? Do you emphasize how you struggle to get your daughter away from the screen and out to play? Do you tell about how *Grand Theft Auto* (DMA Design/Rockstar North, 1997) made her the most popular girl in class for several months, because only her parents allowed her and her friends to play it? Do you tell about the efforts it took to get through a bill to regulate children's use of games? Or about how regulators find out exactly how to classify a computer game? Do you warn about how iTunes, Google Play and Steam are about to take over the age regulation of computer games from democratically controlled organizations? Or do you tell about the surveys, interviews and participant observations that are conducted in order to get to

1 This book is a result of collective efforts of many people. I would like to thank all authors for having been extremely collaborative. Helen Walker has proof-read many of the book's chapters and Jessica Backwinkel's, Anna-Eva Nebowsky's and Andreas Warneke's help to set the book has been invaluable. Warneke's extraordinary patience with more than twenty author's different interpretations of the style sheet and his meticulous precision in formatting the manuscript has considerably improved the reading experience of this book.

know about children's use of computer games? What about starting with an explanation of the diagnosis of *Internet gaming disorder*? Or do you prefer to talk about how parents lack media literacy, or about nurseries' current implementation of iPads?

How to talk about computer games? What are your concerns? How do computer games affect you, what do they trigger? That depends, of course, who you are, what you do and how you relate to computer games.

CONCERNS

This book is about computer game concerns. The move to talk about *concerns* arose in recent discussions in *Science & Technology Studies* (e.g. Latour, 2004; Marres, 2012). It refers to the effects of a specific matter in a specific encounter; to how a matter may move, stir up, interfere, provoke, evoke or induce engagements, activities, practices, attentions, needs, worries or desires. Science is traditionally understood as engaged in producing facts about matter in the world without itself being moved or affected by this matter. For several decades social constructivists have spent their time showing that science is not at all indifferent to its matter, but follows both gender, ethnic and economic ideologies – even if often unaware of these. Instead of ideologies, Science & Technology Studies started looking at the situated micro-practices of science and technology development and came to realize that it is not simply human scientists and technology developers who affect the matter they study and build. The matter itself influences the process of scientific inquiry and technology development. It moves, stirs up, interferes, provokes, evokes or induces engagements, activities, practices, attentions, needs, worries or desires. It comes to concern those who are engaged with it. Among others, Bruno Latour (2004) has suggested a move away from focusing on *matters of fact*, which implies the idea of distant matter that is described by unaffected analysts (or in social constructivist terms it implies a shared understanding of equally distant matter) (cf. Verran, 2001). Instead, Latour has introduced the notion of *matters of concern*, which invites us to attend not to how matter exists in itself, but how it engages us, how it moves, stirs up, interferes, provokes, evokes or induces engagements, activities, practices, attentions, needs, worries or desires in practices of discovery, of analysis, of development, of use, play, regulation, repair, etc.: how it comes to be of concern. In other words, to be concerned with computer games means to be affected by computer games through engagement with computer games. This book inquires how computer games affect families,

legal and scientific practices and the game industry. It focuses around the *interrelation between computer games and children or young people*, as it is particularly when entering into relations with children that computer games become mobilized as objects of concern and that they start mobilizing activities in the domains of law, family, science and the computer game industry. How do computer games become matters of concern in these societal domains?

INFRASTRUCTURES

How do computer games come to concern practices and discourses? Where to start? Computer games are encountered in many domains throughout society. As the introductory lines above indicated, computer games are entangled in a variety of different practices, and people deal with them in very different situations, for different reasons and in different social, discursive and material arrangements. The notion of *infrastructure* is helpful in considering how computer game concerns emerge and develop in different ways in different societal domains. Star and Ruhleder (1996) first suggested infrastructures as an analytical term, which was taken up widely in Science & Technology Studies (e.g. Bowker & Star, 1999; Star & Bowker, 2006). It mobilizes the everyday understanding of infrastructures such as traffic, power or water infrastructures, which is an extended network of often technical and material components of heterogeneous kinds (roads, traffic lights, traffic jam alerts, etc. in traffic infrastructures) but also embraces standards and rules (e.g. breadth of lanes, road traffic acts).

While such elements are usually associated with infrastructures, Star and Ruhleder (1996) emphasize that other less ‘technical’ aspects which shape everyday practices are also part of the infrastructures. Among these is knowledge of how to use the infrastructure and how to interpret its signs, conventions (e.g. hand gestures to let other road users pass); taken-for granted realities (e.g. the expectation that the road in front of you will not suddenly collapse); ingrained habits (e.g. looking back over your shoulder when turning); and social structures (e.g. relationships between different types of road users). Star and Ruhleder thus point to the inaccurate and unhelpful understanding of infrastructures as “something upon which something else ‘runs’ or ‘operates’, such as a system of railroad tracks upon which rail cars run” (ibid., p. 112). That which circulates in an infrastructure is far from passive matter independent of the infrastructure that enables its circulation. On the contrary, what circulates (bikes, pedestrians, dogs, skaters, cars, trucks,

etc.) is part of the infrastructure and co-configures its workings. While infrastructures are socio-material pre-conditions for action, people, things and practices act *through* an infrastructure rather than *in* it.

An infrastructure is thus to be understood as a pattern of related situated socio-material practices, along with their objects through which these practices themselves unfold (Bowker & Star, 1999). The ‘patternness’ of infrastructures indicates a certain durability, while also pointing to the situated accomplishment of socio-material practices as themselves making up the infrastructure (cf. Sørensen, 2009). The endurance and stability of an infrastructure depends on the recurrent mutual actualisation, maintenance, repair and variation of the socio-material practices that constitutes it as well as their interconnections. While I have applied the well-known metaphor of traffic-infrastructure, it is important to note that infrastructures may be a Heideggerian *tool at hand* as well as large computer systems, traffic networks or power supplies (Korn & Wagenknecht, 2017). One of the extended infrastructures related to computer games in relation to children is the infrastructure of age-classification of games, which involves rules and standards as well as practices and conventions, habits of use, etc. But also every family and peer group have infrastructures for when, where and how to play or not to play computer games. Such infrastructures are partly configured through social components such as rules, habits and values about family and peer activities, but they also comprise material aspects such as the locations of computers or game consoles, the games themselves and the places and means through which they are purchased, etc.

INFRASTRUCTURES AND CONCERNS

Subscribing to this imagery of infrastructures points to computer game concerns as emerging out of the practical socio-material infrastructures which computer games encounter when moving to families, to legal contexts, to science, etc. Law, education, health, industry, trade, art, family and science all precede computer games by centuries. These domains were already in place when the first computer games were developed more than fifty years ago. They enabled exchanges in complex societies as well as helping to organize micro-practices. This is not to say that everything was smooth. An infrastructure is never ‘finished’ – it is maintained, repaired, varied, extended, cut back, merged with others, etc. Please note that these ‘technical’ terms are helpful to remind us of the very practical and ongoing efforts involved in “infrastructuring” (Star & Bowker, 2006), but that we should not forget that all kinds of social, normative and discursive aspects of infrastructures, as

described above, are also implied here. Now, with the legal, family, industry, scientific etc. infrastructures in place, imagine that a new device, a new media-technical offspring of our culture – a computer game – comes to enter into these infrastructures. What happens? How does it fit in? Can it connect to the infrastructures? How? Does it stir up infrastructures? Does it induce adjustments? What concerns emerge out of the encounter between computer games and infrastructures? Our analyses are not historical and they do not need to be. The work of adapting objects and infrastructures is ongoing.

The concepts of *concern* and *infrastructure* are introduced in this book in order to inquire into the specificities of the engagements, activities, desires, etc. that computer games evoke in relation to children, and into how these emerge and work through existing socio-material arrangements. It is the hope that this vocabulary will help orient readers in the heterogeneity of chapters and perspectives of the contributions, which more often than not apply different vocabularies. We have divided the inquiry into computer game concerns into the four domains of *game industry*, *law*, *family* and *science* because we expect different infrastructures to be at work in these different domains and accordingly different concerns to operate.

What difference does this vocabulary make? Let me return to the move from *matters of fact* to *matters of concern*. Not only public debates, but also expert discussions concerning computer games in relation to children, almost without exception apply a rhetoric that implies the expectation of arriving at some point at a singular, true – or factual – representation of this relationship (cf. Anderson, Gentile & Buckley, 2007; Barker & Petley, 2001; Kirsh, 2012)². While facts about computer games in relation to children are an extremely important and relevant basis for many decisions and actions in this area, the limits of the relevance of facts are also obvious in the endless debates – both scholarly and popular – about the good and bad relations between computer games and children. The attempt of this book is to situate the knowledges and practices that exist about computer games in relation to children and treat them symmetrically in the sense of seeking to understand how they emerge as concerns that make practical sense in and through the specific infrastructures through which they emerge. This implies that scientific knowledge about computer games in relation to children is considered as only one specific kind of computer game concern among many concerns that exist, and that each of these serve a specific and limited infrastructure.

2 Important exceptions are Otto (2008) and Pethes (2004) who, like this book, take a Science Studies perspective on contested media.

The notions of *infrastructure* and *matters of concern* save us from the somewhat futile conclusion that there are many different infrastructures and many different computer game concerns. Even though computer games connect to different infrastructures and evoke different concerns, the different domains deal with the same *matter* – computer games – through which they are also connected. Furthermore, even though infrastructures vary from domain to domain and from practice to practice, they also span across domains, which means that the domains are interconnected. The idea behind this frame of thought is that it is through the *matter* – the computer games – and through the *infrastructures* that it may be possible to connect concerns and the solutions they may require.

FOUR DOMAINS OF CONCERNS

The idea that the notions of *matters of concern* and *infrastructure* can connect discourses and practices was tested at the 2015 workshop *Cultures of Video Game Concerns in International Comparative View* held at Ruhr-University in Bochum (Sørensen, 2016), where the idea for this volume emerged. The workshop was co-funded by the German Research Foundation (DFG) and the Mercator Foundation and organized by Espen Aarseth and myself. It brought together psychological researchers on children's computer game use and on computer game effects, scholars with expertise in the legal regulation of computer games, game developers and colleagues researching how studies on computer games are done. The discussions at the workshop were fascinating, since for most of the participants it was the first time they met with people from the other domains, and the insights into the workings of their infrastructures and the specificities of their concerns gave rise to unexpected questions, a lot of laughter and modified concerns. It is the hope that this book will have similar effects.

Below, I provide a detailed presentation of the chapters of the book. I draw together the different contributions in each part and analyse the specificities of the infrastructures and computer game concerns in each of the four domains mentioned above. I do this also through comparison across the domains. However, the aim of the book is not a *scholastic comparison* (Sørensen, Marlin & Niewöhner, 2018) that takes comparability for granted or produces it prior to the study in order to present their different characteristics in relation to one and the same scale. Instead, it invites readers to search for *comparability* (Scheffer & Niewöhner, 2010), which is the inquiry about what aspects or dimensions may be at all relevant to compare. And as suggested through the notions of *concern* and *infrastructure*, the

book is also an invitation to *internal comparison* (Strathern, 2004; 2011), i.e. a search for the internal connections between domains.

More than simply contributions about the four domains, each of the four parts presents material from different countries; mainly from Denmark and Germany, but also from Austria, Finland, Norway and Spain. Some of the infrastructures of computer game concerns respect national borders (particularly in the legal domain and to some extent in the family domain) and lend themselves to national comparison. Others, however, follow infrastructures whose arrangements are less nationally bounded.

A third heterogeneity of the book is in its different formats. Most chapters follow the format of academic articles, but even those vary due to different approaches, methods, discourses and genre conventions in different disciplines. Two chapters are presented as interviews and one is a reprint of an official statement on violent media (Rothmund et al., 2018, this volume). In order to keep visible the particular genre of this text, the latter is kept in the original layout instead of converting it into the standard layout of this book.

Helen Verran (1999) points to the unfortunate tendency of the social sciences to resolve tension in their empirical material and leave the reader with an unambiguous idea of the phenomenon as being well-ordered (cf. Raasch & Sørensen, 2014). While the individual chapters in this book do comply with this ‘unfortunate’ tendency, the juxtaposition of the heterogeneous accounts leaves the book with enough tension and ambiguity as material for readers to consider together with us the characteristics, dynamics and relationality of computer game concerns.

THE CHAPTERS OF THE BOOK

Industry Computer Game Concerns

The first part of this book is on computer game concerns in relation to children in the game industry. It opens with Sandra Plontke’s ethnographic piece about computer game programming. Programming is only a minor aspect of computer game development and an even smaller part of what we may call the computer game industry. Apart from programming tasks such as graphic design, animation, concept design, script writing, storyline, character development, level design, software architecture, audio engineering, testing, moderating, producing, marketing, market analysis and sales, along with cleaning, cooking and legal, financial and staff management, etc. are just some of the many activities that make up what we may call the computer game industry. This also means that there are many and

diverse computer game concerns in the game industry. Obviously, this book can only present a few limited insights into the vast and varied endeavours of the computer game industry and into their concerns. Starting out with a piece on programming underlines that most of the activities in the game industry are highly specialized, as are the concerns. Plontke reports from her ethnographic studies of how an apprentice programmer develops a fighting system. She takes us line for line through a piece of code and explains how its Boolean logic requires the programmer to frame whatever happens in terms of chains of if-then(-else) causations. Because a computer game is not only about a computer executing specific operations, nor simply about the player pushing specific buttons that trigger specific actions in the computer, but about a seamless interaction between the game and the player, the programmer has to inscribe (cf. Akrich, 1992) the player into the game. He can only do this by leaving gaps in the Boolean code in terms of leaving pieces of the if-then(-else) open for the player to fill in. It would be a very boring computer game if the player was given only one option or if he or she was given several options and these had no consequence on what happened later in the game. In order to make a good computer game, the game developer must configure the gaps in the code in ways that makes it fascinating and exciting for the player to fill them. He has to envision how the player might make strategic decisions in the game that build on already performed acts and will have consequences that she will try to anticipate. In other words, the programmer needs an imaginary of the player as an autonomous, clever and strategic decision-maker who is entirely in control of his or her decisions. Basing his work on this imaginary of the player, it is unlikely that the programmer will be concerned about whether the computer game will harm a young player. A vulnerable player is implied by such a concern, which is contradictory to the way in which the programmer must necessarily think about the player in his work. Like all other people, the programmer is most likely able to imagine other players and children, who probably should not engage with his fighting system. But he will have to draw on other logics to do so. Thanks to Plontke's very detailed account we come to understand how a specific way of working – of programming computer games – implies a specific way of imagining the player, which on the other hand is incommensurable with the imaginary of an affected young player. The specific concern that arises out of this work is to offer adequate challenges to an autonomous, strategic and clever player. It provides a starting point for understanding why in some parts of the gaming industry you may search in vain for concerns regarding the relationship between computer games and children.

Liam Berriman takes us to a part of the gaming industry where children indeed are of concern. By assimilating the expanding discourse of children's rights, commercial firms increasingly seek to position themselves as recognizing children as market participants rather than as mere consumers (Nolas, 2015). Berriman has researched how children become of concern as participants at the Finnish online gaming virtual world platform *Habbo*³ (Sulake, 2000). He highlights that children's participation in ongoing design processes has become an important means of securing the future sustainability of this online game and virtual world. Participation, however, comes with certain limitations. Berriman reveals that game designers very clearly define when and on what terms children are able to make design contributions and which individuals are able to participate in that process. Accordingly, young gamers' participation in the design process is principally at the discretion of the *Habbo*'s designers. This conclusion resonates with Thorhaug's (2018, this volume) discussion of online game providers' regulation of children's access to games and her argument that the criteria for doing so diverges considerably from how democratically controlled agencies regulate computer games. Similarly, because *Habbo*'s core concern is financial gain, children's participation in design processes come to be arranged to meet this concern rather than to correspond to a conceptualization of participation based on a paradigm of children's rights.

The final chapter in this part presents a conversation between the Head of Safety at the children's online gaming and social media platform *MovieStarPlanet*⁴ (MovieStarPlanet Aps, 2009), Vernon Jones and myself. Being an online platform – comparable to *Habbo* – on which anyone can register, play, meet and chat online with other players, the game holds not only the potential for playing and having fun with other users, but also for bullying, racism, sexism, stalking and other kinds of abuse. For this reason, *MovieStarPlanet* has set up an extended system of moderation of both verbal conversation and the posting of pictures. Jones explains how this involves not only ongoing adjustment of the automated content management system that alerts moderators to inappropriate behaviour, but also recurrent training of moderators and supervision of *MovieStarPlanet*'s ongoing content development along with facilitating and maintaining cooperation with NGOs and other online game providers and with governmental and law enforcement agencies in the many countries in which *MovieStarPlanet* operates. As a commercial game provider, economic gain is of course a concern for *MovieStarPlanet*, as Berriman and Thorhaug also emphasize for the game developers and

3 www.habbo.com

4 www.moviestarplanet.com

game providers they analyse. However, Jones explains the details of how *Movie-StarPlanet* necessarily has to interrelate with a variety of different technical, social, governmental, legal and other concerns that are distributed across a wide number of different infrastructures. The economic concern of an online gaming platform for children can always only be one among many other concerns. The core concern of a Head of Safety of an online gaming platform for children is to manage, balance, weigh up and in practice organize the variety of concerns across the variety of infrastructures that all in one way or other overlap with the activities of the online gaming platform.

The three chapters about computer game concerns in the game industry reveal that these emerge out of quite different infrastructures that: a) are situated within the game industry (programming); b) are drawn into the game industry (children participants); and c) that the game industry become entangled with as actors in a society in which activities are highly interdependent. It is quite obvious that the relationship between computer games and children is not a core concern of the gaming industry. This, however, cannot only be understood with reference to the gaming industry as being primarily focused on profit nor with reference to the dominance of young men in the gaming industry, as is often argued (cf. Prescott & Bogg, 2014). The infrastructures through which concerns about children emerge in the gaming industry operate both in local technical tasks as well as extending across comprehensive institutions and actors in society.

Legal Computer Game Concerns

In passing I mentioned above how legal infrastructures intersect the work of the game industry. If we had no computer games, we would obviously not have any computer game concerns either. Next to the computer games themselves however, legal infrastructures are crucial for the emergence of computer game concerns, as the five chapters in this part of the book make clear. The first chapter is written by Stephan Dreyer and it provides insights into the extremely complex German system for computer game regulation. The regulation of computer games has high legal priority in Germany because it is – even if only indirectly – founded in the German Constitution. First, children have a constitutional right to personal development and since some computer games may be considered able to potentially impede children’s personality development, the state is obliged to be concerned about children’s computer game use. Second, parents have a constitutional right to educate their own children. Since some computer games may be contradictory to parents’ educational principles these games potentially interfere with parents’

constitutional right to educate their children. The state is constitutionally concerned about parents' rights, and to protect this right, it must prevent children's unlimited access to computer games. Third, freedom of expression is a constitutional right that protects the work of computer game developers. Even though Article 5 in the German Constitution on the freedom of expression states that this right finds its barriers in the provisions of the protection of minors, game developers' right to freedom of expression is obviously potentially in conflict with the two rights mentioned above. Due to these constitutional rights – of children to personality development, of parents to educate their children and of game developers to freedom of expression – computer games come to evoke specific legal concerns that were defined by the German legislative body long before the first computer game was ever developed.

In translating these quite abstract rights into actual laws legislators encounter challenges that adhere to the quite concrete and practical infrastructures of the legal system. Media laws and laws concerning telecommunication are separate jurisdictions in Germany. The former is taken care of by federal law, while the latter comes under the legislative power of the *Länder*. The material makeup of many computer games of being both stored on a media carrier and having online elements subject them at the same time, but in different ways, to two different jurisdictions. In his contribution about *The Legal Framework for Computer Games and Child Protection in Germany*, Dreyer reveals several other areas in which computer games are a mismatch with and irritate the legal infrastructures – and thus also the legal concerns – which they necessarily have to operate with as soon as they are located within the territory of the German nation-state.

Moving with Claus Hjorth to Danish legal territory provides a quite different image. His chapter on *The Political and Legal Basis for Labelling of Computer Games in Denmark* was originally written in 2016 as a contribution by the governmental Media Council for Children and Young People (*Medierådet for børn og unge*)⁵ to the Danish Ministry of Culture's investigation on child protection in relation to digital media. Having Dreyer's complex explanation of the German legal regulation of computer games in mind, an early sentence in Hjorth's contribution is astonishing: "No Danish rules have been set on the labelling of games" (Hjorth, 2018, this volume, p. 113). While computer games have provoked extensive concerns, legal activity and need for regulation in Germany, they have only moved the Danish state to subscribe to the European industry collaboration PEGI⁶, which age labels computer games. No legislation has been introduced to regulate

5 www.medieraadet.dk

6 Pan European Game Information – www.pegi.info

computer games. A core difference between the Danish and the German legal infrastructures lies in the fact that the Danish constitution does not define a right for parents to educate their children and neither does it state that the freedom of expression is limited by the protection of minors. It is by way of the constitutional care – in terms of protection – for parents’ rights and children’s personality development that the German state becomes sensitive to – and thus concerned about – computer games, while the Danish constitution offers no basis for the state to become concerned in these areas. As becomes clear in the comparison between Dreyer’s and Hjørth’s chapters, this fundamental difference in sensitivity has extensive consequences in terms of the legal, institutional and organizational concerns and efforts that are invested into the regulation of computer games in Denmark and Germany.

One might consider any computer game concern well-established in Germany due to their extended and detailed laws. However, regardless of the number and complexity of legislation, any individual application of laws requires unique situated considerations and negotiations in relation to the specificities of each particular case. Jan Schank’s contribution enquires into how age rating of computer games actually, practically and discursively unfolds. Contrary to legislation, which is mainly affected by computer games to start a cascade of legal and regulatory activities to build an appropriate legal system, computer games require the assessment officers of the German rating agency USK⁷ to move their attention towards the individual game itself and inquire about its character. Only by evoking a concern for the details of computer games is it possible for the USK to differentiate between individual games. There are many – probably endless – ways in which one can differentiate between computer games. Due to their task at hand, the USK does this in one very specific way, namely by defining any particular game in relation to a generalized aged player. Schank shows how computer games and the aged players come to be mutually defined and that categories at hand deriving from heterogeneous sources, such as educational psychology and the structure of the educational system, are applied as tools for doing so. Through the endeavour of age rating games, the nature of children is also determined and both games and children come to be treated as mutually defining entities.

Anne Mette Thorhaug draws attention to the global character of computer games and of their distribution and regulation. The first three chapters of this part on legal computer game concerns pay attention to how nation-states regulate computer games and the resulting concerns that thus develop in nations, but Thorhaug points to the limits and decrease in the power of nation-states to regulate computer

7 Unterhaltungssoftware Selbstkontrolle – www.usk.de

games. Non-governmental and commercial corporations are determined to regulate children's computer game use. Computer and mobile games are more and more often sold through commercial online platforms such as iTunes, Google Play or Steam, who, like any other shop, pre-select what they have on offer, how to present it to their customers and in the case of games also how to regulate the sale of games to children and youth. Following a neo-liberal logic, one may suppose that this development will lead to a spread and an increase of legal concerns and responsibility beyond governmental institutions when it comes to children's computer game use. However, Thorhauge argues that more than a simple quantitative expansion of regulation concerns the principles for age-regulation changes. Commercial regulation relies on expansion and growth and accordingly, it makes good sense to reassure parents through the extension of age regulation that they have nothing to fear when buying computer games for their children on this platform. However, Thorhauge underlines that concerns other than simply children's access or lack of access to computer games become inconspicuous in commercial regulation. These may be concerns about media literacy or about the quality of computer games based on other criteria than their commercial success. While the criteria for selecting video and audio products for broadcasting are under democratic control in public service channels, a public service platform has never existed for computer games. Countries without computer game regulation must find other measures if they want similar democratically controlled criteria for the quality of computer games and not to leave it in the hands of commercial actors. Thorhauge argues that it is important to uphold transparency and democratic control as to which principles that should govern the classification of computer games. In a globalized world, she points to the children's rights conventions as an apt basis for democratic control of computer game regulation. Computer games are, after all, crucial contemporary media for interpreting the conditions of our cultures (cf. Søndergaard, 2018, this volume) and societies, and accordingly, societies – not only markets – should be involved in their regulation.

Felix Raczkowski's contribution provides an insight into how state regulation of computer games is not only of a legal character. We already saw in Thorhauge's chapter how commercial regulation of computer games seems to be taking it out of the hands of legal actors. Similarly, the 'positive' regulation through recommendations, recognitions and prizes in Germany and Austria described by Raczkowski have their roots in legal concerns explained in Dreyer's chapter. They are new ways of dealing with the concerns that originally emerged out of the encounter between computer games and children's right to personal development, parent's rights to educate their children and the right to freedom of expression. While the multi-national commercial game providers that Thorhauge discusses apply the

same ‘negative’ regulation paradigm as do state regulation agencies in terms of limiting children’s access to computer games, Raczkowski describes regulative models that are ‘positive’ in the sense of marking specific computer games that are thus promoted over others. He describes how public services increasingly offer recommendations as to which games are of quality for children and interestingly, these recommendations draw on the same knowledge of developmental psychology as Schank (2018, this volume) shows the USK use in their age ratings. Thereby, the positive recommendations come to be a mirror image of the limitations provided by the age ratings and both co-define the game and the player in terms of a match between cognitive challenges and cognitive competencies. Raczkowski also describes a different ‘positive’ model that, through media education of parents, seeks to target and regulate the fears about computer games instead of regulating the games themselves. Finally, he discusses the German Computer Games Award, which is probably the most obvious attempt to regulate computer games positively. This award has sparked considerable public debate about the quality of computer games both when the public agrees and when it disagrees with the jury’s decision. Accordingly, the prize is crucial for the public negotiation and shaping of computer games concerns. However, while it has its roots and legitimacy in the legal computer game concerns, it has left the domain of legal regulation.

Across the contributions about legal computer game concerns we learn that regulation of computer games is founded on a legal infrastructure that was already well in place when the first computer games were developed. Computer games were born into a world, so to say, with an infrastructure of rules and values that came to embrace and define how the state is to deal with such games. At least, this was the case in Germany. In other countries, such as Denmark, no infrastructure was settled that required the state to be concerned about computer games in specific ways. The emergence of computer games into a world that was legally infrastructured as is Germany, sparked a wealth of activities to define new laws, new regulations, contracts, establish legal activities and institutions, etc. that made an already existing infrastructure develop further. In Denmark, on the other hand, there is little foundation for the state to feel legally concerned about the relationship between children and computer games. As if – metaphorically speaking – there has been little humus for legal computer game concerns to grow. Compared to a German ground that has been so saturated with ‘legal fertilizer’ that even the faintest germ of computer game concern could not help but grow a long stalk and numerous offshoots.

It is important to note, however, that even if a strong legal infrastructure was in place in Germany, it was probably also because computer games did not fit

smoothly into this infrastructure that it started growing so dynamically. No less than three foundational rights are touched by computer games and in partly conflicting ways. Additionally, computer games interfere with the division of jurisdiction. An elaborated legal infrastructure is, on the one hand, a strong foundation for the emergence and treating of concerns when new media technologies are developed. But this same infrastructure is also challenged and shows its inflexibilities and need for repair or innovation when new media technologies are different from what the law maker could possibly imagine and accordingly from what they inscribed into the law in the first place.

Schank, Thorhauge and Raczkowski point to how regulation is not a question of more or less, but rather a question of kind. When regulation moves from democratic organs to commercial entities, the criteria change, just as they do when the focus moves from restricting access to ‘bad’ games to promoting the use of ‘good’ games. How computer game concerns are shaped depends on who is given the right to speak on behalf of computer games and their suitability for children, and on who has the right to regulate them. Schank’s contribution indicates that variations in legal computer game concerns come about because the legal infrastructure is not sufficient for the actual enactment of regulation. Regulators need to draw on other infrastructures and they connect the legal infrastructure to infrastructures of psychological knowledge, of knowledge about the educational system, etc. This analysis gives us a hint of how the different domains of concern – legal, scientific, family and industry – are connected.

Family Computer Game Concerns

The first two chapters on computer game concerns as they exist in families – by Dorte Marie Søndergaard and Pål Aarsand – inquire how children and young people deal with computer games in their everyday lives. The three following chapters discuss parents’ computer game concerns. The opening chapter by Søndergaard provides a wealth of examples of how computer game play is an integrated activity in children’s lives in Denmark. It is not isolated from parents’ engagement, even though parents rarely play computer games with their children: children relate to parents’ concerns and integrate these in their assessment of games. Furthermore, parents’ allowing or forbidding their children to play games that are restricted or allowed in other families interferes with the constellation of peer groups, with who is popular and listened to and who is excluded from the social circles of classmates. Computer games become of concern in children’s lives when confronted with parents’ concerns and their regulations of children’s computer game activities. These are not simply restricting children’s peer relations, they are challenges

that children creatively handle and work around. The semi-legal PEGI age labels play a role in this in several ways: they guide parents' regulations; they arouse desire to engage with these forbidden games; they grant value to the games carrying the +18 labels; they function to differentiate between families that allow and those that do not allow the playing of +18 games, and with this they make some peers more popular than others.

Violence is one of the aspects of games that worry parents. Based on interviews, Søndergaard shows how violence and aggression of physical and psychological kind are aspects of children's lives also – indeed mainly – beyond computer games: in history lessons, in news about terror, political conflicts and natural catastrophes, in families, in schoolyards and in the classrooms, on social media and in stories, books, comics, etc. Thus, Søndergaard concludes that violent computer games seem an obvious activity to engage in in order to process and learn to deal with these difficult experiences.

Pål Aarsand takes up a specific concern related to computer games: that of time. Based on focus group interviews with Norwegian youth he analyses how they talk about and legitimize spending time on computer games in relation to spending time on other things. The analysis points to a moral infrastructure in the young people's talk in which spending time outdoors has a higher moral value than playing computer games, because the latter is an indoor activity. When it comes to computer game play they differentiate between purposeful gaming activities, such as playing e-sports, compared to gaming that is a "waste of time" (Aarsand, 2018, this volume, p. 192). Computer game play is not a "waste of time", however, if it is "fun". While fun is a legitimate reason for playing computer games the young people question the possibility of having fun for the longer period of time some computer games require. Only if a player is considered to be able to "manage" his or her time well do they accept extended computer game play. Aarsand's analysis is a fascinating account of how computer games evoke concerns about purpose, enjoyment, competence and control, and of how the teenagers struggle to manoeuvre these concerns and juggle to organize them in relation to each other.

Niklas A. Chimirri's chapter moves to inquire about the discourses of parents' concerns about their nursery children's engagement with computer games and other digital media. His analysis takes its point of departure in the EU-wide *Better Internet for Kids* strategy and looks at how, along with other initiatives, it is implemented and debated differently in nurseries in Denmark and Germany. In Denmark, nurseries strongly promote the pedagogical use of digital devices, while in Germany it is parents and families who are granted the crucial role in the development of digital literacy in their children. As became obvious in the part of this

book on legal computer game concerns and particularly in the comparison between Dreyer's (2018, this volume) and Hjorth's (2018, this volume) contributions, these differences in nurseries' priorities correspond to the differences in the two countries' legal concerns. Chimirri explains further the norm in Denmark, that nurseries cannot merely promote digital literacy to young children; they also need to teach digital skills to parents and nursery professionals. In Germany, by contrast, the nursery is first and foremost an institution that disburdens the working parents of the task of raising a *self-responsible* and *community-able* citizen, while strongly valuing their constitutional right to educate the child (cf. Dreyer, 2018, this volume). Parents primarily act as the children's gatekeepers, in relation to how – and how much – children should be exposed to both media and digital literacy initiatives. With the burden of educating their children about digital media and computer games German parents are keen to gain detailed advice about what is right and wrong for their children. Their Danish counterparts, on the other hand, are concerned to develop their own digital skills and their own independent ideas about their children's digital media use. Accordingly, they tend to reject prescriptive advice. Chimirri notes that this often seems to overburden Danish parents. In conclusion, however, Chimirri writes that there seems to be no difference across the two nations in the degree of uncertainty about computer games and of eagerness among parents to reflect on their computer game concerns.

Martin and Aßmann present a discussion of computer game concerns among the parents of young children in Germany. They analyse a number of quantitative surveys among such parents and they boldly conclude that “talking about *concerns of parents* from a German perspective the term is obviously connected to negative feelings and apprehension” (Martin & Aßmann, 2018, this volume, p. 233). Before presenting the findings, they note that German educational researchers do not seem to be concerned about younger children's gaming habits and that there are barely any empirical studies in this area. Compared to Danish colleagues, who seem to have no problem in finding empirical evidence, one may speculate whether German parents' rejection of computer games for the young is reiterated in research funding bodies and scholarly discourses. In the evidence that exists, Martin and Aßmann identify in accordance with Chimirri that German parents often set up rules for their children. They do so in relation to violent content and to the amount of time their children play – two concerns also discussed by Søndergaard (2018, this volume) and Aarsand (2018, this volume). However, contrary to Chimirri's observation that parents are eager to discuss their computer game concerns, Martin and Aßmann report from quantitative studies that parents are rather reluctant to engage in such exchanges. They conclude that German parents

express two kinds of concerns: first, about a lack of pre-selective channels in relation to computer games comparable to public service broadcasting in relation to TV and radio programmes, and secondly, the fear that engagement with computer games will stand in the way of the development of ‘good old’ practical skills.

The last chapter on family computer game concerns takes us to Barcelona and to Catalanian parents’ computer game concerns. Based on the observations of parents playing computer games with their children and the subsequent focus group interviews, Adriana Gil-Juárez and Joel Feliu have written a fictive conversation between two mothers. The text recombines actual parents’ utterances in a way that intensifies and synthesizes their concerns. This format, which is unusual in academic publishing conveys not just *what* parents utter as their concerns but also the *way in which* parents express and exchange their concerns, alongside the atmosphere and emotional tone of their concerns. Contrary to academic writing, which cannot end without a conclusion, the non-concluding character of the dialogue between the fictive characters Anna and Maria – which is a typical characteristic of everyday conversations – provides a very honest and authentic feeling of parents’ concerns as bound up in unresolvable and ongoing tensions, which they nonetheless have to live with and manage (cf. Chimirri, 2018, this volume). In their subsequent discussion of the dialogue, Gil-Juárez and Feliu state with reference to their focus group interviews that there was no variation in parents’ computer game concerns. Furthermore, the discourse presented in the dialogue is likely to be recognizable to most readers, regardless of their cultural embedding. Unlike Chimirri (2018, this volume), who found considerable differences in the discourses on computer game concerns in Denmark and Germany, Gil-Juárez & Feliu reveal a discourse that seems universal. As they state themselves, the seeming universality of the discourse may be a result of parents drawing on a discursive repertoire provided by broadcasting and press, which often themselves echo statements circulating across international press agencies. The authors also ponder on the seemingly perpetual character of computer game concerns. They suggest that “[p]erhaps [...] parents may want to appear worried about their children’s use of computer games” (Gil-Juárez & Feliu, 2018, this volume, p. 262). This resonates with Chimirri’s finding that regardless of their background, parents were highly committed to discuss and reconsider their concerns. It may be a condition of contemporary parenthood to be concerned, and when computer games enter families, they will be entangled into this omnipresence of concerns. This indicates, as Chimirri suggests, that family computer game concerns are entangled in discourses and expectations about parenthood and that this is to be taken into account when attempting to understand what family computer game concerns are about.

Together, the five chapters on family computer game concerns paint a picture of infrastructures of moral values about good and bad activities for children and about requirements of good parenthood. It draws a picture of how computer game concerns emerge out of children's and parents' struggle to manage computer games in relation to these infrastructures. Aarsand provides insight into how the young use moral infrastructures at hand to legitimate or condemn computer game use. But computer games also interfere with this moral infrastructure: while "fun" as a temporary timeout from routines and duties is morally valued, the temporally extended activity of computer game play challenges the young people's idea of fun and makes them reconsider their moral infrastructure.

Similarly, Chimirri outlines different moral infrastructures of parenthood, into which computer games become integrated: In Germany's emphasis on parent's right to educate their children and in the organization of nurseries that correspond to and re-enact this value, new media such as computer games raise the concern that they may interfere with parent's educational practices and have difficulty in connecting with and entering nursery practices. Nurseries in Denmark, on the other hand, engage much more self-reliantly in children's education, and acknowledging – not unlike Germany – parent's important role in the education of their children, the education of parents also becomes part of the education of the children. In this moral infrastructure of nursery activities, the emergence of new media and computer games evoke a concern to provide media literacy to both children and parents. Even though the way in which nurseries relate to parenthood is only one among many aspects of the organization of nurseries and thus of how they engage with computer games, it very well illustrates how computer games come to connect to children's, parents' and nurseries' lives by finding a place in already existing infrastructures. As in the moral infrastructure of children's lives, it is also the case in parenthood that computer games do not simply fit in smoothly. Søndergaard reports how educators and parents apply otherwise successful means of regulation and reduce children's playing time to thirty minutes. However, due to the specific character and time structure of computer games, it makes no sense for the children to play the epic and narrative complex games for a short time, and accordingly they turn to play the more violent and intense action games. The games challenge and evoke new concerns about the way in which educators are used to regulate children's activities.

A further complexity of computer games' way of finding a place in children's and parents' lives relates to how various infrastructures interconnect in their lives. As described the legal infrastructure of computer game regulation and its offspring in age-ratings are taken up by parents and guide their concerns and regulation of children's computer game use, which has serious consequences for the

children's concerns about their peer group structure. Gil-Juárez and Feliu make clear how news infrastructures circulate discursive repertoires about computer games, which give rise to concerns and complexify the challenge of handling concerns. Both parents' and children's concerns emerge out of the interrelation of various infrastructures of legal rights, of moral orders about parenthood and appropriate children's activities, of internationally circulating discursive repertoires, of peer groups etc., and, in their everyday practices, both parents and children have to find ways of organizing themselves in these often-contradictory infrastructures.

Scientific Computer Game Concerns

Part four of this book turns to psychological science's computer game concerns. It opens with the translation of a statement about media violence, which the Media Psychology Division of the German Psychology Association published in 2015 followed by an interview with two of its authors. The statement addresses an informed lay readership and presents the state of psychological science's insights into the psychological effects of media violence, the question of individual differences in the vulnerability to media violence, whether media violence is transferred to real-world violence, and what parents and educators can do to deal with their children's media violence use. These themes reflect the computer game concerns across the social and developmental sub-disciplines of psychology. In addition to these sub-disciplines, the question of media effects is also discussed in the smaller sub-discipline of media psychology, whose concerns also relate to the – also positive – characteristics of the media. The media psychological questions discussed by the statement concern why people find media violence entertaining and whether the effects of media violence differ across different media types. A less common theme in psychological literature, which however is discussed by the statement, concerns why the debate about violent media is so controversial. What is particularly noteworthy about the statement is its methodological discussion about whether it is actually possible to measure the effects of media violence. This has been discussed in several controversial debates within psychology, but due to strong disagreement on the matter, it is rarely referred to in public statements. In the interview about the process of writing the statement, Rothmund and Elson make clear that it was important to the authors of the statement to include this discussion and to explain to lay people that the measuring of media effects is no straightforward process. Throughout the interview, a core concern appears to be the challenge of finding a balance between, on the one hand, the responsibility they feel as experts to provide clear evidence to lay people, and on the other, their awareness of the disputes about the conclusiveness of the methods for producing

such evidence. A *crisis of confidence* is currently haunting psychological science (Pashler & Wagenmakers, 2012), and psychology's computer game concerns become entangled with this crisis. Because the question of the effects of computer games is a controversial topic in public debate and because so much and such diverse expertise – legal, pedagogical, parental, experiential, design, etc. – exists about computer games in relation to children, any published psychological study on this topic is very likely to be contradicted. Contradictions are a potential source for decrease in confidence in psychological science, and in the current situation of crisis in psychology – about the correctness of its methods for gaining knowledge, its unity as a discipline and about lay people's confidence or lack of confidence in psychological science – invitations to contradiction are not particularly helpful for the discipline. In this situation, computer games become problematic objects for psychological science that evoke foundational debates about the discipline's methods and theories. As a matter of concern for psychological science, computer games in relation to children are intimately entangled in workings of the discipline, as becomes clear in the chapter on *Psychology's Multiple Concerns about Research on the Effects of Media Violence* by myself, Malte Elson and Tobias Rothmund.

Rune Kristian Lundedal Nielsen's chapter contains a genealogy of how online games became adopted in the psychiatric diagnostic manual *DSM-5*. He takes us back to the 1950s' self-help organization Gamblers Anonymous and their definition of gambling as problematic only when it had problematic consequences for people's way of life. Over the years, *gambling disorders* were however influenced by theories of addiction and came to include more aspects of lack of psychological control and less emphasis on problematic consequences. This then provided an available diagnostic infrastructure for online computer games to connect to and for *Internet gaming disorder* to be shaped, which Nielsen critiques has become so broad that too many people would match the criteria. Nielsen's analysis is a fine account of how computer games (in this case in general and not only in relation to children) are taken up by a pre-existing infrastructure of diagnostic classifications and how the games thereby become shaped as games of concern in psychological and psychiatric science.

From the focus on how computer games figure as matters of concern in the psy-sciences, Espen Aarseth and Emil Lundedal Hammer's chapter moves more broadly to game research and examines the extent to which game research in Denmark has been addressing worries about computer games. Already the title *No Worries? Game Research in Denmark 1984-2014* indicates that negative effects of computer games have not been the most salient in research into computer games in this country. Game Studies were institutionalized rather early in Denmark.

Around 2000, computer games made researchers mainly trained in Literature Studies enthusiastic about the new ways in which this media shaped narratives. Accordingly, computer games drew their focus towards the medium itself and its narrative and ludic aspects than towards how such games become embedded in social and cultural contexts or their effects on human players. Even psychological studies of computer games in Denmark – some of which are represented in this volume – which are indeed concerned with the social aspects of games, were not affected by computer games to engage in a single-scale understanding of games as more or less problematic, as is in general the concern of their German colleagues. Rather, computer games turned psychological researchers' focus more towards the complex practical entanglements of these games.

A 'collective' of five psychological researchers from two Danish universities close the book. The chapter contains analyses of datasets from all the involved researchers about what it means to young and adult computer game players to be a gamer. In contrast to what is common in academic papers, the authors do not seek to agree on a common theoretical ground for their analyses – they do not define a common concern. Instead, they use the tension and differences between their scientific concerns as a resource for generating new questions for their data. Working without a foundation (cf. Brown & Stenner, 2009) for their analysis they instead follow a processual methodology in which they inquire which questions arise when one piece of data is confronted with a different perspective – and a different concern – and which different pieces of data 'speak' to the former. Moving like this from data excerpt to data excerpt and from concern to concern, seeking new data to address the concerns that arise, the article rethinks both their own concerns and those of their informants. Or put differently, by strategically combining the infrastructures of their informants' concern and their own concern, they come to develop new epistemic infrastructure for understanding computer game concerns.

While Lundedal Nielsen's and Aarseth & Lundedal Hammer's contributions show how scientific concerns build on already existing infrastructures of scientific classifications and disciplinary traditions and Rothmund et al. and Sørensen et al. show how computer games come to contribute to stirring up and questioning scientific infrastructures, Chimirri et al.'s analysis illuminates how scientific concerns and infrastructures can be repeatedly negotiated and reconfigured together with informants' concerns and infrastructures.

CULTURES OF COMPUTER GAME CONCERNS

Through the lengthy summary and juxtaposition of the chapters of this book it has become possible to identify some specificities of the computer game concerns for each of the domains we have examined:

The very first chapter of the book sketched a picture of programming infrastructure in the game industry that does not give rise to concerns about the relationship between computer games and children. Concerns about competent, strategic players are evoked through the programming activity, but not about vulnerable children. Children – if not vulnerable ones – become of concern when the industry reaches out to other infrastructures and seeks to integrate children's perspectives in order to improve design solutions. And concerns about children become particularly focal, when the game industry starts connecting up with NGOs, law enforcement etc. that have established extended infrastructures for developing sensitivity to the relationship between computer games and children and how to keep it trouble-free.

Contrary to the game industry, the legal domain has – at least in Germany – a well-developed infrastructure for concerns about the relationship between computer games and children to emerge. It has historically been shaped in a way that makes computer games evoke concerns in relation to very specific areas defined by abstract rights. Based on these concerns, legal and regulatory activities and institutions have been established, which also sustain the concerns' durability. Just as remarkable is that the lack of an extended legal infrastructure that is sensitive to the relationship between children and computer games – as is the case in Denmark – ensures comparable unconcerned practices around computer games.

Compared to the well-defined legal computer game concerns, family computer game concerns are characterized by being extremely diverse and composite. The three other domains discussed in this book are all professional areas, which in general are characterized by specializing, separating and dividing activities. In contrast to these, family life tends to interrelate all kinds of different practices and infrastructures. The boundaries between activities are less clear and computer games seem to be interrelated with many different kinds of activities and values, from peer relation to homework and moral values of indoor, outdoor and purposeful activities, norms about parenthood, internationally circulating discourses about games, nursery practices, legal regulations, etc.

Scientific computer game concerns also vary significantly across psychological, psychiatric, quantitative, qualitative, diagnostic etc. infrastructures. They are however not as heterogeneous as family computer game concerns and seek rather – for the purpose of methodological purification – to avoid the combination of

infrastructures. Accordingly, their computer game concerns seem more straightforward. They arise out of their sub-discipline's epistemic infrastructures (or *thought styles* [Fleck, 1980]) that determine specific limited aspects of computer games (their aggressive effects in children, their co-constitution with everyday life, or others) as their epistemic objects (Rheinberger, 2001) with an adequate, reduced vocabulary and methodology to engage with these objects, and with a specific restricted range of relevant questions, etc. When computer games enter these quite tightly knit infrastructures, they activate specific and rather limited concerns that vary from sub-discipline to sub-discipline.

Similar to the legal computer game concerns, scientific computer game concerns seem rather robust, based on infrastructures that are closely integrated and thus relatively immune to being affected by computer games to change their concerns. However, as we saw above, in none of the four domains do computer games fit completely into the domains' settled infrastructures and in each of the domains, the infrastructures are challenged and in different ways adjusted and changed, also by way of computer game concerns. Furthermore, we also observed in all of the domains that infrastructures from one domain cross over and connect to the infrastructures of other domains. Characteristic for computer game concerns across all domains was accordingly that the members of the domains invest extended efforts to manoeuvre these concerns and juggle to organize them in relation to one another.

Apart from the four domains, this book focussed specifically on computer game concerns in Denmark and Germany – with additional contributions from Austria, Finland, Norway and Spain. The scientific computer game concerns are more difficult to localize in national contexts, since scientific vocabularies are developed to conceal their situated character (cf. Nagel, 1986). It is however possible to conclude that the German scientific discourse seems more concerned to provide quantitatively evidence as a basis for unambiguous guidance to German parents and educators about how to resolve their computer game concerns. Also the German legal concerns seem to link up with these concerns. In contrast to this, the scientific discourse in Denmark is more concerned to produce qualitative results more open to interpretation, which on the other hand seems to fit Danish parents' need to define their own ways to deal with computer games in their families, as Chimirri (2018, this volume) argues. It furthermore seems to mirror the less demanding legal concerns in Denmark (cf. Hjorth, 2018, this volume). However, Sørensen, Elson and Rothmund, Dreyer, Raczkowski, Chimirri and Martin & Abmann all outline that also tensions and discrepancies exist across these tendencies. The

same is pointed to is the case in Denmark in among others Sørensen and Jones', Søndergaard's and Chimirri et al.'s chapters.

It has become clear that legal computer game concerns are strongly nationally bounded and thus carry in them cross-national comparability. National comparability is less obvious with the scientific computer game concerns and seemingly less relevant with the industry computer game concerns: the two actually existing computer games that are discussed (*Habbo* and *MovieStarPlanet*) are – like most computer games – developed for a multi-national market. All domains' infrastructures criss-cross family computer game concerns and accordingly these also tend to have nationally bound concerns, as Chimirri's analyses showed most unmistakably. These very crude and generalizing sketches of Danish vs German computer game concerns are not meant as a final comparative conclusion. Instead, they seek to hint at an approach to analysing how concerns are nationally bound and to invite the reader to consider comparisons and comparabilities (cf. Sørensen, 2010) while reading the chapters of this book, both across domains and across other nations than the ones discussed in this book⁸.

By discussing computer game concerns as emerging out of domain-specific and partially nationally situated infrastructures that are configured out of the particular social, material and discursive practices of the specific domains, it has been possible to talk about the specificities of each domain as well as about their interrelations. I will close this introduction by returning to talk about each of the domains (national or not) as a *culture of computer game concerns* and thus acknowledge that each of these cultures is both (infra)structured and reiteratively and in situ managed and organized by the culture's participants. Also, although all of the cultures have their specificities, none of them are 'islands' isolated and disconnected from the others. On the contrary, what characterizes each of the cultures is among other things, how they are intertwined with the infrastructures of the others.

It has been a leading principle of this book to present computer game concerns as arising out of how computer games come to be connected to, taken up, rejected, partially integrated etc. with infrastructures of the domains in question and to inquire into how participants manoeuvre the different interrelated concerns, how they are shaped, vary and change. I would like to invite readers to enjoy the ambivalences and tensions that emerge out of the heterogeneous juxtapositions of

8 Thanks to Tine Jensen for discussing this point with me and for several other helpful comments on this introductory chapter.

computer game concerns in this book, hopefully allowing computer game concerns to become better able to exist together, connected and combined without having to neither be the same nor come to fit smoothly together (cf. Law, 2004).

LITERATURE

- Akrich, M. (1992). The de-scription of technical objects. In W. E. Bijker & J. Law (Eds), *Shaping technology/building society. Studies in sociotechnical change* (pp. 205-224). Cambridge, MA: MIT Press.
- Anderson, C. A., Gentile, D. A. & Buckley, K. E. (2007). *Violent computer game effects on children and adolescents: Theory, research, and public policy*. Oxford: Oxford University Press. doi:10.1093/acprof:oso/9780195309836.001.0001
- Barker, M. & Petley, J. (2001). *Ill effects: The media/violence debate*. London: Routledge.
- Bowker, G. C. & Star, S. L. (1999). *Sorting things out: Classification and its consequences. Inside technology*. Cambridge, MA: MIT Press.
- Brown, S. & Stenner, P. (2009). *Psychology without foundations: History, philosophy and psychosocial theory*. Thousand Oaks: Sage.
- Fleck, L. (1980). *Entstehung und Entwicklung einer wissenschaftlichen Tatsache: Einführung in die Lehre vom Denkstil und Denkkollektiv* [Genesis and development of a scientific fact: Introduction to the model of thought style and thought collective]. Frankfurt am Main: Suhrkamp.
- Kirsh, S. J. (2012). *Children, adolescents, and media violence: A critical look at the research*. Thousand Oaks: SAGE.
- Korn, M. & Wagenknecht, S. (2017). Friction in arenas of repair: Hacking, security research, and mobile phone infrastructure. In C. P. Lee, S. Poltrock, L. Barkhuus, M. Borges & W. Kellogg (Eds), *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW '17. Portland, Oregon, USA, 25.02.2017 - 01.03.2017* (pp. 2475-2488). New York City: ACM Press.
- Latour, B. (2004). Why has critique run out of steam: From matters of fact to matters of concern. *Critical Inquiry*, 30(2), 225-248. doi:10.1086/421123
- Law, J. (2004). *After method: Mess in social science research*. London: Routledge.
- Marres, N. (2012). *Material participation: Technology, the environment and everyday publics*. Basingstoke: Palgrave Macmillan. doi:10.1057/9781137029669

- Nagel, T. (1986). *The view from nowhere*. New York City: Oxford University Press.
- Nolas, S. M. (2015). Children's participation, childhood public and social change: A review. *Children & Society*, 29(2), 157-167. doi:10.1111/chso.12108
- Otto, I. (2008). *Aggressive Medien: Zur Geschichte des Wissens über Mediengewalt* [Aggressive media: On history and knowledge about media violence]. Bielefeld: transcript.
- Pashler, H. & Wagenmakers, J.-E. (2012). Editors' introduction to the special section on replicability in psychological science: A crisis of confidence? *Perspectives on Psychological Science*, 7(6), 528-530. doi:10.1177/1745691612465253
- Pethes, N. (2004). *Spektakuläre Experimente: Allianzen zwischen Massenmedien und Sozialpsychologie im 20. Jahrhundert* [Spectacular experiments: Alliances between the mass media and social psychology]. Weimar: VDG-Verlag.
- Prescott, J. & Bogg, J. (2014). *Gender divide and the computer game industry*. Hershey: Information Science Reference. doi:10.4018/978-1-4666-4534-9
- Raasch, J. & Sørensen, E. (2014). Helen Verran: Pionierin der postkolonialen Science & Technology Studies [Helen Verran: Pioneer of postcolonial science & technology studies]. In D. Lengersdorf & M. Wieser (Eds), *Schlüsselwerke der Science & Technology Studies* (pp. 257-267). Wiesbaden: Springer VS.
- Rheinberger, H. J. (2001). *Experimentalsysteme und epistemische Dinge: Eine Geschichte der Proteinsynthese im Reagenzglas*. [Experimental systems and epistemic things: A history of protein synthesis in the test tube]. Göttingen: Wallstein.
- Scheffer, T. & Niewöhner, J. (2010). Introduction – Thickening comparison: On the multiple facets of comparability. In J. Niewöhner & T. Scheffer (Eds), *Thick comparison. Reviving the ethnographic aspiration* (pp. 1-16). Leiden: Brill.
- Sørensen, E. (2009). *The materiality of learning. Knowledge and technology in educational practice*. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511576362
- Sørensen, E. (2010). Producing multi-sited comparability. In J. Niewöhner & T. Scheffer (Eds), *Thick comparison. Reviving the ethnographic aspiration* (pp. 43-78). Leiden: Brill.
- Sørensen, E. (2016). Conference report: Cultures of Video Game Concerns in a Comparative View: Report of a two-day workshop. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 17(2). doi:10.17169/fqs-17.2.2427

- Sørensen, E., Marlin, A. & Niewöhner, J. (2018). From scholastic to emic comparison: Generating comparability and handling difference in ethnographic research. In U. Flick (Ed.), *The SAGE handbook of qualitative data collection* (pp. 148-163). Thousand Oaks: SAGE.
- Star, S. L. & Bowker, G. C. (2006). How to infrastructure. In L. A. Lievrouw & S. Livingstone (Eds), *Handbook of new media* (pp. 230-245). Thousand Oaks: SAGE.
- Star, S. L. & Ruhleder, K. (1996). Steps toward an ecology of infrastructure: Design and access for large information spaces. *Information Systems Research*, 7(1), 111-134. doi:10.1287/isre.7.1.111
- Strathern, M. (2004). *Partial connections*. Walnut Creek: AltaMira Press.
- Strathern, M. (2011). Binary license. *Common Knowledge*, 17(1), 87-103. doi:10.1215/0961754X-2010-040
- Verran, H. (1999). Staying true to the laughter in Nigerian classrooms. In J. Law & J. Hassard (Eds), *Actor network theory and after* (pp. 136-155). Oxford: Blackwell. doi:10.1111/j.1467-954X.1999.tb03486.x
- Verran, H. (2001). *Science and an African logic*. Chicago: University of Chicago Press.

COMPUTER GAMES

- Blizzard Entertainment. (2004-present). *World of Warcraft* [PC game]. Paris: Vivendi.
- DMA Design/Rockstar North (1997-2013). *Grand Theft Auto* [Various titles] [Various platforms]. New York City: Rockstar Games.
- MovieStarPlanet Aps. (2009-present). *MovieStarPlanet* [Online game]. Copenhagen: MovieStarPlanet Aps.
- Sulake. (2000-present). *Habbo* (previously *Habbo Hotel*) [Online game]. Helsinki: Sulake Corporation Ltd.