The Cultural Value of Games

Computer games and cultural policy in Europe

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In this chapter I want to discuss the concept of 'cultural value' in computer games, as a reflection on why and how games might be a part of a future European cultural policy. To readers who are only vaguely familiar with the various aesthetics and practices of this medium, the general considerations addressed may also serve as a useful first introduction to a relatively new field.

Keywords: computer games, cultural policy, game development, aesthetics, technology, techno-politics, pleasure, e-policy, entertainment, media, online communities, innovation, perception, narrative literature, Europe, fragmentation.

The chapter falls loosely into two parts. In the first part, I look at historical and aesthetic reasons for why computer games rather suddenly – after a more than 30 years' history – are now being considered of cultural and political importance. Particular attention is given to online gamer communities as spaces of social interaction and collective identities. I also discuss the widespread tendency among cultural experts as well as decision makers to value games mainly as narrative, thereby largely ignoring the cultural significance of play and games. In the second part, I try to give an overview and a brief evaluation of some of some central but often overlooked values offered by a range of different computer game aesthetics and practises. As is also documented and discussed by Tan, Chisalita, Raijmakers and

Oinonen in their investigation of museums (chapter xx), technology has opened up a wide range of diverse and often conflicting 'genres' of information management, entertainment and pleasure.

I choose to highlight two major dimensions of cultural value in games: The techno-political and the literary. The former has to do with how technology is continually being re-interpreted in culture through play. The 'literary' value refers to the transformative potential of representing possible worlds through new forms of narrative, performance and simulation.

A European cultural policy for games

On 11th November 2002, on the initiative of the Danish Presidency, the Council of the European Union adopted a resolution on 'interactive content for new media'. In his speech to the European Parliament on 11th December, Brian Mikkelsen, the Danish minister for Culture, describes the objective of the resolution as follows:

> 'The objective of the resolution is to focus on the cultural importance of the interactive media – and on the importance of making the cultural and linguistic diversity in Europe manifest itself in the interactive media content of the future.'[1]

Although Mikkelsen is using the more general term 'interactive content', it seems that this time around, what the European politicians really are talking about is computer games. The background for their interest in the matter is, according to the speech, that 'people of all ages all over the world use computer games and other interactive media every day'. And, he adds, the interests of young people are of particular concern. What other kind of 'interactive content' young people use besides computer games is unclear from his speech, so we must assume that games in various forms (pc, consoles, handheld, networked) are the primary target. At last, we might say, games have become a concern for politicians who are not interested only in their potential dangers or possible educational uses. Together with other arts and media, computer play has now been found worthy a place on the cultural policy agenda in Europe.

Key words in the resolution are 'cultural importance', 'quality' and 'cultural and linguistic diversity'. Understandably, the resolution does not at this point go into details on what could be the criteria for 'quality' – let alone 'cultural importance' - when it comes to computer games. Presumably, brief references to established and generally agreed-upon values and goals in cultural policy are sufficient at this stage, as an indication of what motivates the politician's efforts.

Obviously, one of the goals is to secure – or if needed, to put into place - frameworks that are able to stimulate quality in the instrumental, commercial sense of the word. The European Union naturally wants the European games industry to compete with the Japanese and the Americans. These economical considerations do not necessarily conflict with the resolution's broader commitments to cultural quality and diversity. Still, in order to follow up the cultural aspect of the initiative, the Council is going to have to seek some criteria for how computer games can have 'cultural importance', aside from more general values of cultural and linguistic diversity. The only further definition of cultural diversity that Mikkelsen can offer us in his speech is: 'We should have more games reflecting European values and stories'.

Parallel to the process initiated by the Danish Presidency, some countries in the EU are beginning to establish systems of state funding specifically aimed at computer games. In 2003, in a new initiative announced by prime minister Jean-Pierre Raffarin, the French government decided to offer pre-production funding to French developers of 4 million euros in total, administered by the *Centre national de la cinématographi*.[2] In Norway a similar system of funding was initiated in 2003, similarly as a part of the existing system for film, administered by the Norwegian Film Fund. From 2003 to 2004 the amount set aside went up from 3 million to 8 million kroner. Also, as a remarkable example of political ad-hoc-funding, an extra 2 million was granted directly from the Minister of Culture to a computer game project based on the national folk-tales of 'Askeladden'.[3]

Into the media world

It is quite clear from this that politicians in Europe no longer regard computer games only as kids' toys demanding purely pedagogical attention, or as superficial amusements deserving no more attention than amusement parks or fireworks. This

attitude reflects a recent shift in the cultural status of computer games in central parts of the cultural elite, most notably among journalists, artists and academics. As once was the case with cinema, computer games are being promoted from the cultural realm of pure fun (where everything is either harmful, harmless or developmental), into the realm of culture proper, along with poems, pottery and rock music. At the same time, games are becoming mass-market entertainment, mimicking the industrial logic of Hollywood and controlled by global cross-media corporations. These two parallel developments constitute the central background for the political concerns about 'interactive content' in Europe. Computer games have grown out of adolescence and become unavoidably visible, both economically and culturally.

Academia and the arts

Looking back at games' cultural position thorough the previous decade, there is a striking difference – particularly in Europe – between their relative isolation in 1990 and their position in academic as well as journalistic media discourses in 2001. In 1990, there was virtually no interest in computer games within the humanities. In the social sciences, research on games was restricted to questions about violence, health and child development. In 2000, a more general interest in the culture and aesthetics of games and their uses was rapidly growing, followed by what can only be described as an explosion during 2001-2003.

In the art world, a new interest in computer games is also noticeable. Without extraordinary fanfare, the Barbican Gallery in London set up the exhibition 'Game On' during the summer of 2002, exploring the history and culture of videogames. Following the same trend, the massive commercial game hit *Grand Theft Auto: Vice City* was recently shortlisted for the prestigious 'Designer of the Year' prize by the Design Museum in London. It is not unlikely that in the next few years we will see something of the same Klondike in the art and design world as we are now seeing in the academic world. Game-art and art-games could very well be the next hot thing.

The most immediate explanation behind this cultural shift is that the first computer game generation has grown up. Kids who grew up in the 'videogame craze' years of the late seventies and early 80's are now in their thirties. Being mostly men, they belong to one of the dominant demographics in society in economical as well as

cultural terms. Against this background, it should come as no surprise how computer games are now being included in dominant cultural discourses, and welcomed into spaces from which they were previously banned.

The cinematic space

However, this generational factor cannot alone explain why computer games are no longer regarded only as kid's entertainment. Paralleling the rapid development in computer technology, there has been an extraordinary aesthetic development during computer games' more than 30 years of history. This development accelerated and acquired a critical momentum during the nineties, sparked by the introduction of CD-ROM storage media (standard in new computers from around 1994) and 3-D graphics, which hit the market in 1993 with *Doom* on PC and with the *Sony Playstation* in 1995. The vastly increased storage capacity of the CD-ROM meant that games became much bigger, with CD-quality music, digitized sound samples and with 'cut-scenes' in Full Motion Video. This expansion of representational forms was accompanied by a transformation from a flat 2-dimensional surface to a polygon-based and fully textured 3-dimensional space[4]. After the first versions of textured 3-D in the early nineties, the improvements in texture resolution and the growing sophistication of animation, lighting, physics and sound has been nothing less than stunning, making a 'revolutionary' game from 1993 look like an aesthetic stone-age compared to the games we see today, only 10 years later. Suddenly computer games have started to look a lot like film – at least to outsiders, who have been inclined to overlook the continuity in game concepts and game mechanics that has prevailed through the transition to a filmic space[5].

1996 was a landmark year in the consolidation of the new, 3-dimensional filmic game-worlds. Id Software's *Quake* offered a solid, truly 3-dimensional world in the mathematical sense of the term, so that the player could for example throw grenades against walls and they would bounce and behave realistically according to the real-time calculations of the physics simulation. Still, although tremendously successful with the targeted audience, *Quake* was generically sub-cultural and niche-oriented, with excessively violent action played out in distinct horror-fantasy settings.

Into the mainstream

More culturally influential became the action-adventure game *Tomb Raider*, which took advantage of the new technology of the CD-ROM and polygonal graphics to create uniquely expansive and rich environments. The fictional settings of *Tomb Raider* recycled familiar Hollywood-adventure material instead of relying on the more exclusive fantasy- and sci-fi settings that were dominant in story-driven games. The game, developed by the British developer Core Design, took the narrative more or less straight out of the *Indiana Jones* series (which also had already been translated into successful adventure games by LucasArts), putting a female hero in the role as protagonist and player-avatar. 'Lara Croft' became the first – and still is the biggest – game hero in the age of polygonal bodies, soon acquiring something of an iconic status that spread well outside the traditional confines of the games market. As a game, *Tomb Raider* mixed real-time action fighting and shooting with a quest- and puzzle-based mechanics, familiar from earlier text-based or point-and-click adventures. The British archaeologist-adventurer Lara Croft became the *Super Mario* of the new 3-D era, reinventing Nintendo's successful hybrid of action and exploration within a more media-rich and less videogame-specific fictional world.

The success of Lara Croft is a milestone in what has been, from the mid-90's, an accelerating movement of videogames and the videogame aesthetic into the mainstream of the media and entertainment world. Corresponding with the their rapidly increasing representational complexity and media-richness, the previous dominance of generic fantasy and science-fiction has weakened, giving way to game-fictions that are less culturally distinct and have broader appeal, like in *The Sims* (2000) and *Grand Theft Auto III* (2001). Illustrative of this development is the successful adventure game *Myst* (1994), a game that somewhat oddly seems to have almost single-handedly introduced parts of the academic world to the pleasures of computer games. The game clearly has a literary and sophisticated feel to it, using the pages of a book as a metaphor for the player's puzzle-based exploration around a database of evocative and story-laden still images. Part game, part literary slide show, *Myst* was eagerly picked up by academic theorists who were captivated and surprised by this unconventional high-brow approach to computer game design.

The absorption of a videogame aesthetic into mainstream media culture is a reciprocal process. Already during the 'videogame craze years' of the late 70's and early 80's, games like *Space Invaders* and *Pac-Man* achieved status as cultural icons, and videogames started to show their influence in art, music and films. During the last ten years, however, the general influence of videogame aesthetic on film and television has accelerated. This development is in part due to the photorealistic 3D-graphics that games and moving images can now have in common – what Lev Manovich (2000) refers to as 'synthetic realism' - which has grown to become a significant cinematic form following *Terminator 2, Jurassic Park* and *Toy Story*. The influence from games on cinema is not limited to the occasional game-to-film translation (most famously the *Tomb Raider* series). Game-like scenes, visual conventions and thematic elements have become increasingly common in action and science-fiction films, as particularly evident in the influential *The Matrix*, released in 1999.

The cultural influence of the language of computer games also includes the principles of computer simulation, an area in which practices and interests of entertainment, education and military training overlap. The television show *Time Commanders*, produced by Lion Television for the BBC, illustrates the increasing significance of simulation as a distinct mode of representation and interpretation in the media. Famous historical battles are re-enacted as a game-show in which a team of contestants fight together against the computer, with military historians as expert commentators. The computer utilizes an advanced version of the game engine behind the successful *Total War* strategy game series. The graphic sophistication of the real-time historical simulation ensures that an otherwise rather inaccessible session of war-gaming works well as television entertainment – even if the battle is just against a computer.

Mass market entertainment

In Europe, the marketing strategy for the Sony Playstation console launch in 1995 was a door-opener for the integration of computer game culture with other areas of youth and media culture. The European version of the release-game *Wipeout* (1995) featured Orbital, Leftfield and The Chemical Brothers on the soundtrack, and was marketed through game/music events in trendy clubs and bars. Sony was especially targeting the 18-30 year-olds, something that had never been done before for a console launch.

Wipeout and *Tomb Raider* managed to communicate to a broader as well as a more trend-setting audience than their competitors, establishing the Playstation as a strong media-brand, widely associated with digital pop culture and 'grown-up' gaming (in contrast to Nintendo, who apparently did not try very hard to move away from their 'kiddie'-image). Sony took the lead in a games industry which was rapidly growing out of its relatively secluded and niche-oriented market position.

The strong market growth of the industry since the mid-nineties, combined with the spiralling technological development of the hardware, has transformed the industry into a big-budget and unmistakably hit-driven business. At the time of writing, we see considerable growing pains as the developers and publishers are trying to adapt to the economical and industrial logic of mass-market entertainment. Many do not have the financial muscles to meet towering budgets and rapid market consolidation. Through mergers and acquisitions, in which cross-media corporations are the big players, the games industry is being integrated into a wider entertainment industry. Corporations like Sony, Microsoft and Vivendi Universal, along with major independent publishers like Electronic Arts[6], Activision, Ubisoft and Take-Two, are increasingly controlling the western market, while most of the smaller developers and publishers are struggling to survive. This difficult situation is most felt in the UK, which has Europe's leading computer games industry. During 2003, a large number of independent British developers had to shut down, as did the British publisher Rage[7].

Participatory media culture

During the period of consolidation of the industry in the 90's, online Internet gaming gave rise to independent, highly social and self-regulating gamer communities. Games have – at least within a big niche market – introduced a new concept for the production, distribution and consumption of commercial media products, a reciprocal relationship between producers and consumers. The game-genres that have spurred the most distinct and vocal forms of virtual community are the FPS (First Person Shooter) and the MMORPG (Massive Multiplayer Online Role-Playing Games).

The online FPS gaming culture emerged as a response to the game *Doom*, released by id Software in 1993, in the same year as the breakthrough of the World Wide Web. *Doom* could be played as multiplayer 'deathmatch' either in local networks or – as a

result of a later 'patch' to the game – over the Internet. Crucially, id Software released initial levels of the game as downloadable shareware, and also made available the source code of the software tools used for creation of levels, textures and sounds.[8] This invitation to social interaction and co-production among the players has become something of a founding paradigm of the PC-based FPS industry[9]. For every popular game of the genre, there are a vast number of player-made modifications to the original product, ranging from the relatively simple creation of character models and levels to whole conversions like *Counter-Strike*, an amateur 'mod' of *Half-Life* that was eventually bought by the developer and released as a commercial add-on.

More influential as social spaces, however, is the phenomenon of the role-playing virtual community, first emerging with *Ultima Online* (1997), the first game to offer a persistent online graphic world. The game-world was based on the highly influential *Ultima* series of fantasy-based role-playing games – bringing to the new virtual world an already established, community-oriented and highly computer-savvy audience. *Everquest* (1999), *Asharon's Call* (1999), *Anarchy Online* (2001) and dozens of others have since followed. In these persistent online worlds, players live what quite accurately may be described as a second life - socializing, trading, building, battling and 'levelling up' the player-character, most commonly as part of organised 'guilds' or clans of players. These persistent game-worlds have become much like societies of their own, with elaborate and constantly negotiated social, economic and legal structures. The majority of games are finding their core consumers in the historical and cultural overlap between 'geeky' computer culture and Fantasy and Science Fiction fan culture, but there are strong signs that the cultural appeal is widening, especially with MMORPG's like *Star Wars: Galaxies* (2003) and *The Sims Online* (2002)[10]. Interestingly, there are also a growing number of online worlds on the market that are not primarily game-based but which utilize many of the same principles, like *There* and *Second Life*.

Online gamer communities represent a new form of digital subculture. They are spaces of social interaction that exist in relative independence of – and in relative opposition to – traditional mainstream consumer culture. At the same time we can see strong similarities with more established and familiar fan-cultures – from *Star Trek* and *Lord of the Rings* to Black Metal or Slasher Horror. In his book *Textual*

Poachers: Television Fans and Participatory Culture (1992) and in subsequent writings, the media theorist Henry Jenkins has emphasized the creative and co-producing nature of such community-based media use, a form of dialogic media consumption where the power to define uses and meanings is shared between fans and the corporate producers. At the same time, it is increasingly recognized that this co-creative and collective-based pattern of consumption is being integrated as a core element of corporate strategy, a strategy that may be paradigmatic of hyper-capitalist media economies[11].

The corporate-participatory cultural economy of online-based gamer communities contributes to a fragmentation of media use and media culture. Because of their high level of persistent interaction and self-regulation, they are important arenas for the formation of distinctly sub-cultural identities. These identities work against traditional nation-building strategies of cultural management and engineering on a national or European level. Online gaming is about more than active and participatory consumerism. It is an agent of cultural diversity, and a source of collective deliberation and action that has a cultural as well as a political significance. However, because it is a cultural movement that is carving out its own space within a corporate and consumerist economy, it is by nature both in opposition to and adaptive to global-industrial management and control. The online worlds of role-playing are all corporately owned and designed. Corporations like Sony and Microsoft are, in a very concrete and hands-on way, engaged in a new form of social engineering, designing social spaces for communities, economies and identities to develop.

'Europeanness' in games?

Computer games have not historically developed within the frameworks of the nation-state, as is the case with broadcasting and the press, and which is also partly the case with film. Therefore, games cannot be expected in any way to play the same cultural role as the established nation-based media. National games produced for a national audience is a rarity, except on the market for developmental or educational games. The notion of 'European games' does not exist at all, other than as a general term for games developed by European-based developers. French developers get 80% of their sales from abroad.[12] More than any other of the big media, games were born into a

globalized world, right from the start. In terms of visual aesthetics, they are by nature a cultural hybrid, mixing elements from American and Japanese popular culture with more traditional European imagery (especially of medieval and Celtic/Norse/Tolkienesque type), according to the golden rule of 'anything goes'.

The explanation for this is not just that the medium is relatively new and that it was conceived and developed in the age of computers and telecommunications. Play and games tend to be a culturally very open and generalized form of human activity, with highly unstable cultural boundaries. In computer-based games as in other games, different types of play mechanics follow generic rules that cannot be localized in specific cultures in the same manner as fiction or music. It would, for example, be difficult to culturally situate the basic mechanisms of real-time strategy games, just as it would be hard to explain the cultural specificities of paper-rock-scissors.

In terms of play types and play mechanics, then, it is hard to find consistent patterns of difference between cultural regions. The exception is Japan, which has gaming traditions that are relatively distinct both as fiction and as play-forms. Although many Japanese game concepts and game-worlds have been exported to the West over the last 20-30 years (and then typically mixing with American traditions and imagery), there are still dominant Japanese game genres that occupy only niche positions on the American and European market. These game types most importantly include console-based role-playing, fighting and mecha-games (battle-robots) which all play out in the fictional worlds of *anime* and *manga*, as well as a wide range of simulators (including dating games) that seem eccentric to the western mainstream. In contrast, the differences between American and European gaming preferences seem subtle and inconsistent – except in sport games, where traditions obviously differ.

This is not to say there can be found no distinctive trends on the European market of games, only that they are by no means as immediately evident as is the case in other cultural domains. In general, there is a need for academic research into patterns of cultural specificity, flow and hybridization in the gaming world, research that can compliment the market statistics of the industry. To a certain extent, the industry itself encourages a cultural three-continent model by treating Japan, Europe and America as separate markets, each with separate distribution channels and technical standards

(much like the system of region-encoding of DVD films). The most articulated awareness of 'Europeanness' in computer games, therefore, is to be found on the console market (which now accounts for 9/10 of the total market and increasing), where European players share a common position as consumers *vis-à-vis* the European distributors – dependent on their priorities and release-dates. A telling response to this kind of 'cultural cultivation' is the influential World Wide Web game portal and community site *Eurogamer*.[13]

Finally, there is definitely a national niche-market of commercial PC-games, which are less investment-heavy than games for console platforms, and which do not have to go through the hardware gatekeepers Sony, Microsoft and Nintendo. There are several examples of relatively low-budget PC-titles (low-budget compared to big international titles) that have been developed commercially for a national market only. Because of the limitations on budget, these are typically localized modifications of established international games, or nation-specific versions of tried and tested genres and technologies. In Norway, one of the smaller markets in Europe, *Flåklypa Grand Prix* (2000), which is a children's game based on a classical film, has become a big hit and even a moderate commercial success. In the Netherlands, *Amsterdoom* (2000), a generic and rather simplistic First Person Shooter with recognizable locations from Amsterdam and high fun-factor was released by Davilex Software in 2000, although with no commercial success. However Davilex had great success with *A2 Racer* (1997), a series of localized driving games which were also released successfully in Germany as *Autobahn Racer*, in France as *Paris-Marseille Racer* and in the UK as *M25 Racer* (driving on the left...) - later to be released as *London Racer* (1999)[14].

The narrative fallacy

However, at the moment of writing, aside from these relatively cosmetic 'nationalizations' there are few signs of innovation and diversity in European-developed games (*Flåklypa Grand Prix* being an honourable exception). The Danish EU-initiative can also be read as a sign that policy makers may have a rather narrow and limited - albeit legitimate - interest in cultural and artistic diversity. The background paper accompanying the Danish initiative, titled 'The Interactive Culture Industry' (Danish Ministry of Culture, 2002), defines games exclusively in the

category of 'interactive narratives'. The authors even make narrative into a self-evident part of a definition of the concept of interactivity: 'Interactivity means that the user engages in the narrative in a participatory and active manner' (page 11). There is no hint of alternative ways of understanding 'interactivity', and no mention whatsoever of the meanings and values of games and play – even if the report in fact deals almost exclusively with games and the games industry. In the light of everything that has been written within humanistic game theory over the recent years, this approach is quite controversial, and as a way of providing 'background' to the policy makers, it can be partly misleading.

In recent humanistic computer game theory, there is already a relatively well-established discourse on how to conceptualize the fundamental elements of game aesthetics. The central point of debate has been how to understand the role of narrative in games. As Jørgen Kirksæther (1998) has noted, stories in games are typically constructed as *fictional frames* around the play itself - external metaphors that serve to 'explain' the specific structure of tasks and obstacles facing the player. As a consequence, most games can be enjoyed – and played well – without paying much (or any) attention to the accompanying story, especially if the player is familiar with the genre.

This duality at the heart of most gaming experiences is reflected in the theoretical discourse about computer games. Those who have preferred to approach games within the framework of narrative theory – most typically theorists from literary studies or new media studies – have been labelled 'narrativists' (or sometimes more inaccurately 'narratologists'), while those who advocate a more distinctively game-centred approach have – partly in polemic opposition to the established story-centred traditions – called themselves (or have come to be associated with) the 'ludologists'[15].

The theoretical premise for the 'ludological' approach (although he never used the term 'ludology') was introduced by Espen Aarseth in *Cybertext* (1997), the first book to suggest a theory about play and narration as two distinct modes of discourse, not only located in literature, but as a dialectic fundamental to human activity in general. Aarseth uses the term *ergodic* to describe what is unique about computer-based literature. The ergodic signifies the general principle of having to work with the

materiality of a text, the need to participate in the construction of its material structure. Some ergodic works lead us towards a fixed solution (e.g. a jigsaw-puzzle), others can be unpredictable and open-ended (like an experimental hypertext novel). Being a discursive mode, the ergodic can be contrasted to narrative discourse, where the user is invited only to engage in the semantics of the text and does not have to worry about its material configuration. In narrative discourse the user is only a reader, not a co-constructor in the material sense, or, we might say, not a player. While reading narrative is an interpretative practice, playing a game is a configurative practice[16].

Following the general perspective raised by Aarseth, the Danish game designer and game theorist Jesper Juul has developed more specifically game-oriented ideas about how to understand the relationship between narrative and play as two incompatible modes of discourse, calling special attention to the difference in temporality between narration and playing (Juul, 2001). Playing a game is an activity that is always in the present, happening *now*, while narration is about the *prior*, what has happened. Therefore, Juul claims, you cannot have narration (the act of telling a story) and interactivity at the same time.

A game is a game?

Even if 'ludology' in its anti-narrative, polemic and 'purist' form is today largely denounced in humanistic computer games theory (Jesper Juul himself is perhaps the best example), there seems to be a general agreement that the overwhelming majority of computer games are not primarily in the business of telling stories. Narrative in games performs a very different role from narrative in novels or films. Obviously, the narrative dimension is particularly played down in certain genres such as sport games, driving games and puzzle games. Still, even in the most story-driven games (adventure and role-playing games) a good story does not make a good game.

If we look at the early pioneers of dedicated state funding for videogames, Norway and France, their approaches differ quite a lot in this respect.. Narrative is one of the main criteria for gaining funding from the Norwegian Film Fund, which is explicitly aimed at games for children and younger adolescents. This central concern for national narratives is reflected in the short, basic definition of what it is that they want

to support. An interactive production is defined as a computer game (or 'other interactive and non-linear productions') that 'tells stories through moving images'.[17] The message is very clear: games are vehicles for providing children with national stories. The criteria obviously reflect a legitimate and important cultural concern – especially for a small country. However, as a cultural policy it does not recognize games as an art form, or as anything that could be interesting for other than pedagogic and traditional nation-building purposes.[18]

A crucial part of the acceptance of computer games as an art form is a recognition of play and games as forms of cultural expression. Games are more than carriers of 'interactive narrative'. Probably because France has a large and established game industry, their policy states different aims from the Norwegian, and the list of criteria does not adopt storytelling as a requirement. The main motivation for the initiative is that French developers – like the British ones – are struggling in a difficult international market. This does not mean that the government simply wants to support any game project that has commercial potential and needs money. There are artistic requirements. These do not, however, as one would maybe expect, emphasize 'French stories', 'French language' or the like, but refer instead to more general artistic values. The eligible projects must show ''creativity of game design" and 'originality compared to what is already on the market'.[19] In these criteria there is no bias towards narrative whatsoever. On the contrary, 'creativity of game design' is a formulation that will most likely be interpreted as a special concern for non-narrative mechanisms of the game structure. It seems that even for a country like France, where media production and media consumption is heavily supported and regulated to preserve national culture and identity, computer games are – at least for now – an interesting exception from the rule.[20]

What we can see from the Danish EU initiative as well as from the Norwegian and French example, is that a political concern with narrative – typically in a narrow and exclusive sense – is closely tied with the interest to defend and strengthen national traditions, culture and identity. As soon as the focus is expanded to include the structures of playful interaction – the properties that distinguish games from books or films – references to national value become more vague and problematic. The

computer game is a medium that, more than any other, seems to resist being appropriated for nation-building and identity-engineering purposes.

This is not to say that games do not have 'stories and values'. There are indeed values of cultural and political importance to be found in games, including – but in no way limited to – what we might call 'literary value'. There is a plurality of values in games, which should be actively encouraged rather than just left to the rather brutal and short-sighted logic of the entertainment industry. The French initiative, although limited by the requirements to commercial potential, gives reason for optimism. In the following, as a contribution to a wider debate about computer games and cultural policy in Europe, I shall briefly point to some of the values of games that go beyond the traditional concerns of industrial competitiveness and cultural nation-building.

The techno-political value of games

Computer games are primarily about play, offering pleasures and values that we also find in other forms of play. The general question of the cultural value of human play – including its psychological, developmental, socializing, civilizing or democratic virtues – are discussed in classical works like Johan Huzinga's *Homo Ludens* (1955 [1949]), Roger Caillois' *Man, Play and Games* (2001 [1961]) and Brian Sutton-Smith's *The Ambiguity of Play* (1997)[21]. In this discussion, however, I shall restrict myself to the more specifically *technological* dimension of computer-based play. The range of technological pleasures opened up by games should be a matter of heightened cultural and political concern in Europe. The basic premise behind this argument is that technological play is crucially forming culture. Techno-entertainment is not outside art, politics and ideology. How we choose to involve with technology in play is about how we define technology and its relation to ourselves.

Playing the machine

In a far more radical sense than a television set or a radio receiver, the computer game hardware and software constitute a flexible technological toy, constructed for active, hands-on machine-play or techno-play. The computer game is an 'action machine' as well as a representational medium. Other electronic media are also machines that must on some level be operated or 'engineered', but operating them is normally a pure

instrumental action (turning the television-set on, adjusting the volume, rewinding the video cassette etc), not a playful bodily engagement. Idle play with the remote control (like switching between channels to the rhythm of your stereo) is not the standard mode of watching television. Looking at computer game aesthetics from the perspective of traditional media theory, the activity of playing the machine will have to move into the centre of attention, as an essential *modus operandi* of the medium. Even if the rhetorical potential of their representations has become more complex and powerful, games are no less playable machines today than they used to be 25 years ago.

To play with a game is to play with a specific configuration or a specific gestalt of a more general technological form. Various game genres are culturally significant as different articulations of technological play, situated within a wider cultural field of technological pleasure. Because they involve archetypical forms of technological pleasure, they play a part in how society develops understandings of how people and technology should interact. These archetypical forms can be described as modes of pleasure, corresponding to relatively distinct and coherent sets of typical operations required from the player. Different game genres emphasize different types of technological engagement, and different players prefer different types of challenges. One man's pleasure is another man's tedium. This diversity is in itself a cultural resource in any society, a diversity that also influences how people approach other digital systems of information and entertainment, for example those being designed for museums (see chapter xx).

For the sake of illustrative simplicity, I will propose 2 broad categories into which we might define some of the dominant techno-based pleasures of computer gaming. The first category, 'software gaming', refers to the typical operations of management and configuration. The second category, 'body-action gaming', refers to bodily sensations, cyborg fantasies and explorative trances.

Software gaming

'Software gaming' represents forms of engagement that are similar to those posed by non-gaming software. These patterns of challenge and interaction are typically involved in the economically productive practices in society, and should be of natural

interest to policy-makers. Software gaming is a mode of playful interaction which is particularly dominant in role-playing games, strategy games and system simulators. As a form of immersion and engagement, this mode operates independently of, and sometimes works against, the fictional illusions of the game. The primary challenges are *management* and *configuration*. The task of having to control, plan and coordinate a large number of interacting parameters on screen is very dominant in simulation and strategy games, to the extent that pure simulators (i.e. games that feature very little or no battle) are often called 'management games'. Mimicking the operational logic of desktop software, the player is required to play on the surface of the screen, constantly controlling the game through often quite complex commandos and menus. Consequently, the 'software pleasure' of computer games is a mode which is tailor-made for the keyboard and mouse interface of the PC-platform, and converts rather poorly to console and gamepad.

The task of configuration – or personalization – is especially dominant in role-playing games, where growing in the 'role' means building up and configuring (personalizing) your avatar's complex nexus of features, abilities, weapons and other items. In this way, personalization is not only a form of growth-management (managing the expanding, dynamic system that constitutes your avatar or group of avatars) but also crucially a form for self-expression – through the language of computerized statistics.

Precisely because the task of maintaining overview, control and balance is such a crucial part of the gaming experience, management gaming naturally also offers the 'wilder' thrills of freely experimenting with the parameters. This *exploratory* mode of technological pleasure includes the chance to upset the balance of the system in various ways, typically with catastrophic consequences within the fictional game world (like for example letting a lion loose on the visitors in the zoo management game *Zoo Tycoon* [2001]). Experimenting with the objects and rules of the game world is, of course, a common mode of play in many game genres, one that is not necessarily oriented towards progression or winning the game. As a distinctive pleasure of computer-based play, it can be compared to experimental and 'playful' forms of gaining experience and skill with non-gaming software.

Software gaming presents a very clear example of the blurring of boundaries between work and leisure in our society, between instrumental and playful aesthetics and practices. This convergence can be seen taking place on many arenas of cultural experience. Computer games as well as information systems in museums are evidences of a more general trend: Computer-based mediations and practices open up new spaces for work-like pleasure (or pleasurable work). Therefore, as Ursula Maier-Rabler argues in chapter xx, e-policy should not be reduced to a question of access. Work-like pleasures give people reasons to engage with digital technology. Such leisure-based digital practices must be of political concern if we want people to acquire not just the necessary skills, but more importantly the motivation and confidence to be able to take actively part in a computerized and information-based society.

The opportunity to be able to 'play the software' of the digital computer is of great importance to the individual's socialization and empowerment in the emerging digital society. A political concern for diversity and access within this cultural arena is needed. In particular, there are significant economical and linguistic barriers to access, and this is an issue where the decisions of policy makers can make a difference. Even in the richer parts of Europe, access to more complex and challenging variants of role-playing-, strategy- and management gaming is inhibited by language barriers. With the exception of Germany, France and in some cases Spain and Italy, games on the smaller European markets – for example, in the Scandinavian countries – are not translated from English into the national language. This is normally not a problem with simpler action-games, but it is bound to prevent children, teenagers and other groups with weak language skills from having a go at more complex and intellectually demanding challenges.

From a democratic perspective, such all-pervasive language barriers constitute an unnecessary extra digital gatekeeper, especially to young people who are still forming their fundamental relationships to digital technology. The competence to manage, configure, experiment with and modify digital processes allows the individual to create a space for computer-based self-expression, invention and political action. The cultural and social penetration of 'digital Lego' must be of central democratic concern.

Of particular concern to policy makers should be the vitality and independence of online gamer communities, which are very distinct practices of collaborative and creative software gaming, creating strongholds of computer literacy and participatory digital culture. Multiplayer computer game role-playing in persistent worlds is a virtual variant of social configuration, and in some respects much like an exercise in political distribution and struggle. The collaborative player modifications of the FPS-community and in other genres - where players construct their own levels, objects, textures ('skins') and game mechanics - is a radical form of experimental exploration and configuration of games-as-software. Games are transformed into game-building software, based on the modular logic of pre-designed ready-mades.

The strength of such communities has significant techno-political implications. As partly independent and self-regulatory centres of consumer power and production of knowledge, they are playing a particular role in ongoing political negotiations over questions of copyright-protection, open standards and user control. At the same time, however, the ideologies embedded in typical practices of software gaming - management, configuration, user control and 'co-creative' practices – can be double-edged swords in a struggle for cultural freedom and diversity. For this reason, the primitive sensations found in gory action shooters may not necessarily be the negative 'other' to cultural policy.

Body-action gaming

While the software logic plays on the surface, expressing what Bolter and Grusin in the book *Remediation* (1999) call the 'immediacy' of digital media, another type of pleasure grows out of the seductive 'transparency' of the medium. Within this general mode of play, the power of the digital computer to create illusions of movement and space takes precedence over the operational requirements of the interface. According to Bolter and Grusin, the desire to 'see through' the surface of the screen and make it invisible has a history dating back to the invention of the central perspective in renaissance art. Before the renaissance, painters focused on the immediacy of the surface and the 'play' between its elements. Bolter and Grusin trace these two aesthetic movements and cultural desires through history. While the desktop computer represents today's paradigmatic metaphor for the logic of immediacy, they argue,

realist film and 'virtual reality' represent the desire to be immersed 'into' the space of the representational illusion.

Even if Bolter and Grusin's binary interpretation of the history of the visual media might be too all-encompassing and too simplistic, their model seems to capture and contextualize a significant tension within computer game aesthetics. In a computer game, illusion and management are conflicting attractions. The direct and bodily challenges and sensations offered by a responsive 3-dimensional virtual space is a form of technological engagement which does not follow the desktop metaphor, and has very few non-gaming software equivalents. Consequently, in games where fictional illusions and audio-visual (and sometimes tactile) sensation is supposed to be the dominant attraction, management and configuration on the level of the surface interface must be kept as simple, intuitive and 'invisible' as possible. These 'low-management' and high-intensity games are particularly well suited for the console platforms, which do not use a work-related mouse/keyboard-interface, constructed for point-and-click surface navigation.

Body-action games, in particular classical arcade-action games like *Space Invaders* (1978) or *Robotron* (1982), have particular kind of 'flow,'[22] a trance-like quality, due to the simplicity of the interface, the speed and repetitiveness of the action, and the spectacle of the sensations. Unlike the experience of immersion in software-gaming (which is also a form of all-encapsulating flow), the real-time cybernetic feedback loop between the expert player and the computer largely bypasses conscious intellectual decisions. In fast-paced and spectacular action games, the typical mode of technological engagement has more to do with some sort of techno-eroticism than with management skills, socialization and progress.

Action games of the 3D-era obviously try to cultivate a notion of 'cinematic' immersion, associating themselves explicitly with the invisible screen of Hollywood cinema. Still, an equally significant historical analogy may be found in the technological pleasures of magic machines, horror houses and motion rides. This analogy seems particularly relevant with respect to one of the dominant action-adventure genres, the aptly named First Person Shooter (FPS). Most games in this genre illustrate very well the strong tendency in action games to 'double up' or project

the pleasure of the concrete and hands-on technological involvement of the physical play-situation into the fantasy of the fictional world. Physical machine-play is translated in real-time into virtual worlds of technological operation, fascination and power. What has been called the 'poor man's virtual reality' of the First Person Shooter seems to be a techno-obsessed genre, a parody of established cyborg fantasies in our culture. The genre presents a modern, violent and excessively techno-fetishist fantasy of power, articulated through the perceptual tunnel-vision of the subjective camera-gun. The characteristic first-person perspective is a machine-look, providing a form of pleasure not unlike the sensation of driving (or being driven by) a train, a car or an aircraft. Historically, there are interesting similarities between the technological power-play of the FPS and the attraction of the various 'ride-films" from the beginning of the 20th century, which were shot with a camera mounted on the front of a train (Fielding, 1983).[23]

Although motion rides and Hollywood action films are major influences behind contemporary 3D action games, some recent examples also show modernist and non-realistic inspirations, mixed with strong influences from the more abstract spaces of classical arcade games. Particularly interesting are *Rez* (2002) – influenced by the visual style of the film *Tron* - and *Frequency* (2001), both integrating music and soundscapes into a mix of trance-inducing elements. In this type of body-action gaming, the player navigates a sound space as much as a visual space. On the Japanese market, the 'hippie-game' *Rez* was also released together with a specially designed force-feedback vibrator (named the 'Trance Vibrator'), which apparently could also be used as a game-dildo.[24]

Perception and identity

Corporate cultural producers are not inclined to explore the diversity of possible body-action experiences. At the moment, a 'high-concept' game like *Rez* seems to be an exception, and it did not sell well. Similar experiments in the art of technological pleasure risk falling outside the constraints of the corporate world as well as the socially progressive frameworks of cultural policy. An embodied, sometimes regressive and almost drug-like relationship between man and technology has been given no legitimate place within dominant histories of technological rationality and progress. Body-action gaming represents a historical tradition of cheap amusements

and technological perversion – in many ways the flipside of modern technocratic civilization. Games like *Rez* prove that this arena can be a fertile ground for art and amusement to meet.

As Tan et al. (chapter xx) argues with regards to the diversity of museum experiences, technology is not just a tool or channel of cultural experience. Typical modes and operations of computerized information-systems become integrated parts of the cultural experience itself. In games, one could argue, this is a tautological observation in the sense that there is no cultural artefact external to the game machine itself (like a painting or a sculpture). Precisely because of this 'purity' of technological pleasure, the computer game can be seen as a model. Various game modes and game genres indicate typical perceptual forms of the computer as a medium, different ways of sensing and controlling (and being controlled by) technologically mediated environments. This perceptual diversity – from the chess computer to the horror house – encourages a variety of interpretations and uses of digital technology, laying the ground for diverse patterns of identity formation. Technologically grounded perceptions and fascinations are, however, not mediators of nation-based identities. Neither are they necessarily mediators of productive social and economic competencies. Consequently, a cultural policy of technological pleasure should go beyond the scope of e-policy – also in the wider sense of the term as discussed by Maier-Rabler – addressing a broader range of artistic diversity and exploration.

The literary value of games

Even if play and narration represent different modes of interpreting the world, there are countless ways in which game and story can coexist in a computer game. In the majority of commercial computer games, the standard way of doing this is to attach a storyline to the game through so-called 'cutscenes' – small cinematic sequences that pause the playing in order to convey a bit of new narrative information[25]. The narration of a chain of events is hence assigned to a cinematic and separate, non-playable space. This technique represents the most straightforward solution to the narrative problem, constructing what we might call a *hybrid* between a game and a traditional narrative form. Because the two modes of discourse are kept separate, and because this technique of oscillation has developed very strong conventions, the space

for literary creativity seems to be limited. Even if it is conceivable that new forms of 'interaction through separation' might be explored (where the one form would not simply act as window-dressing to the other), literary expression and experimentation in computer games should primarily be encouraged in the *intersection* between game and story.

Spatial stories

The American media theorist Henry Jenkins, drawing on concepts from Michael de Certeau, has provided a useful perspective on the specificities of computer game narratives. According to Jenkins, game stories are essentially *spatial* stories, a 'narrative architecture' designed for the activities of play (Jenkins, 2002). Depending on the genre, computer games encourage the player to engage with the narratives that are 'embedded' in these environments. By implication, we might say that the more the story is *narrated* as an unfolding sequence of events (the traditional concept of 'story'), the more external and possibly irrelevant it becomes in relation to the tasks and obstacles the player is involved in. Because a computer game is about the actions and challenges of the player – typically in the form of navigation, battle and resource management – the art of story design is more about building a *space* than lining up pre-written events. Games are a spatial art form, emphasizing movement, exploration, experimentation and strategy.[26]

An established and ubiquitous 'technique' of narrative strategy in games, therefore, is to draw heavily on established generic conventions, so that familiar and more or less 'ready-made' stories can be evoked through visual style and typified descriptions.[27] The other 'default strategy' of narrative design in games follows the paradigm of the detective mystery: the story is the backstory. In this classical form of narrative exposition, the events have already taken place at the point when the protagonist enters the story world, and the hero must gather 'clues' that will enable him (and the reader/player) to re-construct the chain of events. The detective story is the archetype of the concept of 'hidden' or embedded stories, a form that lends itself well to exploratory and spatial database-narratives.[28]

Spatial storytelling – or storygaming – is today being explored along three partly overlapping routes, each representing distinctive new ways of engaging with narrative

worlds. The two most common strategies, typical in role-playing and strategy games, can be called *descriptive excess* and *mathematical exploration*. In the popular *The Legend of Zelda*-series from Nintendo, the explorative game-world is detailed and sprawling, packed with objects, items, characters and dialogues. From a traditional narrative point of view, we would say that the literary universe is description-intensive – only this time 'description' does not mean just audio-visual characteristics ('mellow voice', 'round eyes', 'glowing sword' etc), but rule-based descriptions of interactive properties, in this case typically in the form of various 'mini-games' within the gameworld. In a sense, descriptive *surplus* (in terms of what is strictly necessary to progress through the game) and excessive – almost obsessive - interactivity is the name of the game.

In PC-based games like *Baldur's Gate* (1998) or *Warcraft* (1994), conflicts and characters or units are rendered through a mathematical rule-grid, describing properties and conflict outcomes in terms of complex statistical systems. This mathematical poetics is inherited from a long tradition of fantasy- or war-based strategy gaming, which has links to mathematical game theory. Reducing the world and human conflicts to numbers and statistics, this 'engineering' poetics represents a kind of literary perversion that is yet artistically under-explored.

The third route is less common, choosing quite the opposite strategy of elaborate role-playing and strategy games. A minimalist game will strive for simplicity and atmosphere instead of complexity of structure. A remarkably successful example is the puzzle-solving adventure game *ICO*, developed and published by Sony for the Playstation 2. The player (controlling the hero-avatar 'ICO') is trapped inside a huge castle together with a princess and must grab her hand and try to find a way out. The puzzle-oriented game mechanics consists mainly in trying to create a path for the vulnerable and enigmatic princess to safely traverse. The game abandons the usual plethora of items, characters, weapons and tactical options, relying instead on evocative art design, emotive animations, environmental puzzles and a simple concept of navigation to create a highly engaging narrative world. The storyline is partly conveyed through brief and visually striking cutscenes. Yet the story is minimalist and mystical, allowing environments, navigation and puzzle-solving to carry their own rich nuances of narrative meaning, centred around the unspoken relationship

between ICO and the princess. *ICO* represents a form of architectural and poetic play-design that is hard to develop within the constraints of a hit-driven entertainment industry.

Ritual, parody and critique

Commercial action-adventure and shooter games commonly share a characteristic that could be artistically explored outside the strict confines of the market: the role-playing ritual. Most games of this type are highly linear and restrictive, leading the player-avatar along a pre-designed route of violence, conquest and spectacular adventure. In a peculiar sense they are modern-day rituals, allowing those who 'subject' themselves to their repetitive and slightly obsessive choreography to perform a role within our culture's favourite mythical landscapes.[29] This type of game aesthetics opens up a space for parody, inversion and experimental performance that could well be investigated further by what we might call an 'exploratory' game design, given that industrial frameworks which allow experimentation are in place.

The typical mode of narrative framing in commercial games, relying on cut-scenes and ready-made generic content, can indeed acquire its own distinctive artistic style, as evidenced by games like *Grand Theft Auto III* (2001) and the sequel *Grand Theft Auto: Vice City* (2002*)*. These games illustrate that game-based narratives tend to contribute most to the playing experience when they use parody, exaggeration and mockery, and when they adopt a visual style that resembles the cartoon aesthetic. As in other art forms, exaggeration and mockery can be used as tools for cultural and political critique. The major difference between games and other media in this respect is that parody and critique can be expressed through simulated behaviours of the characters and objects in the game world.

Games primarily represent the world through simulation, not narration. Basically this means that games interpret the world as rule-based, quantifiable *systems*, not as events laid out on a linear timeline. However, a simulated system can also have narrative qualities. 'Events' in a world of human properties and relationships are not narrated, but generated as the player engages in the simulation. In a very simple form, this kind of procedural narrative (as opposed to 'narrated narrative') is exactly what the best-selling dollhouse simulator, The Sims, has pioneered. In a simulator, there are no pre-

written events, only rules, objects and properties. A piece of reality is – in a strongly reductive way – fenced in and interpreted as a quantifiable, dynamic system. This type of radically computer-based narrative is by definition, already a parody of an aspect of society. Using the potential of simulations like *The Sims* as a point of departure, the Latin-American game designer and game theorist Gonzalo Frasca is developing models for how 'social simulators' can be used as tools for stimulating critical awareness and political debate. In 'Videogames of the Oppressed: critical thinking, education, tolerance and other trivial issues' (2003) he draws on the theories and practice of the drama theorist Augusto Boal to argue that games can be vehicles for social and political critique, enabling players to participate in simulations of oppressive systems and situations.

Beyond e-policy

The aim of this chapter has been to consider some of the range and diversity of cultural experiences to be found in computer game aesthetics and practices. I also argue that various modes of interaction and expression offered by computer games are integrated in a wider field of modern practises – in war, in work, in entertainment, in art. It seems that a cultural policy with regards to games will always have to balance and negotiate two general considerations. On the one hand, political strategies and priorities towards this sector are going to be a central part of what has come to be known as 'e-policy'. E-policy aims to support and secure access to cultural activities that motivate and enable people to participate and express themselves in a computer- and information-based economy. An e-policy that wants to turn Europe, in Ursula Maier-Rabler's words, '...into a region of curious individuals eager to engage in life-long-learning' (page xx) must develop strategies that include the realm of computerized leisure – computer games as well as other forms of computerized cultural experience.

On the other hand, games also have a wider potential of artistic and techno-perceptual innovation. The diversity of challenges and fictions offered by games has an important artistic value in itself, but also widens the cultural space for social and political critique. This may also include forms of techno-pleasures that explore sensual fascinations with spectacle and destruction. Beyond e-policy, there must be a

space for games and game cultures to express their own creativity and their own values.

A cultural policy of games that does not encourage the diversity of technological pleasure risks being an agent of conformism and streamlined social engineering. In a democratic and pluralistic culture, it is important that system-strengthening and 'managerial' modes of digital operation do not grow to become too pervasive. Playful engagements with technology can too easily be caught up in totalizing and instrumentalist techno-cultural forms. Dominant commercial forces are pushing towards ever more narrow and easily manageable practices of computer-based expression and entertainment. In the evolving digital economies of computer databases and networks, there is a tendency for new restrictions and dependencies to be introduced in the name of progress and freedom, embedded in practices of 'interactivity' and 'personalization'. In a dystopian scenario of the digital information society, 'personalization will be the only form of technological freedom - a mode of 'user control' in which mechanisms of continuous feedback, profiling and monitoring (promising 'ease of use' without learning) locks the individual consumer into predictable patterns of interaction and information-seeking.[30]

European strategies

In competition with the much stronger game industries in Japan and America, the cultural and linguistic fragmentation of the market in Europe is a considerable disadvantage. At the same time, this commercial barrier represents a valuable cultural diversity. Europe has a unique tradition of defining expressive culture as a public concern, giving attention to innovation within a less market-dependent economic system. Because of its cultural diversity, Europe is in a good position to produce a range of alternatives both within and outside dominant modes of cultural production. Such projects may involve the exploration of alternative myths and narratives, but should not simply take the form of established game clichés dressed up in 'European' imagery. Rather, it should be about making a contribution to expand the range of techno-cultural expressions in Europe as well as on the global market.

The logics and constraints of a mass-market economy present a challenge to the cultural vitality and potential of the game industry. There is a need for strategies on the European level that can look beyond nation-building in order to stimulate experiment and creativity. We must assume that, just as with film, a smaller, independent industry is going to be needed as an alternative to the risk-aversive and conservative mainstream. However, such a development of diversification seems to be slow and uncertain, mainly because of the technological barriers and high costs involved in making games for advanced platforms (consoles and PC). The French approach is a promising one. It is an attempt to help independent and risk-taking projects get off the ground, by providing crucial support through the initial phases of concept- and prototype-development. The need for support to an independent game industry is argued in more detail by Oliver (2003).

At the time of writing, the emerging online game-worlds are all under corporate control. Given the cultural and political implications of the development of these communities, the lack of non-corporate alternatives for online persistent societies should be a rather immediate concern for the gamers as well as for public policy-makers. On a very concrete level, public funding would surely give a needed boost to ongoing efforts to develop an open-source, general-purpose engine for virtual game worlds/communities.

The computer game industry, political decision-makers and cultural entrepreneurs in Europe need to establish a discussion of how future developments can be envisioned and supported. The playful relations to technology in society constitute a vital foundation for social development and critique, and a basis from which new ideas about how to live with technology can emerge.

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[1] Speech by Minister for Culture, Mr. Brian Mikkelsen, in the European Parliament [online], available at http://www.eu2002.dk/news/news_read.asp?iInformationID=25898

[2] Information by the French Ministry of Economy, Finance and Industry [online] at http://www.telecom.gouv.fr/programmes/jeuxvideo.htm

[3] Press release from the Ministry of Culture and Church Affairs [online], available at http://odin.dep.no/kkd/norsk/aktuelt/pressem/043031-070141/index-dok000-b-n-a.html

[4] There were 3-dimensional game spaces before polygon graphics, created either with vector graphics (like in the arcade classics *Battlezone* (1980) and *Star Wars* (1983)) or with 2d-sprites 'wrapped' into

'semi-3d' space. Both *Wolfenstein 3D* and *Doom* used this semi-3D, in which the player could not look up and down.

[5] As a parallel trend, sports games have developed a distinct form of 'television realism', complete with commentary, spectator masses and life-like, motion-captured animations that mimic the look and movement of real-life sports stars.

[6] California-based EA is by far the biggest and most successful games publisher and distributor in the world, housing ca 4000 employees and strong in-house development teams.

[7] Developers include Hotgen, Kuju Entertainment, Kaboom Studios, Attention to Detail, Silicon Dreams, Lost Toys, Murky Foot, Computer Artworks, Warthog. Source: http://www.gamesindustry.biz/content_page.php?section_name=pub&aid=2737

[8] For more about the history of id Software and the FPS community, see Kushner (2003).

[9] See Morris (2003) for more about modding and the contemporary FPS gamer communities.

[10] Daniel Pargman (2003) suggests some interesting explanations for the overlap between computer culture, Fantasy fiction and role-playing, and gives some useful further references on the subject.

[11] For an interesting example of this line of argument in relation to FPS-communities, see Sotamaa 2003.

[12] BBC News [online] at http://news.bbc.co.uk/1/hi/technology/3084677.stm

[13] http://www.eurogamer.net/

[14] In the subsequent years, following the success of the racing games, the company has grown to be an international developer and publisher for both PC and consoles.

[15] The dominant representatives of a story-oriented approach to games (and new media in general) are Janet Murray (1997) and Henry Jenkins (Fuller and Jenkins 1995). The theorists who have been most commonly referred to as 'ludologists' are Espen Aarseth (1997), Markku Eskelinen (2001), Jesper Juul (2001) and Gonzalo Frasca (2003) – Frasca being the one who most explicitly advocates ludology as the 'father discipline' of computer game studies.

[16] This last point is taken from Markku Eskelinen's article "The Gaming Situation" (2001), a radically anti-narrativist theoretical elaboration of the ludologist position.

[17] Presentation by Petter Wallace, The Norwegian Film Fund [online], available at http://www.filmfondet.no/stotteordninger/presentasjon.pdf

[18] There are ambiguities in the Norwegian initiative that may be seeds of a more thorough debate at a later stage. To the Media, a leading spokesperson for the Ministry of Culture says that the government wants to contribute to 'building an industry as we are doing with film', adding that "Games have become culture and maybe also art." See http://www.digi.no/php/art.php?id=93000

[19] Information by the French Ministry of Economy, Finance and Industry [online] at http://www.telecom.gouv.fr/programmes/jeuxvideo.htm

[20] As a comparison, see chapter xx by Marcel Machill for a description and analysis of the French policy of public service television.

[21] *The Ambiguity of Play* is a very useful introduction to the field, giving a comprehensive overview of the various 'rhetorics' that advocate the benefits of play, and focussing in particular on a critique of adaptive or 'progressive' theories of play.

[22] A concept of 'flow' in work and play is developed by Mihaly Csikszentmihalyi (2000).

[23] The points on the FPS-genre in this section is taken from "Dancing with the modern grotesque: Aesthetics of Play in the First Person Shooter" (Klevjer, 2003). The situating of the First Person Shooter within the history of machine-based and visual attractions will be the subject of a later work. The historical and theoretical relevance of Tom Gunning's "the cinema of attraction" is addressed in Järvinen (1999-2000), Klevjer (2001), and (at more length) in MacTavish (2002).

[24] For more insights into the dildo-experience of *Rez*, see "Sex in Games: Rez+Vibrator" on http://www.gamegirladvance.com/archives/2002/10/26/sex_in_games_rezvibrator.html

[25] For more on the aesthetic role of cutscenes in games, see Klevjer (2002).

[26] The mechanisms of spatial narrative is discussed from a different angle by Janet Murray in her *Hamlet on the Holodeck*, a seminal work on what has become commonly referred to as 'new narrative'. For some reason, the widespread critique among computer game theorists of her narrative approach to computer-based media tends to overlook this contribution to game aesthetics.

[27] For more on this subject, see Klevjer (2001).

[28] For more on the concept of database-narratives, se Murray (1997) and Manovich (2000).

[29] For more about the cultural meanings and pleasures of the First Person Shooter, see Klevjer (2003).

[30] The relationship between personalisation and domination is discussed in Palmer (2003).

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